Process Control, Timers & Counters

	Page
Process Control	
Analogue Signal Conditioners	2934
Current and Voltage Controls	2926
Energy - Meters	2933
Fluid Level Controllers	2923
Frequency Converter	2925
LED Process Indicators	2922
Lighting Controller	2925
Speed Controller	2924
Process Relays	2934
Process Timers	2934
Serial Converter	2925
Shaft Rotation Sensing Relay	2925
Tachometer Relays	2924
Temperature Control Relays	2931
Temperature/Process Controllers	2913
Touch Panel Screen	2922
Universal/'SMART' Indicator	2923
Valve Control Module	2924
Timers & Counters	
Counter and Elapsed Hour Counter Modules	2953
Electromechanical Counters	2953
Electromechanical Elapsed Hour Counters	2952
Electromechanical Timers	2951
Electronic Counters	2955
Electronic Elapsed Hour Counters	2953
Electronic Indicators	2957
Electronic Timer/Counter	2956
Electronic Timers	2940
Multirange Electronic Timers	2942
Tally Counters	2953

Temperature/Process Controllers

Refrigeration Controller

CAREL

PJ easy Compact Series

H=36, W=81, D(OA)=78mm

These devices are designed specifically for the management of refrigerated units, display cases and chilled showcases where available space is limited.
The depth of the units is only 31mm behind the front panel. The Monitor version has no output control while the Controller model has a 16A relay compressor control output.

- Monitor with 1 NTC control input
- Controller has a Control NTC input and a Defrost NTC input
- 230V ac supply
- Front panel mounting system
- Only 31mm depth behind panel
- IP65 protection
- Fast set up using preset configuration
- Scale range -10 to +50°C

539583

Output Type	Mftrs. List No.	Order Code	Price Each 1+
Monitor			
	PJEZMNN0E0	**173-4645**	
Controller			
1 X Relay (Compressor)	PJEZSNP000	**173-4646**	

Refrigeration Controller

CAREL

PJ easy Series

H = 36, W = 81, D(OA) = 78mm

- NTC Thermistor inputs
- 3 NTC Inputs for Control, Defrost and Probe3/DI
- 230V ac power supply
- Built in alarm buzzer
- Front panel mounting
- IP65 protection
- Serial data output
- Fast set up using preset configuration
- Scale range -10 to +50°C

These devices are designed specifically for the management of refrigerated units, display cases and chilled showcases. Versions are available with 1, 2 and 3 relay outputs and have preset configurations for the following applications:
173-4648 - 3 input monitor
173-4649 - 1 Relay output, for use with static refrigeration units (No evaporator fan) and a single NTC sensor input
173-4650 - 2 Relay outputs, for use on static units with active defrost by heater and control and defrost NTC sensor inputs
173-4651 - 3 Relay outputs, for use on ventilated units (Compressor, Fan and Defrost control). 2 NTC input probes and a 3rd NTC probe

539586

Output Type	Mftrs. List No.	Order Code	Price Each 1+
Monitor			
	PJEZM0N010	**173-4648**	
Controllers			
1 X Relay	PJEZS0P000	**173-4649**	
2 X Relay	PJEZY0H000	**173-4650**	
3 X Relay	PJEZC0P000	**173-4651**	

Plastics Controller

WEST

6600 Series - 1/16 DIN

H=48, W=48, D=120,
Panel cut-out 45 x 45mm

3 WARRANTY YEARS

- PID or On-Off control
- Heat / Cool operation
- Process and Heater alarms
- Current "Quick Transfer"
- RS485 communications slot
- Soft start
- Ramping set-point
- Current display
- Thermocouple input
- SPDT Relay output - 2A @ 240V ac
- **CE** Approved and **UL** Recognised

This instrument provides control in applications requiring a heater break function or soft start for process warm up. Heater current can also be displayed, removing the need for a separate ammeter.
The control types available are: Full PID with Pre-tuning, Self-tune, Manual tuning or On-Off control.

541773

Power Supply	Mftrs. List No.	Order Code	Price Each 1+
100-240VAC	N6600Z2100-00	**174-0299**	

Temperature and Process Controller

multicomp

1/16 DIN - PID

H = 48, W = 48, D = 70mm

- Universal Input - Thermocouple, RTD and linear DC
- Full PID with auto/manual pre-tune
- Heat or Heat/Cool operation
- Up to 3 outputs - Relay, SSR Driver and linear DC
- Programmer function
- Alarms and Diagnostics
- Only 70mm depth behind panel
- **CE** Approvals

Programmer Functions
- 2 programs of up to 16 segments
- Delay timer
- Auto holdback function - guaranteed soak
- Ramp, dwell, step, events, loop
- Function button for profiler control (run, hold, stop, reset)

This controller has a reduced behind panel depth of 70mm and capability expected from higher end products. This includes a universal input for all sensor types allowing flexible utilisation, 2 or 3 outputs (including relay, SSR driver, linear DC), full PID control and a simple user interface with easy to read LED display consisting of 4 digits upper and lower, 4 button membrane keypad including function button that can be configured for auto/manual, tuning or profiler control and 3 output status LED's.
A programmer function has the capability of 2 profiles of up to 16 segments incorporating delay timer, auto holdback for guaranteed dwell and easy control via the controller's function button providing easy implementation of temperature profile control. Furthermore, alarms and diagnostics help to prevent problems before they happen: relay life, high ambient warning and absolute or deviation limit alarms allow preventative maintenance actions to be taken instead of needing emergency replacements should a controller fail.

Temperature/Process Controllers - continued

Temperature and Process Controller - continued

1/16 DIN - PID - continued

600369

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+
Relay - Outputs 1 & 2			
100 to 240VAC ac	E6C0RR002	**179-1025**	
20 to 48VAC ac	E6C0RR022	**179-1026**	
SSR & Relay - Outputs 1 & 2			
100 to 240VAC ac	E6C0SR002	**179-1027**	
20 to 48VAC ac	E6C0SR022	**179-1028**	
Relay - Outputs 1, 2 & 3			
100 to 240VAC ac	E6C0RRR02	**179-1029**	
20 to 48VAC ac	E6C0RRR22	**179-1030**	
SSR, Relay & Relay - Outputs 1, 2 & 3			
100 to 240VAC ac	E6C0SRR02	**179-1031**	
20 to 48VAC ac	E6C0SRR22	**179-1032**	
Relay, Relay & Linear DC - Outputs 1, 2 & 3			
100 to 240VAC ac	E6C0SSR02	**179-1033**	
Relay - Outputs 1, 2 & 3			
100 to 240V ac	E6C0RRL02	**179-1034**	

Multifunction Counter

HENGSTLER

1/16 DIN - tico 772

The tico 772 combines the functions of a preset, batch and shift-counter, tachometer and timer. Normal totalizing with presets, time and speed measuring is possible using the 4 big tactile push button switches located beneath the large coloured display. Two display versions are available, utalising either LCD reflective or LCD transmissive technology.

H = 48, W = 48, D = 112mm
Panel cut-out = 45 X 45mm

- Large 2 line display for easy reading
- Easy to operate with only 4 large keys
- Plain text menus
- Signal duration up to 10 minutes to provide improved control
- High input frequency of up to 60 kHz
- Increased accuracy by the use of 4th decimal place
- Single or 2 relay output options
- O/P Relay contacts 250V ac / 30V dc @ 5A
- Quick installation by use of pluggable connection terminals

605589

Colour Background	Digits	Supply Voltage	Output Relays	Mftrs. List No.	Order Code	Price Each 1+
Reflective LCD						
Reflective	Black	230V ac	2	0772132	**181-4469**	
Transmissive LCD						
Black	White	24V dc	2	0772302	**181-4474**	

PID500 Temperature Controller

TEMPATRON

- Dual display of set point and process value
- On demand autotuning of PID parameters
- Programmable thermocouple, PT100, 1mV, 0-10V or 0-20mA inputs
- 2 output type, relay or SSR
- 1 or 2 on/off or PID control outputs + alarms
- Sensor break detection & error compensation

H = 48, W = 48, D = 94mm (behind panel)
Panel cut-out = 45 x 45mm

Supply Voltage or Inputs	24VAC/dc 85 to 270VAC Thermocouple or PT100	Outputs 1&2 Outputs 2&3 Accuracy	Forward or Reverse action Absolute or Deviation alarm Greater of ±0.25% FS or ±1°C
Outputs 1-2	5A @ 240 V ac NO relay or 18V dc 20 mA SSR drive	Ambient Temperature	0 to 50°C, 85% RH non-condensing
Output 1	Optional 0/ 4-20mA, 0-10V or 0-5V	Weight	195g
Control Action	PID (autotune) or On/Off		

450120

Operating Voltage	Outputs 1 / 2	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24VAC/dc	Relay / Relay	PID500ML-0000	**130-0199**			
24VAC/dc	SSR / Relay	PID500ML-1000	**130-0201**			
85 to 270VAC	Relay / Relay	PID500MH-0000	**130-0200**			
85 to 270VAC	SSR / Relay	PID500MH-1000	**130-0202**			

Temperature Controller

CAREL

IR33 Series

H = 34, W = 76, D = 56mm

- Simple programming of up to 4 relay or 1 SSR outputs
- 9 pre-set control modes
- On / Off or PID autotune control
- IR receiver and buzzer fitted as standard
- IR Remote Control and Programming Keys available seperately
- Selectable NTC / PTC / PT1000 sensor input options
- IP65 protection
- 12 - 24V ac, 12 - 30V dc supply voltage

The IR33 series temperature controllers have all of the functions of the IR32 series with extra features such as PID autotune control. The program parameters are identical to the IR32 so the IR33 can be used as like for like replacement for an IR32..
All types have two sensor inputs, selecteable bewteen NTC, PTC and PT1000, ideal for operation over the range -50 to +150°C
For ease of setup, the unit can be programmed via a PC, IR hand held programmer.

539343

Output Type	Mftrs. List No.	Order Code	Price Each 1+
Controllers			
1 X Relay	IR33V7LR20	**173-4638**	
2 X Relay	IR33W7LR20	**173-4639**	
4 X Relay	IR33Z7LR20	**173-4640**	
Accessories			
Remote Control (IR hand held prgrammer)	IRTRUES000	**173-4642**	

PJ32 On/Off Temperature Controller

TEMPATRON

- 1 or 2 NTC or PTC input options
- 1 or 2 independent controllers
- Up to 3 relay outputs
- 230V ac power supply
- Front panel mounting system
- Plug in terminals

Supply Voltage	24VAC/dc
Power Drain	J, K, T, R, S, C, E, B, N, U, W and Plantinel thermocouples, PT100 2/3 wire, -5 to 56mV, 0 to 10V, 0 to 20mA
Sensor Options	NTC or PTC
Accuracy	NTC ±1°C PTC ±3°C
Outputs	V6E: 8A SPCO relay V6P, V0P: 16A SPCO relay W0, W1: 1 SPCO 8A and 1SPST 8A relays Z0, Z6: 1SPST 8A and 2 SPST 5A relays
Approvals	Conforms to CE generic standards EN50081-1 and EN50082-1 for emc and EN61010-1 for low voltage
Ambient Temperature	-10 to 50°C, <85% RH non-condensing
Weight	150g

Range	Inputs	Outputs	Mftrs. List No.	Order Code
-50 to 150°C	1 PTC	8A	PJ32V6E000	130-0211
-50 to 150°C	2 PTC	16A	PJ32V6P000	130-0212
-50 to 90°C	2 NTC	16A	PJ32V0P000	130-0215
-50 to 90°C	2 NTC	8A/8A	PJ32W00000	130-0216

450126

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Temperature Controllers				
PJ32V6E000	**130-0211**			
PJ32V6P000	**130-0212**			
PJ32V0P000	**130-0215**			
PJ32W00000	**130-0216**			

PID Temperature Controller

TEMPATRON

1/4 DIN - PID330

- Dual display of set point and process value
- On demand autotuning of PID parameters
- Programmable thermocouple, PT100, mV, 0-10V or 0-20mA inputs
- NO Relay outputs, 5A @ 240V ac
- SSR Drive outputs, 20mA @ 18V dc
- 1 or 2 on / off or PID control outputs + alarm
- Single point ramp-soak algorithm
- Sensor break detection and error compensation

H = 96, W = 96, D = 74.5mm

539341

Supply Voltage	Outputs Voltage	Mftrs. List No.	Order Code	Price Each 1+
85 - 270VAC/dc	2 x Relay	PID330MH-0000	**130-0204**	
85 - 270V ac/dc	3 x Relay	PID330MH-0001	NEW **173-4637**	

RoHS ● Compliant ▲ Non-compliant

UMT 500 Multiple Digital Timer

TEMPATRON

- 5 independent timers or relays
- 5 programmable timer modes
- 3 timing ranges
- External start or reset
- Large clear LED display with status indicators
- Security coded program access

Timing Ranges	0 to 999.9 Secs, 0 to 99 mins 59 secs, 0 to 99 hrs 59 mins
Timing Modes	DE = delay on energise INT= interval DD= delay on de-energise CCT= cycle timer with cycle limiter DODO= delay on/delay off RLY= externally activated relay
Supply Voltage	24VAC/dc 110 to 230VAC
Power Drain	3VA max.
Output Ratings	OP 1&2: SPDT relay 5A @ 240V ac resistive OP 3-5: SPST relay 5A @ 240V ac resistive
Reset Time	100ms
Operating Temperature	0 to 50°C
Approvals	Complies with CE directives EN50081-1 & EN50082-1 for emc and EN61010-1 for low voltage.
Weight	290g

450130

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
UMT500-ML	**130-0207**●			
UMT500-MH	**130-0208**●			

On/Off Control - 'E5C'

OMRON

- Temperature controllers for On/Off control via type K & PT100 sensors
- Operation of output relay and LED indicator occurs simultaneously with power supply connection
- When preset temperature is achieved, cooling cycle commences by reset of output relay and LED indicator is extinguished
- If thermocouple opens circuits, controller automatically enters safer cooling mode
- Controllers are cold junction compensated. Panel mounting bracket supplied

H=48, W=48, D=85.8,
Panel cut-out=45x45

Setting accuracy	±2%	Operating voltages	110V ac,240V ac 50/60HZ
Output contact	SPCO	Operating voltage range	85% to110%
Contact rating	3A @ 240V ac (res.)		

	Temperature Range	Scale Division
Platinum resistance input sensor:	0°C to 400°C	2°C
Type K thermocouple sensor:	0°C to 200°C, 0°C to 400°C	5°C

204820

Temperature Range	Operating Voltage	Order Code	Price Each 1+	5+	10+	25+
0°C to 100°C	240V ac	**170-914**				
0°C to 200°C	240V ac	**175-521**				
0°C to 400°C	110V ac	**175-523**				
Sockets						
DIN rail/surface		**330-954**●				
Chassis		**118-1272**●				

Digital Temperature Controller

TEMPATRON

Multirange and Input Digital, On/Off

- Two types, one has thermocouple inputs, the other PT100 inputs
- Temperature scale ranges from -99°C to +999°C
- Programmable alarm output functions
- Other programmable features include:- °C or °F hysteresis (level 1 to 9), control action, reset & password to prevent tampering
- Each unit is entered with preset parameters to enable sensible operation on initial connection to supply
- Suitable for panel or DIN rail mounting

H=48, W=48, D=89 (behind panel)
Panel cut-out=45x45.

Supply voltage	110V ac or 240V ac, ±10%, 50/60Hz
Power consumption	
24V ac/dc types	60mA
110V/240V ac types	1.5VA
Sensor type	
Model 01	J, K, T and N Thermocouples
Model 02	PT100 (DIN) Platinum resistance sensors
Temperature ranges	
PT100 types	-99°C to +400°C
Thermocouple types	J = -99°C to +700°C, K and N = -99°C to + 999°C, T = -99°C to +300°C
Display	Three digit, seven segment LCD plus indicators for Fahrenheit and output.
Offset accuracy	Thermocouple ±5°C PT100 ±2°C
Histeresis	1 to 9 degrees
Output rating	
Control	SPCO, 3A @ 240Vac/30Vdc
Alarm	NO, 500mA @ 120Vac
Memory backup	Lithium battery, 5 years in storage, 10 years working
Operating temperature	0°C to +50°C
Storage temperature	-20°C to + 85°C

204844

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Platinum Resistance (PT100)						
240V ac	DTC41002240VAC	**275-300**				
Thermocouple						
110V ac	DTC41001110VAC	**275-268**				
240V ac	DTC41001240VAC	**275-270**				

iTRON Microprocessor Controller Series

JUMO

Freely programmable compact controller series with five different models. Depending on the version, 10 or 20mm high 7-segment display for indicating process values and set-points, or for dialogs. The instruments are configured from just 3 keys. The parameter setting is arranged dynamically, and after two seconds without any operation, the value is accepted automatically. All the usual input signals and controller structures can be programmed.

Common Features:

- Structured operating and programming layout
- Freely configurable process value input
- Two setpoints
- One binary input
- Two switching outputs
- Proven self-tuning facility
- Ramp function °Cmin or °C/h
- Key/level inhibit
- Front protection IP65 / rear IP20

Process Valve Input:
For Pt100, Pt1000, KTY11-6 resistance thermometers
Type L, J, U, T, K, N, S, R, B thermocouples
Current 0 - 20mA, 4 - 20mA
Voltage 0 - 10V, 2 - 10V
Binary Input:
Via floating contact
On type 702042/43/44: always,
On type 702040/41: configurable as an alternative to output 2
Output 1:
Relay, make (SPST-NO), contact rating 3A/250V AC with resistive load
2-state controller (inverse/direct) or 3-state controller (inverse/direct) or limit comparator functions (lk 1 - 8) can be configured
Output 2:
On Type 702042/43/44: relay, make (SPST-NO), contact rating 3A/250 V AC with resistive load, and in parallel: logic 0/5 V/20 mA, R_{load} 250Ω on Type 702040/41: logic 0/5V 20 mA, R_{load} 250Ω configurable as an alternative to binary input

2-state controller (inverse/direct) or 3-state controller (inverse/direct) or limit comparator functions (lk 1 - 8) can be configured

General Controller Data:

Measuring Circuit Monitoring	the outputs adopt a defined status				
Data Backup	EEPROM				
Supply Voltage	110 to 240 V AC @ 48/63 Hz				
Power Drawn	Max. 5 VA				
Electrical Connection	At the back, via pluggable screw terminals				
Ambient/Storage Temperature	0 to 55 °C/ -40 to 70 °C				
Dimensions by Type	702040	702041	702042	702043	702044
Housing Dimensions	48 x 24	48 x 48	48 x 96 (hoch)	96 x 48 (quer)	96 x 96
Depth Behind Panel	100	100	70	70	70
panel Cut-Out	45x22,2	45 x 45	45 x 92	92 x 45	92 x 92

Accessories
Mounting frame for controller on DIN rail
4724100 - 48x48mm
4724112 - 48x96mm (Portrait)
4724124 - 96x48mm (Landscape)

333877

Type	Format	Order Code	Price Each 1+	5+	10+
702040/...	48 x 24mm	**472-4136**			
702041/...	48 x 48mm	**472-4148**			
702043/...	96 x 48mm (quer)	**472-4161**			
702044/...	96 x 96mm	**472-4173**			

ZEN Programmable Relay

- Highest control performance
- Improved visibility and high reliability
- Depth beyond front panel: 60 mm
- Faster sampling at 250 ms
- Ideal for heater control
- Approvals: **UL 61010-1, CSA C22.2 No. 1010-1, EN61326, EN61010-1, IEC61010-1 and VDE0106**

Power	3.5 VA (100 to 240 VAC)	Setting method	Digital setting using front panel keys
	3.5 VA (24 VAC)	Control method	ON/OFF control or 2-PID control (with auto-tuning)
	2.5 W (24 VDC)	Indication method	7-segment digital display and individual indicators

Operating temperature	-10°C to +55°C
Operating humidity	25% to 85%
Operating voltage range	85% to 110% of rated supply voltage
Inputs	Thermocouple and Platinum resistance thermometer

642113

No. of Input, outputs	Mftrs. List No.	Order Code	Price Each 1+	3+	5+
Programmable Relays					
6 inputs, 4 outputs	ZEN-10C1AR-A-V2	**197-3919**			
6 inputs, 4 outputs	ZEN-10C1DR-D-V2	**197-3920**			
12 inputs, 8 outputs	ZEN-20C1AR-A-V2	**197-3921**			
12 inputs, 8 outputs	ZEN-20C1DR-D-V2	**197-3922**			
Relay Accessories					
Batteries for ZEN relay	ZEN-BAT01	**197-3923●**			
ZEN relay starter kit, AC	ZEN-KIT01-EV4 (AC)	**197-3924**			
ZEN relay starter kit, DC	ZEN-KIT02-EV4 (DC)	**197-3925**			
Memory cassette, EEPROM	ZEN-ME01	**197-3926**			
PSU for ZEN relay	ZEN-PA03024	**197-3928**			
Software for ZEN relay	ZEN-SOFT01-V4	**197-3929**			
Cable 2m, ZEN relay to PC	ZEN-CIF01	**197-3930**			

ETC1311-FE Thermostats

- 33x77mm sized
- On-Off control
- J type thermocouple
- Temperature compensation
- In the case of probe failure, heating can be selected on, off or periodical running
- Upper and lower limits of the setpoint can be adjusted
- Set value can be adjusted by using single key
- CE marked according to European Norms

Ambient/Storage Temperature	0 to 50°C/-25 to 70°CC (with no icing)
Power Consumption	3 VA Max.
Scale	0°C to +600°C°C
Accuracy	±0.5% (of full scale) ±1 digit
Indicator	3 digits, 14mm, 7 parts red LED
Dimensions (WxHxD)	77x34x70mm

449935

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
230VAC	ETC1311-FE-2307	**125-0481●**				
9 - 30VDC SMPS	ETC1311-FE-SM7	**125-0482●**				

EDT1411 NTC Thermostats

- 33x77mm sized
- On-Off control
- Single contact output
- Single contact output for cooling control
- NTC probe input for cold temperature
- Offset value can be entered for NTC probe
- Compressor protection parameters can be entered
- In case of probe failure, output state can be selected On or Off or Periodical running
- Upper and lower limits of the setpoint can be adjusted
- 16 different warning tones
- Upper and lower limits of the alarm value can be adjusted depending on setpoint value
- CE marked according to European Norms

Ambient/Storage Temperature	0 to 50°C/-25 to 70°CC (with no icing)
Power Consumption	3 VA Max.
Scale	-50°C to +110°C°C
Accuracy	0.1°C/± 1°C
Indicator	4 digits, 12mm, 7 part yellow LED
Output	250VAC, 8A
Hysteresis	Adjustable between 0.1 and 20°C
Dimensions (WxHxD)	85x34x70mm

449946

Supply Voltage	Thermo couple Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
12V/dc		EDT1411-NTC-127	**125-0487●**				
24VAC/dc		EDT1411-NTC-247	**125-0488●**				
230VAC/dc		EDT1411-NTC-2307	**125-0489●**				
Accessories							
NTC Thermoplastic Probe		E-NTC-APT-1.5T7	**125-0501●**				
NTC Plastic Probe		E-NTC-APP-1.5P7	**125-0502●**				

EDT1423 NTC Thermostats

- 33x77mm sized
- On-Off control
- 3 contact outputs for cooling defrost and fan controls
- 2 probes for temperature and defrost controls
- Adjustable offset for probe
- The maximum and the minimum values of the setpoint can be limited
- Upper and lower alarm values can be entered depending on setpoint value
- A buzzer warning for probe failure or alarm cases
- Time and evaporator temperature dependent defrosting is possible
- Fan may be operated depending on defrost and compressor
- CE marked according to European Norms

Ambient/Storage Temperature	0 to 50°C/-25 to 70°C (with no icing)
Power Consumption	7 VA Max.
Scale	-50°C to +100°C°C
Accuracy	± 1°C
Output	250VAC, 8A
Hysteresis	Adjustable between 0 and 20°C
Dimensions (WxHxD)	85x34x70mm

449948

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
230VAC/dc	EDT1423-NTC-2307	**125-0492●**				
Accessories						
NTC Thermoplastic Probe	E-NTC-APT-1.5T7	**125-0501●**				
NTC Plastic Probe	E-NTC-APP-1.5P7	**125-0502●**				

Temperature display CUB5

- 5-digit 7-segment display with 12,2 mm LCD or backlit LCD
- Input RTD or thermocouples
- Optional relay and serial output module
- Easy programming via buttons or software
- Sensor fail detection and programmable offset
- NEMA4X/IP65 sealed front bezel

Inputs	2-, 3- or 4-wire RTD, Ni120, Cu10; Thermocouples type: S, T, J, N, K, E, R, B or -10 to +65 mV
Resolution	1 °C/F or 0,1 °C/F
Scaling	Offset and decimal point
Display	5-digit standard LCD
Special function	Peak/Valley memory
User input	1 programmable input for contact
Optional cards	Relay output: Single FORM-C relay 1 amp @ 30 VDC resistive; 0,3 amp @ 125 VAC Serial communication: RS485 multipoint balanced RS232 half duplex Baud rate from 300 to 19.200 baud
Programming	Programmable with two front buttons or with Software
Operating temperature	-35°C to +75°C depending from the display colour and intensity
Power supply	+9 to +28 VDC, 125 mA max. or 85-250 VAC 50/60 Hz with additional power supply module MLPS
Dimensions (W x H x D)	74,9 x 39,1 x 43,4 mm

509303

Mftrs. List No.	Function	Display	Order Code	Price Each 1+	5+	10+
CUB5RTR0	Temperature display for RTD	Standard LCD	**158-2022●**			
CUB5TCR0	Temperature display for TC's	Standard LCD	**158-2024●**			
Accessories						
CUB5RLY0	Optional relay output card		**125-3412●**			
CUB5COM1	Optional RS485 serial communication card		**125-3413●**			
CUB5COM2	Optional RS232 serial communication card		**125-3415●**			
MLPS1000	Power supply 85-250 VAC		**125-3417●**			

Temperature display PAXT

- 5-digit 7-segment display with 14 mm LED
- Input RTD or thermocouples
- Option cards: 2 or 4 setpoints, analog output and serial communication
- Easy programming by front buttons or software
- Sensor fail detection and offset
- NEMA4X/IP65 sealed front bezel

RoHS ● Compliant ▲ Non-compliant

Input	2- or 3-wire RTD, Ni120; thermocouples type: S, T, J, N, K, E, R, B or -10 to +65 mV
Measurement rate	20 measurements per second
Resolution	0,1 °C/F
Scaling	Offset and decimalpoint, linearisation
Front buttons	5 buttons for programming/reset
Display	Dimmable 5-digit LED with 14 mm digit height
Special functions	Peak-/Valley memory, totalizer
User inputs	3 inputs NPN- or PNP switching
Relay outputs (optional)	2 Form C relays 5 A @ 120/240 VAC or 4 Form A relays 3 A @ 120/230 VAC
Serial communication (optional)	RS485 or RS232
Analog output (optional)	0/4 to 20 mA or 0 to 10 VDC programmable
Power supply	85 to 250 VAC 50/60 Hz or 11 to 36 VDC
Housing	Robust plastic case, front IP65

509328

Mftrs. List No.	Function	Supply	Order Code	Price Each 1+	5+	10+
PAXT0000	Temperature display	85-250 VAC	**158-2013**			
Accessories						
PAXCDL10	Analog output card		**881-119**			
PAXCDS10	Dual setpoint relay output card		**881-077**			
PAXCDS20	Quad setpoint relay output card		**881-089**			

ON/OFF Temperature Controllers

Thermocouple and Platinum Resistance

- Large 11.2mm 3½ digit LED display
- Standard 96x48mm DIN case
- Slimline design, depth behind panel only 63mm
- Quick-release plug-in rear terminals
- SPCO relay contact switches at set point adjustable by front panel potentiometer
- Thermocouple instruments have automatic cold junction compensation

H=48, W=96, D=68.1, Panel cut-out=92x45

Temperature range	J: -50°C to +625°C (-60°F to +1160°F) K: -50°C to +700°C (-60°F to +1300°F) T: -50°C to +350°C (-60°F to +660°F) PT100: -99.9°C to +199.9°C (-99.9°F to +199.9°F)
Resolution	J, K, T: 1°, PT100: 0.1°
Contact rating (resistive)	5A @ 250V ac/30V dc
Operating voltage	115/230V, ±15%
Ambient operating temperature	0°C to +45°C

Note: PT100 instrument is suitable for installation with 2 or 4 wire sensor only

Mftrs. List No. 4801 J=107-991, 4801 K=107-992, 4801 T=107-993, 4804 A=530-049

204915

	Order Code	Price Each 1+	5+	10+	25+
Type J thermocouple	**107-991**				
Type K thermocouple	**107-992**				
PT100 platinum resistance	**530-049**				

On/Off and PD Control

- Housed in flame retardant DIN48 panel mounting plastic case
- PT100 and Type K thermocouple types
- Power on & status LED indication. Facility to drive an external deviation meter on the standard 11 pin base connection
- Cold junction compensation and lead resistance compensation are provided
- Temperature setting is lockable using the hex key provided

H=48, W=48, D=100 (behind panel=87)
Panel cut-out=45x45

Supply voltage	110/240V ac + 10% -15%, 47-63Hz	Contact rating	5A 240V ac/30V dc
Power consumption	4VA max	Cycle time (PD types)	20 s
Setting accuracy	±2% full scale	Proportional band (PD types)	0-20% full scale
Operating hysteresis	0.5% full scale	Output for external meter	50-0-50µA
Output contact	SPCO	Operating temperature	-10°C to +50°C

204821

Temperature Range	Sensor	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
On/Off Controller						
-50° to +150°C	Pt100	TC4810-51	**177-180**			
0° to +100°C	Pt100	TC4810-52	**177-181**			
0° to +200°C	Thermocouple Type K	TC4810-01	**177-182**			
0° to +400°C	Thermocouple Type K	TC4810-02	**177-183**			
0° to +800°C	Thermocouple Type K	TC4810-04	**177-184**			
PD Controller						
0° to +100°C	Pt100	TC4830-52	**177-186**			
0° to +200°C	Thermocouple Type K	TC4830-01	**177-187**			
0° to +400°C	Thermocouple Type K	TC4830-02	**177-188**			

On/Off and PD Control - TOS Range

AUTONICS

- Low cost analogue on/off and PD controllers housed in flame retardant case
- PT100 or K Type thermocouple inputs. Thermocouple versions include cold junction compensation
- Have an LED indicator to show output 'ON' and a large clear dial to show set temperature
- Suitable for panel or DIN rail mounting

H=48, W=48, D=91 (behind panel=78),
Panel cut-out=45x45.

Supply voltage	110/240V ac @ 50/60Hz, ±10%	Thermocouple	0°C to +100°C or 0°C to +200°C
Power supply	3VA	Output rating	SPCO, 3A @ 240V
Scale range		Accuracy	±2%
PT100	0°C to +100°C	Hysteresis	0.5% of span

204845

Temperature Range	Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Platinum Resistance Controllers (PT100)						
0°C to +100°C	110/240V ac	TOS-B4RP1C	**275-323**			
Type K Thermocouple Controllers						
0°C to +200°C	110/240V ac	TOS-B4RK2C	**275-347**			

Universal Electronic Controllers

NEW

- Temperature input or universal input
- Relay or SSR output versions
- 2 independent control loops
- Auto-tuning PID control
- Real time clock
- Infrared receiver and buzzer
- Plug-in terminals

Temperature Controller
H=34.2, W=76.2, D=101
Panel cut-out = 71 x 29

The IR33 universal electronic controllers replace the IR32 range, offering additional features such as auto-tuning PID control and real time clock for managing working cycles and logging alarms. The universal versions can also accept PT100, J and K type thermocouples, DC Voltage and DC mA inputs.
The controllers feature a simple user interface, two independent control loops and are housed in a compact panel mounting enclosure. All versions can be connected to a network for monitoring and programming, using an optional RS-485 serial interface. The IR33 controllers are powered from 12 to 24Vac/dc and optional transformers are available for powering the controllers from 110Vac or 230Vac.

Input options	NTC, NTC-HT, PTC, PT1000, PT100, J/K Type Thermocouples, DC Voltage, DC Current
Operating range	NTC -50 to 90°C; NTC-HT -40 to 150°C; PTC -50 to 150°C; PT1000 -50 to 150°C, -199 to 800°C; PT100 -199 to 800°C; DC Voltage 0-1V, -0.5 to +1.3V, 0-10V, 0-5V ratiometric; DC Current 0-20mA, 4-20mA
Accuracy	±0.5% of max. range
Supply voltage	24VAC/DC
Power consumption	3VA
Working temperature	-10°C to 55°C

659097

Output	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1 Relay	IR33V9MR20	**210-0007**			
2 Relay	IR33W9MR20	**210-0008**			
4 Relay	IR33Z9MR20	**210-0011**			
4 SSR	IR33A9MR20	**210-0012**			

ON/OFF, P or PI Control -Infra-Red

Humidity & Air Pressure (Process)

H=33, W=75, D=64,
Panel cut-out=71 x 29

Controllers

- Digital green LED display, sealed to **IP65**
- Programming functions include:- set-point limits, alarm, status, offset and control action
- Built-in buzzer **CE** marked
- Can accept parameters via optional infra-red remote transmitter
- 12V ac/dc mains supply voltage can be provided by optional transformers
- Scaleable input ranges
- Applications include:- environment chambers, air-conditioning, driers, etc.

Infra-Red Remote Transmitter

- Once enabled, programmes several controllers rapidly. Requires 2xAA batteries
- Each controller has a unique code. Parameters can only be changed when code is identified

Input options	0.5VDC or 1.0VDC	Power consumption	3VA max
Operating range	Scaleable -99 to +999	Working temperature	0 to 50C
Resolution	0.1 or 1 unit, according to display value (autoranging)	Output configuration 940-033 940-045	 1 x SPDT I x SPDT + 1 x SPST relays
Accuracy	±0.5% of max. range		
Supply voltage	12 - 24V ac/dc	Relay rating	8A @ 250V ac max.

Temperature/Process Controllers - continued

ON/OFF, P or PI Control -Infra-Red - continued

Humidity & Air Pressure (Process) - continued

204749

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Humidity Controller						
1 Relay 0.5VDC to +1.0VDC dc	IR32V4L000	**940-033**				
Air-Pressure (process) Controller						
2 Relay 0-20mA/4-20mA	IR32V4L000	**940-045**				
Transformers						
240V ac to 12V ac/dc	TRA12UN100	**645-400**				
120V ac to 12V ac/dc	TRA12UN111	**645-412**				
Humidity Probe	DPWC110000 NEW	**206-8621** ●				

PID & Autotune and Data Logging Option

3300, 9300 & 9400 Series

H=24, W=48, D=102 Type 1

H=48, W=48, D=102 Type 3

H=48, W=48, D=114 Type 2

- PID autotune automatically matches PID setting to the application
- Bright LED 4 digit display configurable to °C/°F and engineering units
- RS232 and 485 options for communication to PC or PLC. CALgrafix, Order Code 400-9460
- 2 colour display shows setpoint and process variable. 9400/9411 versions
- Ramp/Soak, for controlled warm up and timed temperature soak
- Selectable inputs, thermocouple, RTD/PT100 and linear process
- Dual output
- Heat/Cool operation.
- Zero and span adjustments for on site calibration
- Sleeve mounting for easy servicing and fitting communication board
- Positive feel buttons and helpful menus speed set-up
- Full **CE** compliance, **IP66/NEMA4** fascia, **UL** Recognised, **CSA** approved

Supply voltage	110/240Vac ±10%, 50-60Hz 3VA
Outputs	Relay 2A & 1A @ 250Vac, SSR Drive 10mA @>5V dc
Temperature range	User selectable between 0 to 50°C
Sensor types	Thermocouples, Type B, E, J, K, L, N, R, S, T & RTD/PT100
Linear input	0 to 50mV
Calibrated accuracy	± 0.25% sensor maximum ± 1c
Ambient conditions	0 to 50°C

204769

Type	Outputs	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
1	2A Relay & SSR	3300	**565-118**				
1	2A Relay & 1A Relay	3311	**565-120**				
2	2A Relay & SSR	9300	**565-131**				
3	2A Relay & SSR	9400	**565-167**				
3	2A Relay & 1A Relay	9411	**565-179**				

PID Control - '3200 1/32 DIN'.

H=24, W=48, D=102

- Ultra compact, sealed front fascia (24x48mm) to **NEMA 4X/IP66**
- PID autotune, automatically matches PID settings to the application
- Dual output, 2A relay &; SSR drive for alarms or heat/cool operation
- Bright LED 4 digit display configurable in °C, °F and engineering units

3 WARRANTY YEARS

- Selectable inputs include 9 thermocouples, RTD/PT100 and linear process
- Zero and span adjustment for on site calibration
- Matching 1/16 DIN panel adaptors for retro-fit replacement of 1/16 DIN units
- Low supply voltage versions 12/24V ac/dc available
- Operator lockout, three levels for operational security

Supply voltage	100 to 240Vac ± 10%, 50-60Hz 3VA 12V or 24V ac/dc ±20%
Outputs	Relay: 2A @ 250V AC (Resistive) SSR Drive: 10mA @ 5Vdc
Temperature range	User selectable between -200 to 1800°C
Sensor types	Thermocouples, Type B, E, J, K, N, R, S, T & RTD/PT100
Linear input	-10 to 50mV
Calibrated accuracy	± 0.25% sensor maximum ± 1c
Ambient conditions	0 to 50°C

204741

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Temperature Controllers						
100-240Vac	320000	**737-227**				
12Vac/dc	320040	**737-239**				
24Vac/dc	320050	**737-240**				
Panel Adaptors						
1/16 DIN	301.610	**737-252**				

PID Control - '9900 1/16 DIN'

H=48, W=48, D=114

- Industry standard format with 48x48mm front fascia
- PID autotune on warm up or at set point
- Selectable inputs include 9 thermocouples and 2 or 3 wire PT100
- Dual output, extra heavy duty relays for alarms or heat/cool operation
- Bright clear green display configurable in 1.0/0.1 digit °C or °F
- 6 alarm modes with loop break alarm
- Zero and span adjustment for on site calibration
- Matching ¼" and ⅛" panel adaptors for retro fit replacement for larger units
- Operator lockout prevents unauthorised access

Supply voltage	Dual 115/230Vac ±15% 6VA
Outputs	SP1 relay 16A de-rated to 5A for continuous switching or optional SSR drive 10mA @ 5V dc SP2 relay 8A de-rated to 3A for continuous switching or optional SSR drive 10mA @ 5V dc
Power Socket option	4-20mA 500ohm max
Temperature range	User selectable between -200 to 1800°C
Sensor types	Thermocouples, Type J, K, N, R, S, T, E, L, B & RTD/PT100 2 or 3 wire
Linear input	0-20mV, 4-20mV
Calibrated accuracy	± 0.25% sensor maximum ± 1C
Ambient conditions	0 to 50°C

204736

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
SP1-Relay and SP2-Relay Outputs						
230VAC	991.12C	**737-276**				
115VAC	991.11C	**737-288**				
SP1-SSR and SP2-Relay Outputs						
230VAC	992.12C	**737-290**				
115VAC	992.11C	**737-306**				
SP1-SSR and SP2-SSR Outputs						
230VAC	992.22C	**737-331**				
Panel Adaptor						
1/4 DIN	904.400	**737-367**				

Temperature Controller

E5CB Series - 1/16 DIN

NEW

OMRON

- Highest control performance
- Improved visibility and high reliability
- Depth beyond front panel: 60 mm
- Faster sampling at 250 ms
- Ideal for heater control
- Approvals: **UL 61010-1, CSA C22.2 No. 1010-1, EN61326, EN61010-1, IEC61010-1 and VDE0106**

H= 48mm, W= 48mm, D= 60mm

Operating temperature	-10°C to +55°C
Operating humidity	25% to 85%
Operating voltage range	85% to 110% of rated supply voltage
Inputs	Thermocouple and Platinum resistance thermometer
Power	3.5 VA (100 to 240 VAC) 3.5 VA (24 VAC) 2.5 W (24 VDC)
Setting method	Digital setting using front panel keys
Control method	ON/OFF control or 2-PID control (with auto-tuning)
Indication method	7-segment digital display and individual indicators

639465

Supply Voltage	Output	Mftrs. List No.	Order Code	Price Each 1+	3+	5+
100 to 240VAC	Voltage (For driving SSR)	E5CB-Q1P AC100-240	**197-3872**			
24VDC	Voltage (For driving SSR)	E5CB-Q1PD AC/DC24	**197-3874**			
100 to 240VAC	Voltage (For driving SSR)	E5CB-Q1TC AC100-240	**197-3875**			
24VDC	Voltage (For driving SSR)	E5CB-Q1TCD AC/DC24	**197-3876**			
100 to 240VAC	Relay	E5CB-R1P AC100-240	**197-3877**			
24VDC	Relay	E5CB-R1PD AC/DC24	**197-3878**			
100 to 240VAC	Relay	E5CB-R1TC AC100-240	**197-3879**			
24VDC	Relay	E5CB-R1TCD AC/DC24	**197-3880**			

RoHS ● Compliant ▲ Non-compliant

Digital Temperature Controllers

E5CN-H Series - 1/16 DIN

- High Resolution display with 5 digits
- Layed programming menues
- High speed sampling cycle of 60 ms
- High Accuracy - Thermocouple/PT input:± 0.1% of PV, Analog input:±0.1% FS
- Flexible contact with logic operations
- Preventive maintenance for relays
- Option Units can be mounted to provide additional functions
- Complete with terminal cover
- **CE** approved, **UL** Recognised

H = 48, W = 48, D = 78mm

535351

Supply Voltage	Output	Mftrs. List No.	Order Code	Price Each 1+
Controllers				
100 to 240VAC	Relay	E5CN-HR2M-500	170-8014●	
100 to 240VAC	Voltage (For driving SSR)	E5CN-HQ2M-500	170-8015●	
100 to 240VAC	Current	E5CN-HC2M-500	170-8017●	
100 to 240VAC	Linear Voltage	E5CN-HV2M-500	170-8018●	
24V ac/dc	Relay	E5CN-HR2MD-500	170-8019●	
24V ac/dc	Voltage (For driving SSR)	E5CN-HQ2MD-500	170-8020●	
24V ac/dc	Current	E5CN-HC2MD-500	170-8021●	
24V ac/dc	Linear Voltage	E5CN-HV2MD-500	170-8022●	
100 to 240VAC	Relay	E5CN-R2MT-500	NEW 197-3864	
24V ac/dc	Relay	E5CN-R2MTD-500	NEW 197-3865	
100 to 240VAC	Voltage (For driving SSR)	E5CN-Q2MT-500	NEW 197-3866	
24V ac/dc	Voltage (For driving SSR)	E5CN-Q2MTD-500	NEW 197-3867	
100 to 240VAC	Current	E5CN-C2MT-500	NEW 197-3868	
24V ac/dc	Current	E5CN-C2MTD-500	NEW 197-3869	
100 to 240VAC	Current	E5CN-C2ML-500	NEW 197-3870	
24V ac/dc	Current	E5CN-C2MLD-500	NEW 197-3871	
Option Units				
RS-232C Communications		E53-CN01N2	170-8023●	
Heater Burnout/SSR Failure/Heater overcurrent/ RS-232C		E53-CNH01N2	170-8024●	
Control voltage 2 (for driving SSR) and RS-232C Communication		E53-CNQ01N2	170-8025●	
RS-485 Communication		E53-CN03N2	170-8026●	
Heater burnout/SSR Failure/Heater overcurrent and RS-485 Communication		E53-CNH03N2	170-8027●	
Heater burnout/SSR Failure/3-Phase Heater overcurrent and RS-485 Communication		E53-CNHH03N2	170-8029●	
Control voltage 2 (for driving SSR)/RS-485 Communication		E53-CNQ03N2	170-8031●	
Two event input		E53-CNBN2	170-8032●	
Two event input - Heater burnout/SSR failure/ Heater overcurrent detection		E53-CNHBN2	170-8033●	
Control voltage 2 (For driving SSR)		E53-CNQBN2	170-8034●	
Two event input - Transfer output		E53-CNBFN2	170-8035●	
Control voltage 2 (for driving SSR) and 3 phase heater burnout/SSR failure/Heater overcurrent		E53-CNQHHN2	170-8036●	
Control voltage 2 (for driving SSR) and Heater burnout/SSR failure/Heater overcurrent		E53-CNQHN2	170-8037●	
Control voltage 2 (for driving SSR) and Transfer output		E53-CNQFN2	170-8038●	

Digital Temperature Controllers

E5EN Series - 1/8 DIN & E5AN Series 1/4 DIN

E5AN-H

H = 96, W = 96, D = 78mm

E5EN-H

H = 48, W = 96, D = 78mm

- High Resolution display with 5 digits/0.01°C display
- High Accuracy - Thermocouple input: ±0.3% of PV, PT input: ±0.2% of PV, Analog input: ±0.2% FS
- High speed sampling cycle of 60 ms
- Universal inputs
- A PV/SV-status display function can be set to automatically alternate between displaying the status of the Temperature Controller (auto/manual, RUN/STOP, and alarms) and the PV or SV.
- Preventive maintenance for relays in the Temperature Controller using a Control Output ON/OFF Counter.
- Three-level display that simultaneously displays the PV, SV, and MV.
- One-touch operation with PF Key that can be assigned to auto manual, RUN/STOP, or other functions.
- Complete with terminal cover
- Option Units can be mounted to provide additional functions
- **CE** approved, **UL** Recognised

535352

Supply Voltage	Output	Mftrs. List No.	Order Code	Price Each 1+
Controllers - 1/8 DIN				
100 to 240VAC	None fitted, 2 slots	E5EN-HAA2HBM-500	170-8039●	
100 to 240VAC	Relay	E5EN-R3HMT-500N	NEW 197-3856	
100 to 240VAC	Current	E5EN-Q3HMT-500N	NEW 197-3858	
100 to 240VAC	Voltage (For driving SSR)	E5EN-C3MT-500N	NEW 197-3860	
100 to 240VAC	Voltage (For driving SSR)	E5EN-C3ML-500N	NEW 197-3863	
24V ac/dc	None fitted, 2 slots	E5EN-HAA2HBMD-500	170-8045●	
24V ac/dc	Relay	E5EN-R3MTD-500N	NEW 197-3857	
24V ac/dc	Current	E5EN-Q3HMTD-500N	NEW 197-3859	
24V ac/dc	Voltage (For driving SSR)	E5EN-C3MTD-500N	NEW 197-3862	
Controllers - 1/4 DIN				
100 to 240VAC	None fitted, 2 slots	E5AN-HAA2HBM-500	170-8050●	
100 to 240VAC		E5AN-HPRR2BM-500	170-8055●	
100 to 240VAC	Relay	E5AN-R3HMT-500N	NEW 197-3849	
100 to 240VAC	Current	E5AN-Q3HMT-500N	NEW 197-3852	
100 to 240VAC	Voltage (For driving SSR)	E5AN-C3MT-500N	NEW 197-3854	
100 to 240VAC	Voltage (For driving SSR)	E5AN-C3ML-500N	NEW 197-3855	
24V ac/dc	None fitted, 2 slots	E5AN-HAA2HBMD-500	170-8056●	
24V ac/dc	2 x SSR	E5AN-HSS2HHBFMD-500	170-8059●	
24V ac/dc	Relay	E5AN-R3HMTD-500N	NEW 197-3851	
24V ac/dc	Current	E5AN-Q3HMTD-500N	NEW 197-3853	
Accessories				
Output Unit - Pulse (NPN) 12V dc		E53-Q3	170-8063●	
Output Unit - Linear 4-20 mA		E53-C3N	170-8064●	
Output Unit - Linear 0-20 mA		E53-C3DN	170-8066●	
Output Unit - Linear 0-5 V		E53-V35N	170-8068●	
Communication unit - RS232C		E53EN01	NEW 197-3846	
Communication unit - RS485C		E53EN03	NEW 197-3847	

Zelio® Temperature Controllers

REG-24 1/32 DIN, REG-48 1/16 DIN and REG-96 1/8 DIN

REG-24
H= 24mm, W= 48mm, D= 97mm

REG-48
H=48mm, W= 48mm, D= 77.8mm

REG-96
H= 96mm, W=48mm, D= 78mm

- High luminosity LED display providing excellent clarity in all lighting conditions
- Modbus communication for an increase in efficiency, consistency, and the ability to interface with PCs and other automation products
- Flash memory
- Compatible with a wide range of sensors: PT100 probe, thermocouple and current or voltage sensors
- Advanced functions (standard): PID, fuzzy logic, auto-tuning, soft start
- IP66 resistance to dust
- Zelio control software used to configure the parameter settings

Operating temperature	-10°C to +50°C
Relative humidity	90% without condensation
Vibration Resistance	1 gn (10 to 70 Hz)
Shock Resistance	5 gn
Sampling time	REG-24 500ms REG-48 and REG-96 200ms
Serial Port	1 x RS-485
Flow Rate	9600 and 19200 Kbits/s
Communication Protocol	Modbus slave RTU, half duplex
Approvals	**EMC EN 61326-1, LVD EN 61010-1, cURus (873), CSA C22.2 n2° 4-93, Gost**

NEW

Supply Voltage	Output Type	No. Of Outputs	Mftrs. List No.	Order Code	Price Each 1+	3+	5+
REG-24 1/32 DIN							
100 to 240V	Solid State Relay Interface	1	REG24PTP1ALHU	197-3944●			
100 to 240V	Relay	1	REG24PTP1ARHU	197-3945●			
100 to 240V	Current	1	REG24PTP1JHU	197-3946●			
100 to 240V	Current	1	REG24PTP1JLU	197-3947●			
100 to 240V	Solid State Relay Interface	1	REG24PTP1LHU	197-3948●			
24V	Solid State Relay Interface	1	REG24PTP1LLU	197-3949●			
100 to 240V	Relay	1	REG24PTP1RHU	197-3950●			
24V	Relay	1	REG24PTP1RLU	197-3951●			
100 to 240V	Solid State Relay Interface	1	REG24PUJ1LHU	197-3953●			
24V	Solid State Relay Interface	1	REG24PUJ1LLU	197-3954●			
100 to 240V	Relay	1	REG24PUJ1RHU	197-3955●			
24V	Relay	1	REG24PUJ1RLU	197-3956●			

Temperature/Process Controllers - continued

Zelio® Temperature Controllers - continued

REG-24 1/32 DIN, REG-48 1/16 DIN and REG-96 1/8 DIN - continued

Supply Voltage	Output Type	No. Of Outputs	Mftrs. List No.	Order Code	Price Each 1+	3+	5+
REG-48 1/16 DIN							
100 to 240V	Current	1	REG48PUN1JHU	**197-3958**			
24V	Current	1	REG48PUN1JLU	**197-3959**			
100 to 240V	Solid State Relay Interface	1	REG48PUN1LHU	**197-3960**			
24V	Solid State Relay Interface	1	REG48PUN1LLU	**197-3961**			
100 to 240V	Relay	1	REG48PUN1RHU	**197-3962**			
24V	Relay	1	REG48PUN1RLU	**197-3963**			
100 to 240V	Solid State Relay Interface + Current	1	REG48PUN2LJHU	**197-3965**			
24V	Solid State Relay Interface + Current	1	REG48PUN2LJLU	**197-3966**			
24V	Relay	1	REG48PUN1RLU	**197-3963**			
100 to 240V	Solid State Relay Interface + Relay	1	REG48PUN2LRHU	**197-3967**			
24V	Solid State Relay Interface + Relay	1	REG48PUN2LRLU	**197-3968**			
100 to 240V	Relay	2	REG48PUN2RHU	**197-3969**			
24V	Relay	2	REG48PUN2RLU	**197-3970**			
100 to 240V	Solid State Relay Interface	1	REG48PUNL1LHU	**197-3971**			
100 to 240V	Relay	1	REG48PUNL1RHU	**197-3972**			
REG-96 1/8 DIN							
100 to 240V	Current	1	REG96PUN1JHU	**197-3974**			
24V	Current	1	REG96PUN1JLU	**197-3975**			
100 to 240V	Solid State Relay Interface	1	REG96PUN1LHU	**197-3977**			
24V	Solid State Relay Interface	1	REG96PUN1LLU	**197-3978**			
100 to 240V	Relay	1	REG96PUN1RHU	**197-3979**			
24V	Relay	1	REG96PUN1RLU	**197-3980**			
100 to 240V	Solid State Relay Interface + Current	1	REG96PUN2LJHU	**197-3981**			
24V	Solid State Relay Interface + Current	1	REG96PUN2LJLU	**197-3982**			
100 to 240V	Solid State Relay Interface + Relay	1	REG96PUN2LRHU	**197-3983**			
24V	Solid State Relay Interface + Relay	1	REG96PUN2LRLU	**197-3984**			
100 to 240V	Relay	2	REG96PUN2RHU	**197-3985**			
24V	Relay	2	REG96PUN2RLU	**197-3986**			
100 to 240V	Solid State Relay Interface	1	REG96PUNL1LHU	**197-3987**			
100 to 240V	Relay	1	REG96PUNL1RHU	**197-3989**			

639537

Description	Pack Qty	Mftrs. List No.	Order Code	Price Per Pack 1+	5+	10+
Accessories						
Support for DIN rail	4	REG24PSOC	**197-3943**			
Terminal Block Cover	2	REG48PCOV	**197-3957**			
Terminal Block Cover	2	REG96PCOV	**197-3973**			

Temperature Controllers

3216 Series - 48x48x90mm

3208 Series - 48x96x90mm

Available in two standard DIN sizes, the innovative 3200 controllers provide precise temperature control with a host of options. The front panel 'ammeter' on the 1/8 DIN size displays the heater current or output power demand.

- In operation every parameter is accompanied by a scrolling text message describing its function
- The current transformer input provides display of the heater current and a health check on the load
- Partial load failure, heater open circuit and SSR (Solid state relay) short circuit are detected and displayed as scrolling alarm messages
- These instruments are suited to use in the plastics industry where input type J is the standard
- The inputs on the 3200 can easily be configured from the supplied 'K' to 'J'
- The internal timer is configurable as an interval timer, delay timer or to provide 'soft start' for hot runner control
- Input types are configurable, and can be changed through the front panel

Control Modes	PID or ON/OFF	Output Ratings	Relay: 2A, 264V ac resistive Logic: 40mA, 12V dc (non-isolated from PV) DC: 0-20mA into 500Ω max. (non-isolated from PV)
Supply Voltage	85-264V ac -15 to 20%. 6 Watts max.	Panel Sealing	IP66, NEMA4 plug-in from front
Operating Ambient	0-55°C, 5-85%RH	Current Transformer Input	50mA ac
Inputs	Refer to the order codes		

Outputs 1	2	3	Fascia Colour	Input Thermocouple	Setpoint Limits	Order Code
Relay	Relay		Green	Type K	0 - 1000°C	842-9782
Logic	Relay		Green	Type K	0 - 1000°C	842-9790
0-20 or 4-20mA	Relay		Green	Type K	0 - 1000°C	842-9804
Logic	Relay	Relay	Green	Type K	0 - 1000°C	842-9812
Logic	Relay	Relay	Green	Type K	0 - 1000°C	842-9847

381035

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	15+
3216/CC/VH/RR/XX/X/XXX/G/ENG/K/C5/H	**842-9782**				
3216/CC/VH/LR/XX/X/XXX/G/ENG/K/C5/H	**842-9790**				
3216/CC/VH/DR/XX/X/XXX/G/ENG/K/C5/H	**842-9804**				
3216/CC/VH/LR/XX/R/XXX/G/ENG/K/C5/H	**842-9812**				
3208/CC/VH/LRR/XX/X/XXX/G/ENG/K/C5/H	**842-9847**				

1/32 & 1/16 DIN PID Temperature Controllers

Models 2132 & 2116

H=48, W=48, D=103

H=24, W=48, D=103

- Bright clear LED display gives excellent visibility in high and low ambient lighting
- Operation is user friendly with tactile buttons
- Three alarm setpoints are configurable for high, low and deviation alarms
- Any combination of the alarms can be assigned to the relay output
- Latching or non-latching operation can be selected
- Calibration accuracy is preserved with a self correcting input circuit
- User calibration facility allows offsets to be applied to compensate for sensor and other system errors

Miniature PID temperature controller with heating, cooling and alarm outputs. Self-tuning is included to optimise control performance without the need for specialist knowledge or training. A universal input is configurable for nine thermocouple types, the PT100 resistance thermometer and linear 4-20mA. Two outputs are provided, a logic output to operate a solid state relay and a relay output to operate contactors or solenoids. Either output can be configured for heating, cooling or alarms. A timer function is provided which can start or stop a process at the end of a set period.

Control modes	PID or ON/OFF control
No. of digits	Four with up to 2 dec. places
Display	10mm high digits in green
Display resolution	Up to 2 decimal places
Supply	100 to 240Vac -15%, +10%
Power consumption	5 watts max
Input sampling rate	5Hz
Display Units	°C or °F or Kelvin
Calibration accuracy	The greater of ± 0.25% of reading, or ± 1c, or ± 1LSD
Input filtering	0-999,9 seconds
Alarm types	Low, high or deviation
Operating ambient	0-55C
Panel sealing	IP65, plug-in from front
Relay rating	2A, 240Vac resistive
Logic rating	9Vdc, 12mA

205772

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	15+
2132VH.	**722-9902**				
2116	**722-9914**				

PID Control - '2300 Series'

1/32 DIN

H=25, W=49, D=100, Panel Cut-out 45x22.5

- Compact but large four digit LED display controller
- Universal input selection T/Cs, RTD, mA/mV dc
- Two outputs as standard (1xrelay, 1xSSR) for control and alarm functions
- Selectable **'EASYTUNE'** or manual PID adjust with pre-tune
- Sealed front fascia **IP66**
- **CE** approved and **UL** Recognised

3 WARRANTY YEARS

RoHS Compliant / Non-compliant

Sensor Types	Thermocouples, Type J, L, T, K, B, N, R, S & RTD/PT100
Linear Outputs	0-20mA, 4-20mA, 0-50mV, 10-50mV
Accuracy	± 0.1% of input span (0.25% for J & T T/C) ± 1 LSD (T/C CJC better than 0.7°C)
Outputs	Relay 2 A resistive @ 240V AC SSR 50mA @ 10V DC
Ambient Conditions	0-55°C, 20-95% RH non condensing

204767

Power Supply	Display Colour	Order Code	Price Each 1+	5+	10+	25+
90-264Vac	Red	**988-571**				
90-264Vac	Green	**988-583**				

Simplified Temperature Controller

6500 Series - 1/16 DIN

- Thermocouple input
- Easy Tune (PID) or On / Off
- On control indicator
- Foolproof operation
- Set-point lock
- Alarm lock
- **CE** Approved and **UL** Recognised

H=48, W=48, D=120, Panel cut-out 45 x 45mm

The 6500 features a simplified operator interface and an automatic self-tune process at start-up. Clear Go / No-go "on control" indicator and a large high visibliity 3 digit display.

541793

Power Supply	Mftrs. List No.	Order Code	Price Each 1+
100-240VAC	N6500/Z2110-240VAC	**988-595**	

Simplified Temperature Controller

6500 Series

- 1/16 DIN controller with large 3 digit LED display
- Input selection T/C & RTD
- Two outputs - Relay and Alarm Relay
- **EASYTUNE** (PID) optimises control without operator intervention
- Setpoint lock
- Alarm lock
- Sealed front fascia **IP66**
- **CE** Approved and **UL** Recognised

H=48, W=48, D=100, Panel cut-out 45 x 45mm

Input	Supply Voltage	Outputs 1	2	Mftrs. List No.	Order Code
Thermocouple	100 to 240VAC	Relay Control	Relay Alarm	N6500/Z2110	988-595

204766

Power Supply	Order Code	Price Each 1+	5+	10+	25+
100-240VAC	**988-595**				

General Purpose Process Controller - '6100 Series'

1/16 DIN - On/Off or PID

H=48, W=48, D=100, Panel cut-out 45x45

Supply voltage	94-256 Vac or 20-50 Vac/22-65 Vdc
Sensor Types	Thermocouples, Type J, L, T, K, N, B, R, S & RTD/PT100
Linear Inputs	0-20mA, 4-20mA, 0-5mV, 1.5mV, 0-10V, 2-10V
Accuracy	±0.25% of span, ±1 LSD
Outputs	Relay 2A resistive @ 240Vac, SSR 4.2V 1k Ω min DC 0-20mA, 4-20mA, 0-10V, 2-10V
Ambient Conditions	0-55°C, 20-95% RH non condensing

Output Range	Link Jumper Fitted
0 - 10V dc	LJ8
0 - 20mA dc	LJ9
0 - 5V dc	LJ8
4 - 20mA dc	LJ9

- Multi-functioned programmable PID controller
- Universal input for t/c, 3-wire RTD, mA, mV and V
- Broken sensor detection and loop-failure alarm
- Select Relay or DC (4-20mA,0-10V) for control output 1
- Optional output 2 - Relay or DC for heat/cool control or alarm
- Optional output 3 - alarm or recorder output
- Optional RS485 serial communications
- Optional digital input for remote selection of dual setpoint
- **IP66/NEMA 4** plus full **CE** approved and **UL** recognised

204765

Power Supply	Output 1 Type	Order Code	Price Each 1+	5+	10+	25+
90-264 Vac	Relay	**308-0080**				
Optional Modules						
Single C/O Relay (S1)		**979-5243**				
SSR Driver Output (S1)		**979-5251**				
Linear mA/V DC Output (S1)		**979-5260**				
Single C/O Relay (S2/3)		**979-5278**				
Linear mA/V DC Output (S2/3)		**979-5294**				
RS485 Serial (SA)		**979-5316**				
Remote Setpoint Input (SA)		**979-5332**				

Temperature Controllers - Basic

E5GN Series - 48mm x 24mm (1/32 DIN)

O/A - H = 35, W = 48, D = 100mm

- Universal temperature sensor and Analogue current / voltage input versions
- Screw-less clamp terminal contact blocks
- Auxiliary (relay) outputs that can be used to output alarms or processing results.
- Additional terminal connections to achieve greater I/O options
- High Control Output Current rating (2A)
- Wide input temperature range of -200 to 600°C
- Outstanding Indication accuracy (±0.2% FS)
- Fast 250ms sampling period
- Easy-to-read display features an 11-segment display and large indication characters
- Easily recognize status at a glance via a display that switches between 3 colors

Temperature Inputs	Thermocouples - K, J, T, E, L, U, N, R, S, B, W or PLII Platinum Resistance Thermometer - Pt100, JPt100 Infrared Temperature Sensor - 10 to 70°C, 60 to 120°C, 115 to 165°C or 140 to 260°C Voltage Input - 0 to 50 mV
Analogue Inputs	Current Input - 4 to 20 mA or 0 to 20 mA Voltage Input - 1 to 5V, 0 to 5V or 0 to 10V
Control Outputs	Relay - SPST-NO, 250V ac 2A Voltage (SSR) - 12V dc ±15% (PNP), 21 mA Max. Linear Current - 4 to 20 mA DC / 0 to 20 mA DC, load 500 Ω
Auxillary Output	SPST-NO, 250V ac, 2A (Resistave)
Ambient Temperature	Operating: -10 to +55°C, Storage: -25 to +65°C to 65°CC

601904

Supply Voltage	Input	Mftrs. List No.	Order Code	Price Each 1+
Relay Output + 1 Auxiliary Output				
100 to 240VAC	Temperature	E5GN-R1T-C AC100-240	**179-4200●**	
24V ac/dc	Temperature	E5GN-R1TD-C AC/DC24	**179-4201●**	
Voltage Output (SSR) + 1 Auxiliary Output				
100 to 240VAC	Temperature	E5GN-Q1T-C AC100-240	**179-4202●**	
24V ac/dc	Temperature	E5GN-Q1TD-C AC/DC24	**179-4203●**	
Linear Current Output + 1 Auxiliary Output				
100 to 240VAC	Temperature	E5GN-C1T-C AC100-240	**179-4204●**	
24V ac/dc	Temperature	E5GN-C1TD-C AC/DC24	**179-4205●**	
24V ac/dc	Analogue	E5GN-C1LD-C AC/DC24	**179-4208●**	

Temperature Controllers

E5CSV Series

H = 48, W = 48, D = 78mm

- Easy setting using DIP and rotary switches
- 1 alarm output
- Multi input support for both thermocouple or PT100
- Clearly visible digital display
- Character height of 13.5mm
- Available for 100-240Vac or 24V dc supply
- Available with relay or voltage output

Supply Voltage	100 - 240VAC or 24V dc
Inputs	K, J, L, T, U, N, R, Pt100, JPt100,
Control Output	Relay (SPST-NO, 250V ac 3A) or Voltage (12V dc 21mA)
Alarm Output	SPST-NO, 250V ac, 1A
Ambient Temperature	Operating: -10 to 55°C Storage: -25 to 65°CC

460606

Voltage	Output	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
100 to 240VAC	Relay	E5CSVR1T500AC100240V	**133-7266●**			
100 to 240VAC	Voltage	E5CSVQ1T500AC100240V	**133-7267●**			
24 to 24VDC	Relay	E5CSVR1TD500ACDC24V	**133-7268●**			
24 to 24VDC	Voltage	E5CSVQ1TD500ACDC24V	**133-7271●**			

E5CN Series Temperature Controller

- 11 segment clearly readable LCD display
- 3 colour change display, green, red and orange
- 3 phase heat monitor
- The fast input sampling is 100ms for analogue and 250ms for temperature inputs
- Loop break alarm and sensor break alarm
- Simple 2 step programmer
- IP 66 rated front panel

Input	Output	Alarm	Voltage	Mftrs. List No.	Order Code
Temperature Input Models (Thermocouple, PT100 and mV)					
TC/Pt/mV	Relay	2	100 to 240VAC or 24VDC/VAC	E5CN-R2MT 500 100/240AC	860-5548

382675

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Temperature Input Models				
E5CN-R2MT 500 100/240AC	**860-5548**			

Touch Panel Screen

5.7 Inch Colour Touch Panel Screen

NEW

Schneider Electric

H= 129.15mm, W= 163mm, D= 56.5mm

- Ease of use and single configuration software
- Push-button style mounting system
- Embedded Ethernet
- Multi-protocol RS232 / 485 RJ45 ports
- Optimum visibility
- Certifications: **C-Tick, CULus and UL class 1 Div2 T4A ou T5**
- Standards: **EN 61131-2, FCC Class A, IEC 61000-6-2, UL 1604 and UL 508**

Operating temperature	0°C to +50°C
Voltage rating	24 VDC
Power	6.8 W
IP degree protection	**IP20** (rear panel) conforming to **IEC 60529** **IP65** (front panel) conforming to **IEC 60529**
NEMA degree of protection	NEMA 4X front panel (indoor use)
Display type	QVGA TFT colour touchscreen
Display colour	65536 colours
Pixel resolution	320 x 240 pixels
Touch panel	Analogue
Backlight lifespan	50000 hours
Brightness	16 levels
Character font	ASCII, Chinese (simplified Chinese), Japanese (ANK, Kanji), Korean and Taiwanese (traditional Chinese)
Processor frequency	333 MHz
Memory	Application memory - 16 MB, Back up of data - 64 kB

639644

Mftrs. List No.	Order Code	Price Each 1+	3+	5+
HMISTU855	**197-3991**			

LED Process Indicators

Process Meter

OMRON

- Multi-range DC voltage/current input
- Front-panel key operation for easy setting
- Average processing function suppresses flicker
- Scaling, front-panel forced-zero, zero-limit functions
- Easy confirmation of max/min display
- Short 80-mm depth (measured from edge of face plate)
- Finger protective cover (standard equipment) guards against electric shock
- Water- and dust-proof NEMA4X (IP66 equivalent) front panel
- Recognized to U.S. and Canadian requirements under the Component Recognition Program of UL with CE marking

Input Type	Supply Voltage	Output	Mftrs. List No.
DC Voltage/Current	100 to 240VAC	2 Relay Contact Outputs (SPST - NO)	K3MAJA2100240VAC

473371

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
K3MAJA2100240VAC	**135-0605**			

Temperature Meter

OMRON

- Wide input range - select from two types of platinum-resistance thermometers and ten types of thermocouples
- Front-panel key operation for easy setting
- Average processing function suppresses flicker
- Temperature input shift and temperature unit selection functions
- Easy confirmation of max/min display
- Short 80-mm depth (measured from edge of face plate)
- Finger protective cover (standard equipment) protects against electric shock
- Water- and dust-proof NEMA4X (IP66 equivalent) front panel
- Recognized to U.S. and Canadian requirements under the Component Recognition Program of UL with CE marking

Input Type	Supply Voltage	Output	Mftrs. List No.
Platinum-resistance Thermometer or Thermocouple	100 to 240VAC	1 Relay Contact Output (SPDT)	K3MALC100240VAC

473376

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
K3MALC100240VAC	**135-0607**			

di08 / di32 Digital Indicators

JUMO

- Configurable inputs and outputs
- Structured operating and programming layout
- Customized linearization adjustment
- Min/max/hold function via external contact
- Easy-to-read display thanks to large LED (20 or 10mm)
- IP66 enclosure protection
- Levels can be inhibited to prevent unintentional alterations
- Configurable relay switch-on delay
- Two relay outputs and logic output 0/5V

Technical Data:

Supply Voltage	110...240V AC, 48...63Hz
Inputs	Resistance Thermometers Pt100, Pt1000, KTY11-6
	Thermocouples Typ L, J, U, T, K, N, S, R, B, D, C
	Current 0...20mA, 4...20mA
	Voltage 0...10V, 2...10V
	Binary Input Floating Contact

di 08

Bezel Size	48 x 96mm
Display:	4-digit LED, red, 20mm high
Outputs	2 Relays (SPST-NO) 1 binary output 5V/20mA

di 32

Bezel Size	24 x 48mm
Display:	4-digit LED, red, 10mm high
Display	1 Relay (SPST-NO) 1 Binary Output 5V / 20mA

333863

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
di32 24 x 48 mm	95/00387989	**472-4598**			
di08 48 x 96 mm	95/00387993	**472-4604**			

Di Eco Indicator

JUMO

Digital temperature indicator, microprocessor-controlled, with 10A changeover (SPDT) relay, in 76mm x 36mm format

- Limit monitoring with 10A changeover (SPDT) relay
- Adjustable switching differential
- Configurable alarm suppression
- Symbols in display for temperature unit, minutes, seconds
- Parameter level protected by code
- Each parameter can be individually enabled for operation
- Easy mounting
- Panel mounting
- Electrical connection via screw terminals, 2.5mm² stranded wire or 4mm² solid wire
- UL and CUL approval applied for
- Programmable switch-on delay after power-on

Technical Data:

Supply Voltage	DC 24V
Input	Pt100 / Pt1000 / KTY 2X6, freely adjustable
Ouput	Floating changeover contact (SPDT) 10A / 250V
Accuracy	0,1%
Bezel Size	76 x 36 mm
IP Rating	IP65 at front
Operating Temperature	0...55°C

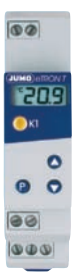
333864

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
951540/888-18 24VDC	95/00413077	**472-4628**			

eTRON T

JUMO

Digital thermostat with LCD display for DIN rail mounting



- Configurable heating or cooling operation
- Adjustable switching differential
- Simple operation from 3 keys
- Mounting on DIN rail
- Dimensions: 90 x 22.5 x 60 mm
- Electrical connection by screw terminals
- Enclosure protection: IP20
- UL and CUL approval
- 3-digit LC display with special symbols °C, °F
- Parameter level protected by code
- 10 A load relay
- Limit monitoring

Technical Data:

Supply Voltage	230VAC / 115VAC / 24VDC / 12VDC
Input	Pt100 / Pt1000 / KTY 2X6, free adjustable
Output	Floating changeover contact 10A / 250V
Accuracy	0,1%
Mounting	35 x 7.5mm DIN rail to EN 50 022
Operating Temperature	0 to 55°C

333869

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
ecoTRON T 24V DC	701050/811-31/061	**472-4197**			
ecoTRON T 230V AC	701050/811-02/061	**472-4239**			

RoHS Compliant / Non-compliant

Smart Panel Meter - K3GN

OMRON

A panel meter that combines simplicity with versatility, the easy to use menu structure makes this controller suitable for simple applications while the advanced functions make it suitable for more complicated ones. Using the same display that was first developed for the E5N temperature controller. the K3GN offers a high visibility reverse lit LCD display that can be configured to change colour when the outputs are either activated or de-activated.

- Configurable analogue inputs: 4-20mA, 0-20mA, 1-5VDC, 0-5VDC,-5 to +5VDC, and -10 to +10VDC. These are fully scaleable so can be configured to represent a wide range of engineering inputs.
- Non voltage and open collector inputs suitable for sensors, encoders and pulse inputs from 0.05 to 30.00 Hz and 0.1 to 5000.0 Hz
- All of the inputs are simple to scale by setting the lower and upper limits and what these are to represent the K3GN will automatically linearise these to the scale required
- 24x48mm DIN1/32 and panel depth of 80mm
- 24VDC input voltage -15%to +10%
- Choice of either 2 relay (3A @250VAC or 30VDC) or 3 transistor outputs (choice of NPN or PNP), that can be configured to give a wide selection of levels including HH, H, LL, L or band (on each output). When using transistor outputs the 3rd output is for a pass output.
- Programmable display to change colour when activation or de-activation of outputs.
- Meets all current European noise and emissions regulations and the unit is CE marked
- Other standards approvals include **VDE, and CSA UL** recognised
- Front Fascia protected to NEMA4X (indoor) **IP66**.

Supply voltage 24VDC

248524

Output	Mftrs List No	Order Code	Price Each 1+	5+	10+
Input DC Voltage / Current, NPN					
2 Relay, SPDT	K3GN-1001A	**424-5167**			

3½ Digit, Voltage and Current Indicator

S Range

metrix electronics

H = 48, W = 96, D = 151mm
Panel Cut-Out - 92.8 x 46.1mm

- Configured by rear pluggable links and presets
- Adjustable zero offset (eg 4-20mA=0-1500 display)
- 230V ac supply
- **IP65** sealed front fascia
- 13 or 20mm character sizes
- 2000 count display range
- 10 volt ranges and 8 current ranges (dc)

Resolution/display	±1999 digit/7 segment red LED	Connector types	Screw terminals (supply - 2 way, input -4 way)
Measuring rate/integration	3 per sec/80ms	Wire size	4mm² single core, 2.5mm² standard wire
Measuring ranges	0.2 ... 300Vdc/10 ranges 1.0 ... 300mAdc/8 ranges	Safety	IEC 1010, class 1, over voltage category II 264V Degree of polution 2
Zero correction/offset	Automatic/up to +25% or range (for 4-20mA, etc.)	EMC	IEC 801, VDE 871, Class B
Operating temperature	0 to 50°C		

228882

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
DPM48/2000SNT20(230VAC)	**766-800**				

Temperature Indicators

Thermocouple and Platinum Resistance

Digitron

- Large 11.2mm 3½ digit LED display
- Standard 96x48mm DIN case
- Slimline design, depth behind panel only 63mm
- Quick-release plug-in rear terminals for supply and sensor
- Thermocouple instruments have automatic cold junction compensation

Overall dims: H=48, W=96, D=68.1
Panel cut-out=92x45

Measuring range	K: -50°C to +700°C (-60°F to 1300°F) J: -50°C to +625°C (-60°F to 1160°F) T: -50°C to +350°C (-60°F to 660°F) PT100: -99.9°C to +199.9°C
Resolution	K, J, T: 1°, PT100: 0.1°
Accuracy	K, J, T: ±0.5% of reading ±1 digit PT100: ±0.2% of reading ±0.2°C/0.5°F
Power supply	/ ac ± 15% 50/60Hz

Note: PT00 instrument is suitable for installation with 2 or 4 wire sensor only.

228883

Desption	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Type K thermocouple	4501	**107-437**				
PT100 platinum resistance	4504A	**530-037**				

Universal/SMART Indicator

Universal Intelligent Panel Meter

Transfer Function Module Library

STATUS INSTRUMENTS

H = 48, W = 96, D = 131mm
D (Behind panel) = 131,
Cutout = 45 X 92mm

5 WARRANTY YEARS

The DM3600 is an intelligent digital panel meter that can accept inputs from a wide variety of sensors and display the signal digitally.
The DM3600 is available in two versions, AC supply or DC supply. All functions are programmable via the integral front panel keys.
The DM3600 supports TFML (Transfer Function Module Library) i.e. the ability to download custom functionality by means of standard modules available from the manufacturers web site. This allows pre-written or custom control functions to be quickly and easily incorporated.

- Universal Input
- 6 Digit Display
- IP65 Sealed Front
- Internal Power Supply for Loop Exitation
- Custom Software For Your Application Option (TFML)
- Programmable Via The Front Panel Or Remote PC
- User Non Linear Function For Tank Level Applications

535022

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+
90 - 264V ac	DM3600U/S1	**170-6804**	
20 - 35V dc	DM3600U/S2	**170-6805**	

Fluid Level Controls

Level Control Relay

finder

Nominal Supply Voltage	230 - 240VAC, 50/60Hz 24VDC
Output	
Rated Current/Max Peak Current	16/30A
Rated Voltage/Max Switching Voltage	250/400V ac
Rated Load AC1	4000VA
Rated Load AC15 (230V ac)	750VA
Single phase motor rating (230 V ac)	0.55kW
Breaking capacity DC1: 30/110/220V	16/0.3/0.12A
Electrical life at rated load AC1	100,000 cycles
Electrode Voltage	4V ac
Electrode Current	0.2mA
Delay Time	0.5 or 7 sec (Selectable)
Sensitivity Range	5 to kΩ (adjustable)
Insulation between supply/contacts/electrodes	6kV (1.2/50ms)
Ambient Temperature	-20 to 60°C
Protection Category	IP20

- Fail to safe emptying or filling functions
- Single or two point control
- Adjustable sensitivity
- Switch selectable time delay
- Reinforced insulation
- Low voltage on probes
- LED status indication
- Compact size, 35mm width
- 35mm rail mount
- cULus approval

473033

Input **Voltage**	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
230 - 240VAC	72.01.8.240.0000	**134-4231**			
24VDC	72.01.9.024.0000	**134-4232**			
Accessories					
Stainless Steel Electrode	072.500	**134-4193**			
Electrode Connector	072.501	**134-4194**			
Suspended Electrode, 6m	072.01.06	**134-4196**			
Suspended Electrode, 15m	072.01.15	**134-4197**			
3-Way Electrode Holder	072.53	**134-4198**			

Zelio - Liquid Level control Relay

RM35L Series

Schneider Electric

NEW

H = 90mm, W = 35mm
and D = 72mm

- Control by resistive level probe
- Monitors the levels of conductive liquid or non-conductive material
- Control the actuation of pumps or valves to regulate levels
- Suitable for protecting submersible pumps against dry running or protecting tanks from overflow
- Used to control dosing of liquids in mixing processes and to protect heating elements in the event of non immersion
- Have a transparent, hinged cover on their front panel to avoid any accidental alteration of the settings

Applications:

- Spring, town, industrial and sea water
- Metallic salt, acid or base solutions
- Liquid fertilizers
- Non concentrated alcohol (< 40 %)
- Liquids in the food processing industry: milk, beer, coffee, etc.

Output contacts	2 C/O	Operating temperature	-20°C to +50°C
Nominal output current	5 A	Switching capacity	1250 VA

Fluid Level Controls - continued

Zelio - Liquid Level control Relay - continued

RM35L Series - continued

640473

Delay time Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
24V - 240V AC, 50-60Hz Supply voltage							
0.1s to 5s	RM35LM33MW	**205-6348**●					

Liquid Level Control

BROYCE CONTROL

Type P48LCR

H = 48, W = 48, D = 75mm

- PUMP UP or PUMP DOWN mode switch - Selectable
- 1 or 2 Probe operation
- Uses low voltage AC current across probes prevents electrolysis phenomenon
- Adjustable sensitivity
- Dual voltage
- Output relay - SPCO 8A contact
- 11-Pin Plug-in
- Conforms to **CE**

NEW

618348

Mftrs. List No.	Order Code	Price Each 1+	5+	+
115 or 230V ac, 48 - 63Hz Supply voltage				
P48LCR 115/230VAC	**185-3768**●			

Floatless Liquid Level Control

NEW

BROYCE CONTROL

Type E-FLC3

H = 85, W = 70, D = 63.5mm

- Designed to monitor the level of a liquid within a tank or container
- 3 levels of monitoring - Low, High and Alarm levels
- Fixed Operate and Release Resistance
- Up to 1km distance between controller and probes
- Built in Surge Arrestors protect each probe input against lightning strikes
- Unique LED indication of probe/tank level status
- Additional LED indication for supply and relay output status
- 1 x SPDT relay output (Output 1) and 1 x SPNO relay output (Output 2 - Alarm)
- DIN Rail mount
- Conforms to **IEC** and **CE**

618349

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
230V ac Supply voltage				
EFLC3 240VAC 50/60HZ	**185-3781**●			

Miniature Controller - 61FGPN

OMRON

H=50, W=38, D=70

- Space saving, conductive level controller
- Intended for single or two point level control of conductive materials (liquid or solid)
- Electrical connections are via a plug-in octal base

Operating voltage	110VAC or 240VAC (-15%, +10%)
Electrode voltage	8V ac
Output	Changeover relay 5A @ 240V ac/24V dc
Dielectric strength	1500V ac 50/60Hz
Power consumption	3.2VA max.
Temperature range	-10°C to +55°C

Mftrs. List No. 61FGPN2 110Vac=177-887, 61FGPN2 240Vac=177-888, PF083AE=1340949

204706

Operating Voltage	Order Code	Price Each 1+	5+	10+	25+
110VAC	**177-887**				
240Vac	**177-888**				
Surface/DIN		1+	25+	100+	
rail socket	**134-0949**●				

Valve Control Module

Weidmuller - Valve Control Modules

Weidmüller

ACT20X

NEW

H = 113.6 W = 22.5, D = 119.2mm

- The ACT20X-SDI-HDO/2SDI-2HDO valve control modules are controlled from the safe zone on the input side by the switching signals (NPN, PNP) and provide digital outputs to switch actuators (solenoids, alarms) in Ex Zone 0
- Depending on the module, the output current is limited for the ignition protection groups IIC/IIB to 35 mA or 60 mA (only one channel).
- Integrated alarm contacts issue an alert in the event of a malfunction which makes troubleshooting easier and increases the system availability
- The rail mounted disconnect-switch amplifiers are optionally available in one- or two-channel versions
- With 11 mm width per channel, the devices need little space in the electrical cabinet

660189

Ignition Protection Group	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1 Channel					
IIC 35mA	8965400000	**207-0755**●			
IIB <60mA	8965410000	**207-0756**●			
2 Channel					
IIC 35mA	8965420000	**207-0757**●			
Accessories					
USB Interface	8978580000	**207-0761**●			

Tachometer Relays

High Precision Tachometer Relay

TEMPATRON

50 to 1,000 RPM

Contact arrangement	SPCO
Contact rating	5A @ 240V ac resistive
Supply voltage	110V ac or 240V ac, 50Hz (-15, +10%)
Power consumption	<3VA
Metering output	1mA fsd into 75Ω
Sensor supply	25mA/ 15Vdc 3 wire or 5mA/ 8V dc 2 wire
Sensor input	NPN Transistor NO, or NO contacts
Weight	200g

H=48, W=48, D=87 (behind panel) Panel cut-out = 45x45

An electronic relay for sensing pulse produced by rotating machines or other pulse counting applications. The input pulses can be from a volt-free contact, 2 or 3 wire proximity sensor, or an NPN open collector transistor. The relay has a 15V dc supply terminal to power solid state sensors.
Housed in a grey fire retardant ABS 48mm DIN case, the units can be panel or chassis/DIN rail mounted using a suitable socket.
Three sensing ranges are available from 50 to 1,000 RPM with adjustment through a lockable potentiometer (Allen key supplied) over a 20:1 range. When the set speed is reached, the output contacts change over and the green panel front LED illuminates. A 1mA fsd metering output enables continuous monitoring of the input. A further red LED indicates the presence of mains supply. Front panel or chassis mounting via 11 pin relay base.

231485

Sensing Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
50 to 1000 RPM	TR480102	**275-220**				

Speed Controller

Zelio - Speed control Relay

NEW

Schneider Electric

- Operates with either N/O or N/C sensors
- The power on inhibition time is adjustable from 0.6 to 60 seconds
- Settings are protected by a sealable cover

Applications:

- Monitors speed or rate of rotary or linear movements in conveyor belts, packaging and mechanical handling

H = 90mm, W = 35mm and D = 72mm

Output contacts	1 C/O	Operating temperature	-20°C to +50°C
Nominal output current	5 A	Switching capacity	1250 VA

640474

Delay time Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	+
24V - 240V AC/DC, 50-60Hz Supply voltage							
0.05s to 10min	RM35S0MW	**205-6349**●					

RoHS ● Compliant ▲ Non-compliant

Shaft Rotation Sensing Relay

Rotation Sensing Relay

TEMPATRON

11 Pin Relay Base

An electronic relay that gives an output when the rotation of a machine shaft ceases. Inputs from a 3-wire inductive proximity sensor, determined by the speed of shaft rotation, resets a timer within the sensor and prevents the output contacts from energising.
Potentiometer control for time delay 1 to 30 secs. If a pulse is not received within the set period the sensor energises and an LED indicates the shaft has stopped.
The relay can be front panel or chassis mounted via an 11 pin relay base.

Contact arrangement	SPCO	Scale Range	1 to 30s
Contact Rating	5 A @ 240V ac resistive	Sense time for detection	3ms min
Supply Voltage	240VAC or 110VAC 50Hz +10%/-15%	Shaft rotation speed	10000 rpm max.
Power Consumption	<4VA		

204802

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Relay	FSRST 30SLP 110/240VAC	**170-961**				

Frequency Converter

Frequency to Analogue Converter

WACHENDORFF

- Simple on-line range setting
- User settable full scale frequency from 1 Hz to 25 kHz
- Four output operating ranges
- Programmable input circuit accepts outputs from a variety of sensors
- Low frequency cut-out and overrange indication
- 3-way electrical isolation
- Universal mounting foot for Din Rail installation

Signal Input	DIP-switch selectable for switch contacts, CMOS, TTL circuits, magnetic pickups, NPN, PNP
Max. Input Signal	±90V dc, 2.75mA Max.
Input Frequency Range	From 0Hz - 25kHz; User selectable
Signal Output	0 - 5V dc, 0 - 10V dc, 0 - 20mA, 4 - 20mA
Accuracy	±0.1% of full scale range (±0.2% for 0 - 5V dc range)
Resolution	Voltage: 3.5mV min, Current; 5µA min.
Response Time	5ms. +1 period to 10 sec. + 1 period; user selectable
Operating Temperature	0 - 50°C
Sensor Supply	(AC Version Only) +12V dc ±25% @ 60mA Max.
Power Supply	9 - 32VDC, 2.5W Max. or - , - , 6.5VA
Dimensions (WxHxD)	27.5x79.2x106.7mm

443159

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
9 - 32VDC	IFMA0035	**125-3405●**			
85 - 250VAC	IFMA0065	**125-3406●**			

Serial Converter

Serial Converter Module

WACHENDORFF

- Converter between RS232 control equipment and products with RS485
- Wide DC input power range (+9 - +32V dc)
- Half duplex (RS485) and full duplex (RS422)
- LED indication for RXD, TX and power
- Universal mounting foot for Din Rail installation

RS232	RXD: max. ±30V dc, mark condition: <0.8V dc, space condition: >2.4V dc TXD: mark condition -8V dc Typ., space condition +8V dc Typ.
RS485	Differential output voltage: ±5V dc max. ohne last; Differential input voltage ±5V dc mac., mark condition <0.2V dc, Space condition: >0.2V dc
RS485 Drive Capability	Up to 32 RS485 receivers connected in parallel
Baud Rate	9600 min, 19200 max.
Operating Temperature	0 - 50°C
Power supply	9 to 32V dc @ 75mA Max.
Dimensions (WxHxD)	25x79x90.5mm

443141

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
ICM40030	**125-3394●**			

Serial Data Converters

ABB

ILPH Range

NEW

In the field of industrial data transmission, various processes of data transmission and interfaces are used today. Already existing systems need to be updated or connected to new devices for continuity of process. When new communication functions are not build-in, ABB propose a range of converters to be able to use from the standard RS232 or RS485, to the Ethernet open products or the Optical Fiber.

636883

Description	Mftrs. List No.	Order Code	Price Each 1+	5+
RS422 to RS485 (Isolated)	1SNA684212R2200	**189-5950●**		
RS232 to RS422-485 (Non-isolated)	1SNA684231R2500	**189-5951●**		
RS232 to RS422-485 (Isolated)	1SNA684233R2700	**189-5952●**		
RS232 to RS232 (3 Way Isolated)	1SNA684234R2000	**189-5954●**		
RS232 to FO-S (3 Way Isolated)	1SNA684236R2200	**189-5955●**		
RS232 to FO-P (3 Way Isolated)	1SNA684238R0400	**189-5956●**		
RS485 to FO-S (3 Way Isolated)	1SNA684246R0400	**189-5957●**		
RS485 to FO-P (3 Way Isolated)	1SNA684248R1600	**189-5958●**		
RS232 to RS485/Ethernet (3 Way Isolated)	1SNA684252R0200	**189-5959●**		
RS232 to RS422-485/Ethernet (3 Way Isolated)	1SNA684333R2300	**189-5960●**		

Lighting Controller

Light Dependent Relays

finder

10 Series

NEW

Double Output	Single Output Miniature	Single Output Leaded
H = 110.6, W = 58.6, D = 40mm	H = 81, W = 37, D = 36.8mm	Head - H = 48.1, Dia. = 80.5mm

Integral light sensor with relays for automatic control of lighting according to ambient light level. For pole or wall mounting.

- Sensitivity adjustment from 1 to 80 lux
- Electronic circuit - transformer isolated
- Light feedback compensation innovative principle
- 230V ac supply
- Compatible with slow starting gas discharge lamps (up to 10 minutes)
- For the first 3 working cycles the delay time is reduced to zero to aid installation

627493

Output Type	Mftrs. List No.	Order Code	Price Each 1+	25+	100+
Double Output for live and neutral switching					
2NO - 16A @ 230V ac	10.32.8.230.0000	**188-9065●**			
Single output for live switching					
1NO - 16A @ 230V ac	10.41.8.230.0000	**188-9066●**			
Two independent outputs					
2NO - 16A @ 230V ac	10.42.8.230.0000	**188-9067●**			
Single output - Miniature					
1NO - 12A @ 230V ac	10.51.8.230.0000	**188-9068●**			
Single output - Circular with lead wires					
1NO - 16A @ 230V ac	10.61.8.230.0000	**188-9069●**			

Light Dependent Relays

finder

11 Series

NEW

Relays for automatic control of lighting according to ambient light level, supplied with seperate light sensor. For DIN Rail mounting.

- LED Status indication
- SELV separation between contact and supply circuit
- Double insulation between supply and light sensor
- 230V ac supply. 24V ac/dc model available
- For the first 3 working cycles the delay time is reduced to zero to aid installation

Lighting Controller - continued

Light Dependent Relays - continued

11 Series - continued

627497

Output Type	Mftrs. List No.	Order Code	Price Each 1+	25+	100+
Single Output - 24V ac/dc Supply					
1NO - 16A @ 250V ac	11.31.0.024.0000	**188-9070**			
Single Output					
1NO - 16A @ 250V ac	11.31.8.230.0000	**188-9071**			
Single Output - Zero Hysteresis with 4 Position selector					
1CO - 16A @ 250V ac	11.41.8.230.0000	**188-9073**			
Two independent Outputs. Two Individual Lux settings. 4 Position selector					
1NO / 1CO - 12A @ 250V ac	11.42.8.230.0000	**188-9074**			
Light Dependent Relay + Time Switch - 1 Output + 1 Auxillary Output					
1CO - 16A @ 250V ac	11.91.8.230.0000	**188-9075**			
Accessories					
Connecting Link for 11.91	011.19	**188-9077**			

Power Relay Module

19 Series

NEW

finder

- Suitable for lamp loads
- Heavy duty, high inrush current loads
- 12V dc supply
- LED Indicator
- Reinforced insulation between supply and contacts
- 35mm DIN Rail mounting

H = 88.8, W = 17.5, D = 60.8mm

627501

Output Type	Mftrs. List No.	Order Code	Price Each 1+	10+	50+
Single Output - 24V dc Supply					
1CO - 16A @ 250V ac	19.91.9.012.4000	**188-9076**			
Accessories					
Connecting Link for 19.91	011.19	**188-9077**			

Current and Voltage Controls

Zelio Control - Current Control Relays

Schneider Electric

NEW

Supply volatge	24 to 240 V AC/DC
Supply frequency	50/60 Hz @ ±10%
Output Current	5 A
Operating temperature	-20°C to +50°C
Relative humidity	95% at 55°C conforming to IEC 60068-2-30
IP degree of protection	IP20 (terminals) conforming to IEC 60529 IP30 (casing) conforming to IEC 60529
Approvals	**CSA, C-Tick, GL, GOST and UL**
Electrical durability	100000 cycles
Hysteresis	RM17 JC: 15% fixed of threshold setting RM35 JA: 5 to 50% of threshold setting
Power consumption	RM17 JC: ≤ 1W RM35 JA: ≤ 0.6W

- Integrated current transformer
- Choice of action on the output relay
- Control status is indicated by a LED
- Designed to monitor overcurrent and undercurrent
- Selectable memory function
- Measurement as true rms value

640430

Measurement Range	Output Contacts	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
2 to 20 A	1	RM17JC00MW	**205-6338**				
2 to 500 mA	2	RM35JA31MW	**205-6346**				
0.15 to 15 A	2	RM35JA32MW	**205-6347**				

Zelio Control - Voltage Control Relays

Schneider Electric

Supply frequency	50/60 Hz @ ±10%
Output Current	5 A
Operating temperature	-20°C to +50°C
Relative humidity	95% at 55°C conforming to IEC 60068-2-30
IP degree of protection	IP20 (terminals) conforming to IEC 60529 IP30 (casing) conforming to IEC 60529
Approvals	**CSA, C-Tick, GL, GOST and UL**
Electrical durability	100000 cycles
Power consumption	RM17 U: ≤ 1W RM35 U: ≤ 0.6W

NEW

- Monitors both a.c. and d.c. voltages
- Monitors their own supply voltage, measured as true rms value
- Protection of electronic or electromechanical devices against overvoltage and under-voltage
- Adjustable time delay prevents spurious triggering of the output relay
- Selection between overvoltage and undervoltage
- Fault signalling is by LED

640461

Supply Voltage	Measurement Range	Output Contacts	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
110 to 240 V AC/DC	65 to 260 V	1	RM17UAS15	**205-6342**				
110 to 240 V AC/DC	65 to 260 V	1	RM17UBE15	**205-6344**				
24 to 240 V AC/DC	15 to 600 V	2	RM35UA13MW	**205-6350**				

Zelio Control - Phase Control relays

NEW

Schneider Electric

- The relay monitors:
  - The correct sequence of phases L1, L2 and L3
  - Phase failure, including in the case of voltage regeneration
  - Undervoltage from - 2 to - 20% of the supply voltage
  - Overvoltage from 2 to 20% of the supply voltage
  - Asymmetry from 5 to 15% of the supply voltage
- Monitors its own supply voltage, measured as a true rms value
- Control status is indicated by a LED

Supply frequency	50/60 Hz @ ±10%
Output Current	5 A
Operating temperature	-20°C to +50°C
Relative humidity	95% at 55°C conforming to IEC 60068-2-30
IP degree of protection	IP20 (terminals) conforming to IEC 60529 IP30 (casing) conforming to IEC 60529
Approvals	**CSA, C-Tick, GL, GOST and UL**
Electrical durability	100000 cycles
Measurement range	RM35HZ21FM: 40 to 70 Hz

640462

Supply Voltage	Output Contacts	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
208 to 440 VAC	2	RM17TG20	**205-6304**					
			Order Code	**1+**	**5+**	**10+**	**25+**	
220 to 480 VAC	2	RM35TF30	**205-6305**					
208 to 480 VAC	1	RM17TA00	**205-6339**					
208 to 480 VAC	1	RM17TE00	**205-6340**					
208 to 480 VAC	1	RM17TU00	**205-6341**					
120 to 277 VAC	1 + 1	RM35HZ21FM	**205-6345**					
220 to 480 VAC	1 + 1	RM35UB330	**205-6351**					

Phase Sequence Monitor

CM-PVE

ABB

NEW

The CM-PVE is used to monitor supply voltages for over- and undervoltage and phase failure. If all phases (and the neutral) are present with correct voltage, the output relay energizes after the start-up delay t_s is complete. If the voltage exceeds or falls below the fixed threshold value or if a phase failure occurs, the tripping delay t_v starts. When timing is complete, the output relay de-energizes. As soon as the voltage returns to the tolerance range, timing of t_s starts. When timing is complete, the output relay re-energizes automatically. The yellow LED glows when the output relay is energized.

H = 78, W = 22.5, D = 78.5mm

- 1 n/o contact
- Startup and trip delays
- Yellow LED for relay status indication
- **GOST** Approved, **UL** Recognised
- Monitoring of three-phase and single-phase supply voltage for overvoltage, undervoltage and phase loss
- Neutral monitoring option
- No phase sequence monitoring
- Voltage monitoring range: L1-L2-L3: 3 x 320 - 460 V AC. L-N: 185 - 265 V AC

636801

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
With Neutral Monitoring - Supply / Measuring Voltage = 3 x 320 - 460V ac, 185 - 265V ac				
1SVR550870R9400	**189-5999**			
Without Neutral Monitoring - Supply / Measuring Voltage = 3 x 320 - 460V ac				
1SVR550871R9500	**189-6000**			

Phase Sequence Monitor

CM-PFE

NEW

The CM-PFE is used to monitor three-phase mains for incorrect phase sequence and phase failure. If all phases are present with the correct phase sequence, the output relay energizes after the start-up delay t_s is complete. If a phase failure or a phase sequence error occurs, the tripping delay t_v starts. When timing is complete, the output relay de-energizes. The yellow LED glows when the output relay is energized.
In case of motors which continue running with only two phases, the CM-PFE detects phase failure if the reverse fed voltage is less than 60 % of the originally applied voltage.

H = 78, W = 22.5, D = 78.5mm

- Monitors 3-Phase supply voltage for incorrect phase sequence and phase failure
- Without delay on "ON"
- 1 c/o contact
- Yellow LED to indicate state of relay
- Rated supply voltage 110-130V ac
- Continuous voltage range covering 3 x 208-440V, 50/60Hz
- **GOST** Approved, **UL** Recognised

636800

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1SVR550824R9100	**189-5998**			

1 and 3-phase monitoring Relays

CM-PVE Series

NEW

The CM-PVE is used to monitor supply voltages for over and undervoltage and phase failure. If all phases (and the neutral) are present with correct voltage, the output relay energizes after the start-up delay t_s is complete. If the voltage exceeds or falls below the fixed threshold value or if a phase failure occurs, the tripping delay t_v starts. When timing is complete, the output relay de-energizes. As soon as the voltage returns to the tolerance range, timing of t_s starts. When timing is complete, the output relay re-energizes automatically. The yellow LED glows when the output relay is energized.

H = 78, W = 22.5, D = 78.5mm

- Monitoring of single and three-phase mains for phase failure
- Device with possibility of neutral monitoring available
- Device with suitability for monitoring single-phase mains available
- Powered by the measuring circuit
- 1 n/o contact
- 1 Yellow LED for status indication
- **GOST** Approved, **UL** Recognised

636811

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
With Neutral Monitoring - Supply / Measuring Voltage = 3 x 320-460V ac, 185-265V ac				
1SVR550881R9400	**189-6001**			
Without Neutral Monitoring - Supply / Measuring Voltage = 3 x 320-460V ac				
1SVR550882R9500	**189-6002**			

1-Phase Current Monitoring Relay

- Digital adjustable, with LCD display
- Display of actual value and status messages
- Monitoring of single-phase AC currents and DC currents against the set threshold value of overshoot and undershoot
- Screw connection
- Automatic/Manual RESET
- Monitoring the functionality of electrical loads

Rated Control Supply Voltage	
1AA30	24 V ac/dc, 50/60Hz
1AW30	24 to 240V ac/dc 50/60Hz
Tripping Delay, Freely adjustable	0.1 to 20s
ON-delay, freely adjustable	0.1 to 20s
Contacts	1 CO contact
Dimensions (WxHxD)	22.5x110x86mm

478174

Measuring Range	Hystersis	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
0.05 to 10 A AC/DC	0.01 to 5A	3UG4622-1AW30	**431-9898**			
0.05A to 10A AC/DC	0.01 to 5A	3UG4622-1AA30	**139-0506**			

Sensing & Monitoring Relays

- Monitoring of voltage (1 and 3 phase), temperature and current
- Variable supply voltage by power module or width range supply
- 2 changeover contacts
- Width: 22.5mm

443593

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
3-Phase Voltage Monitoring	G2PM400VSY20	**125-0678**			
3-Phase Voltage Monitoring	G2PF400VS02	**125-0679**			
Voltage Monitoring, Multi-Function	G2UM300VL20	**125-0680**			
Current Monitoring, Multi-Function	G2IM5AL20	**125-0682**			
Current Monitoring, Multi-Function	G2IM10AL20	**125-0683**			

Single-Phase Current Relay

K8AB-AS Series

- Monitor for overcurrents and undercurrents
- Manual resetting and automatically resetting supported by one relay
- Startup lock and operating time can be set seperately
- One SPDT output relay, 6A @ 250V ac (resistive load)
- Switch the output relay between normaly ON and normally OFF operation
- Process control signal (4 to 20mA) and commercial CT input (0 to 1A or 0 to 5A) supported
- Relay warning status easily monitoring using LED indicator
- Easy wiring with ferrules, 2 x 2.5mm^2 solid or 2 x 1.5mm^2 standard ferrules
- Ideal for current monitoring for industrial heaters and motors

Measuring Current	Supply Voltage	Mftrs. List No.	Order Code
0.1 - 1A AC/DC, 0.5 - 5A AC/DC, 0.8 - 8A AC/DC	200 - 230VAC	K8ABAS2200230VAC	990-0071

413880

	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Current Relay, 0.1-8A	K8ABAS2200230VAC	**990-0071**			

Current Monitoring Relays

NEW

Electronic current monitoring relay that protects single-phase mains (DC or AC) from over- and undercurrent from 3 mA to 15 A

- Monitoring of DC and AC currents
- TRMS measuring principle
- Over- or undercurrent monitoring configurable
- Precise adjustment by front-face operating controls
- Housing material for highest fire protection classification UL 94 V-0
- Tool-free mounting on DIN rail as well as demounting
- 3 LEDs for status indication

Supply Voltage Max	Power Consumption	Supply Current	Contact Configuration	Supply Current
240V	750mW	30mA	SPDT	1SVR730760R0400
240V	750mW	30mA	SPDT	1SVR730760R0500
240V	750mW	30mA	SPDT	1SVR730840R0200
130VAC	2.6VA	24mA	SPDT	1SVR730841R0200
240VAC	2.6VA	12mA	SPDT	1SVR730841R1200
240V	750mW	30mA	SPDT	1SVR730840R0300
130VAC	2.6VA	24mA	SPDT	1SVR730841R0300
240VAC	2.6VA	12mA	SPDT	1SVR730841R1300
240V	750mW	30mA	DPDT	1SVR730840R0400
130VAC	2.6VA	24mA	DPDT	1SVR730841R0400
240VAC	2.6VA	12mA	DPDT	1SVR730841R1400
240V	750mW	30mA	DPDT	1SVR730840R0500
130VAC	2.6VA	24mA	DPDT	1SVR730841R0500
240VAC	2.6VA	12mA	DPDT	1SVR730841R1500
240V	750mW	30mA	DPDT	1SVR730840R0600
240V	750mW	30mA	DPDT	1SVR730840R0700

659462

Mftrs. List No.	Order Code	Price Each 1+	5+	+
1SVR730760R0400	**210-2337**			
1SVR730760R0500	**210-2338**			
1SVR730840R0200	**210-2339**			
1SVR730841R0200	**210-2340**			
1SVR730841R1200	**210-2342**			
1SVR730840R0300	**210-2343**			

Current Monitoring Relays - continued

Mftrs. List No.	Order Code	Price Each 1+	5+	+
1SVR730841R0300	**210-2344●**			
1SVR730841R1300	**210-2345●**			
1SVR730840R0400	**210-2346●**			
1SVR730841R0400	**210-2347●**			
1SVR730841R1400	**210-2348●**			
1SVR730840R0500	**210-2349●**			
1SVR730841R0500	**210-2350●**			
1SVR730841R1500	**210-2351●**			
1SVR730840R0600	**210-2352●**			
1SVR730840R0700	**210-2354●**			

Isolating Signal Convertor for Voltage/Current

WACHENDORFF

- 3 way isolation for analog signals
- Voltage or current inputs and outputs selected via DIP switch selectable
- Small 6.2mm wide housing
- High 14 bit resolution
- Power supply over bus or terminal connection
- Universal mounting foot for Din Rail installation

Input Ranges	Voltage: 0-5V, 1-5V, 0-10V, 10-0V, 0-15V, 0-30V Current: 4-20mA, 0-20mA
Output Ranges	Voltage: 0-5V, 1-5V, 0-10V, 10-0V Current: 4-20mA, 20-4mA, 0-20mA, 20-0mA
Resolution	1mV, 2µA
Accuracy	±0.1% transmission error
Operating Temp.	-20 to 65°C
Isolation	1.5kV (50Hz, 1 min) over digital optocoupler
Power Supply	19.2 to 30V dc, 25mA Max. Power up to 75 modules over power supply module WKSUPPLY and 2 slot bus connector
Dimensions (WxHxD)	6.2x93.1x102.5mm

443371

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Galvanic Isolator Analogue Module	WK109UI0	**125-3422●**			
2 Slot Connector	WKBUS000	**125-3424●**			

Single Phase Current Relay

BROYCE CONTROL

- Adjustable fault delay, 0.1 to 3 seconds
- Adjustable start up, delay, 0.1 to 10 seconds
- 'Normal' or 'inverted' operation selectable
- Adjustable hysteresis
- Latching possible

The unit monitors single phase current through a load and changes state when the adjustable trip level is exceeded. Once the current drops below this level, minus hysteresis, the relay changes back unless latching is selected. An adjustable 'On Delay' time value allows motor start up currents to be ignored

Contact rating	SPDT AC1 250V ac 10A DC1 24V dc 10A AC15 250V ac 6A	
Monitoring range	Y2: 5-100mA ac/dc Y3: 50mA-1A AC/DC Y4: 500mA-10A AC/DC	Overload 1.5A cont. or 5A for 1s Overload 6A cont. or 17A for 1s Overload 15A cont. or 55A for 1s
Hysteresis	5-50% of trip level	
Power consumption	3VA max.	

204797

Supply Voltage	Supply Voltage	Order Code	Price Each 1+	5+	10+
230 Vac	45.150 230V	**941-9314**			

Multifunction Current Relay - DIN Rail Mounting

BROYCE CONTROL

H=89, W=35, D=59

- Detects under or over current condition (selectable)
- Automatically selects for AC or DC supply
- Multi Voltage supply
- Selectable monitoring range
- Selectable hysteresis
- Selectable time delay
- Selectable latching facility
- SPDT relay output (8A)
- LED indication of supply status
- LED indication of "fault" condition
- DIN Rail or surface mounting
- 35mm wide
- **UL** recognised and **CUL** approved

Supply voltage U:	18 to 240VAC
Power consumption:	≈3VA
Monitoring range	1. 20 - 500mA AC / DC 2. 0.2 - 5A AC / DC (for higher AC currents, use suitable C.T.) both ranges protected to 10A overload for 60 seconds
Hysteresis:	≏2 or 10% of set level
Time delay:	100mS or 1S from fault
Latch:	Can be enabled or disabled on the front of the relay
Ambient temperature:	-20°C to 60°C
Output:	SPDT Relay
Output rating:	8A@ 250 Vac
Electrical Life	≥ 150,000 ops

248294

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
M3MCR	**100-0075**			

3 Phase monitoring Relays

ABB NEW

CM Series

ABB's new generation of three-phase monitoring relays feature additional functions making the application field for the devices considerably larger.

- Adjustable phase unbalance threshold value
- Adjustable ON-delay/OFF-delay time
- Dual frequency measuring 50/60 Hz
- Powered by the measuring circuit
- LED status indication
- Phase loss monitoring
- Wide-range operating voltage guarantees world-wide operation

Supply Voltage	Power Consumption	Supply Current	Supply Current
160 to 300VAC	10VA	25mA	1SVR730774R1300
300 to 500VAC	18VA	25mA	1SVR730774R3300
3 x 380VAC	18VA	25mA	1SVR730784R2300
3 x 400VAC	18VA	25mA	1SVR730784R3300
160 to 300VAC	10VA	25mA	1SVR730794R1300
300 to 500VAC	18VA	25mA	1SVR730794R3300
160 to 300VAC	10VA	25mA	1SVR730884R1300
300 to 500VAC	18VA	25mA	1SVR730884R3300
300 to 500VAC	4VA	5mA	1SVR730884R4300
90 to 170VAC	10VA	25mA	1SVR730885R1300
180 to 280VAC	18VA	25mA	1SVR730885R3300
180 to 280VAC	4VA	5mA	1SVR730885R4300
350 to 580VAC	41VA	29mA	1SVR750487R8300
450 to 720VAC	52VA	29mA	1SVR750488R8300
530 to 820VAC	59VA	29mA	1SVR750489R8300
200 to 500V			1SVR730824R9300

659454

Mftrs. List No.	Order Code	Price Each 1+	5+	+
1SVR730774R1300	**210-2310●**			
1SVR730774R3300	**210-2311●**			
1SVR730784R2300	**210-2312●**			
1SVR730784R3300	**210-2313●**			
1SVR730794R1300	**210-2314●**			
1SVR730794R3300	**210-2315●**			
1SVR730884R1300	**210-2317●**			
1SVR730884R3300	**210-2318●**			
1SVR730884R4300	**210-2319●**			
1SVR730885R1300	**210-2320●**			
1SVR730885R3300	**210-2321●**			
1SVR730885R4300	**210-2322●**			
1SVR750487R8300	**210-2323●**			
1SVR750488R8300	**210-2324●**			
1SVR750489R8300	**210-2325●**			
1SVR730824R9300	**210-2326●**			

Voltage Monitoring Relays

ABB

NEW

Electronic voltage monitoring relay that provides reliable monitoring of voltages as well as detection of phase loss

- Monitoring of DC and AC voltages
- TRMS measuring principle
- One device includes 4 measuring ranges
- Over- or undervoltage monitoring configurable
- Precise adjustment by front-face operating controls
- Housing material for highest fire protection classification UL 94 V-0
- Tool-free mounting on DIN rail as well as demounting
- 3 LEDs for status indication

Supply Voltage Max	Power Consumption	Contact Configuration	Supply Current
240V	750mW	SPDT	1SVR730750R0400
240V	750mW	SPDT	1SVR730830R0300
130VAC	2.6VA	SPDT	1SVR730831R0300
240VAC	2.6VA	SPDT	1SVR730831R1300
240V	750mW	DPDT	1SVR730830R0400
130VAC	2.6VA	DPDT	1SVR730831R0400
130VAC	2.6VA	DPDT	1SVR730830R0500
240VAC	2.6VA	DPDT	1SVR730831R1400
240V	750mW	SPDT	1SVR730760R0400

659458

Mftrs. List No.	Order Code	Price Each 1+	5+	+
1SVR730750R0400	**210-2327●**			
1SVR730830R0300	**210-2329●**			
1SVR730831R0300	**210-2331●**			
1SVR730831R1300	**210-2332●**			
1SVR730830R0400	**210-2333●**			
1SVR730831R0400	**210-2334●**			
1SVR730830R0500	**210-2336●**			
1SVR730831R1400	**210-2335●**			

Battery Voltage Alarm Relay

BROYCE CONTROL

H=89, W=17.5, D=59

- Monitors own DC supply
- Detects under voltage condition
- Wide supply and monitoring range
- Adjustable time delay (from fault)
- SPDT relay output (8A)
- LED indication of supply and relay status
- DIN Rail or surface mounting
- 17.5mm wide

Supply voltage U:	12 to 24VDC
Power consumption:	≯1.8W
Monitoring range	9 - 28Vdc
Hysteresis:	≏5%
Time delay:	1S to 30S from fault
Accuracy:	±10% trip level. ±20% time delay
Ambient temperature:	-20°C to 60°C
Output:	SPDT Relay
Output rating:	8A@ 250 Vac
Electrical Life	≥ 150,000 ops

248300

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
M1BVR 12-24V	**100-0077**			

Phase Relay

BROYCE CONTROL

NEW

H = 89, W = 17.5, D = 59

- 17.5mm DIN rail housing
- True R.M.S.
- Microprocessor based (self checking)
- Monitors own supply and detects an Under voltage condition on one or more phases
- Measures phase to phase voltages
- Detects incorrect phase sequence and phase loss
- Fixed under voltage trip level
- Fixed time delay
- 1 x SPDT relay output 8A
- Intelligent LED indication for supply and relay status

Time delay	100ms
Operating temperature	-20°C to +60°C
Isolation	Over voltage cat. III
Frequency Range	48Hz - 63Hz
Response time	50ms
Contact configuration	SPDT -

204798

Order Code	Price Each 1+	5+	10+
207-6503●			

Phase Failure Relay

BROYCE CONTROL

Phase Sequence, Under and Over Voltage plus Time Delay

NEW

W = 17.5mm

W = 35mm

- Monitor own supply and detects if one or more phases exceed the set Under or Over Voltage trip levels
- 3 Wire versions measure phase to phase voltage and 4 Wire versions measures phase to neutral voltage
- Detects incorrect phase sequence, phase loss and neutral loss (4-wire only)
- Adjustments for under and over voltage trip level
- Adjustment for time delay (from under or over voltage condition)
- 1 x SPDT relay output 8A - 17.5mm DIN Rail housing models
- 1 x DPDT relay output 8A - 35mm DIN Rail housing models
- Intelligent LED indication for supply and relay status
- Terminal protection to IP20
- Conforms to **IEC** and **CE**

618350

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
17.5mm DIN Width				
3 - Wire				
MXPRC/S 400VAC	**185-3775●**			
MXPRT	**185-3777●**			
4 - Wire				
M1PRC/S-4W 230VAC	**185-3769●**			
M1PRF-4W 161-300VAC	**185-3770●**			
35mm DIN Width				
3 - Wire				
M3PRT/2 280-520VAC	**185-3771●**			
M3PRC/S/2 400VAC	**185-3773●**			
4 - Wire				
M3PRC/S/2-4W 230VAC	**185-3774●**			
M3PRT/2-4W 161-300VAC	**185-3772●**			

Phase Failure/Loss Relay

BROYCE CONTROL

Incorrect Phase Sequence / Rotation

NEW

- 17.5mm DIN Rail housing
- 1 x CO relay output 10A
- Conforms to **UL**, **CUL**, **CSA**, **IEC** and **CE**

H = 78, W = 45 D = 99mm

185-3778 and **185-3779**
- Incorrect Phase Sequence / Rotation
- Phase Failure / Loss
- Under Voltage
- Delay from Fault - Adjustable

185-3780
- Incorrect Phase Angle - Adjustable
- Phase Failure / Loss
- Incorrect Phasae Sequence / Rotation

618352

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
45080 230VAC (400VAC)	**185-3778●**			
45080 400VAC (400VAC)	**185-3779●**			
45095 400VAC	**185-3780●**			

Earth Leakage Relay

BROYCE CONTROL

Type A - Variable

NEW

H = 48, W = 48, D = 76mm

H =85, W = 44, D = 63.5mm

- Monitors and detects true RMS earth fault currents up to 30A
- LED Bar graph provides constant indication of any leakage current
- Microprocessor controlled with constant internal monitoring
- Adjustable Sensitivity - 30mA to 30A
- Adjustable Time Delay - 0 to 10sec
- Separate Test and Reset push buttons

Earth Leakage Relay - continued

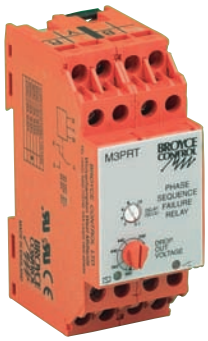
Type A - Variable - continued

- Connection facility for remote Test and Reset push buttons
- Toroid open circuit detection
- 2 Relay outputs - Standard Output and Positive Safety Output
- LED indication of Supply status and fault condition after unit has tripped

618337

Mounting Style	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
DIN Rail	ELRM44V30 115/230VAC	185-3734●			
Panel	ELRP48V30 230VAC	185-3735●			
Accessories - Circular Toroids					
70mm Int. Dia.	BZCT 070	185-3736●			
120mm Int. Dia.	BZCT 120	185-3737●			

Phase Sequence / Failure Relay plus Time Delay



H=90, W=35, D=59

- Monitor three phase supply for phase loss, neutral loss (4 wire version), under voltage and incorrect phase sequence
- Time delay adjustable from 0.2 to 10 seconds to avoid nuisance tripping
- LED indication of supply - extinguished at failure and power loss

Voltage range:	300V ac to 500V ac
Power consumption:	4VA max per phase
Hysteresis:	2% of set voltage
Impulse withstand voltage:	4kV (1.2/50µS)
Temperature range:	-20°C to +60°C
Contact rating:	SPDT AC1 8A/250V ac DC1 8A/25V dc AC15 N/O 5A N/C 3A/250V ac

204799

Type	Order Code	Price Each 1+	5+	10+
Relay	941-9241			
Relay - 4 wire	941-9250			

Phase Sequence/Failure Relays

Phase sequence/failure relay
H=90, W=35, D=59

Three phase indicator
H=90, W=35, D=59

Two devices for monitoring three phase power supplies. The orange ABS housings conform to the dimensional requirements of **DIN43880** and can either be mounted on symmetric 35mm DIN rail or screw mounted, using 2xM4 screws.

The phase sequence/failure relay is energised when all three phases are present and in the correct rotation, it is released on failure of any phase. A potentiometer on the module allows the trip voltage to be set and there are LED's for power supply and when all phases are correct.

The three phase indicator module shows phase presence by means of a red LED for each energised phase. A green LED is illuminated when all phases are present and in sequence, another red LED indicates breakdown of phase sequence.

	Phase Sequence/Failure Relay	Three Phase Indicator
Contact rating max	250V ac 8A	—
Supply voltage monitored	300 to 500V ac phase to phase 48 to 63Hz	300 to 500V phase to phase 48 to 63Hz
Temperature range	-20°C to +60°C	-20°C to +60°C
Approvals	**CSA / UL Recognised**	**CSA / UL Recognised**
Terminal protection	**IP20**	**IP20**
Flame retard. rating	**UL94V-0**	**UL94V-0**

204814

Description	Order Code	Price Each 1+	5+	10+	25+
Sequence/ failure relay	941-9217				
Three phase indicator	941-9225				

Under & Over Voltage plus Timer Delay

NEW

- Monitors own single -phase supply
- Microprocessor controlled with internal monitoring (self-checking)
- Detects under or over voltage condition
- Adjustable under and over voltage trip levels
- Adjustable time delay (from under or over voltage condition only)
- SPDT relay output (8A)
- Intelligent LED indication of supply and relay status
- DIN rail or surface mounting
- 17.5mm wide

H = 89, W = 17.5, D = 59

Supply/monitoring voltage Un	115, 230V ac 48 - 63Hz
Power consumption	4VA Max.
Impulse withstand voltage	4kV (1.2/50µS)
Isolation	Over voltage Cat. III (IEC 60664)
Trip levels	Under (fixed): 70% of Un Under (adjustable): 75 - 95% of Un Over (adjustable): 105 - 125% of Un
Hysteresis	2% (factory set)
Time delay	0.2 - 10S (± 5%) - from under or over voltage condition Note: Time delay is cancelled and relay de-energises if supply is allowed to fall below the "fixed" trip level. 100mS - from loss of supply 1S - from application of supply (power on delay)
Ambient temperature	-20 to +60°C
Output	SPDT relay
Output rating	AC1 - 250V ac 8A (2000VA) AC15 - 250V ac 5A (no), 3A (nc) DC1 - 25V dc 8A (200W)
Electrical life	≥150,000 ops @ rated load
Housing (UL94-V0)	Orange flame retardant
Weight	70g
Terminal conductor size	≤ 2x 2.5mm^2 solid or stranded

381713

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
MXCVR 230VAC	NEW 210-0006●			
M1CVR 115V	851-9480			

Monitoring Relay

1-Phase, AC Over Current

- 2-Wire connection
- Self powered
- 2 - 20A ac Input range
- Adjustable set-point
- Normally open, 100mA output
- LED Indication of output status
- DIN Rail mounting in accordance with DIN / EN 50 022
- 17.5mm DIN-Rail housing (DIN 43880)

H = 81, W = 17.5, D = 67.2mm

Small current monitoring relay with built-in current transformer, adjustable setpoint and integrated solid state output. Self-powered and 2-wire connection for easy use.
12 mm hole for insulated current carrying wire makes it suitable for most applications. Designed for mounting on DIN-rail, the 17.5 mm wide housing is suitable both for back and front panel mounting.

609861

Current Range	Mftrs. List No.	Order Code	Price Each 1+
DIA53	DIA53S72420A	182-4777●	

Monitoring Relay

DC Under Voltage

- Measuring if power supply is below the set level
- Measures on own power supply
- Measuring ranges: 8-28V dc
- Adjustable hysteresis: 4 to 50%
- Output: 5A SPDT NE relay
- For mounting on DIN rail in accordance with DIN/EN 50 022
- 17.5mm housing (DIN 43880)
- LED indication for relay and power supply ON
- Dimensions: W=17.5mm H=81.5mm D=67mm

Input	12 to 24VDC
Output	Relay, SPDT, 5A @ 250VAC
Hysteresis	4 - 50%
Operating Temperature	-20 to 60°C, R.H. <95%

346932

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
DUA52C724	733-0782				

RoHS ● Compliant ▲ Non-compliant

Temperature Control Relays

Temperature Monitor Relay

K8AB-TH

- Excessive temperature increases can be prevented and abnormal temperatures can be monitored
- Temperature monitoring in slim design with a width of just 22.5mm
- Multi input support for both thermocouple or PT100
- Multi-input support for thermocouple or Pt100 sensor input
- Selectable output relay: Non-fail safe/fail safe
- Alarm status identification with LED indicator

Input Type	Temperature Setting Range	Setting Unit	Supply Voltage	Mftrs. List No.	Order Code
	0°C to +399°C/°F	1°C/°F	100 to 240VAC	K8AB-TH11S AC100-240	134-3840
	0°C to +399°C/°F	1°C/°F	24VAC/dc	K8AB-TH11S AC/DC24	134-3842
	0°C to +1700°C°C	10°C/°F	100 to 240VAC	K8AB-TH12S AC100-240	
	0 to 3200°F				134-3843

462327

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
K8AB-TH11S AC100-240	**134-3840**			
K8AB-TH11S AC/DC24	**134-3842**			
K8AB-TH12S AC100-240	**134-3843**			

Motor Protection Relay - Thermistor

CM-MSE

NEW

H = 78, W = 22.5, D = 78.5mm

This relay operates with a rated control supply voltage of 110-130 V AC and has a 1 n/o output contact rated at 250 V / 4 A. It features one sensor circuit for monitoring of PTC temperature sensors or bimetals. This relay offers automatic reset and works according to the closed-circuit principle.

The CM-MSE thermistor motor protection relay is used to control motors equipped with PTC temperature sensors. The PTC temperature sensors are incorporated in the motor windings to measure the motor heating. This enables direct control and evaluation of the following operating conditions:

- Heavy duty starting
- Increased switching frequency
- Single-phase operation
- High ambient temperature
- Insufficient cooling
- Break operation
- Unbalance

636797

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1SVR550800R9300	**189-5997**			

Isolating Signal Converter for Pt100/Pt1000

Input Ranges	Pt100: Range -150 to 650°C, minimum span 50°C Pt1000: Range -200 to 210°C, minimum span 30°C
Output Ranges	Voltage: 0-5V, 1-5V, 0-10V, 10-0V Current: 4-20mA, 20-4mA, 0-20mA, 20-0mA
Accuracy	±0.1% transmission error max.
Operating Temperature	-20 to 65°C
Power Supply	19.2 to 30V dc, 25mA Max. Power up to 75 modules over power supply module WKSUPPLY and 2 slot bus connector
Dimensions (WxHxD)	6.2x93.1x102.5mm

- 3 way isolation of Pt100 or Pt1000 resistant thermometers
- Connection by 2, 3 or 4 wire technique
- Outputs selected via DIP switch settings
- Small 6.2mm wide housing
- High 14 bit resolution
- Power supply over bus or terminal connection
- Universal mounting foor for Din Rail installation

443353

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Galvanic Isolator Module for Pt100	WK109PT0	**125-3419**			
Galvanic Isolator Module for Pt1000	WK109PT1	**125-3420**			
2 Slot Connector	WKBUS000	**125-3424**			

Isolating Signal Converter for Thermocouples

Input Ranges	Thermocouples type S, T, J, N, K, E, R, B: Minimum span 100°C
Output Ranges	Voltage: 0-5V, 1-5V, 0-10V, 10-0V Current: 4-20mA, 20-4mA, 0-20mA, 20-0mA
Accuracy	±0.1% transmission error max.
Operating Temperature	-20 to 65°C
Isolation	1.5kV (50Hz, 1 min) over digital optocoupler
Digital Output	Static alarm output, nominal voltage 24V ac/dc, current 60mA
Power Supply	19.2 to 30V dc, 25mA Max. Power up to 75 modules over power supply module WKSUPPLY and 2 slot bus connector
Dimensions (WxHxD)	6.2x93.1x102.5mm

- 3 way isolation of thermocouples type S, T, J, N, K, E, R and B
- Settable alarm threshold/hysteresis
- Outputs selected via DIP switch settings
- Small 6.2mm wide housing
- High 14 bit resolution
- Power supply over bus or terminal connection
- Universal mounting foot for Din Rail installation

443356

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Glavanic Isolator Module for Thermocouples	WK109TC0	**125-3421**			
2 Slot Connector	WKBUS000	**125-3424**			

Temperature Transmitter

2 Wire - DIN Rail Mount

- Temperature sensor inputs
- 2 Wire (4 - 20mA) output
- Simple push button configuration
- Advanced user configuration with 56 pre-set temperature ranges
- User push button trim
- Programmable burnout

5 WARRANTY YEARS

H = 75, W = 12.5, D = 60mm

535088

Input Type	Mftrs. List No.	Order Code	Price Each 1+
PT100	SEM213P	**170-6806**	
Thermocouple	SEM213TC	**170-6807**	

Thermostat Relay

H=80, D=104, W=22.5

- Thermostat relay for 2/3 wire Pt-100 probe
- -50 to 300°C in two ranges
- Adjustable setpoints and hysteresis on the front panel
- Inversion (inv) of relay operation on connection of jumper
- LED indication on probe failure
- Analogue outputs for setpoints and measured temperature

Input Signal	Output Signal
-50-50°C	Relay SPDT 8A/240V ac
-50°C	0-10V dc (relative to setpoint)
0-100°C	0-10V dc (relative to temperature)
100-200°C	
200-300°C	

231512

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
230VAC/24V ac	MXT-10.230	**723-3670**				

Universal Signal Conditioner

Programmable Output - DIN Rail Mount

H = 106, W = 22.5, D = 120mm

This new generation of signal conditioner has been designed to accept most common process and temperature sensor inputs and provide the user with a programmable current or voltage output signal plus dual relays with a programmable delay function. 3 way isolation is provided and all temperature ranges are linear to temperature. Both input and output loop excitation is provided as well as a fully universal power supply.

5 WARRANTY YEARS

A USB interface is fitted for quick and easy configuration. Connect a standard USB cable between the device and a PC and using the configuration software the PC will automatically upload the existing configuration data and then guide the user through any changes that are required. No external power for the device is required during this process as the power is supplied via the PC USB interface.

- Simple configuration via USB port
- Universal RTD, Thermocouple, mV, V, mA and potentiometer inputs
- Isolated universal voltage or current output
- Dual change over relay trip outputs
- Universal AC DC power supply, 3 port isolation
- User Trim and User Configuration push buttons

535091

Input Type / Type	Mftrs. List No. / List No.	Order Code / Order Code	Price Each 1+
RTD, T/C, Potentiometer, Current or Voltage	SEM1700	**170-6808**	
USB Cable	88732-8602	**122-1071**	

Universal Transmitter

Current or Voltage Output - DIN Rail Mount

- Process and Temperature Sensor inputs
- 2 Wire (4 - 20mA) output and 3 Wire (Programmable) output versions
- Simple push button configuration
- Advanced user configuration with 56 pre-set temperature ranges
- USB Configuration port
- User push button trim
- Programmable burnout

H = 90, W = 17.5, D = 56.4mm

535093

Output Type	Mftrs. List No.	Order Code	Price Each 1+
(4 - 20mA)	SEM1610	**170-6811**	
0V to 10V, 0V to 5V, 2V to 10V, 1V to 5V and 0V to 1V	SEM1620	**170-6812**	
USB Cable	88732-8602	**122-1071**	

DIN Rail Temperature Transmitter

SEM1603 Series

- Configured by using the USB Port Powered Configurator
- PT100 or Thermocouple / mV
- Isolated input
- Input linear to temperature
- (4 to 20) mA two wire output
- 24V dc powered

H = 90, W = 17.5, D = 56.4mm

The SEM1603 series is a DIN rail mounted temperature transmitter from Status Instruments. The range consists of two versions, the SEM1603P accepts PT100 inputs, the SEM1603TC accepts seven common thermocouple types plus mV input. Designed for ease of use, this range is configured with the USB port powered configuration module. The module interfaces a PC USB port to the SEM1603, using the (4 to 20) mA loop to communicate. Using the free configuration software, you will be able to read the current configuration data, and then perform any changes you wish to make to the configuration. To further help save time, the SEM1603 and configuration module do not need to be wired to a power supply during the configuration process, both are powered by the USB interface on the PC.

622563

Input Type	Mftrs. List No.	Order Code	Price Each 1+	5+
PT100	SEM1603/P	**186-6762**		
Thermocouple	SEM1603/TC	**186-6763**		
Accessories				
USB Powered Configurator Kit	USB-CONFIG-MKII	**186-6766**		

SMART Head Temperature Transmitter

HTR201 Series

- MAA Type aluminium head with integral transmitter
- Light weight and robust design
- 52mm Swing diameter
- RTD, Slide Wire or Resistance inputs
- User linearisation
- PC Programmable
- (4 to 20) mA Output
- 8 to 30V dc Supply

H = 52, W = 60, D = 48.8mm

The HTR200 is a cost effective SMART transmitter integrated into an MAA type connection head that accepts resistance signals including RTD sensors and converts them to a standard industrial (4 to 20) mA transmission signal over a user programmed range. There are two versions available with either a 100mm or a 150mm probe fitted. Its small size (52mm swing diameter), allows for installations where space is critical. Temperature probes are sold separately and style 1 and 2 are the most popular with this product. A flexible approach has been taken with this design in that, the standard product will accept over 30 resistance sensors, including Pt100, Pt500 Pt1000, Ni100, Ni1000 and variable resistance. The design also allows for custom sensors to be accommodated. It is also possible to generate your own linearisation curve for resistance or slide wire inputs. PC configuration allows the user to select Sensor type, Range, Units and error signal without requiring calibration equipment. Configuration is performed quickly using our USB port driven configurator by simply connecting two clips to the HTR200 loop terminals and following the software instructions. Additionally, the user may read live process data when connected to the PC, allowing for sensor offset calibration, where the user can enter an offset value to correct for any sensor offset.

622564

Probe Length	Mftrs. List No.	Order Code	Price Each 1+	5+
100mm	HTR201/2/100	**186-6764**		
150mm	HTR201/2/150	**186-6765**		
Accessories				
USB Powered Configurator Kit	USB-CONFIG-MKII	**186-6766**		

Universal Temperature Transmitter

SEM710 with Display

- Simple configuration via USB port
- Isolated PT100, thermocouple input
- Display - Temperature in °C / °F or Output Drive in mA
- Push-button user trim
- (4 to 20) mA two wire output
- 24V dc supply voltage

H = 21.5, Dia.(overall) = 74.8, Dia. = 66.25mm

The SEM710 is a head mounted temperature transmitter with display feature. It has been designed to accept most common temperature sensor inputs and provide the user with a standard two wire (4 to 20) mA output signal. Isolation is provided between input and output and all temperature ranges are linear to temperature. The addition of a display provides the user with instant information of the loop condition at the point of measurement. Designed for ease of use, the latest USB interface is fitted for quick and easy configuration. Just connect a standard USB cable between the SEM710 and a PC. Using the free configuration software, the PC will automatically upload the existing configuration data and guide the user through any changes required. To further help save time, the SEM710 does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from the PC.

622571

Type	Mftrs. List No.	Order Code	Price Each 1+	5+
Without Probe	SEM710/4/C/2420	**186-6767**		

Wireless Signal Conditioner

WRX900 Series DIN Rail Receiver

- Receives signals for up to 16 WTX700 Transmitters
- ISM BAND 868.4 MHz for European use
- Up to 300 m range
- Programmable current or voltage and 2 relay output
- RS485 Mobus output
- Push-button or PC programmable
- LCD Display
- Low transmitter battery warning / alarm

H(Body) = 110, W = 22.5, D = 124.3mm

The WRX900 receiver is used together with the WTX700 in head temperature transmitter for wireless temperature measurement. The product converts the measured temperature values received into isolated current or voltage signals (0) 4 to 20 mA, (0 to 10V) as well as making them available via a digital RS485 interface. The WRX900 will accept wireless signals from up to 16 WTX700 in head transmitters. Any one of the temperature values received can be linked to any one of the analogue or relay outputs and all are available via the RS485 digital interface. The product operates using the ISM (Industrial Scientific and Medical) band of 868.4 MHz. This frequency is virtually insensitive to external interferences and allows transmission even in a harsh industrial environment. The antenna screws into the top of the DIN rail module but for use in cabinets or to gain a better signal. Programming is possible by using the Wireless configuration kit. Alternatively it is possible to programme the product manually using the push buttons and information on the LCD screen.

622540

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+
For Analogue output types - 4 x Current or Voltage signals				
240VAC	WRX900/04/S1/A	**186-6751**		
24VDC	WRX900/04/S2/A	**186-6752**		
For Relay output types - 2 x NO (Configurable as NC) 3A @ 230V ac resistive load				
240VAC	WRX900/22/S1/A	**186-6753**		
24VDC	WRX900/22/S2/A	**186-6754**		
Accessories				
PC Interface with USB/TTL Converter	WLESS/CNFG/KIT	**186-6761**		

Wireless in-head Temperature Transmitters

WRX700 Series

- ISM Band 868.4MHz for European use
- RTD, Thermocouple, Slidewire or mV Inputs
- 3.6V, AA size, lithium battery powered
- 300m Line of Sight range
- Supplied fitted with Status Instruments Head

RoHS ● Compliant ▲ Non-compliant

The WTX700 series in head temperature transmitter is a new generation of wireless temperature measurement solutions from Status Instruments. It has been designed to accept most common temperature sensors including those from RTD and thermocouple sensors as well as slidewire and mV signals. The measured value is transmitted to the DIN Rail mounted base station (WRX900), this can accept signals from up to 16 WTX700 transmitters. A 3.6 V Lithium battery is provided for the transmitter power supply and is fitted in a specially designed antenna housing which screws into the cable entry of the connecting head. The connecting head is supplied with the product and can be sensor mounted. This is particularly useful when used with a flying lead sensor such as our style 4 sensor type and allows for a wider range of applications. The measured signal is transmitted on the ISM band (Industrial Scientific and Medical Band) of 868.4 MHz. This frequency is virtually insensitive to external interferences and allows transmission even in a harsh industrial environment. The maximum open air range is 300 m. Configuration is carried out by using the Wireless Configuration kit. This allows configuration of all parameters including transmitter address, transmission interval, sensor type etc.

622558

Input Style	Mftrs. List No.	Order Code	Price Each 1+	Price Each 5+
Without Probe				
M24 Process Entry	WTX700/SCH11	**186-6755**●		
M16 Cable Entry	WTX700/SCH4/B	**186-6756**●		
With Probe				
M24 Process Entry	WTX700/SCH11/2/150	**186-6757**●		
M16 Sensor Cable Entry	WTX700/SCH4/B/4/150	**186-6759**●		
Accessories				
PC Interface with USB/TTL Converter	WLESS/CNFG/KIT	**186-6761**●		

Trip Amplifier

Dual Relay Outputs - DIN Rail Mount

- Process and Temperature Sensor inputs
- Isolated input
- Dual 250V ac 1A Relay, change over contact outputs
- Relays isolated from each other
- Simple configuration via USB port
- 24V dc supply

H = 90, W = 17.5, D = 56.4mm

535095

Output Type Type	Mftrs. List No. List No.	Order Code Order Code	Price Each 1+
2	SEM1630	**170-6813**●	
USB Cable	88732-8602	**122-1071**●	

Energy - Meter

efergy E² Energy Monitoring Meter

Wireless

Display - H = 185, W = 185, D = 24mm

The Efergy 2 + Elink wireless electricity display device is a wireless energy monitor that displays at a glance how much electricity your equipment is using. Elink technology allows data to be transferred to your computer to help you spot money saving opportunities and to assist with the reduction of carbon footprints.
You can view instant, average and historical information (daily, weekly and monthly totals are stored in the memory) on the portable display unit. Download stored data to your PC for more detailed analysis and see your energy use clearly displayed in bar charts and line graphs.
Radiated frequency 433.52MHz with a range of 40 to 70m depending on the environment.
The Portable Display Unit and the Transmitter/Sender Unit require 3 X AAA batteries each (6 in total). Lithium or rechargeable cells are recommended.

- Simple and quick to install and use
- PC connectivity, sensor, transmitter/sender and Elink energy monitoring software CD included
- Program up to 4 tariffs - set start/end times and p/kWhr to match your supply
- Instant, Average and Historical data shown on portable wireless display

549871

Mftrs. List No.	Order Code	Price Each 1+
EFERGY E2-METER	**177-4541**●	

3-Phase Energy Management Meter

Type EM21 72D - Removable Display Unit

H = 71.7, W = 71.5, D = 64.6mm

Three-phase energy meter with removable front LCD display unit. The same unit can be used either as a DIN-rail mounting or a panel mounting energy meter. This general purpose three-phase energy meter is suitable for both active and reactive energy metering for cost allocation but also for main electrical parameter measurement and retransmission (transducer function). Housing for DIN-Rail mounting with IP50 (front) protection degree. Current measurements carried out by means of external current transformers and voltage measurements carried out either by means of direct connection or by means of potential transformers. The unit is provided, as standard, with a pulsating output for active energy retransmission. In addition a 2-wire RS485 communication port version is available.
Retrofit version with a miniature splitcore current transformer allows quick and easy installation

- Class B (kWh) according to EN50470-3
- Class 1 (kWh) according to EN62053-21
- Class 2 (kvarh) according to EN62053-23
- Accuracy ±0.5 RDG (current/voltage)
- Instantaneous variables readout: 3 DGT
- Energies readout: 6+1 DGT
- System variables: W, var, PF, Hz, Phase-sequence.
- Single phase variables: VLL, VLN, A, PF
- Energy measurements: total kWh and kvarh
- TRMS measurements of distorted sine waves (voltages/currents)
- Self power supply
- Protection degree (front): IP50
- Application adaptable display and programming procedure (Easyprog function)
- Easy connections management
- Detachable display
- Multi-use housing: for both DIN-rail and panel mounting applications

609862

Current	Output 1	Output 2	Mftrs. List No.	Order Code	Price Each 1+
	Single static (opto-MOSFET)	None	EM21-72D.AV5.3.X.0.XX	**182-4774**●	
	Single static (opto-MOSFET)	RS485	EM21-72D.AV5.3.X.0.SX	**182-4775**●	
Retrofit Versions					
90A	Single static (opto-MOSFET)	RS485	EM2172RVV23X0SX	NEW **194-7810**●	
150A	Single static (opto-MOSFET)	RS485	EM2172RVV33X0SX	NEW **194-7811**●	
250A	Single static (opto-MOSFET)	RS485	EM2172RVV53X0SX	NEW **194-7812**●	

3-Phase Energy Management Meter

Type EM24 DIN - Energy Analyser

NEW

Three-phase energy analyzer with built-in configuration joystick and LCD data displaying; particularly indicated for active and reactive energy metering and for cost allocation. Housing for DIN-rail mounting with IP50 (front) protection degree. Direct connection up to 65A and by means of external current and potential transformers. Moreover the meter can be provided with digital outputs that can be either for pulse proportional to the active and reactive energy being measured or for alarm outputs. In alternative the RS485 communication port and 3 digital inputs or Dupline port and 3 digital inputs are available as an option.

- Class 1 (kWh) according to EN62053-21
- Class B (kWh) according to EN50470-3
- Class 2 (kvarh) according to EN62053-23
- Accuracy ±0.5 RDG (current/voltage)
- Energy analyzer
- Instantaneous variables readout: 4 DGT
- Energies/gas/water readout: 7+1 DGT
- System variables: VLL, VLN, Admd max, VA, VAdmd, VAdmd max, W, Wdmd, Wdmd max, var, PF, Hz, Phase-sequence.
- Single phase variables: VLL, VLN, A, VA, W, var, PF
- Energy measurements: total and partial kWh and kvarh or based on 4 different tariffs; single phase measurements
- Gas, cold water, hot water, kWh remote heating measurements
- Hour counter (6+2 DGT)
- TRMS measurements of distorted sine waves (voltages/currents)
- Dimensions: 4-DIN modules
- Protection degree (front): IP50
- Application adaptable display and programming procedure
- Easy connections management

659687

Type	Mftrs. List No.	Order Code	Price Each 1+	Price Each 5+
CT Connection				
3 Digital Inputs	EM24-DIN.AV5.3D.IS.P	**194-7814**●		
Dual Open Collector	EM24-DIN.AV5.3D.02.P	**194-7815**●		
Direct Connection				
3 Digital Inputs	EM24-DIN.AV9.3X.IS.P	**194-7816**●		
Dual Open Collector	EM24-DIN.AV9.3X.02.P	**194-7817**●		

Process Relays

Thermostat Relay

- Thermostat relay for 2/3 wire Pt-100 probe
- -50 to 300°C in two ranges
- Adjustable setpoints and hysteresis on the front panel
- Inversion (inv) of relay operation on connection of jumper
- LED indication on probe failure
- Analogue outputs for setpoints and measured temperature

H=80, D=104, W=22,5

pro519/205786

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
230V ac/24V ac	MXT-10.230	**723-3670**				

Threshold Relays

H=80, D=104, W=22.5

- Threshold relay for process signal
- Relay output
- Adjustable setpoints and hysteresis on the front panel
- Hysteresis adjustable: ±0.5-20%
- Inversion (inv) of relay function on attachment of jumper
- Automatic locking (latch) on connection of jumper

Input Signal	Output Signal
0-5Vdc	Relay SPDT 8A/240Vac
0-10Vdc	
-10 - +10Vdc	
0-20mA dc	
4-20mA	

205776

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
24VDC dc	PXL-10.924	**723-3334**				
230V ac/24V ac	PXL-10.230	**723-3358**				

Process Signal Converter

H=80, D=104, W=22.5

- Linear process signal converter
- Input selection via switch on the front panel
- Offset/gain (zero/span) adjustable on the front panel ±0.5%

Input Signal	Output Signal
0-5Vdc	4-20mA dc (max. 500 Ohm)
0-10Vdc	0-20mA dc (max. 500 Ohm)
-10 - +10Vdc	0-10Vdc (via internal 500 Ohm shunt)
0-20mA dc	
4-20mA	

205778

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
24Vdc	PXU-20.924	**723-3395**				
230Vac	PXU-20.230	**723-3425**				

Process Timer

Multifunction Timer

- Multifunction timer with 5 functions and 4 time ranges
- The function and time range are selectable via 2 front mounted rotary switches
- Time ranges cover 0.6sec-60min or 0.6min-60hrs
- Can be directly connected to the supply in the range of 10.5-265Vac/dc
- Single or double relay output with LED induction of energised relay
- 11-pole plug-mounting

Functions	Time Ranges	Supply Voltage
On delay	0.6 sec - 60 min	10.5-265VAC/ dc
Release delay	0.6 sec - 60 hrs	
On pulse (without control switch)	(Time range sub-divided in 4)	
On pulse (with control switch)		
Symmetrical recycler with pause start		

205787

Output	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
SPDT	XMW-S1	**723-3681**				
DPDT	XMW-S2	**723-3693**				

Analogue Signal Conditioners

3 Way Isolating Amplifier - Single Channel

Analogue Current - 4 to 20mA

H = 99, W = 12.5, D = 114.5mm

- DIN rail mounting in accordance with EN 50 022
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- Supply voltage 20V dc to 30V dc
- Single channel current signals 0(4) to 20 mA
- **UL** Recognised

This 3-way isolator amplifier provides electrical isolation and processing of analog 4 to 20 mA standard current signals. The module input and output are supplied via integrated DC/DC converters which are electrically isolated from the mains. The device ensures the safe decoupling of a sensor circuit from the evaluation circuit and also prevents the negative effects of several sensor circuits connected with one another.

535123

Input and Output Currents	Mftrs. List No.	Order Code	Price Each 1+
Current - Isolated - Current	MCR-C-1-1-00-DC	**170-6195**●	

3 Way Isolating Amplifier - Single Channel

Configurable Current and voltage input and output

H = 99, W = 17.5, D = 114.5mm

- DIN rail mounting in accordance with EN 50 022
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- Supply voltage 18V dc to 30V dc
- Unconfigured
- Configurable inputs and outputs via DIP switches
- **UL** Recognised

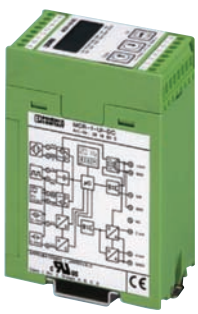
This 3-way isolator amplifier is used to provide electrical isolation and conversion of analog signals. The module input and output are supplied via integrated DC/DC converters which are electrically isolated from the mains. The required auxiliary voltage is indicated via a green power LED. This clearly indicates whether or not auxiliary voltage is available. 3-way isolation enables the universal use of modules both locally and close to the control system for signal conversion and electrical isolation, as well as on the transmission path for jumpering high load resistors. Conversion is carried out by an inductive transmission method. In addition a filter connected downstream of the transmitter reducing possible interference.

535127

Input and Output Circuits	Mftrs. List No.	Order Code	Price Each 1+
- Isolated -	MCR-C-UI-UI-DCI-NC	**170-6197**●	

Programmable Universal Frequency Transducer

3-Way Isolated



- DIN rail mounting in accordance with EN 50 022
- Suitable for Class 1 Division 2, Groups A, B, C and D Hazardous locations
- Also suitable for non-hazardous applications
- Programmable using membrane keypad
- LCD display of the input or output signal
- Displays and converts frequencies from 0.1 Hz to 120 kHz
- Output voltage 0-10V / 10-0V, 0-5V / 5-0V or
- Output current 0-20 mA / 20-0 mA
- Supply 20 - 30V dc
- **UL** Recognised

H = 75, W = 45, D = 110mm

The frequency transducer module accepts frequencies between 0.1 Hz and 120 kHz. The input frequency can be easily selected within this range and displayed on the front face of the module.
All common frequency signal (2, 3 and 4 wire) can be accepted at the input. The input options are as follows:
NAMUR sensors, Frequency generators, Dry contacts and Incremental encoder signals.
In addition to the analog output a transistor switching output (For alarm processing) is available. The input frequencies (lower and upper range) can be programmed in via the membrane keypad, as revolutions per minute (rpm) or as Hz. Analog voltage and current inputs can also be converted and isolated. The LC Display can show both input and output measurement values.

535131

Mftrs. List No.	Order Code	Price Each 1+
MCR-F-UI-DC	**170-6198**●	

Signal Multiplier

4-way Isolation

- Signal conversion and amplification
- DIN rail mounting
- Suitable for Class 1 Division 2, Groups A, B, C and D Hazardous locations
- Also suitable for non-hazardous applications
- Configurable inputs and outputs
- Adjustable signal combinations
- Supply 20 - 30V dc
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- **UL** Recognosed

H = 99, W = 17.5, D = 114.5mm

This module is used to multiply and electrically isolate analog signals.
The inputs, outputs and power supply are electrically isolated from one another (4 - Way isolation). This enables the unit to be used for electrical isolation, signal conversion and amplification both locally and close to the control system. The auxiliary voltage required is indicated by a green power LED.
DIP switches can be used to switch between a signal a signal selected within the limits of the order key or the for the fixed signal conversions.

535143

Input and Output Currents	Mftrs. List No.	Order Code	Price Each 1+
Isolated	MCR-FL-C-UI-2UI-DCI-NC	**170-6199**	

Isolation Amplifier - Configurable

Wide Supply Voltage Range

- 3-way isolation
- Safe isolation in accordance with EN 61 0100
- DIN rail mounting
- Configurable inputs and outputs
- Adjustable cut-off frequency ≤10 Hz / 10 kHz
- Supply 20 - 253V ac/dc
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- **UL** Recognosed

The 3-way standard signal isolator/amplifier can process input signals 0-20 mA, 4-20 mA and 0-10V.
The 3-way isolation between signal input, output and supply is set up as "safe isolation" with a test voltage of 4 kV.
The transmission cut-off frequency can be set, depending on application, as either 10 kHz or as a ≤10 Hz filter.
The output has any of of 3 standard signals available. Adjustment after configuration is not necessary as each transmission variant is calibrated and stored in the device.

H = 99, W = 12.5, D = 114.5mm

535145

Input and Output Currents	Mftrs. List No.	Order Code	Price Each 1+
Isolated	MCR-FL-C-UI-UI-DCI-24/230	**170-6200**	

Programmable Current Transducer

3-Way Isolated - 55 Amp.

- DIN rail mounting
- Suitable for Class 1 Division 2, Groups A, B, C and D Hazardous locations
- Also suitable for non-hazardous applications
- Progressive adjustment of measuring range
- True rms value measurement
- 3-way electrical isolation according to EN 61010
- Unconfigured with through connection
- Supply voltage 20 to 30V dc
- **CE** Approved, **UL** Recognised

H = 99, W = 22.5, D = 114.5mm

This 3-way isolated transducer has a DIP switch configuration option to set the input signals, progressively, from 0 - 0.2A to 0 - 11A as well as standard 1A and 5A.
With a measuring range of 0 - 9.5A to 0 - 55A the unit is ideal for measuring higher motor currents. AC, DC and distorted currents can equally well be measured.

535215

Mftrs. List No.	Order Code	Price Each 1+
MCR-S10-50-UI-DCI-NC	**170-6201**	

Voltage Transducer

3-Way Isolated - DC Voltages

NEW

- DIN rail mounting
- Adjustable voltage ranges
- True rms value measurement
- Zero/ Span adjustment ±20%
- 3-way electrical isolation
- Safe isolation according to EN 50178
- Supply voltage 18.5 to 30.2V dc
- **CE** Approved, **UL** Recognised

The voltage transducer measures DC voltages in ranges from 0 - ±10V to 0 - 660V and converts them to standardized analog signals. DC voltages with both negative and positive polarity can be processed.
The input voltage ranges listed at the input terminal block can be varied by ±20% using a calibrated potentiometer.
The transducer is calibrated by default to 0 to ±24V input and 0 to ±10V output and is ready for operation when delivered. To use the device with other input or output variables, carry out a ZERO / SPAN adjustment using the potentiometer on the front.

H = 99, W = 22.5, D = 114.5mm

535216

Mftrs. List No.	Order Code	Price Each 1+
MCR-VDC-UI-B-DC	**170-6203**	

3 Way Isolating Amplifier

Standard Signal

- Suitable for Class 1 Division 2, Groups A, B, C and D Hazardous locations
- Also suitable for non-hazardous applications
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- Supply voltage 19.2V dc to 30V dc
- **CE** Approved, **UL** Recognised

This standard signal 3-way isolating amplifier is used to electrically isolate, condition, amplify and normalize standard signals.

H = 93.1, W = 6.2, D = 102.5mm

535217

Mftrs. List No.	Order Code	Price Each 1+
MINI MCR-SL-1-1	**170-6204**	

Temperature Transducer - Thermocouple

MINI MCR-SL-TC-UI-NC

MCR temperature transducer for J or K type thermocouples, can be configured via DIP switches, with screw connection, not pre-configured

Input	Thermocouples Type J or K (IEC 584-1)
Output - Signal Current	0(4) to 20 mA, 20 to 0(4) mA
Output - Singal Voltage	0 to 10V, 10 to 0V, 0 to 5V, 1 to 5V
Supply	24V dc @ 25 mA
Operating Temperature Range	-20°C to 65°C
Approvals	**ATEX**, **CE**, **GL**, **UL** Recognised

H = 93.1, W = 6.2, D = 102.5mm

605492

Mftrs. List No.	Best.-Nr.	Rrice Each 1+	+	+
MINI MCR-SL-TC-UI-NC	**170-6206**			

Temperature Transducer - PT100

MINI MCR-SL-PT100-UI-NC

MCR temperature transducer for Pt 100 temperature sensors, configured via DIP switch, with screw connection, not pre-configured

Input	PT100: 2, 3 or 4 Wire
Output - Current Signal	0(4) to 20 mA, 20 mA to 0(4) mA
Output - Voltage Signal	0 - 10V, 10 - 0V, 0 - 5V, 1 - 5V
Supply	24V dc @ 21 mA
Operating Temperature Range	-20°C to 65°C
Approvals	**ATEX**, **CE**, **GL**, **UL** Recognised

H = 93.1, W = 6.2, D = 102.5mm

605482

Mftrs. List No.	Order Code	Price Each 1+	+	+
MINI MCR-SL-PT100-UI-NC	**181-5287**			

3-way Isolating Amplifier

Standard Analog Input and Output Signals

- DIN Rail mount
- Suitable for Class 1 Division 2, Groups A, B, C and D Hazardous locations
- Also suitable for non-hazardous applications
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- Supply voltage 19.2V dc to 30V dc
- **CE A**pproved, **UL** Recognised

The 3-way Isolating Amplifier is used to electrically isolate, condition and amplify standard normalized analog signals.

H = 93.1, W = 6.2, D = 102.5mm

535223

Mftrs. List No.	Order Code	Price Each 1+
MINI MCR-SL-U-U	**170-6208**	

3-way Isolating Amplifier

Configurable

- DIN Rail mount
- Suitable for Class 1 Division 2, Groups A, B, C and D Hazardous locations
- Also suitable for non-hazardous applications
- M3 screw terminals - Solid/flexible wires 0.2 - 2.5mm
- Supply voltage 19.2V dc to 30V dc
- **CE A**pproved, **UL** Recognised

The 3-way Isolator is a configurable amplifier used to electrically isolate, condition, amplify and filter analog signals. DIP switches are accessible on the side of the unit and are used to configure the input and output signal ranges.

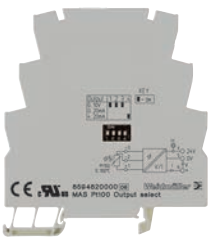
H = 93.1, W = 6.2, D = 102.5mm

535222

Mftrs. List No.	Order Code	Price Each 1+
MINI MCR-SL-UI-UI-NC	**170-6207**	

Signal Conditioner - PT100 RTD

MAS PT100 0 to 100°C



H = 97.8, W = 6.1, D = 88mm

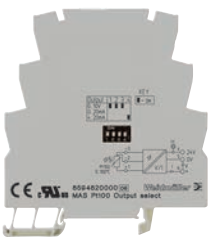
- The MAS/MAZ PT100 signal isolating converters are built into a compact 6.1 mm MICROSERIES housing
- 2/3-wire PT100 sensors can be connected on the input side
- Calibrated DC current/voltage signals are available on the output and can be selected using DIP switches
- The signal isolating converters are designed with a two-way isolation of 0.5 kV between the input and output
- The 24 VDC power is supplied over the output circuit
- International approvals (such as ATEX Zone 2 and cULusEX C1D2) allow user to use this signal isolating converter in explosion-risk zones

660163

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
8594820000	**207-0738**			

Signal Conditioner - Thermocouple

J & K Themocouples



H = 97.8, W = 6.1, D = 88mm

- The MAS/MAZ PT100 signal isolating converters are built into a compact 6.1 mm MICROSERIES housing
- Conventional thermocouples can be connected to the input side, in accordance with IEC 584 type K or J
- Calibrated DC current/voltage signals are available on the output and can be selected using DIP switches
- The signal isolating converters are designed with a two-way isolation of 0.5 kV between the input and output
- The 24 VDC power is supplied over the output circuit
- International approvals (such as ATEX Zone 2 and cULusEX C1D2) allow user to use this signal isolating converter in explosion-risk zones

660167

Thermocouple Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
J 0 to 700°C	8615210000	**207-0739**			
K 0 to 1000°C	8594830000	**207-0740**			

Signal Converter / Supply Isolator

ACT20M-CI

- Externally supplied ACT20M-CI-CO signal converters/supply isolators can transmit, isolate and convert normalised DC current signals
- Input and output circuits are completely electrically isolated, as is the power supply.
- Input signal is converted into a DC current/voltage value
- 24 VDC supply voltage can be cross-connected on the module side via the CH20M BUS profile
- International approvals (such as ATEX Zone 2, UL C1D2 and FM Div2) permit use in explosion-risk zones

H = 112.5, W = 6.1, D = 114.3mm

660181

Number of Outputs	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1	1175980000	**207-0743**			
2	1175990000	**207-0746**			

Signal Converter / Supply Isolator

ACT20M-AI

H = 112.5, W = 6.1, D = 114.3mm

- ACT20M AI-AO universal U/I- DC- converter/supply isolator and ACT20M-AI-2AO signal multiplier
- external power supply for transmitting and isolating analogue DC current and voltage signals.
- The input and output parameters can be configured as required using the DIP switches
- The input/output channel(s) and power supply have 2.5 kV of electrical isolation
- The universal ACT20M-AI-AO-S supply isolator can feed power directly from the input loop signal to passive sensors
- The ACT20M-AI-2AO-S with 4-way isolation is designed as a signal splitter
- The input signal is doubled on the output side
- It can be transmitted simultaneously to a controller and an external display
- International approvals (cULus, ATEX Zone2, FM Div2, GL, DNV).
- The power supply can be easily and quickly installed using the CH20M DIN rail bus. The power can be supplied using any ACT20M module (up to 20 devices) or a separate ACT20 supply module (up to 200 devices)

660183

Number of Outputs	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Standard Version					
1	1176010000	**207-0745**			
ATEX Versions					
1	1176000000	**207-0744**			
2	1176020000	**207-0747**			

Isolating Switch Amplifiers

ACT20X

H = 113.6 W = 22.5, D = 119.2mm

- ACT20X isolating switch amplifiers are specially designed for recording NAMUR sensor signals and digital switching signals which originate from the Ex zone 0
- The rail mounted disconnect-switch amplifiers are optionally available in one- or two-channel versions. With 11 mm width per channel, the devices need little space in the electrical cabinet
- Relay or transistor outputs are used to transmit the signals to the save zone
- Integrated alarm contacts issue an alert in the event of a malfunction which makes troubleshooting easier and increases the system availability

660188

Number of Channels	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
NO Relay Output					
1	8965340000	**207-0748**			
2	8965370000	**207-0751**			
NC Relay Output					
1	8965350000	**207-0749**			
2	8965380000	**207-0752**			
NPN Transistor Output					
1	8965360000	**207-0750**			
2	8965390000	**207-0754**			
Accessories					
USB Interface	8978580000	**207-0761**			

RoHS ● Compliant ▲ Non-compliant

Temperature Transducers

ACT20X

H = 113.6 W = 22.5, D = 119.2mm

- The ACT20X-HTI-SAO / 2HTI-2SAO temperature transducers record temperatures from PT100 sensors and thermocouples from Ex Zone 0 areas
- Current loops from 0(4) to 20 mA can also be connected on the input side
- On the output side, there are active and passive current loops available for the safe area
- Integrated alarm contacts issue an alert in the event of a malfunction; this makes troubleshooting easier and increases the system availability
- The rail-mounted current output isolators are optionally available in one- or two-channel versions
- With 11 mm width per channel, the devices need little space in the electrical cabinet

660190

Number of Channels	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1	8965470000	**207-0758**			
2	8965480000	**207-0759**			
Accessories					
USB Interface	8978580000	**207-0761**			

Universal Measurement & Signal Isolating Converters

ACT20X-HUI-SAO-S

H = 113.6 W = 22.5, D = 119.2mm

- Universal measurement and signal isolating converters can be configured individually
- Temperature signals from PT100 sensors and thermocouples as well as analogue DC current and voltage signals can be recorded from the Ex Zone 0
- On the output side, optional current/voltage or 20 mA current loop signals are provided for the safe zone
- The ACT20X-HUI-SAO-S also has a relay output for configuring its switching threshold
- An integrated alarm contact is available on this device for issuing an alert in the event of a malfunction which makes troubleshooting easier and also increases system availability
- The power supply of the signal isolating converter is either done using the integrated power supply
- The rail mountable devices are designed with one channel and available in 22.5mm width

660191

Number of Channels	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1	8965490000	**207-0760**			
Accessories					
USB Interface	8978580000	**207-0761**			

Signal Converter - Temperature and Voltage

ACT20M-UI-AO-S

H = 112.5, W = 6.1, D = 114.3mm

- Universal signal isolating converter
- For recording, isolating and converting analogue current/voltage signals and 2/3/4-wire PT100 or TC temperature sensors
- The 3-way electrical isolation of 2.5 kV and an accuracy of up to 0.05% both help to ensure a high degree of process reliability
- International approvals (cULus, ATEX Zone2, FM Div2, GL, DNV) .
- External 24VDC power supply is simply snapped onto the CH20M DIN rail bus for fast and easy installation
- The power can be supplied using any ACT20M module (for up to 20 devices) or a separate ACT20 supply module (for up to 200 devices)
- The ACT20M-UI-AO signal isolating converter can be configured with FDT/DTM software
- The CBX200 USB interface is used to connect to the PC

660169

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1176030000	**207-0742**			

The first online technical portal for design engineers
Log on, research, refine and design

USB Interface for Signal Converters

CBX200 USB

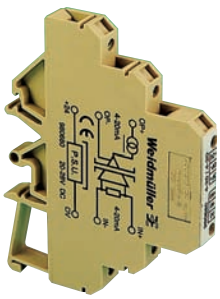
The CBX 100/CBX 200 USB interfaces for PC-based configuring and calibrating of the ITXPlus universal signal isolating converters, WAVE TTA and the ACT20 series. The CBX 100/200 USB interface converters have a status LED to display the transmit/receive mode. The driver software is available for download.

660192

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
8978580000	**207-0761**			

Isolators - 'Minicoupler'Range

Compact



- Din Rail mounting, offer cost effective solution to isolation & signal conversion
- 1kV 3 port isolation - input, output to power
- Employ surface mount technology for reliability
- Ultra compact, 10mm wide

Linearity	± 0.05%
Accuracy	0.1%
Response time	1ms (typ.)
Isolation	1kVdc
Supply voltage range	20V DC to 28V DC
Operating temperature	0°C to 55°C
Din Rail	TS232/TS35

H=89, W=10, D=68

	767-270	767-281	767-300
Type	I to I	I to V	V to V
Input	4-20mA	4-20mA	0-10V
Input resistance (typ.)	50Ω	50Ω	500kΩ
Maximum over-range	50mA	30mA	15V
Output	4-20mA	0-10V	0-10V

Mftrs. List Nos: 8594810000=767-270 980683=767-300
980681=767-281

FOR SUITABLE POWER SUPPLIES SEE **ORDER CODES 767-311 & 767-323**

204742

Type	Order Code	Price Each 1+	5+	10+
4-20mA/4-20mA Isolator	**767-270**			
4-20mA/0-10V Isolator	**767-281**			
0-10V/0-10V Isolator	**767-300**			

Process Signal Isolator

This loop powered analogue signal isolator is suitable for most applications, regardless of whether the loop power is available at the input or output side of the isolator.

- High accuracy at 0.05%
- High packing density
- Small, compact fitting
- Input and output power version
- 5 Years manufacturer's warranty
- Made in the EEC

Isolation	1000VAC RMS (Flash tested to 3kV)
Accuracy	0.05% (including hysteresis and linearity)
Stability	100 ppm/°C
Ambient Temperature	0 to 70°C; 10 to 95% TH Non-condensing
Time Constant	0.1Sec (to 63% of final value)
Cable Size	4mm² solid / 2.5mm² stranded
Material	Polyamide (Grey)
Flammability	To **UL94-V 0, VDE0304 Part 3 Level IIIA**
Mounting	Top hat rail to DIN EN50022-35
Dimensions	12.5 x 60 x 67.5mm

Input	Output	Power Requirements	Mftrs. List No.	Order Code
4-20 mA	4-20 mA	Input & Output	SEM1020	489-4881

381847

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
SEM1020	**489-4881**				

Analogue Signal Conditioners - continued

Powered Isolating Convertor

This powered isolating convertor accepts most common high level process signals (current and voltage), isolates them electrically and physically, and converts them to have voltage and current outputs simultaneously from a single input.

- High accuracy at 0.05%
- Powers both loops
- Drives current into 1KΩ
- 3 port galvanic isolation
- DIN rail or surface mounting
- Selectable input and output
- 5 Years manufacturer's warranty

Input	
Current	4-20, 0-20mA Active or passive (40mA max)
Voltage	0-100mV, 0-1, 0-5, 0-10V or 20-100mV, 0.2-1, 1-5, 2-10V (20V max)
Selection	Internal switches
Impedance	Voltage: >1MΩ Current: < 50Ω
Protection	Reverse connection/over voltage
Loop supply	25V @ 25mA Nominal (available for input transmitter 27V max)
Output	
Current[1]	4-20, 0-20mA Active or Passive
Voltage[1]	0-1, 0-5, 0-10 Volts 0.2-1, 1-5, 2-10 Volts
Selection	Internal switches
Load	Current 0 to 1KΩ Voltage Max current 5 mA
Linearity	0.05% FRO
Stability	200 ppm/°C
Adjustment[4]	Zero span potentiometer plus internal switches

381849

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
SEM1100/S2	**851-9943**				

Process Signal Isolators

- High accuracy - 0.05%
- 500V ac Isolation, flash tested @ 1 kV
- Compact size
- Front entry span and zero potentiometers
- **CE** approved
- Can be mounted on 35mm top hat DIN rail

Loop Powered Isolator (898-089)
- 4 - 20mA input, 4 - 20mA output
- 5V loop drop

Isolator (898-107)
- 4 - 20mA input, 4 - 20mA outputs (x 2)
- 5V loop drop output
- Requires 24V dc power supply on output

	898-089	898-107
Input	Isolated	Isolated
Output(s)	Current	Current x 2
Power Requirements	Powered from Input	Outputs require external power
Dimensions	H=60, W=12.5, D=60	H=75, W=12.5, D=60

204747

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Loop Powered Isolator	SEM1000	**898-089**				
Isolating Signal Splitter	SEM1200	**898-107**				

Loop Powered Trip Amplifiers

H=60, W=21, D=60

- Small size/high packing density, 21mm wide
- Relays rated at 2A @ 250V ac
- LED trip indicator
- Can be mounted on 35mm top hat DIN rail

Single Trip Amplifier - Loop Powered
- 4 - 20mA input, single 2A @ 250V ac relay output
- 5V loop drop

Dual Trip Amplifier - Loop Powered
- 4 - 20mA input, dual 2A @ 250V ac relay outputs
- 5V loop drop

204746

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Single Trip Amplifier	SEM1401	**898-119**				
Dual Trip Amplifier	SEM1402	**898-120**				

Limit Value Switch

MINI MCR-SL-UI-REL

The DIP switches located on the side of the housing have the following functions:
- Configuration of the switching hysteresis
- Configuration of the operating and closed circuit current behavior
- Setting of relay pickup times
- Setting of dropout delay

H = 93.1, W = 6.2, D = 102.5mm

This 6.2 mm wide configurable 3-way threshold value switch is used to control and monitor analogue standard signals. On the input side, the analogue standards signals 0 to 20 mA or 0 to 10 V per DIP switch can be set. On the output side, a relay with SPDT contact is available. The switching thresholds are set via potentiometer.
The relay status is indicated by a yellow LED on the front of the housing. Power (19.2 V dc to 30 V dc) can be supplied through connection terminal blocks on the modules or in conjunction with the DIN rail connector.

Input	0(4) to 20 mA, 0 to 10 V	Operating Temperature Range	-20°C to 65°C
Output	SPST Relay - 250V ac @ 2A	Approvals	**ATEX**, **CE**, **GL**, **UL** Recognised
Supply	24V dc @ 14 mA		

605494

Mftrs. List No.	Order Code	Price Each 1+	+	+
MINI MCR-SL-UI-REL	**181-5288●**			

Mains Powered Isolating Converter

- Accepts process signals, isolates them electrically and converts them to any other process signal
- Powers both loops
- Compact size
- **CE** approved
- High accuracy 0.05%
- 3 port galvanic isolation
- Accepts powered or unpowered input signals

H=82, W=22, D=100

Input	Current / Voltage
Output	Current / Voltage
Loop supply	25V @ 25mA
Supply	90-253V ac 50/60Hz
Isolation (Input/Output)	500VDC(Flash tested @ 3kV)

204763

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
SEM1100-S1	**930-751**				

Isolation Units - ATEX

DIN Rail Mounting

- Compact modular design
- DIN Rail mounting
- Full input / output / power supply isolation
- Broken line and earth fault protection
- Simple installation and maintenance using plug-in connectors
- No high integrity earth needed

The MTL Series of isolating Intrinsic Safe (IS) interface units offer a compact and easy to use means for communicating safely with process measurement, indicating, actuating and local control equipment in hazardous areas. The range of models handle analogue and binary signals in both directions, amplifying or otherwise conditioning them as required and at the same time providing certified explosion protection for equipment and wiring in all zones and all explosive atmospheres.
MTL5501-SR - Located in the hazardous area can control an isolated fail-safe electronic output. Also provides line fault detection alarm contacts.
MTL5511 - Enables a safe area load to be controlled by a switch or proximity detector located in a hazardous area. Also provides a line fault detect facility.
MTL5513 - Enables two solid-state outputs in the safe area to be controlled by two switches or proximity detectors located in the hazardous area. Independent output phase reversal and line fault detection are available.
MTL5516C - Enables two safe area loads to be controlled by a switch or proximity detector located in a hazardous area. Line fault detect facility and phase reversal of each channel are available.
MTL5018AC - Enables two safe area loads to be controlled by two switches or proximity detectors located in a hazardous area. Independent phase reversal control provided.
MTL5521 - Loop powered module which enables a device located in the hazardous area to be controlled from the safe area. Can drive a certified intrinsically safe low power load as well as non-energy storing simple device such as an LED.
MTL5541 - Provide fully floating dc supplies for energising conventional 2-wire or 3-wire 4/20mA or "smart" transmitters located in a hazardous area and repeats the current in other circuits to drive safe area loads. For "smart" 2-wire transmitters, bi-directional communications signals can be superimposed on the 4/20mA signal.
MPA5500 - Enables any MTL5500 Series module that is normally powered from a nominal

24V DC supply (i.e. those that are not looppowered) to be powered from a high-voltage AC supply. It plugs into the power socket (terminals 13 and 14) of an MTL5500 module and clips securely onto the module housing. The 25V DC power output from the adaptor is sufficient to supply a single module and can be connected to any normal AC power source.

542093

Type	Mftrs. List No.	Order Code	Price Each 1+
Digital Input Modules			
1 Ch. Failsafe Switch/Proximity Detector Interface	MTL5501-SR	**174-9533**	
1 Ch. Switch/Proximity Detector Interface	MTL5511	**174-9524**	
2 Ch. Switch/Proximity Detector Interface	MTL5513	**174-9525**	
2 Ch. Switch/Proximity Detector Interface	MTL5516C	**174-9526**	
2 Ch. Switch/Detector Interface	MTL5018AC	**174-9534**	
Digital Output Modules			
Solenoid/Alarm Driver - Loop-powered	MTL5521	**174-9527**	
Anologue Input Modules - Repeater Power Supply Units			
1 Ch. Repeater Power Supply - 2 or 3 Wire Tx	MTL5541	**174-9529**	
Accessories			
AC Power Adaptor	MPA5500	NEW **186-2615**●	

DC Standard Zener Barrier

PEPPERL+FUCHS

Zener

- Intrinsically safe **EEx ia IIC**
- Positive polarity
- Single channel
- DIN rail mounting

Commonly used zener barrier which can transmit both analogue and digital signals bi-directionally

Zener Barrier

Nominal data	28V, 300Ω
Uz	28V
Rmin.	301Ω
Ik	93 mA
BASEEFA certified	**EEx ia IIC**
Certificate no.	**Ex93C2412**

213395

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Z728	**710-4157**				

3 Way Isolating Amplifier

PHOENIX CONTACT

MINI MCR-SL-UI-UI-NC

3-way isolating amplifier for the electrical isolation of analogue signals, I/O can be configured via DIP switches, with screw connection.

Input - Signal Current	0(4) to 20 mA
Input - Signal Voltage	0 - 10V, 0 - 5V, 1 - 5V, 2 -10V
Output	0(4)...20 mA; 0...10 V; 0(1)...5 V
Supply	24V dc @ 19 mA
Operating Temperature Range	-20°C - 65°C
Approvals	**ATEX**, **CE**, **GL**, **UL** Recognised

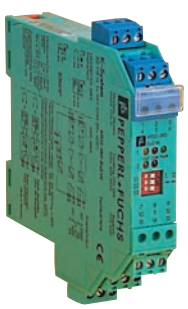
H = 93.1, W = 6.2, D = 102.5mm

605479

Mftrs. List No.	Order Code	Price Each 1+	+	+
MINI MCR-SL-UI-UI-NC	**170-6207**●			

Isolation Amplifiers

PEPPERL+FUCHS



- Provide galvanic isolation in transferring signals from a hazardous area
- Inputs suitable for **DIN19234/NAMUR** proximity sensors
- Inputs also suitable for appropriately wired mechanical contacts
- Inputs, relay outputs and 240Vdc supply are galvanically isolated from each other
- Approved to category **EEx ia IIC T4**
- Certified under PTB Certificate of Conformity No. **Ex94.C.2086** Copy of PTB certificate available on request

Intrinsically safe barriers are designed to transfer digital signals away from the hazardous area. Available as a single channel or dual channel unit. The Makrolon modular housing is rated to **UL94V-0**, and is for surface or 35mm DIN rail mounting

Supply Voltage	24Vdc ±15%
Current consumption (approx)	23ma (single channel), 50ma (dual channel) with energised relay(s)
Intrinsic safe circuit (nom.)	Open circuit 8Vdc, short circuit 8mA
Relay output	Single channel - 1 x changeover contacts
Contact rating	2A @ 250Vac, cos ø>0.7, 2A @ 40Vdc (res)
Switching speed (max)	10Hz
LED indication	Green - power on Yellow - relay status Red - sensor condition (lead breakage, short circuit monitoring)
Mode of operation	Selected by slide switch(es) on front plate
Operating temperature	-20°C to +60

213398

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Single Channel	KFD2-SR2-EX-1.W	**730-701**				
Dual channel	KFD2-SR2-EX-2.W	**730-713**				

Analogue Output Barrier

PEPPERL+FUCHS

KFD2-CD-EX1.32

- Intrinsically safe **EEx ia IIC**
- DIN rail mounting
- Accuracy 0.1%
- Power supply 20V...35V DC
- Single channel

This barrier is used to drive 4-20mA signals from a safe area into a hazardous area. Typically to drive I/P converters or as an interface to a hazardous area display. The input and output are isolated from each other and both are isolated from the power supply

Power supply	20 to 35V dc
Safety parameters	28V 300 Ohms
Voltage V o	28V
Current I o	95mA
Power P o	660mW
BASEEFA No.	EX-88B2373
Calibrated accuracy	≤±0.1% inclusive of non-linearity and hysterisis at 20°C
Temperature drift	≤±0.01%
EMC tested	per EN 50 081-2/EN 50 082-2, NAMUR NE21
Weight	100g
Ambient temperature	-20°C to 60°C

214197

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
KFD2-CD-EX1.32.1	**721-9738**				

Analogue Signal Converters

ABB

CC-E Range

NEW

These devices allow the required input and output ranges to be configured by means of directly accessible DIP switches positioned on the side of the unit. Due to the wide input range of the gain and offset stages all input signals between the minimum and the maximum input value can be universally converted to all common output signals.
They provide signal conversion where available signals cannot be processed by the controller or actuator because the signals are not in the correct format.
They filter the signals which, particularly on long lines, that are subjected to interference. They are also designed to provide protection against overvoltage and ground loops.

- Universally configurable devices and single-function devices
- Adjustment and operating elements on the front side
- Safe operation by electrical 3-way isolation
- Unambiguous and clear connecting terminal markings
- Conversion, measurement and separation of standard signals (0-5 V, 0-10 V, 0-20 mA, 4-20 mA)
- temperature signals of RTD sensors (PT 100)
- thermocouple signals (types J and K)
- current measurement signals (0-5 A, 0-20 A AC/DC)
- single-function devices no adjustment or balancing necessary.
- universal devices the required input and output ranges can be configured by means DIP switches
- Gain adjustment of ± 5 % by means of an adjustment potentiometer on the front-side
- Offset adjustment of ±5 % by means of adjustment potentiometers on the front-side
- **UL** Recognised

636419

Channels - Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Loop Powered					
1 x Current/Current Isolator	1SVR010200R1600	**189-5961**●			
2 x Current/Current Isolator	1SVR010201R0300	**189-5962**●			
24V dc Supply Voltage					
1 x Universal Signal	1SVR011700R0000	**189-5963**●			
1 x Universal Temperature	1SVR011701R2500	**189-5964**●			
1 x Universal Temperature	1SVR011702R2600	**189-5966**●			
1 x Single Function Signal	1SVR011710R2100	**189-5970**●			
1 x Single Function Signal	1SVR011711R1600	**189-5971**●			
1 x Single Function Signal	1SVR011712R1700	**189-5972**●			

Analogue Signal Conditioners - continued

Analogue Signal Converters - continued

CC-E Range - continued

Channels - Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24V dc Supply Voltage					
1 x Single Function Signal	1SVR011713R1000	**189-5973**●			
1 x Single Function Signal	1SVR011714R1100	**189-5974**●			
1 x Single Function Signal	1SVR011716R1300	**189-5975**●			
1 x Single Function Signal	1SVR011717R1400	**189-5976**●			
1 x Single Function Signal	1SVR011718R2500	**189-5978**●			
110 - 240V ac Supply					
1 x Universal Signal	1SVR011705R2100	**189-5967**●			
1 x Universal Temperature	1SVR011706R2200	**189-5968**●			
1 x Universal Temperature	1SVR011707R2300	**189-5969**●			

Analogue Signal Converters

NEW

ABB

CC-U Range

These devices allow the required input and output ranges to be configured by means of directly accessible DIP switches positioned on the side of the unit. Due to the wide input range of the gain and offset stages all input
signals between the minimum and the maximum input value can be universally converted to all common output signals.
They provide signal conversion where available signals cannot be processed by the controller or actuator because the signals are not in the correct format.
They filter the signals which, particularly on long lines, that are subjected to interference. They are also designed to provide protection against overvoltage and ground loops.

- 8 different standard signal outputs on one device
- Input and output side universally configurable
- Also available with 2 threshold relay outputs
- Adjustment and operating elements on the front side
- Safe operation by electrical 3-way isolation
- Plug-in connecting terminals, unambiguously and clearly marked
- **UL** Recognised

636639

Channels - Description Input	Output	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24V to 48V dc Supply Voltage						
Signal - DIP switches		1SVR040000R1700	**189-5979**●			
RTD Sensors - DIP switches		1SVR040002R0500	**189-5981**●			
Thermocouples - DIP switches		1SVR040004R0700	**189-5983**●			
RMS Values (0-5A) - DIP switches		1SVR040006R0100	**189-5985**●			
RMS Values (0-600V) - DIP switches		1SVR040008R1300	**189-5987**●			
Analogue Signal - 2 x Relay		1SVR040010R0000	**189-5991**●			
RTD Sensors - Relay		1SVR040012R2600	**189-5993**●			
Thermocouples - Relay		1SVR040014R2000	**189-5995**●			
110 - 240V ac Supply						
Signal - DIP switches		1SVR040001R0400	**189-5980**●			
RTD Sensors - DIP switches		1SVR040003R0600	**189-5982**●			
Thermocouples - DIP switches		1SVR040005R0000	**189-5984**●			
RMS Values (0-5A) - DIP switches		1SVR040007R0200	**189-5986**●			
RMS Values (0-600V) - DIP switches		1SVR040009R1400	**189-5988**●			
Analogue Signal - 2 x Relay		1SVR040011R2500	**189-5992**●			
RTD Sensors - Relay		1SVR040013R2700	**189-5994**●			
Thermocouples - Relay		1SVR040015R2100	**189-5996**●			

Electronic Timers

Multifunction Timer DIN1/16

Panasonic ideas for life

PM4H

- Robust and big set dial - set dial can easily be used with gloves
- Operation can be checked by two LEDs (power and operation)
- Output: 2 relays 5A 250V ac
- Standards: CE, UL, CSA, Lloyd
- Installation: front and DIN-rail mounting

8 Operation Types (Multi-function)	ON-delay OFF-delay Flicker (2 types) Differential (2 types) One-shot One-cycle
Time Range	0.1s - 500h (16 time ranges)
Input	Start, Stop, Reset, Lock
Input Signal	Potential-free contact, start in case of power-on
Output	Relay 2c, 5A 250V ac
Life	2.0 x 10^7 operation (Mech), 1.0 x 10^5 operation (Elec.)
Operating Voltage	24VAC/dc, 24VAC or 100-240V ac (Range: 85-110%)
Protective Construction	IP50
Dimensions	48x48x62mm
Front Mounting	Screw terminal or 11pin type + socket AT78051J + mounting frame AT8DA4J
DIN-Rail Mounting	11 Pin type + Socket ATC180041J

Mounting frame is only included at screw terminal type.

475756

Voltage	Terminal	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24VDC24VAC/dc	11 Pin Type	PM4HA-H-24V	**137-3674**●			
24VDC24VAC/dc	Screw Terminal	PM4HA-H-24VS	**137-3676**●			
100 - 240VAC	11 Pin Type	PM4HA-H-AC240V	**137-3677**●			
100 - 240VAC	Screw Terminal	PM4HA-HAC240VS	**137-3678**●			
Accessories						
Rear Terminal Socket		AT78051	**137-3681**●			
DIN-Rail Socket		ACT180041	**137-3683**●			
Mounting Frame		AT8-DA4	**137-3684**●			

Multi-Function 11 Pin Plug In or Panel Mounting Timer

finder

Nominal Supply Voltage	24 - 230VAC/dc
Output	
Rated Current/Max Peak Current	8/15A
Rated Voltage/Max Switching Voltage	250/250 V ac
Rated Load AC1	2000 VA
Rated Load AC15	400 VA
Time Scale Selector	0.5, 1, 5, 10
Unit of Time Selector	Sec, Min, Hrs, 10 Hrs
Repeatability	±1%
Recovery Time	300 ms
Minimum Control Impulse	50 ms
Setting Accuracy Full Range	±3%
Electrical Life at Rated Load AC1	100,000 Cycles
Ambient Temperature	-10 to 55°C
Protection Category	IP40

- 24 to 230V ac/dc operation
- 7 timing functions
- 16 time ranges 0.05 sec to 100 hrs
- Pause, Start and Reset inputs
- LED status indicators
- 48x48mm front panel
- Panel mount fixings included

475900

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24 - 230VAC/dc	88.02.0.230.0002	**134-4239**●			

Multi-Function 11 Pin Plug In or Panel Mounting Timer

finder

- 24 to 230V ac/dc operation
- 6 timing functions
- 16 time ranges 0.05 sec to 100 hrs
- 2 timed or 1 timed + 1 instantaneous contact
- LED status indicators
- 48x48mm front panel
- Panel mount fixings included

Nominal Supply Voltage	24 - 230VAC/dc	Unit of Time Selector	Sec, Min, Hrs, 10 Hrs
Output		Repeatability	±1%
Rated Current/Max Peak Current	5/10A	Recovery Time	200 ms
Rated Voltage/Max Switching Voltage	250/400 V ac	Setting Accuracy Full Range	±3%
Rated Load AC1	1250 VA	Electrical Life at Rated Load AC1	100,000 Cycles
Rated Load AC15	250 VA	Ambient Temperature	-10 to 55°C
Time Scale Selector	0.5, 1, 5, 10	Protection Category	IP40

475905

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24 - 230VAC/dc	88.12.0.230.0002	**134-4240**●			

RoHS ● Compliant ▲ Non-compliant

Miniature 4-Pole Changeover - H3Y4

OMRON

H=56.6, W=20.7, D=27.2

- Miniature adjustable timer
- Compatible with Omron LY and MY relays
- Connection by 14 pin socket
- Panel adaptor available for panel mounting

Order Codes

Time Range	100-120V ac	200-230V ac	12V dc	24V dc
0.1 - 1s	—		—	**104-674**
0.2 to 5secs	—	**104-046**	**104-026**	**104-036**
0.5 to 10s	**104-042**			**104-037**
1 to 30s	—		**104-028**	**104-038**
2 to 60s	**104-044**	**104-049**	—	**104-039**
0.1 to 3m	—	—	—	**104-040**
0.2-5m	—	—	—	**104-675**
0.5min to 10min	—	**104-664**	—	—
1-30m	—			**104-677**
2-60m	—	**104-666**	—	

Operating mode	Delay on energisation	Output time contacts	4PCO
Time ranges	See ordering info	Contact rating	3A @ 250V ac
Repeat accuracy	±2% max.	Operating voltage	See ordering information
Reset time	0.1s max.	Operating voltage range	80-110%

223116

Voltage **Timers**	Order Code	Price Each 1+	5+	10+	25+	50+
24/100-120/200 - 230V ac	**All Order Codes**					
12/24V dc	**All Order Codes**					
Sockets		1+	20+	100+		
Chassis	**427-342**					
Surface/DIN rail	**134-0953**●					
Retaining Clips						
Chassis/PCB	**424-651**					
Surface/DIN rail	**103-924**					

Time Switch Modules

12 Series

finder

NEW

12.31 Series
H = 72, W = 72, D = 51.4mm

12.71
H = 90, W = 17.8, D = 63mm

12.9 Series
H = 90, W = 35.8, D = 63mm

627512

Output Type	Mftrs. List No.	Order Code	Price Each 1+	10+
Mechanical - 230V ac Supply				
1CO - 16A @ 250V ac - Daily	12.31.8.230.0000	**188-9078**●		
1CO - 16A @ 250V ac - Weekly	12.31.8.230.0007	**188-9079**●		
Digital - 24V ac/dc Supply				
1CO - 16A @ 250V ac - Weekly	12.71.0.024.0000	**188-9080**●		
Digital - 230V ac Supply				
1CO - 16A @ 250V ac - Weekly	12.71.8.230.0000	**188-9081**●		
1CO - 16A @ 250V ac - Weekly	12.91.8.230.0000	**188-9082**●		
1CO - 16A @ 250V ac - Weekly (P)	12.91.8.230.0090	**188-9083**●		
2CO - 16A @ 250V ac - Weekly	12.92.8.230.0000	**188-9085**●		
2CO - 16A @ 250V ac - Weekly (P)	12.92.8.230.0090	**188-9086**●		
Accessories				
Programming Kit - 12.91(P) and 12.92(P)	012.90	**188-9087**●		

Staircase Timer

14 Series

NEW

finder

- Time setting from 30s to 20min
- Zerocrossing load switching
- Can be used with illuminated push-buttons
- DIN Rail mount
- 3 terminals on the same side
- Controls can be operated by blade or cross head screw drivers
- 35mm DIN Rail mounting

H = 88.8, W = 17.5, D = 60.8mm

627514

Output Type	Mftrs. List No.	Order Code	Price Each 1+	25+	100+
Mono-function - 230V ac Supply					
1NO - 16A @ 230V	14.91.8.230.0000	**188-9088**●			

Astronomical Time Switch

ASTRO Series - Three Phase

GIC

H = 90.5, W = 72, D = 65mm

NEW

- Dynamic and accurate control based on astronomical mathematics
- Yearly programming with season mode, DST, Offset, Off hours enabled
- Protection against under voltage and over voltage
- Active Phase selection & Auto load changeover feature
- Three independent channel outputs
- 110 - 240V ac supply, 3 Phase 4 Wire (P-N)
- 3 NO (SPST) outputs. 8A @ 240V ac, 5A @ 30V dc (resistive)
- Manual override facility
- Includes Data-stick and Software

632383

Description	Mftrs. List No.	Order Code	Price Each 1+	3+	5+	10+
Astro Timer	T3DDT0	**189-5463**●				
Accessories						
GSM Module	19D20B00	**189-5464**●				
Surge Suppressor	19D2000C	**189-5465**●				
Comms. cable	19A1000B	**189-5466**●				

Delay On Timer

Type M1EDO

BROYCE CONTROL

NEW

- 17.5mm Width DIN Rail housing
- Delay On Energisation
- Supply indication
- Output relay - 8A SPCO contact
- Relay indication
- Dual voltage
- **UL** and **CUL** Approved
- Conforms to **CSA**, **IEC** and **CE**

618341

Timer Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24V ac/dc, 230V ac - Supply voltage					
0.5s to 10s	M1EDO 24VAC/DC//230VAC 10SECS	**185-3741**●			
2s to 60s	M1EDO 24VAC/DC//230VAC 60SECS	**185-3748**●			
0.5s to 10min	M1EDO 24VAC/DC//230VAC .5-10MINS	**185-3747**●			
2min to 60min	M1EDO 24VAC/DC//230VAC 2-60MINS	**185-3746**●			
24V ac/dc, 110V ac - Supply voltage					
0.5s to 10s	M1EDO 24VAC/DC//110VAC .5-10SECS	**185-3745**●			
2s to 60s	M1EDO 24VAC/DC//110VAC 2-60SECS	**185-3744**●			
0.5s to 10min	M1EDO 24VAC/DC//110VAC .5-10MINS	**185-3743**●			
2min to 60min	M1EDO 24VAC/DC//110VAC 2-60MINS	**185-3742**●			

Delay Off Timer

Type M1ESW

BROYCE CONTROL

NEW

- 17.5mm Width DIN Rail housing
- Delay Off - Switch initiated
- Supply indication
- Output relay - 8A SPCO contact
- Relay indication
- Dual voltage
- **UL** and **CUL** Approved
- Conforms to **CSA**, **IEC** and **CE**

618343

Timer Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24V ac/dc, 230V ac - Supply voltage					
0.5s to 10s	M1ESW 24VAC/DC//230VAC 10SECS	**185-3749**●			
2s to 60s	M1ESW 24VAC/DC//230VAC 60SECS	**185-3757**●			
0.5s to 10min	M1ESW 24VAC/DC//230VAC 10MINS	**185-3756**●			
2min to 60min	M1ESW 24VAC/DC//230VAC 60MINS	**185-3755**●			
24V ac/dc, 110V ac - Supply voltage					
0.5s to 10s	M1ESW 24VAC/DC//110VAC 10SECS	**185-3754**●			
2s to 60s	M1ESW 24VAC/DC//110VAC 60SECS	**185-3753**●			
0.5s to 10min	M1ESW 24VAC/DC//110VAC 10 MINS	**185-3751**●			
2min to 60min	M1ESW 24VAC/DC//110VAC 60MINS	**185-3750**●			

Electronic Timers - continued

Interval Timer

Type M1EIN

BROYCE CONTROL

NEW

- 17.5mm Width DIN Rail housing
- Interval (Single shot) timer
- Supply indication
- Output relay - 8A SPCO contact
- Relay indication
- Dual voltage
- **UL** and **CUL** Approved
- Conforms to **CSA**, **IEC** and **CE**

618344

Timer Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24V ac/dc, 230V ac - Supply voltage					
0.5s to 10s	M1EIN 24VAC/DC//230VAC 10SECS	**185-3758**			
2s to 60s	M1EIN 24VAC/DC//230VAC 2-60SECS	**185-3760**			
0.5s to 10min	M1EIN 24VAC/DC//230VAC .5-10MINS	**185-3759**			
24V ac/dc, 110V ac - Supply voltage					
0.5s to 10min	M1EIN 24VAC/DC//110VAC .5-10MINS	**185-3761**			
0.5s to 10s	M1EIN 24VAC/DC//110VAC .5-10SECS	**185-3763**			
2s to 60s	M1EIN 24VAC/DC//110VAC 2-60SECS	**185-3762**			

True Delay Off Timer

Type M1EDF

BROYCE CONTROL

NEW

- 17.5mm Width DIN Rail housing
- True Delay Off (Delay On Release)
- Supply indication
- Output relay - 8A SPCO contact
- Dual voltage
- **UL** and **CUL** Approved
- Conforms to **CE**

618346

Timer Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24V ac/dc, 110V ac - Supply voltage					
2s to 60s	M1EDF 24VAC/DC//110VAC 60SECS	**185-3766**			
0.5s to 10min	M1EDF 24VAC/DC//110VAC 10MINS	**185-3765**			

Asymmetrical Recycler

Type M1ARM

BROYCE CONTROL

NEW

- 17.5mm Width DIN Rail housing
- Asymmetrical Recycling Off/On or On/Off (selectable)
- Multi-voltage supply: 24 - 240V AC / DC
- Selectable time ranges for ON and OFF periods (up to 60mins)
- Separate adjustments for ON and OFF periods
- Output relay - SPCO 8A Contact
- LED indication of supply and output relay status
- Conforms to **IEC** and **CE**

618347

Timer Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24 to 240V ac/dc - Supply voltage					
2min to 60min	M1ARM 24-240VAC/DC 60MINS	**185-3767**			

Multirange Electronic Timers

Digital Twin Timer

LT4H-W

Panasonic ideas for life

- Twin timer: two independent timing functions available simultaneously: $Time_{ON}$ - $Time_{OFF}$
- Wide time range: 0.01s to 9999h
- 2 colour backlight LCD display of elapsed and set time
- Easy time setting by seesaw buttons
- Cover also in black (please order timer & cover ATL58011J)
- Power failure memory by EEPROM
- Standards, CE, UL, CSA
- Installation: front & DIN-Rail mounting

6 Operation Types (Multi-function)	Pulse input & Integrating Input: Delayed on shot OFF-start flicker ON-Start flicker
Time Range	0.01s - 9999h (16 time ranges)
Input	Start, Stop, Reset, Lock
Input Signal	Potential-free contact, start in case of power-on
Output	Relay c, 5A 250V ac
Life	2.0 x 10^7 operation (Mech), 1.0 x 10^5 operation (Elec.)
Operating Voltage	12/24VDC, 24VAC or 100-240V ac (Range: 85-110%)
Protective Construction	IP66
Dimensions	48x48x65mm
Front Mounting	Screw terminal o. 11pin type + socket AT78051J
DIN-Rail Mounting	11 Pin type + Socket ATC180041J

Mounting frame, rubber gasket and instruction manual (in six languages) are included.

475643

Voltage	Terminal	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
12 - 24VDC or 24VAC	11 Pin Type	LT4HW-DC24V	**137-3668**			
12 - 24VDC or 24VAC	Screw Terminal	LT4HW-DC24VS	**137-3669**			
100 - 240VAC	11 Pin Type	LT4HW-AC240V	**137-3670**			
100 - 240VAC	Screw Terminal	LT4HW-AC240VS	**137-3671**			
Accessories						
Rear Terminal Socket		AT78051	**137-3681**			
DIN-Rail Socket		ACT180041	**137-3683**			
Flexible Protective Cover		AQM4803	**137-3685**			

Multifunction Timer for DIN-Rail

PM5S

Panasonic ideas for life

- Free-voltage input 24 - 240V AC/ DC
- Built-in screw terminals
- Multiple time ranges 1s - 500h
- Output: 2 relays 5A 250V AC
- Instruction manual in six languages
- Standards: CE, UL, CSA
- Installation: DIN-rail mounting

6 Operation Types (Multi-function)	ON-delay OFF-delay Flicker (2 types) One-shot One-cycle
Time Range	1s - 500h (16 time ranges)
Input Signal	Potential-free contact, start in case of power-on
Output	Relay 2c, 5A 250V ac
Life	2.0 x 10^7 operation (Mech), 1.0 x 10^5 operation (Elec.)
Operating Voltage	24 - 240VAC /dc (range: 85-110%)
Protective Construction	IP40
Dimensions	22.5x75x98mm

475761

Voltage	Terminal	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
24 - 240VAC/dc	Screw terminal	PM5S-A-24-240V	**137-3679**			

ON-delay Timer DIN 1/16

QM4H

Panasonic ideas for life

- Easy and fast set of time and time range with mechanical time switches - also during power off
- Digital 7-Segment-display of elapsed time
- All settings at the front
- Output: 2 relays 5A 250V AC
- Selectable contact arrangement: 2x relays delayed or 1x relay delayed and 1x relay instantaneous
- Instruction manual in six languages
- Standards: CE, UL, CSA
- Installation: front and DIN-rail mounting

RoHS ● Compliant ▲ Non-compliant

1 Operation Type (Mono-function)	ON-delay
Time Range	0.1s - 9990h (8 time ranges)
Input	Stop, Reset
Input Signal	Potential-free contact, start in case of power-on
Output	Relay 2c, 5A 250V ac
Life	2.0 x 10^7 operation (Mech), 1.0 x 10^5 operation (Elec.)
Operating Voltage	12-48V ac/dc, or 100-240V ac (Range: 85-110%)
Protective Construction	IP50
Dimensions	48x48x72mm
Front Mounting	Pin type + socket AT78041J
DIN-Rail Mounting	Pin type + Socket ATC180031J

Mounting frame and instruction manual (in six languages) are included

475763

Voltage	Terminal	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
12 - 48VDC	8 Pin Type	QM4HS-U2C-48V	**137-3672**			
100 - 240VAC	8 Pin Type	QM4HS-U2C-240V	**137-3673**			
Accessories						
Rear Terminal Socket		AT78041	**137-3680**			
DIN Rail Socket		ATC180031	**137-3682**			
Flexible Protective Cover		AQM4803	**137-3685**			

Modular Solid State Timer

80 Series

- Multi-function, multi-voltage solid state output
- Six time scales from 0.1s to 24h
- High input/output isolation
- Multi-voltage output - 24 to 240V ac/dc independent from input voltage
- IP20 protection level
- CE Marked

H = 88.8, W = 17.5, D = 60.8(OA)mm

538343

Nominal Supply Voltage	Switching Output	Mftrs. List No.	Order Code	Price Each 1+
240V ac/dc	1A / 240V ac	80.71.0.240.0000	**171-8979**	

Electronic Timers

CT-D and CT-S Ranges

- Tool-free mounting/dismounting DIN Rail mount range of timers
- Can be fitted in standard distribution cabinets
- Output contact(s) - CT-D Range 250V ac / 24V dc 6A
- Output contact(s) - CT-S Range 250V ac / 24V dc 4A
- **CSA**, **GL**, **GOST** and **CCC** Approved. **UL** Recognised

383590

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Screw Type Terminals					
CT-D Range					
Multi Function Timer	CT-MFD.12	**864-1994**			
ON-Delay Timer	CT-ERD.12	**864-2001**			
OFF-Delay Timer	CT-AHD.12	**864-2010**			
CT-S Range					
Multifunction	CT-MFS-21S	NEW **189-6004**			
Multifunction	CT-MBS.22S	NEW **189-6005**			
Multifunction	CT-MVS.21S	NEW **189-6006**			
Multifunction	CT-MVS.23S	NEW **189-6007**			
Multifunction	CT-MXS.2S	NEW **189-6008**			
Multifunction	CT-WBS.22S	NEW **189-6009**			
ON-delay	CT-ERS.12S	NEW **189-6010**			
ON-delay	CT-ERS.22S	NEW **189-6011**			
OFF-delay	CT-AHS.22S	NEW **189-6012**			
OFF-delay	CT-ARS.11S	NEW **189-6013**			
OFF-delay	CT-ARS.21S	NEW **189-6014**			
OFF-delay	CT-APS.12S	NEW **189-6016**			
Push-in Terminals					
Multifunction	CT-MFS.21P	NEW **189-6017**			
Multifunction	CT-MBS.22P	NEW **189-6018**			
Multifunction	CT-MVS.21P	NEW **189-6019**			
Multifunction	CT-MVS.23P	NEW **189-6020**			
Multifunction	CT-MXS.22P	NEW **189-6021**			
Multifunction	CT-WBS.22P	NEW **189-6022**			
ON-delay	CT-ERS.12P	NEW **189-6023**			
Push-in Terminals					
ON-delay	CT-ERS.22P	NEW **189-6024**			
OFF-delay	CT-AHS.22P	NEW **189-6025**			
OFF-delay	CT-ARS.11P	NEW **189-6026**			
OFF-delay	CT-ARS.21P	NEW **189-6028**			
OFF-delay	CT-APS.12P	NEW **189-6029**			

Zelio Time - Timing Relays

NEW

RE11

RE9

RE8

DIN rail mounted relays (RE8, RE9, RE11) designed for mounting on DIN rails in an enclosure. These relays have one, two or four outputs. Sometimes the second output can be either timed or instantaneous. If the power is switched off during the timing period, the relay reverts to its initial position.

Application: Opening of automatic doors, alarm, lighting in toilets and car park barriers

Output Current	5 A
Operating temperature	-20°C to +60°C
Relative humidity	15 to 85% (3K3) conforming to IEC 60721-3-3
IP degree of protection	IP20 (terminals) IP50 (housing)
Approvals	**CSA, GL and UL**
Electrical durability	> 100000000 cycles

Timing Range	Supply Voltage	Rated Current	Mftrs. List No.	Order Code
On delay timing relay				
1s to 100h	24 to 240 V AC/DC	0.7 A	RE11LAMW	205-6303
1s to 100h	24 V AC/DC to 240 VAC	8 A	RE11RAMU	205-6307
1s to 100h	24 V AC/DC to 240 VAC	8 A	RE11RCMU	205-6312
1s to 100h	24 V AC/DC to 240 VAC	8 A	RE11RHMU	205-6313
1s to 100h	24 V AC/DC to 240 VAC	8 A	RE11RLMU	205-6314
3s to 300s	24 V AC/DC, 110 to 240 V AC/DC	8 A	RE8TA21BU	205-6326
3s to 300s	24 to 240 V AC/DC	5 A	RE8TA21BUTQ	205-6327
0.3s to 30s	24 V AC/DC, 110 to 240 V AC/DC	8 A	RE8TA31BUTQ	205-6328
20s to 30m	24 V AC/DC, 110 to 240 V AC/DC	8 A	RE8TA41BUTQ	205-6329
0.1s to 10s	24 to 240 V AC/DC	0.7 A	RE9TA11MW	205-6336
0.3s to 30s	24 to 240 V AC/DC	0.7 A	RE9TA31MW	205-6337
Off delay timing relay				
1s to 100h	24 to 240 V AC/DC	0.7 A	RE11LCBM	205-6309
3s to 300s	24 to 240 V AC/DC	8 A	RE8RA21BTQ	205-6321
0.3s to 30s	24 to 240 V AC/DC	8 A	RE8RA31BTQ	205-6322
20s to 30m	110 to 240 VAC	8 A	RE8RA41FUTQ	205-6323
0.1s to 10s	24 V AC/DC, 110 to 240 V AC/DC	8 A	RE8RB11BUTQ	205-6324
0.1s to 10s	24 V AC/DC, 110 to 240 V AC/DC	8 A	RE8TA11BUTQ	205-6325
0.1s to 10s	24 to 240 VAC	0.7 A	RE9RA11MW7	205-6334
0.3s to 30s	24 to 240 VAC	0.7 A	RE9RA31MW7	205-6335
10 functions delay timing relay				
1s to 100h	12 to 240 V AC/DC	8 A	RE11RMMW	205-6308
1s to 100h	24 to 240 V AC	0.7 A	RE11LMBM	205-6310
1s to 100h	24 VDC, 24 to 240 VAC	8 A	RE11RMMU	205-6316
8 functions delay timing relay				
1s to 10h	24 VDC, 24 to 240 VAC	5 A	RE11RMEMU	205-6315
9 functions delay timing relay				
1s to 100h	24 VDC, 24 to 240 VAC	8 A	RE11RMXMU	205-6317
Impulse, one shot timing relay				
1s to 100h	24 VDC, 24 to 240 VAC	8 A	RE11RBMU	205-6311
Industrial, pulse on timing relay				
0.1s to 10s	24 V AC/DC, 110 to 240 VAC	8 A	RE8PE11BUTQ	205-6319
Star delta timing relay				
0.3s to 30s	24 V AC/DC	8 A	RE8YA32BTQ	205-6330
0.1s to 10s	24 V AC/DC, 110 to 240 VAC	8 A	RE8YG11BUTQ	205-6332
0.3s to 30s	24 V AC/DC, 110 to 240 VAC	8 A	RE8YG31BUTQ	205-6333

640486

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
On delay timing relay						
RE11LAMW	**205-6303**					
RE11RAMU	**205-6307**					
RE11RCMU	**205-6312**					
RE11RHMU	**205-6313**					
RE11RLMU	**205-6314**					
RE8TA21BU	**205-6326**					
RE8TA21BUTQ	**205-6327**					
RE8TA31BUTQ	**205-6328**					
RE8TA41BUTQ	**205-6329**					
RE9TA11MW	**205-6336**					
RE9TA31MW	**205-6337**					

Zelio Time - Timing Relays - continued

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
Off delay timing relay						
RE11LCBM	**205-6309●**					
RE8RA21BTQ	**205-6321●**					
RE8RA31BTQ	**205-6322●**					
RE8RA41FUTQ	**205-6323●**					
RE8RB11BUTQ	**205-6324●**					
RE8TA11BUTQ	**205-6325●**					
RE9RA11MW7	**205-6334●**					
RE9RA31MW7	**205-6335●**					
10 functions delay timing relay						
RE11RMMW	**205-6308●**					
RE11LMBM	**205-6310●**					
RE11RMMU	**205-6316●**					
8 functions delay timing relay						
RE11RMEMU	**205-6315●**					
9 functions delay timing relay						
RE11RMXMU	**205-6317●**					
Impulse, one shot timing relay						
RE11RBMU	**205-6311●**					
Industrial, pulse on timing relay						
RE8PE11BUTQ	**205-6319●**					
Star delta timing relay						
RE8YA32BTQ	**205-6330●**					
RE8YG11BUTQ	**205-6332●**					
RE8YG31BUTQ	**205-6333●**					

Micron® Electronic Timer

Multi-voltage - Multi-function

- Slim 18mm wide enclosure
- 35mm rail mount
- Wide time range (0.1s to 100h)
- Highly accurate
- Multi-function (10 different functions - Signal and non-signal)
- Multi-voltage (12 - 240V ac/dc)
- 8A @ 240V ac, 5A @ 24V dc SPDT relay output
- Separate indicators for power and relay status
- Low power consumption

NEW

H = 89, W = 17.5, D = 76mm

632385

Functions - Output	Mftrs. List No.	Order Code	Price Each 1+	3+	5+	10+
10 Modes - SPDT	1CMDT0	**189-5467●**				

ELIRO Digital Timer

Multi-voltage - Multi-function

- Multi-voltage (24 -240V ac/dc)
- Multi-function(8 or 17)
- 3 digit LCD for Preset time and Run time
- Option to select Up/Down counting
- Tamper proof with key lock function
- All settings accomplished with only two keys
- Slim 17.5mm wide enclosure
- 35mm rail mount

NEW

H = 89, W = 17.5, D = 76mm

632381

Functions - Output	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
8 - SPDT	V0DDTS	**189-5458●**				
8 - DPST	V0DDTD	**189-5459●**				
17 - SPDT	V0DDTS1	**189-5460●**				
17 - DPST	V0DDTD1	**189-5462●**				

Multi Function, Multi Voltage Timer

Type M1MFM

NEW

- 17.5mm Width DIN Rail housing
- Delay On Operate, Interval, Symmetrical Recycling Off/On or On/Off
- Multi-voltage supply: 24 - 240V ac / dc
- Two time ranges available: 0.5secs - 60mins or 5secs to 10hours
- DIP Switch facility allows one of 4 ranges to be selected
- 1 x SPDT relay output 8A
- LED indication for relay status
- Conforms to **UL**, **CUL**, **CSA** and **IEC**

618340

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
M1MFM 60MINS	**185-3738●**			

Timed Relay Interface Modules

38 Series

- SPDT Electromechanical output relay or
- SPST-NO 2A DC or AC Solid State Relay output
- Multi function timer, AI: DI: GI & SW
- 4 Time scales from 0.1s to 6h
- Instant relay ejection
- 35mm rail (EN 60715) mount
- **CE**, **Gost** Approved, **UL** Recognised

H = 87.9, W = 6.2, D = 75.6(OA)mm

538341

Nominal Supply Voltage	Switching Output	Mftrs. List No.	Order Code	Price Each 1+
Electromechanical Relay				
12V ac/dc	6A / 250V ac	38.21.0.012.0060	**171-8974●**	
24V ac/dc	6A / 250V ac	38.21.0.024.0060	**171-8975●**	
SSR Relay				
24V ac/dc	2A / 240V ac	38.21.0.024.8240	**171-8978●**	

Ultra-Slim, Multifunction - H3RN Series

- Standard multiple time ranges and multiple operating modes
- Compatable with Omron G2R relays and sockets
- SPCO or SPNO contact outputs available
- Conforms to VDE0435/P2021 and EMC standards
- **UL** recognised and **CSA** approved

H=47.4, W=12.8, D=28.8

Operating modes	A : ON delay	C : Recycling OFF start
	B : Interval timing	D : Recycling ON start
Time ranges	Short range models	0.1-1s, 1-10s, 0.1m-1m, 1-10m
	Long range models	0.1-1m, 1-10m, 0.1-1h,1-10h

223067

Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	50+
Short Range Timer - SPCO						
12VDC	H3RN-1 12VDC	**734-391**				
24VDC	H3RN-1 24VDC	**734-408**				
Short Range Timer - DPNO						
12VDC	H3RN-2 12VDC	**734-421**				
24VDC	H3RN-2 24VDC	**734-433**				
Long Range Timer - SPCO						
12VDC	H3RN-11 12VDC	**734-457**				
24VDC	H3RN-11 24VDC	**734-469**				
Sockets			**1+**	**20+**	**100+**	
SPCO Surface/DIN rail		**134-0954●**				
DPCO Surface/DIN rail		**134-0956●**				
DPCO PCB		**992-082**				

RoHS ● Compliant ▲ Non-compliant

Miniature 4 Pole Changeover - H3YN Series

- Pin compatible with Omron MY relays
- Standard multiple operating modes and multiple time ranges
- DPDT or 4PDT contact outputs available
- Conforms to **VDE 0435/P2021**
- **UL** recognised and **CSA** approved

H=56.6, W=21.5, D=28

Operating modes	A : ON delay	C : Recycling OFF start
	B : Interval timing	D : Recycling ON start
Time ranges	Short range models	0.1-1s, 1-10s, 0.1-1m, 1-10m
	Long range models	0.1-1m, 1-10m, 0.1-1h,1-10h

223079

Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Short Range Timer - DPCO						
24VAC	H3YN-2-24AC	**986-800**				
24VDC	H3YN-2-24DC	**986-811**				
230VAC	H3YN-2-200/230AC	**986-835**				
Long Range Timer - DPCO						
230VAC	H3YN-21-200/230AC	**986-872**				
Short Range Timer - 4PCO						
24VDC	H3YN-4-24DC	**986-896**				
110VAC	H3YN-4-100/120AC	**986-902**				
230VAC	H3YN-4-200/230AC	**986-914**				
sockets			1+	20+	100+	250+
DPCO PCB		**118-1252●**				
4PCO Surface/DIN rail		**134-0953●**				
4PCO Chassis		**427-342**				
Retaining Clips						
Surface/DIN rail		**103-924**				
Chassis/PCB		**424-651**				

Multi-Range Multi-Voltage Star Delta Timer

- 12 to 240V ac/dc operation
- Adjustable transfer time 0.05 to 1 sec
- 4 time range scales 0.1 sec to 20 min
- High input/output isolation
- LED status indicator
- Slim 17.5mm wide enclosure
- 35mm rail mount

Nominal Supply Voltage	12 - 240VAC/dc	Transfer Time	0.05 to 1 Sec
Output	2NO (SPDT)	Repeatability	±1%
Rated Current/Max Peak Current	6/10A	Recovery Time	50ms Max.
Rated Voltage/Max Switching Voltage	250/400 V ac	Setting Accuracy Full Range	±5%
Rated Load AC1	1500 VA	Electrical Life at Rated Load AC1	60,000 Cycles
Rated Load AC15	300 VA	Ambient Temperature	-10 to 50°C
Time Ranges	0.1 to 2 sec 1 to 20 sec 0.1 to 2 min 1 to 20 min	Protection Category	IP20

475898

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
12 - 240VAC/dc	80.82.0.240.0000	**134-4238●**			

Minature plug-in Timers

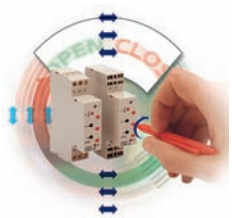
86 Series

- 4 Timing functions
- 7 Overlapping time scales - 0.05s to 100h
- Three stat LED indicator
- High output switching capacity
- 94 Series sockets available separately

621888

Coil Operating Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
2 Pole Change Over					
12V ac/dc	85.02.0.012.0000	**426-8908**			
24V ac/dc	85.02.0.024.0000	**426-8910**			
4 Pole Change Over					
12V ac/dc	85.04.0.012.0000	**426-8829**			
24V ac/dc	85.04.0.024.0000	**426-8830**			
125V ac/dc	85.04.0.125.0000	**426-8842**			
240V ac/dc	85.04.8.240.0000	**426-8854**			
94 Series Sockets (IP20)					
For 2 & 4 Pole Versions	94.04SMA	**426-9081**			

H3DS, with Smart Locking Function



- Unique ability to be able to lock off individual settings from either accidental or malicious change.
- Lock can only be unlocked and locked with locking tool sold separately (377-4181)
- Only 17.5mm wide.
- 6 units to the family, 2 general-purpose multi-function models, and 4 more dedicated mono function units.

H=80, W=17.5, D=68

- Each unit features a wide supply voltage range and large capacity outputs
- Available with standard screw terminals or Screw-less Clamp connections.
- Clamp terminal connections offer fast, repeatable connections which double for major terminals to allow for parallel operation.

4 Mode	A: ON delay, B2: Recycling ON start, E: Interval, J: One shot
8 Mode	A: ON delay, B: Recycling OFF start, B2: Recycling ON start C: Signal ON/OFF, D: Signal OFF delay, E: Interval, G: Signal ON/OFF delay J: One shot
Twin Timer	B: Recycling OFF start, B2: Recycling ON start
Voltage range	24 to 230Vac, 24 to 48Vdc
Time setting range	
Multifunction/	
H3DS-AL/H3DS-XL	0.1s - 1.2s to 10hr - 120hr
H3DS-FL	1.0s to 12hr
H3DS-GL	up to 120s
Contact rating	SPDT 5A @ 250Vac/30Vdc, Star Delta 2XSPST-NO, Two Wire in line SCR 0.7A max
Operating temperature	-10°C to +55°C

234843

Terminal Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Multifunction- 4 mode					
Screw	H3DS-SL	**377-4168**			
Multifunction- 8 mode					
Screw	H3DS-ML	**377-4156**			
Delay on Energisation					
Screw	H3DS-AL	**377-4170**			
Locking Tool					
	Y92-S38	**377-4181**			

Time Relays

	1250704	1250707
	G2ZIF20 24-240VAC/DC	**G2ZI20 12-240VAC/DC**
Controls	Time1 - Time2 - Function	Time1 - Time2 - Function
Indicators (LED's)	U/t_1 - t_2 - R	U/t - R
Functions	Ip - Ii - ER - EW_u EW_s - W_sW_a - Wt	Ip - Ii - ER - EW_u EW_s - W_sW_a
2 Time Function	Yes	Yes
Time Ranges	1 - 3 - 10 - 30s 1 - 3 - 10 - 30min 1 - 10h	1 - 10s 1 - 10min 1 - 10 - 100h
Adjustment Range	5% - 100%	5% to 100%
Control Input	Terminals Y1-Y2 Galvanic Seperated	Terminals A1-B1 Loadable
Remote Potentiometer	Time1: Terminals Z1-Y2 Time2: Terminals Z2-Y2	
Supply	24 to 240V ac/dc Terminals A1-A2	12 to 240V ac/dc Terminals A1-A2
Output	2 CO contacts 250V, 5A ac	2 CO contacts 250V, 5A ac
Width	22.5mm	22.5mm
Certificates	CE - UL - cUL - GOST	CE - UL - cUL

Time Relays - continued

445138

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
G2ZIF20 24-240V	**125-0704**●			
G2ZI20	**125-0707**●			
Remote Potentiometer	**125-0708**●			

Multifunction, D6 Series

DIN Rail Mounting

H = 64, W = 22.5, D = 75

Multifunction
- 8 functions
- 8 time ranges
- Indication of timing period
- Integrated voltage selector
- 1 C/O contact
- Operating voltage 24V ac/dc or 110-240V ac

True Off-delay
- 4 time ranges
- Integrated voltage selector
- 1 C/O contact
- Operating voltage 24V ac/dc or 110-240V ac

	Multifunction	True OFF-Delay
Operating Modes:	E On DelayD6DM R Off Delay	True off delayD6DA
Time ranges:	1,10 Secs, mins, hrs, days	1,10 secs 1, 3 mins
Contact arrangement:	SPCO	SPCO
Contact rating:	8A @ 240Vac	5A @ 240Vac
Temperature:	-25°C to +55°C	-2555

223063

Timing Function	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
Multifunction	D6DM	**325-6509**					
Asymmetric flasher, 1 CO	D6DI	**125-0709**●					
Star-Delta, 2 NO	D6DS	**125-0710**●					

Single Function Electronic Staircase Timer

Nominal Supply Voltage	230VAC, 50/60 Hz
Output	1NO SPST
Rated Current/Max Peak Current	16/30A (120A 5ms)
Rated Voltage	230VAC
Rated Load AC1	3700 VA
Rated Load AC15	750 VA
Nominal Lamp Rating (230V ac)	3000W Incandescent 1000W Compensated Fluorescent 1000W Uncompensated Fluorescent 3000W Halogen
Electrical Life at Rated Load AC1	100,000 Cycles
Delay Time Setting	30 sec to 20 min adjustable
Max. No. of Illuminated Pushbuttons	30
Ambient Temperature	-10 to 60°C
Protection Category	IP20

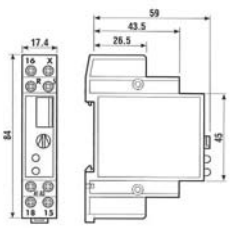
- 30 sec to 20 min time setting
- Zero crossing load switching
- Can be used with illuminated pushbuttons
- LED status indicators
- Slim 17.5mm wide enclosure
- 35mm rail mount

475780

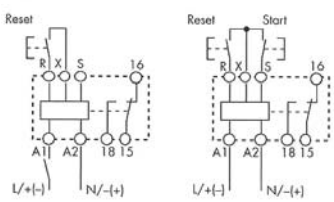
Mftrs. List No.	Order Code	Price Each 1+	5+	10+
14.71.8.230.0000	**134-4200**●			

Multifunction - DIN rail mount

81 Series



Series **Functions**
A1 ON delay
D1 ON pulse
SW Symmetrical recycler, ON start
SP Symmetrical recycler, OFF start
BE Signal OFF delay
DE Signal ON pulse
EE Signal OFF pulse



- Multi voltage, Multi function
- 4 functions with supply start, 3 with signal start
- Six time scales, from 0.1s to 10h
- 35mm rail (EN 50022) mount

Coil operating voltage	12 to 230V ac/dc
Contact configuration	SPCO
Rated current/Max. peak current	16/30A
Rated voltage/Max.switching voltage	250/400V
Rated load - AC1	4000 VA
Rated load - AC15 (230V ac)	750 VA
Single phase motor rating (230V ac)	0.55 kW
Breaking capacity - DC1: 30/110/220VA	16/0.3/0.12
Minimum switching load	500 mW (10V/5mA)
Contact material	AgCdO

246409

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
81.01.0.230.0000	**426-9020**				

Modular - DIN rail mount

80 Series

- Mono and Multi function versions available
- 6 time scales, from 0.1s to 20h
- Rotary selector
- High input/output insulation
- 35mm rail (EN 50022)mount

80.01, 80.11, 80.21, 80.41 80.91

Series **Functions**

80.01

A1 ON delay
D1 ON pulse
SW Symmetrical recycler, ON start
BE Signal OFF delay
CE Signal ON and OFF delay
DE Signal ON pulse

80.11 80.21 80.41 80.91

A1 **D1** **BE** **L1** Asymmetrical recycler (ON starting)
LE Signal asymmetrical recycler (ON starting)

Contact configuration	SPCO	Single phase motor rating (230V ac)	0.55 kW
Rated current/Max. peak current	16/30A	Breaking capacity - DC1:	16/0.3/0.12
Rated voltage/Max.switching voltage	250/400V	30/110/220VA	
Rated load - AC1	4000 VA	Minimum switching load	500 mW (10V/5mA)
Rated load - AC15 (230V ac)	750 VA	Contact material	AgCdO

246413

Coil Operating Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	100+
Multi function - Multi voltage							
12 to 240V ac/dc	80.01.0.240.0000	**426-8945**					
Mono function -Mono voltage							
24 to 240V ac/dc	80.21.0.240.0000	**134-4235**●					
Mono function - Multi voltage							
12 to 240V ac/dc	80.91.0.240.0000	**426-9019**					

Multifunction - DIN rail mount

87 Series

- Multi function
- Time scales from 0.05s to 60h
- LED indicator
- 35mm rail (EN 50022) mount

Series **Functions**

87.01
A1 ON delay
D1 ON pulse
G1 Fixed pulse delayed
SW Symmetrical recycler, ON start
BE Signal OFF delay
CE Signal ON and OFF delay
DE Signal ON pulse
EE Signal OFF pulse

87.91
L1 Asymmetrical recycler (ON starting)
P1 Asymmetrical recycler OFF starting
LE Signal asymmetrical recycler (ON starting)
PE Signal asymmertical recycler OFF starting

246491

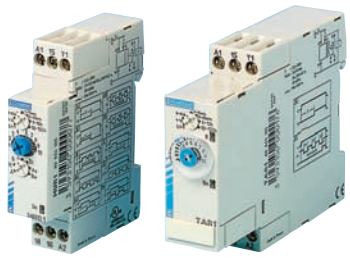
Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
87.01.0.240.0000	**418-1323**				
87.91.0.240.0000	**418-1414**				

RoHS ● Compliant ▲ Non-compliant

Multifunction/Monofunction

DIN Rail Mounting 17.5mm/22.5mm-Chronos 2

Crouzet



- 17.5 slimline or 22.5mm DIN rail mounting
- Multi-function, Dual-function or Mono-function
- Multi-range (0.1s to 100 hours)
- Multi-voltage by 2 terminals
- Output: 1 or 2 changeover relays 8 A @ 250V
- LED Status indicators
- Possible to connect external power supply to the control input
- 3 wire sensor control option
- Precision timing by micro-controller

17.5mm: H=81, W=17.5, D=60
22.5mm: H78, W=22.5, D=95

Multi - function U:	10 function (A, At, B, C, H Ht, Di D, Ac Bw)
Multi - function X:.	8 function (N, O, P W, Ad, Ah, T Tt)
Function A:	Delay on energisation
Function At:	Timing on energisation with memory
Function B:	Timing on impulse one shot
Function C:	Timing after impulse
Function Di:	Symmetrical flip flop, pulse start
Function D:	Symmetrical flip flop. pause start
Function Ac:	Timing after closing and opening of a control contact
Function Bw:	Timing at the closing and opening of the control contact
Function Li:	Asymmetrical flip flop, pulse start
Function L:	Asymmetrical flip flop, pause start
Function K:	Delay on de-energisation
Function N:	Safe-guard
Function O:	Delayed safe-guard
Function P:	Delayed fixed length pulse
Function W:	Timing after pulse on control contact
Function Ad;	Timing on impulse
Function Ah:	Single flip flop on impulse, pause start
Function T:	On/off latch after pulses
Function Tt:	Timed on/off latch after pulses

Operating Temperatre -20°C to +60°C

Mftrs. List No.
88 826 103 = 120-6976, 88 826 105 = 120-6978, 88 826 115 = 120-6979,
88 826 125 = 120-6980, 88 826 135 = 120-6981, 88 865 105 = 120-6969, 88 865 115 = 120-6971,
88 865 155 = 120-6972, 88 865 265 = 120-6973, 88 865 305 = 120-6974, 88 865 385 = 120-6975,

223100

Voltage	Function	Order Code	Price Each 1+	5+	10+	20+
17.5mm-SPCO						
12 to 240VAC/dc	U	**120-6976**				
24VDC, 24 to 240 VAC	U	**120-6978**				
24VDC, 24 to 240 VAC	A/At	**120-6979**				
24V, 24 to 240 VAC	B	**120-6980**				
24V, 24 to 240 VAC	C	**120-6981**				
24VDC, 24 to 240VAC	U	**120-6969**				
24V dc, 24 to 240VAC	A/At	**120-6971**				
24VDC, 24 to 240VAC	L/Li	**120-6972**				
22.5mm-DPCO						
24VDC, 24 to 240VAC	K	**120-6973**				
24VDC, 24 to 240VAC	U	**120-6974**				
24VDC, 24 to 240VAC	X	**120-6975**				

Plug-in Electronic Timers

8 and 11 Pins - Chronos 2

Crouzet

- Precision timing by micro-controller
- 8 or 11 pin plug in modules available
- Multi, Dual or Mono - Function
- 7 Timing ranges from 0.1s to 100h
- Output relay 8A @ 250V
- LED Status indicator
- 3-wire sensor control option

H = 45, W = 35, D = 87mm

621891

Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
8 Pin plug-in base					
24VDC / 24 to 240VAC	88 867 105	**120-6966**			
11 Pin plug-in base					
12 to 240V ac/dc	88 867 303	**120-6967**			
24VDC / 24 to 240VAC	88 867 455	**120-6968**			

Solid State Timers

H3DK Series

OMRON

NEW

- A wide AC/DC power supply ranges
- Finger-safe terminal block and captive screws according to EN 50274
- EMC (EN 61812-1) compliance for application in heavy industrial, residual, commercial or light industrial environments
- **CE** and **LR** Approved, **UL** Recognised

623927

Supply Voltage Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Twin Timer - Flicker OFF start or Flicker ON start					
24V AC to 240V AC, 24V DC to 240V DC	H3DK-F AC/DC24-240	**187-0016**			
12V DC	H3DK-FA DC12	**187-0017**			
Star-delta Timer					
24V AC to 240V AC, 24V DC to 240V DC	H3DK-G AC/DC24-240	**187-0018**			
12V DC	H3DK-GA DC12	**187-0019**			
240V AC to 440V AC	H3DK-GE AC240-440	**187-0020**			
Power OFF-delay Timer					
Timer Range - 0.1s to 12s					
24V DC to 48V DC	H3DK-HBS AC/DC24-48	**187-0022**			
100V AC to 120V AC	H3DK-HCS AC100-120V	**187-0024**			
200V AC to 240V AC	H3DK-HDS AC200-240V	**187-0027**			
Timer Range - 1s to 120s					
24V DC to 48V DC	H3DK-HBL AC/DC24-48	**187-0021**			
100V AC to 120V AC	H3DK-HCL AC100-120V	**187-0023**			
200V AC to 240V AC	H3DK-HDL AC200-240V	**187-0025**			
Multi-range, Multi-mode Timer					
4 Mode Timer - SPDT Output					
24V AC to 240V AC, 24V DC to 240V DC	H3DK-S1 AC/DC24-240	**187-0032**			
12V DC	H3DK-S1A DC12	**187-0033**			
4 Mode Timer - DPDT Output					
24V AC to 240V AC, 24V DC to 240V DC	H3DK-S2 AC/DC24-240	**187-0034**			
12V DC	H3DK-S2A DC12	**187-0035**			
8 Mode Timer - SPDT Output					
24V AC to 240V AC, 24V DC to 240V DC	H3DK-M1 AC/DC24-240	**187-0028**			
12V DC	H3DK-M1A DC12	**187-0029**			
8 Mode Timer - DPDT Output					
24V AC to 240V AC, 24V DC to 240V DC	H3DK-M2 AC/DC24-240	**187-0030**			
12V DC	H3DK-M2A DC12	**187-0031**			

Programmable Time Switch

müller

- 1 or 2 Channels
- Switching capacity 16 A per channel
- Permanent by date-mode(holiday function)
- Manual override
- Elapsed time and pulse counter for each channel
- Security by PIN-Coding
- Unlimited program security by E^2-Prom
- Can be programmed with supply disconnected
- >6 years power back up
- Din-rail mounting
- Daily and Weekly program
- 60 memory locations
- Automatic sorting of switching times on readout
- Unrestricted block programming of days
- Fully automatic daylight saving time (European, North American or Australian standard adjustable)

Supply Voltage	250V, 50-60Hz
Power Consumption	1.5VA
Channel (potential-free)	Change-over, contact gap < 3 mm (µ)
Contact Material	$AgSnO_2$
Switching Capacity	16A / 250V
Minimum Interval	1 min.
Power Back-Up (at 20°C)	approx. 6 years (depends on the Lithium-battery life)
Display	high resolution LCD (visible area 7.5 cm^2)
Permissible Ambient Temp.	-10°C to 55°C
Enclosure	Self-extinguishing thermoplastic
Type of Connection	Screw Terminals (pull-up type)
Type of Protection	IP 20 to DIN EN 60529

512325

Description	Order Code	Price Each 1+	3+	5+
1 Channel	**160-7155**			
2 Channel	**160-7156**			

Multifunction (4) Timer

H = 89, W = 17.5, D = 59

- 4 supply initiated functions:- Delay On Operate, Interval, Symmetrical Recycling On/Off, Symmetrical Off/On
- Dual voltage
- Multi time range (to 60 minutes)
- SPDT relay output (8A)
- LED indication of supply and relay status
- DIN rail or surface mounting
- 17.5mm wide

Supply voltage Un	24V ac/dc / 110V ac 48 - 63Hz 24V ac/dc / 230V ac 48 - 63Hz
Supply variation	85 - 115% of Un
Power consumption (@ 1.15 x Un)	AC: 3VA (110V), 13VA (230V) DC: 0.6W (24V)
Time delay	Seconds: 0.5 - 15, 2 - 60 Minutes: 0.2 - 8, 2 - 60
Repeat accuracy	±0.5% at constant conditions
Reset time	100mS
Ambient temperature	-20 to +60°C
Output	SPDT relay
Output rating	AC1 - 250V ac 8A (2000VA) AC15 - 250V ac 5A (no), 3A (nc) DC1 - 25V dc 8A (200W)
Electrical life	≥150,000 ops @ rated load
Housing (UL94-V0)	Orange flame retardant
Weight	66g
Terminal conductor size	≤ 2x 2.5mm² solid or stranded

381711

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
M1MFT 24/230V	**851-9498**			
M1MFT 24/110V	**851-9501**			

Multifunction (6) Timer

Supply Voltage Un	24V ac/dc / 110V ac 48 - 63Hz 24V ac/dc / 230V ac 48 - 63Hz
Supply variation	85 - 115% of Un
Power consumption (@ 1.15 x Un)	AC: 0.4VA (24V), 2.3VA (110V), 4.8VA (230V) DC: 0.58W (24V)
Time delay	Seconds: 0.5 - 60 Minutes: 0.5- 60
Repeat accuracy	±0.5% at constant conditions
Reset time	100mS
Ambient temperature	-20 to +60°C
Output	SPDT relay
Output rating	AC1 - 250V ac 8A (2000VA) AC15 - 250V ac 5A (no), 3A (nc) DC1 - 25V dc 8A (200W)
Electrical life	≥150,000 ops @ rated load
Housing (UL94-V0)	Orange flame retardant
Weight	70g
Terminal conductor size	≤ 2x 2.5mm² solid or stranded

H = 89, W = 17.5, D = 59

- 2 supply / 4 switch initiated functions:- Delay On Operate (2 switch / 1 supply initiated), Interval (1 switch or 1 supply initiated), Delay Off (switch only initiated)
- Dual voltage
- Multi time range (to 60 minutes)
- SPDT relay output (8A)
- LED indication of supply and relay status
- DIN rail or surface mounting
- 17.5mm wide

381712

Mftrs. List No.	Order Code	Price Each 1+	5+	10+
M1SMT 24/230V	**851-9510**			

True Delay Off (Delay On Release)

Supply / monitoring voltage Un	24V ac/dc / 110V ac 48-63Hz 24V ac/dc / 230V ac 48-63Hz
Supply variation	85 - 115% of Un
Power consumption (@ 1.15 x Un)	AC: 1.3VA (24V), 2.7VA (110V), 12.8VA (230V) DC: 0.62W (24V)
Time Delay	Seconds: 0.5 - 10, 2 - 60 Minutes: 0.5 - 10
Repeat accuracy	± 0.5% at constant conditions
Reset Time	100mS
Ambient temperature	-20 to +60°C
Output	SPDT relay
Output rating	AC1 - 250V ac 8A (2000VA) AC15 - 250V ac 5A (no), 3A (nc) DC1 - 25V dc 8A (200W)
Electrical life	100,000 ops @ rated load
Housing (UL94-V0)	Orange flame retardant
Weight	73g
Terminal conductor size	≤ 2x 2.5mm² solid or stranded

H = 89, W = 17.5, D = 59

- Single function
- Dual voltage
- Single time range
- SPDT relay output (8A)
- LED indication of supply status
- DIN rail or surface mount
- 17.5mm wide
- **UL** recognised and **CUL** approved

381710

Time Delay	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
0.5 - 10 sec	M1EDF24/230V 10SECS	**851-9536**			
2 - 60 sec	M1EDF24/230V 60SECS	**851-9544**			
0.5 - 10 min	M1EDF24/230V 10MINS	**851-9552**			
0.5 - 10 sec	M1EDF 24/110V 10SECS	**851-9560**			

Zelio Time Tamper-proof ON-delay Timer (RE7T)

- ON-delay timer
- Protection of settings with sealable transparent cover
- Wide time range
- 8A relay outputs (1 or 2)
- Option for second output to be instantaneous
- LEDs indicating relay energisation and time delay
- Wide-range supply voltage
- External setting of time delay with potentiometer (RE7TP)
- Printed timing and wiring diagrams on side
- Very compact

H=78, W=22.5, D=80

Supply Voltage	24V - 110VAC to 240VAC	Ambient temperature	-20°C to 50°C
Relay output	1 or 2 (8A) c/o relays	Ingress protection	IP50
Adjustable time delay	0.05s - 300hrs over 10 time ranges	Standards	IEC 61812-1
Contact material	AgNi	Approvals	**UL** Recognised, **CSA** and **CE** approved

247968

Output	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1 c/o relay	RE7TL11BU	**423-3086**			

Zelio Time Economic - ON-delay Timer (RE8T)

- ON-delay timer
- Protection of settings with sealable transparent cover
- One 8A relay output
- LEDs indicating relay energisation and time delay
- Printed timing and wiring diagrams on side
- Very compact

H = 78, W= 22.5, D = 80

Supply Voltage	24V, , 110VAC to 240VAC	Ingress protection	IP50
Relay output	8A c/o relay	Standards	IEC 61812-1
Contact material	AgNi	Approvals	**UL** Recognised, **CSA** and **CE** approved
Ambient temperature	-20°C to 50°C		

248137

Time Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
0.1 - 10secs	RE8TA11BU	**423-3232**			
0.3 - 30secs	RE8TA31BU	**423-3244**			

RTMA miniature 2 & 4 Pole Plug-In Timer

- Mono-function delay on energisation
- Multi-range (0.1s to 100 hours in 7 selectable ranges)
- Excellent noise resistance
- Output: 2 or 4 timed changeover relay 5A @ 230V
- Option to select instantaneous relay output
- 2 LED status indicators
- Precision timing by micro-controller
- **cUL** approved and **UL** recognised

Dimensions	21x27x69mm	Dimensions	21x27x69mm
Operating Temperature	-20 to 60°C	Contacts	2 or 4 x SPDT 5A @ 230V ac resistive
Weight	55g	Max Reset Time	250 ms
Supply Voltages	12V dc, 24V dc, 24V ac, 110V ac, 240V ac	Electrical Life	>100,000 ops @ 5A/240V ac resistive
Time Ranges	7 ranges from 0.1s to 100Hr		

RoHS Compliant / Non-compliant

Type	Relay Outputs	Supply Voltage	Mftrs. List No.	Order Code
RTMA2	2 Timed Changeover	12VDC	88 895 201	790-8482
RTMA2	2 Timed Changeover	24VAC	88 895 203	790-8504
RTMA4	4 Timed Changeover	24VDC	88 896 202	790-8547
RTMA4	4 Timed Changeover	110VAC	88 896 206	790-8563
RTMA4	4 Timed Changeover	230VAC	88 896 207	790-8571

348893

Voltage	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Timers						
12VDC	88 895 201	**790-8482**				
24VAC	88 895 203	**790-8504**				
24VDC	88 896 202	**790-8547**				
110VAC	88 896 206	**790-8563**				
230VAC	88 896 207	**790-8571**				
Accessories						
DIN rail mounting base 14 pin for RTMA4	26 532 706	**790-8598**				

TMR48A Analogue Panel Mounting Electronic Timer

48x48 DIN case, 45 x 45 cut-out, D. Bezel & Knob 16.8, D. behind bezel 80

Electronic timer in 48 DIN housing with rear connections compatible with standard 8-pin relay socket. Can be panel mounted, base and DIN rail mounted using relay socket accessories.

- Mono-function delay on energisation
- Multi-range (0.02s to 300 hours in 14 ranges)
- 12 to 240V dc, 24V ac to 240V ac multi-voltage on 2 pins
- Output: 2 timed changeover relay 5A @ 230V
- 2 LED status indicators
- Precision timing by micro-controller

Function A	Delay on energisation	Repeat Accuracy	±0.5% of set value @ 25°C
Supply Voltage	12 to 240VDC / 24 to 240VAC	Electrical Life	100000 ops @ 5A/240V ac resistive
Time Ranges	14 ranges from 0.2s to 300Hr	Operating Temperature	-20°C to 50°C
Contacts	2 x SPDT 5A @ 230V ac resistive	Weight	140g
Max Reset Time	100ms		

Connections		Connections	
Pin 1	Common for contact A	Pin 5	N/C contact B
Pin 2	Supply (negative if DC)	Pin 6	N/O contact B
Pin 3	N/O contact A	Pin 7	Supply (positive if DC)
Pin 4	N/C contact A	Pin 8	Common for contact B

348894

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
TMR48A	88 886 106	**790-8652**				
Accessories						
8 Pin Relay Base	25 622 130	**790-8660**				

TMR48L Analogue Panel Mounting Electronic Timer

48x48 DIN case, 45 x 45 cut-out, D. Bezel & Knob 16.8, D. behind bezel 80

Electronic timer in 48 DIN housing with rear connections compatible with standard 11-pin relay socket. Can be panel mounted, base and DIN rail mounted using relay socket accessories.

- Multi-function (4 functions with optional timing inhibit gate)
- Multi-range (0.02s to 300 hours in 14 ranges)
- 12 to 240V dc, 24V ac to 240V ac multi-voltage on 2 pins
- Output: 2 timed changeover relay 5A @ 230V
- 2 LED status indicators
- Gate inhibit on all timing functions
- Precision timing by micro-controller

Functions

Multi Function	4 functions (L, Li, G, Gi)
Function L	Asymmetrical recycler pause start
Function Li	Asymmetrical recycler pulse start
Function G	Repetitive cycle percentage timer pause start
Function Gi	Repetitive cycle percentage timer pulse start

Supply Voltage	12 to 240VDC / 24 to 240VAC	Repeat Accuracy	±0.5% of set value @ 25°C
Time Ranges	14 ranges from 0.02s to 300Hr	Electrical Life	100000 ops @ 5A/240V ac resistive
Contacts	2 x SPDT 5A @ 230V ac resistive	Operating Temperature	-20°C to 55°C
Max Reset Time	100ms	Weight	140g

Connections		Connections	
Pin 1	Common for contact A	Pin 4	N/C contact A
Pin 2	Supply (negative if DC)	Pin 5	Timing inhibit gate (negative if DC)
Pin 3	N/O contact A	Pin 6	Connect to pin 2 for pulse start
Pin 7	Connect to pin 2 for function G	Pin 10	Supply (positive if DC)
Pin 8	N/C contact B	Pin 11	Common for contact B
Pin 9	N/O contact B		

348895

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
TMR48L	88 886 516	**790-8644**				
Accessories						
11 Pin Relay Base	25 622 080	**790-8679**				

TMR48U Analogue Panel Mounting Electronic Timer

48x48 DIN case, 45 x 45 cut-out, D. Bezel & Knob 16.8, D. behind bezel 80

Electronic timer in 48 DIN housing with rear connections compatible with standard 11-pin relay socket. Can be panel mounted, base and DIN rail mounted using relay socket accessories.

- Multi-function (8 functions with optional timing inhibit gate)
- Multi-range (0.02s to 300 hours in 14 ranges)
- 12 to 240V dc, 24V ac to 240V ac multi-voltage on 2 pins
- Output: 2 timed changeover relay 5A @ 230V
- 2 LED status indicators
- Gate inhibit on all timing functions
- Precision timing by micro-controller

Functions

Multi Function	8 functions (A, B, C, H, W, G, Ac, Bw)
Function A	Delay on energisation
Function B	Timing on impulse one shot
Function C	Timing after impulse
Function H	Timing on energisation (select function B and link pins 2 and 6)
Function W	Timing after pulse on control contact
Function G	Repetitive cycle percentage timer pause start
Function Ac	Timing after closing & opening of control contact
Function Bw	Timing at the closing & opening of control contact

Supply Voltage	12 to 240VDC / 24 to 240VAC	Repeat Accuracy	±0.5% of set value @ 25°C
Time Ranges	14 ranges from 0.02s to 300Hr	Electrical Life	100000 ops @ 5A/240V ac resistive
Contacts	2 x SPDT 5A @ 230V ac resistive	Operating Temperature	-20°C to 50°C
Max Reset Time	100ms	Weight	140g

Connections		Connections	
Pin 1	Common for contact A	Pin 7	Reset input (negative if DC)
Pin 2	Supply (negative if DC)	Pin 8	N/C contact B
Pin 3	N/O contact A	Pin 9	N/O contact B
Pin 4	N/C contact A	Pin 10	Supply (positive if DC)
Pin 5	Timing inhibit gate (negative if DC)	Pin 11	Common for contact B
Pin 6	Control input (negative if DC)		

348896

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
	88 886 016	**790-8628**				
Accessories						
11 Pin Relay Base	25 622 080	**790-8679**				

TMR48X Analogue Panel Mounting Electronic Timer

48x48 DIN case, 45 x 45 cut-out, D. Bezel & Knob 16.8, D. behind bezel 80

Electronic timer in 48 DIN housing with rear connections compatible with standard 8-pin socket. Can be panel mounted, base and DIN rail mounted using relay socket accessories.

- Multi-function (8 functions with optional timing inhibit gate)
- Multi-range (0.02s to 300 hours in 14 ranges)
- 12 to 240V dc, 24V ac to 240V ac multi-voltage on 2 pins
- Output: 1 timed & 1 instantaneous changeover relay 5A @ 230V
- 2 LED status indicators
- Precision timing by micro-controller

Functions

Multi Function	7 functions (A1, A2, H1, H2, Q1, Q2, D, Di)
Function A1	Delay on energisation, with instantaneous contact
Function A2	Delay on energisation, 2 contacts
Function H1	Timing on energisation, with instantaneous contact
Function H2	Timing on energisation, 2 contacts
Function Q1	Star-delta, type 1
Function Q2	Star-delta, type 2
Function D	Symmetrical recycler pause start
Function Di	Symmetrical recycler pulse start

Supply Voltage	12 to 240VDC / 24 to 240VAC	Repeat Accuracy	±0.5% of set value @ 25°C
Time Ranges	14 ranges from 0.02s to 300Hr	Electrical Life	100000 ops @ 5A/240V ac resistive
Contacts	2 x SPDT 5A @ 230V ac resistive	Operating Temp.	-20°C to 55°C
Max Reset Time	100ms	Weight	140g

TMR48X Analogue Panel Mounting Electronic Timer - continued

Connections

Pin 1	Common for contact A
Pin 2	Supply (negative if DC)
Pin 3	N/O contact A
Pin 4	N/C contact A

Connections

Pin 5	N/C contact B
Pin 6	N/O contact B
Pin 7	Supply (positive if DC)
Pin 8	Common for contact B

348919

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Plug-in Analogue Timer	88 886 116	**790-8636**				
Accessories						
8 Pin Relay Base	25 622 130	**790-8660**				

Digital Multifunction - H3CAA

OMRON

- DIN48 body size
- Eight operating modes and selectable time range between 0.1s and 9.99 hours
- Programmed via five front panel 'fold down' push rotary switches
- LCD bar display indicates remaining time and control output status
- Separate mounting adaptor available for front panel mounting
- **CSA** and **SEV** approved
- **UL** Recognised

Operating mode	Eight selectable	Contact rating	3A @ 250V ac resistive
Time ranges	Selectable between 0.1s to 9990hr full scale	Operating voltage	24 to 240V ac or 12 to 240V dc across same input terminals
Repeat accuracy	±0.3%		
Reset time	0.5s max.		2+10
Contact	SPCO	Operating voltage range	90-110%

223094

	Order Code	Price Each 1+	5+	10+
TimerH3CA-A-306	**175-532**			
Chassis socket	**118-1273**●			
Panel mounting adaptor	**104-636**			

On-Delay - H3AM

OMRON

Large Display

- Large easy to read display
- Wide supply voltage 100 to 240Vac
- Different coloured moving pointers indicates both set and remaining times
- Wide time ranges (three units cover 0.2s to 60h)
- User configurable output configuration
- Sealed to **IP65**
- Manual setting knob
- Conforms to **IEC61812-1, IEC60664-1**
- **UL** Recognised and **CSA** approved

H = 96, W = 96, D = 85 behind bezel

Operating modes ON delay
Time ranges
186-041 (30s, 3 min, 30 min, 3h, 30h)
186-053 (60s, 6 min, 60 min, 6h, 60h)
186-065 (12s, 120s, 12 min, 120 min, 12h)
-

Operating voltage	100 - 240Vac 50/60Hz
Operating temperature	-10°C to + 55°C
Contact rating	5A, 250Vac
Reset input time	0.5 sec
Power reset time	0.5 sec
contact arrangement	SPCO

223090

Time range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
1s to 60hrs	H3AM-NS-B300	**186-053**			
0.2s to 12hrs	H3AM-NS-C300	**186-065**			

Solid-state Timer - H3CR

OMRON

DIN 48 x 48 Multifunction

- **Lloyds/NK** approvals
- Conforms to **EN61812-1** and **EN60664-1** (VDE0110) 4kV/2 for Low Voltage and EMC Directives
- **UL** Recognised and **CSA** Approved
- Six-language instruction manual provided

621914

Timer Function - Range	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
8-Pin Versions					
On Delay - 0.05s to 300h	H3CR-A8 24-48VAC/12-48VDC	**313-7983**			
On Delay - 0.05s to 300h	H3CR-A8 100-240AC/100-125VDC	**313-7971**			
On Delay - 0.05s to 300h	H3CR-A8E 24-48VAC/VDC	**313-7995**			
On Delay - 0.05s to 300h	H3CR-A8E 100-240VAC/100-125VDC	**313-8008**			
11-Pin Versions					
Multifunction - 0.05s to 300h	H3CR-A 24-48VAC/12-48VDC	**313-7960**			
Multifunction - 0.05s to 300h	H3CR-A 100-240VAC/100-125VDC	**313-7958**			
Recycling - 0.05s to 30h	H3CR-F8 24AC/DC	**560-558**			
Recycling - 0.05s to 30h	H3CR-F8 100-240AC	**560-560**			
Accessories					
8-pin Socket	P2CF08	**330-954**●			
Panel Mount Adaptor	Y92F-30	**104-636**			

Digital, Programmable

TEMPATRON

LED Display

H=33, W=75, D=69, Panel cut-out=71x29

- 9 programmable modes of operation
- Bright green LED display ensures clarity of view, even at distance
- 5 timing ranges from 1 sec. to 100 hrs., including a 24 hr. range
- Two tier access code for program security plus tamper proofing
- Selectable up/down timing
- Programmable buzzer on output option
- LED indication of timing ranges and output status
- 2 independent output relays
- Programmable reset functions
- Remote hold and reset functions
- **IP65** water and dust protection
- **CE** compliance for both EMC and Low voltage directives
- 12V ac/dc supply voltage can be provided by optional transformer

Supply Voltage	12/24V ac/dc ±10%
Power consumption	3VA max.
Contact rating	O/P1 : 8A @ 240Vac resistive, O/P: 5A @ 240Vac resistive
Reset time	100ms max.
Ambient temperature	Working : 0 to 50°C, Storage : -10°C to 70°C
CE approvals	Complies with EMC EN50081-1, EN50082-1 & low voltage EN61010-1 standards

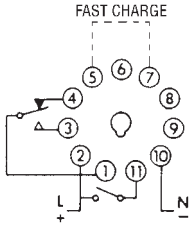
223167

	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Timer	TT32ML	**767-074**				
Transformers						
240Vac to 12Vac	TRA12UN100	**645-400**				

Digital Multifunction - UDT

TEMPATRON

LCD



H=48, W=48, D=75, Panel cut-out=45 sq.

- Six operating modes and six time ranges between 0.1s and 99.9hrs
- Programming via two front panel switches, includes battery backup
- Digital LCD displays up or down count
- Enable input may be used to trigger timing
- Tamper proof range and mode settings
- Cyclic mode on and off settings can be set independently
- Accepts wide ac or dc input voltage range and has 7A SPCO relay output
- Supplied with panel mounting bracket

Operating Modes	Delay on energise, interval, delay on de - energise, delayed cycle immediate cycle, delayed pulse
Time ranges	9.99s, 99.9s, 9.99m, 99.9m, 9.99hr, 99.9hr.
Repeat accuracy	±0.3% of set time
Reset time	10ms max.
Contact	SPCO
Contact rating	7A @ 240V/30V dc resistive
Operating voltage	18 to 264V ac, 47-440Hz, 18-300V dc
Operating temperature	-10°C to +60°C

223136

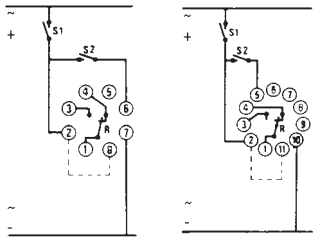
RoHS ● Compliant ▲ Non-compliant

	Order Code	Price Each 1+	5+	10+	25+
TimerUDT	**177-473**				
Sockets		**1+**	**25+**	**50+**	**100+**
DIN rail/surfaceCDRS11	**177-177**				
Free, solder (with cover)EDS11F	**170-963**				

Digital Multifunction - 814

Crouzet

Panel cut-out=45 sq.
H=48, W=48, D=79 (behind bezel)



Note: Correct as indicated by dotted links when using 24V ac/dc supply voltage

- Six operating modes and eleven time ranges between 0.01 sec and 9999hrs
- Four digit LCD indicates set time, time remaining and output contact status
- 8A SPCO relay output
- Connection is by standard 8 or 11 pin socket
- Panel mounting bracket supplied
- Sealed to **IP64**

Operating modes	A: delay on energise, B: single shot (timing on impulse) C: delay on de-energise, D: recycling (off start), DI: recycling (on start), A1(H) timing on energise (interval)
Timing Ranges:	11 ranges - 99.99s, 999.9s, 9999s, 99m 59s, 99.99m, 999.9m, 9999m, 99hr 59m, 99.99hr, 999.9hr, 9999hr.
Repeat Accuracy:	±0.03%±20ms (with constant parameters)
Reset time	50ms
Contacts	SPCO(timed) 8Aac/dc250V
Operating Temperature	-10°Cto +60°C
Operating Voltage	110 to240Vac 50/60Hz24VDC(+10-15%)

Mftrs. List No. 88.857.005=478-490, 88.857.105=478-507

223130

Connection	Order Code	Price Each 1+	5+	10+	25+
8-pin	**478-490**				
11-pin88.857.105	**478-507**				

Digital - H5CNLED

OMRON

LED Display

H=48, W=48, D=86 (behind bezel).
Panel cut-out=45sq

- Push button rotary switch setting
- 4 digit LED display indicates time elapsed
- 0.1s to 999.9s or 1s to 99m59s time ranges available
- Memory backup prevents reset on momentary interruption of supply (105-003) and up to 10mins loss (105-976)
- Panel mounting using separate adaptor or surface mounting using surface/DIN rail socket
- **UL** Recognised and **CSA** approved

Control Output Operating Voltage	SPCO, timed,3A@240V 100VAC-240V, 50/60Hz

Mftrs. List No.
H5CN-XCNM =105-976

Y92F-30=104-636
P2CF08=330-954

PL08=118-1272
PL11=118-1273

223087

Time Range **Timers**	Order Code	Price Each 1+	5+	10+	50+	100+
1s to 99m 59s	**105-976**					
Sockets						
Chassis (for 105-003)	**118-1272**●					
Chassis (for 105-976)	**118-1273**●					
Surface/DIN rail (for 105-003)	**330-954**●					
Panel mounting adaptor	**104-636**					

Digital Multifunction Timer DIN 1/16

Panasonic ideas for life

LT4H

H=48, W=48,
D=64.5 (screw),
70.1 (11 pin)

- 2-colour backlight LCD display of elapsed and set time
- Easy time setting by seesaw buttons
- Cover also in black (please order: timer + cover ATL58011J)
- Power failure memory by EEPROM
- Standards: CE, UL, CSA
- Installation: front and DIN-rail mounting

Operational modes	ON-delay (5 types) OFF-delay One-shot Flicker
Time Ranges	0.001s - 999.9h (16 time ranges are selectable)
Input	Start, Stop, Reset, Lock
Input Signal	Potential-free contact, start in case of power-on
Output	Relay 1c, 5A 250V ac
Life	$2.0x10^7$ operation (mech.), $1.0x10^5$ operation (elec.)
Operating Voltage	12-24V dc/ 24V ac or 100-240V ac (Range: 84 - 110%)
IP Rating	IP66
Dimensions	48x48x65mm
Operating Temperature	-10°C to +55°C
Front mounting	screw terminal o. 11 pin type + socket AT78051J
DIN-rail mounting	11 pin type + socket ATC180041J

Mounting frame, rubber gasket and instruction manual (in six languages) are included

223084

Voltage	Connection Type	Order Code	Price Each 1+	5+	10+	25+
Relay Output						
12VDC to24VDC / 24V ac	Screw	**184-986**●				
12VDC to 24VDC / 24V ac	11-pin	**184-998**●				
100V to 240V	Screw	**185-000**●				
100V ac to 240V ac	11-pin	**185-012**●				
Accessories						
Rear Terminal Socket	AT78051J	**137-3681**●				
DIN-Rail Socket	ATC180041J	**137-3683**●				
Flexible Protective Cover	AQM4803J	**137-3685**●				

Relay Timer Base

RELECO

Time Cube - CT2 and CT3

The Time Cube modules are electronic timers that are designed to be inserted between a standard plug-in relay and its socket, enabling the relay to be operated as a timer relay. The CT modules are able to accept any standard 8 or 11 pin RELECO series C2 or C3 relay as well as those from any other supplier.
NB - The relay coil voltage must be in the supply voltage range shown for each model.

621927

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+	10+	25+
0.2s to 30min - ON Delay					
20 - 65V ac/dc	CT3-E30/L	**279-730**			
90 - 265V ac/dc	CT3-E30/H	**279-742**			

Electromechanical Timers

Multirange - H2C

OMRON

H=48, W=48, D
(behind bezel)=77
Panel cut-out=45 sq

- Synchronous motor operation
- Five time ranges selectable via screwdriver slot recessed into timer face
- 50/60Hz operation, selectable
- Fixed and moving pointers and time out neon indicator
- Reset activated by removal of supply voltage
- Panel mounting using separate adaptor or 11pin plug-in mounting
- **CSA** and **SEV** approved
- **UL** Recognised

Operating Mode	Delay on energisation
Repeat accuracy	±0.5% max.
Reset time	0.5s max.
Contact	SPCO(timed)+SPCO(instantaneous)
Contact rating	3A @ 240V ac
Operating Voltage	110, 230V ac, 50/60Hz
Operating Voltage Range	85-110%

Adjustable time range (selectable)
104630/1: 0-6s, 0-60s, 0-6m, 0-60m, 0-6hr
104632/3: 0-30s, 0-3m, 0-30m, 0-3hr, 0-30hr

223105

Time Range **Timers**	Voltage	Order Code	Price Each 1+	5+	10+
0-6s, 0-60s, 0-6m, 0-60m, 0-6hr	110Vac	**104-630**			
0-6s, 0-60s, 0-6m, 0-60m, 0-6hrH2C-SB 240AC	230Vac	**104-631**			
0-30s, 0-3m, 0-30m, 0-3hr, 0-30hr	110Vac	**104-632**			
0-30s, 0-3m, 0-30m, 0-3hr, 0-30hrH2C-SA 240AC	230Vac	**104-633**			
Sockets					
Panel mounting adaptorY92F-30		**104-636**			

Electromechanical Elapsed Hour Counters

Hour Meter

Panasonic ideas for life

TH6 Series

Supply voltage	220V AC ±15%
Frequency	50/ 60 Hz (switchable)
Counting Range	0 to 99999,9h / 0 to 9999,9h
Min. counting unit	0,1 hours (6 min)
Ambient temperature	-10°C to 50°C
Panel thickness	1 - 9 mm
Protection	IP30, IP40
Dimensions (WxHxD)	48 x 24 x 66mm

- Size 24 x 48mm
- Digit height 5mm
- Conservation of value at power break down
- Counting range 0 to 99999,9h and 0 to 9999,9h
- With and without reset button
- With rotary indicator
- Easy and fast to install with mounting spring
- Frequency 50/ 60 Hz can be selected
- For panel thickness of 1 to 9mm

514387

Mftrs. List No.	Counting Range	Display	With Reset	Order Code	Price Each 1+	3+	5+
TH638CEJ	0 to 99999,9h	-digit	Without	**161-4686** ●			
TH648CEJ	0 to 9999,9h	5-digit	With	**161-4687** ●			

Non-Reset - Type 633

HENGSTLER

Miniature PCB and Panel Mounting

PCB Mounting
Pins L=5.5, Dia=0.6 on 0.1" grid
H=14 (excl. pins), W=25, D=31

Connections:

1 +V dc	3 Disable output
5 No connection	2 -0V

Panel Mounting
H=20, W=30, D=34 (behind bezel excl. pins)
Panel cut-out = 14.2 x 27

Connections:

1 +V dc	2 Disable output
5 No connection	7 -0V

- Miniature 7-digit non-reset elapsed hour counters
- 0.01 hour resolution
- Low power consumption
- Plastic case with magnifier window
- Disable Input allows numerous brief turn-on times without accumulation of times since last pulse errors (timing pulse = 36 seconds)
- PCB version sealed to **IP65** and suitable for flow soldering
- Panel mount version sealed to **IP66** and has solder pin connections

Capacity	99999.99hr	Pulse duration	31ms every 36s
Supply Voltage	5-12Vdc ±10%	Operating temp. Range	-10°C to +60°C
Current Consumption	2mA average, 25mA max. during pulsing		

Mftrs. List Nos: 0.633.031=233-330, 0.633.831=233-341

223151

	Order Code	Price Each 1+	10+	50+	100+
PCB mounting	**233-330**				
Panel mounting	**233-341**				

Non-Reset - Type 891

HENGSTLER

Panel Mounting

H=24, W=48, D=39 (behind panel)
Panel cut-out=22x48 (without bezel)

Bezel A: 29x54, panel cut-out 25x50
Bezel B: 48x48, panel cut-out 45x45

- Non-resettable 7-digit elapsed hour counters
- Synchronous motor drive, resolution 0.01hrs
- Polycarbonate housing with spring-fit clip
- Two bezels supplied for panel mounting
- Connection by screw or 6.3 (0.25") fast-on terminals

Capacity		99999.99 hr
Supply Voltage	233-225	110-115Vac ±10% -6%, 50Hz
	233-237	220-240V ac±10%, 50Hz
Current consumption:	233-225	4.8mA
	233-237	3.9mA
Operating temp. Range		-10°C to +50°C
Digit height		5mm

Mftrs. List No: 0.891.607=233-225, 0.891.606=233-237

223149

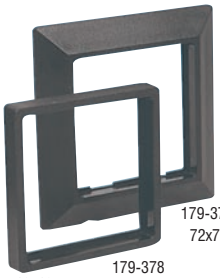
Voltage	Order Code	Price Each 1+	10+	25+	50+
115Vac	**233-225**				
240Vac	**233-237**				

Non-Reset

müller

DIN 43700 Standard

H=48, W=48, D=34
(behind panel)



179-379
72x72

Panel cut-out=46x46

179-378
55x55

Panel cut-out using either bezel=51 dia or 46x46

- Non-resettable 7-digit motor driven elapsed hour counters
- Housed in Noryl and Makrolon panel mounting case
- Resolution is 0.01hrs for AC types and 0.1hrs for DC types
- Decimal digits in red, others in white
- Frequency of DC type is controlled by quartz crystal
- 2 bezels available
- Supplied with panel mounting bracket
- connection by screw or 6.35 (0.25") fast-on-terminals

223144

Voltage Counters	Mftrs. List No.	Order Code	Price Each 1+	10+	25+	50+
24Vac50Hz	BW40.18 24VAC	**179-374**				
110VAC 50Hz	BW40.18 110VAC	**179-375**				
240Vac 50Hz	BW40.18 240VAC	**179-376**				
12-48V dc	BG40.17 12-48VDC	**179-377**				
55x55mm	FRAME 55X55	**179-378**				
72x72mm	MASK 72X72	**179-379**				

Electro-mechanical Elapsed Hour Counters

multicomp

Series HK46

- 7-digit electromechanical hour counter
- Installation by front plate
- Mounting by snap fastener or fork clamp
- Electrical connection by screw or 6.35 (0.26") fast-on terminals

Display	7-digit, 99999,99 (AC), 999999,9 (DC) Approx.4mm high, white on black, red decimal display
Bezel	55 x 55, 72 x 72 mm
Reading accuracy	AC 1 / 100h = 0,6min = 36s, DC 1 / 10h = 6min = 360s,
Voltage	24 VAC / 50Hz 100 VAC / 50Hz 220 VAC / 50Hz 10 - 80 VDC
Panel cutout	46 x 46 mm
Panel cutout using either bazel	Ø51 mm or 46 x 46 mm
Operating temp.	-20°C…+70°C
Protection	IP41
Dimensions	H = 48 mm, W = 48 mm, D = 32 mm (behind panel)
Weight	51g

247113

Voltage	Mftrs. List No.	Order Code	Price Each 1+	10+
24VAC	HK4624VAC	**329-1169**		
110VAC	HK46110VAC	**329-1170**		
240VAC	HK46240VAC	**329-1194**		
48VDC	HK4648VDC	**329-1200**		
Bezel Adaptor 55 x 55mm	HK4655X55	**329-1212**		
Bezel Adaptor 72 x 72mm	HK4672X72	**329-1224**		

RoHS ● Compliant ▲ Non-compliant

Electronic Elapsed Hour Counters

Panel Mounting - Type 231

CURTIS

Connections:
1 Reset
2 Enable
3 Supply L (common)
4 Supply N

H=24, W=48, D=31.5 (overall)
Panel cut-out=22.2x45

- Elapsed hour meter housed in DIN case sealed to **IP65**
- Finger proof protected to **IP20**
- Supply voltage connection permits permanent display
- Separate start input connection
- Non-volatile memory allows data retention 25yrs minimum
- Remote electrical reset facility
- Wide temperature range, low power consumption, high shock resistance

Supply Voltage	80VAC to 230VAC ±10% 50/60Hz
Display	6 digit LCD, 99999.9hr, 5mm height
Operating Temperature Range	-30°C to +65°C

223159

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
231-5E150-000A	**516-259**					

Counter and Elapsed Hour Counter Modules

PCB Mounting Modules

CURTIS

Pin connections
P V+
N V- (common)
I Signal/Pulse input
R Reset*
*At supply voltage for 2s (max)

PCB: H=19, W=33, D (above PCB)=5 Pin spacing=14x28

Note: For proper mechanical support, all 4 pins should be soldered to the PCB.

- Electronic elapsed hour and pulse counters suitable for PCB mounting
- Supply voltage connection permits permanent display if required
- Non-volatile memory allows data retention for 25yrs
- Remote electrical reset facility, wide temperature and voltage range
- Low power consumption, high shock and vibration resistance

Supply Voltage	12-48V dc (nom), 9V dc (min), 60V dc (Max.)
Display	6 digit LCD, 99999.9hr/ 999999, 5mm Height (Hour glass icon and D.P. on hours meter only)
Count Frequency	500Hz (pulse counter)
Operating Temperature	-40°C to +85°C

Mftrs. List No. CD701-024=516-284, CD703-025=516-296

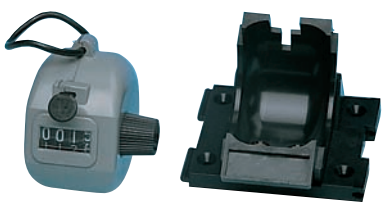
223162

	Order Code	Price Each 1+	5+	10+	25+	50+
Hours counter	**516-284**					
Pulse Counter	**516-296**					

Tally Counter

4 Digit Reset

VEEDER-ROOT



H=45, W=31, D=46

- Low cost, lightweight, thumb or finger activated counter
- High impact, dust and corrosion resistant
- 4 figures - counts to 9999. High contrast, white or black display figures
- Depress thumb lever once for each count. Rotary reset knob on side
- Optional mounting base in predrilled for mounting to a desk, bench etc.

223168

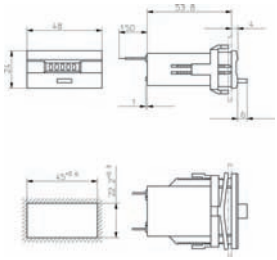
	Mftrs. List No.	Order Code	Price Each 1+	10+	25+
Hand Tally	762304-001	**767-086**			
Mounting Base	300301-547	**767-098**			

Electromechanical Counters

Electromechanical miniature pulse counter AW15.01/W15.51

Kübler

with manual zeroing, adding, 5-digit



- Min. power consumption 130 mW
- Ideal for battery operation and electronic circuits
- Long life (50 million pulses)

Technical data:
Connection: 2m high-flexible PVC wire radial
Size, digits: appr. 1,7 x 4 mm, Colour, digits: white, black background
Material, axis: stain resistant
Operation temperatur: -10 ... +50 °C

Mounting orientation: variable
No. of digits: 7
Life time: > 50 x 10^6 Impulses
Weight: AC 52 g, DC 62 g

334503

	Operation voltage	Imp/s	Order Code	Price Each 1+	10+	100+
W15.51 - for in-mounting						
1.150.510.012.550	12V DC	10 Imp/s	**472-9778**			
1.150.510.013.550	24V DC	10 Imp/s	**472-9780**			
1.150.510.056.550	230V DC	10 Imp/s	**472-9791**			
AW15.01 - for out-mounting						
1.152.011.013	24V DC	10 Imp/s	**472-9808**			

Totalising Counter - Miniature

HENGSTLER

PCB Mounting - Non Reset

- 6-digit
- **IP65** protection
- Very low power consumption
- Machine solderable and washable
- High shock resistance

H=14, W=25.2, D=31
Pin fixing centres=15.2 25.4

Max. count frequency	10Hz	Temperature Range	-10°C to +50°C	
Min. pulse length	50ms	Power Consumption	5V and 12Vdc	80mW
Dutyfactor@25°C	100%		24V dc	160mW

Mfts List No: 0.635.132=925-561, 0.635.128=925-573, 0.635.130=925-585

223074

Voltage	Order Code	Price Each 1+	10+	25+	50+	100+	250+
5VDC	**925-561**						
12VDC	**925-573**						
24VDC	**925-585**						

6 Digit Non-Reset - Type 635

HENGSTLER

Miniature Panel Mounting

- Miniature 6-digit non-reset counters for panel mounting
- Housed in translucent plastic case with magnifier window
- DC types feature high shock resistance with solder pin connections
- 230Vac type has screw terminal connections

dc: H=20, W=30, D=34 (behind bezel, excl. pins)
ac: H=20, W=30, D=43 (behind bezel, excl. tmls)
Panel cut-out=14.2x27

	dc Types	**ac Type**
Max. count speed	10ips	10ips
Min pulse time	50ms	50ms
Pulse/pause time	1:1	1:1
Voltage tolerance	±10%	-10 +6%
Power Consumption	5V, 12V:80mW24V:160mW	230Vac: 600mW
Front face protection	**IP66**	**IP65**
Temperature Range	-40°C to +85°C	-40°C to +85°C

223148

Voltage	Order Code	Price Each 1+	10+	100+	250+
5VDC	**233-262**				
12VDC	**233-274**				
24VDC	**233-286**				
230VAC	**233-298**				

7 Digit Non-Reset - F163-3

H=25, W=50, D=67
Base plate H=57, W=48
Fixing centres=47.2 and 30.5

- 7-digit counter with matt black plastic moulding cover mounted on a metal base plate
- Counter meets environmental specification
- **DIN40050 IP51**
- Fitted with an anti-shock device to prevent mis-counting due to severe vibration
- No rectifier on ac types for immunity to inverse voltage spikes when used with solenoids etc.
- 4mm high digits
- Connection via flying leads 300mm long

	ac Types	dc Types
Maximum count speed	10ips	10ips
Minimum input time	50ms	50ms
Minimum pause time	50ms	50ms
Power Consumption	5VA	2W
Frequency/Ripple Factor	50/60Hz	≤48%
Voltage tolerance	±10%	±10%
Count Life	50 million	100 million

223117

Voltage	Mftrs. List No.	Order Code	Price Each 1+	25+	100+
12VDC	S1-163.3 12VDC	**170-547**			
24VDC	S1-163.3 24VDC	**170-548**			
110V ac	S1-163.3 110VAC/50HZ	**170-558**			
220/240Vac	S1-163.3 220VAC/50HZ	**170-549**			

6 and 8 Digit Totalising Counters

HENGSTLER

Panel Mounting

- 6 and 8-digit indication
- Manual or non-reset
- Push on crimp/solder connectors supplied
- Up to 25Hz count speed
- Sealed to **IP40**

Panel cut out=27 52, H=40, W=56
Fixing centres=31, Depth behind panel=72.5

	dc types	ac Types
Supply Voltage	12V± 10%	115V±10% 240V +10% -18%
Duty Factor at 25°C	100%	100%
Power Consumption	2.5W	2.75VA
Max. Count Speed	25Hz	10Hz
Min. pulse length	20ms	50ms
Temperature Range	-10°C to +50°C	-10°C to +50°C
Mftrs. List No.	0.864.189=925-858 0.864.190=925-860	0.866.165=925-871 0.868.165=925-901

223078

Voltage	Order Code	Price Each 1+	5+	10+	25+	50+	100+
6 Digit - Manual Reset							
240VAC	**925-860**						
6 Digits - Non reset							
24VDC	**925-871**						
8 digit - Non-reset							
24VDC	**925-901**						

6 Digit Reset - F514-65

- Front panel mounting
- Case meets **DIN40050 IP41** specification
- Front panel push button reset
- 4.5mm high, 6 digit indication
- Push-on crimp/solder connectors supplied

H=37.4, W=60, D=77.5
Panel cut-out H=25.8, W=51 Fixing centres=31

	ac Types	dc Types
Maximum count speed	10ips	20ips
Minimum input line	50ms	25ms
Minimum pause time	50ms	25ms
Power Consumption	4VA	3W
Frequency/Ripple Factor	50Hz	≤48%
Voltage tolerance	±10%	±10%
Count Life	100 million	50 million

223118

Voltage	Mftrs. List No.	Order Code	Price Each 1+	10+	25+
24VDC	F514.650AA3B	**103-834**			
110VAC	F514.650AA8B	**103-858**			
220/240Vac	F514.650AA9B	**103-860**			

5 Digit Adding Preset Counters

HENGSTLER

Panel Mounting

- Preset value continuously visible
- Manual or electric reset
- 5-digit indication
- Sealed to **IP40**
- Push-on crimp/solder connectors supplied
- Up to 25Hz count speed
- Changeover output contacts 100VA

Panel cut-out=52x52
H=75, W=60
Fixing centres=63
Depth behind panel=72.5

	dc Types	ac Types
	count(reset)	count(reset)
Supply Voltage	24V ±10%	±10% +1-% -18%
Power Consumption	2.5W(12W)	2.75W(16W)
Max. count speed	25Hz	25Hz
Min. Pulse count	20ms (200ms)	50ms (200ms)
Duty Factor at 25°C	100 (20)%	100 (10)%
Pulse/pause ratio	1:1 (1:5)	1:1 (1:10)
Max. reset frequency	1 per sec	1 per 2 secs
Max. reset on-time	(2) mins	(1) Mins
Temperature Range	-10°C to +50°C	-10°C to +50°C
Mftrs. List No.	0.886.264=925-500	0.886.290=925-524	0.886.214=925-536

223076

Voltage	Order Code	Price Each 1+	5+	10+	25+	50+
Manual Reset						
24VDC	**925-500**					
240VAC	**925-524**					
Manual/Electrical reset						
24VDC	**925-536**					

5/6 Digit Presettable - FE514-6, FE319-55

H=75, W=60, D=77.5,
Panel cut-out=51 sq.,
Fixing centres=63

- Manual 6 digit and electrical presettable 5 digit counters with reset facility
- Counters count from zero to the preset figure
- SPDT contacts (2A @ 240Vac)
- Push-on solder connectors supplied

The following accessories are available:
Wiring socket: The socket plugs onto the rear of the counter, and is suitable for both manual and electrical/manual types. Rear connections are suitable for soldering or 2.8 0.8mm push-on connectors.
Transparent cover: A dust and splashproof cover with transparent window, allowing operation of pushbuttons. The cover consists of a metal frame, gasket, flexible transparent window and fixing hardware and gives protection to **IP55**

Manual Reset Types	**24V dc**	**110V ac, 220/240V ac**
Max count speed	20 ips	10 ips
Power	2.2W	2.4VA
Min. pulse length	25ms	50ms
Min. pause between pulses	25ms	50ms
Duty cycle @ 25°C	100%	100%
Voltage tolerance	±10%	±10%

Electrical/Manual Reset Types	**24V dc**		**110V ac, 220/240V ac**	
	Count Coil	Reset Coil	Count Coil	Reset Coil
Max count speed	20 ips	—	10 ips	—
Power	4W	22W	5VA	25VA
Min. pulse length	25ms	250ms	50ms	250ms
Min. pause between pulses	25ms	9 reset pulse	50ms	9 reset pulse
Duty cycle @ 25°C	100%	*10%	100%	*10%
Voltage tolerance	±10%	±10%	±10%	±10%

***Note:** Power should not be applied to reset coil for more than 1 minute.

To preset the counter, depress the reset button and key in the desired figure. Release the button. The preset buttons are then locked which prevents accidental alteration of the preset figure. No counting pulses can be received while the counter is being reset. Reset of the manual unit is achieved by pressing the reset button, reset of the electrical/manual unit is operated by an external pulse

Mftrs. List No:						
FE514.650AB3C	=	103-937	FE319.550AA8B	=	177-489
FE319.550AA3B	=	177-488	025.03.050	=	177-492
FE319.550AA9B	=	170-556	FE514.650AB9C	=	103-974
025.01.047	=	186-650	Z100.02A	=	170-559
FE514.650AB8C	=	103-949			

223120

Voltage	Order Code	Price Each 1+	5+	10+	25+
Manual Reset Counters — 6 digit					
24VDC	**103-937**				
110V ac	**103-949**				
220/240V ac	**103-974**				
Electrical/Manual Reset Counters — 5 digit					
24VDC	**177-488**				
110V ac	**177-489**				
220/240V ac	**170-556**				
Accessories					
Transparent cover	**170-559**				

Mftrs. List No.	Supply Voltage		Price Each 1+	5+	10+	25+
FE319.550AA3B	VDC24	**177-488**				
FE319.550AA9B		**170-556**				

Electronic Counters

8 Digit Dual Counter and Rate Indicator

WACHENDORFF

- LCD, reflective or green/red backlighting
- 0.46" (11.7mm) high digits
- Optional relay and serial output moudle
- Count speeds up to 20 kHz
- Programmable scaling for count and rate
- Bi-directional countingm up/down control or quadrature sensing
- **NEMA4X/IP65** sealed front bezel

Display	Reflective or dual colour backlit 8 digit LCD display
Input Ranges	Input A - DIP switch selectable to accept pulses from a variety of sources, Vmax = 28 V dc Input B - Logic signals only or current sinking
User Input	Programmable input, Vmax = 28 V dc, response time
Rate Display	6 digit display, max. Frequency 0.01Hz to 20 kHz,
Count Display	Max. frequency 20 kHz for all count options without setpoint option
Optional Cards	Relay Output: Single FORM-C relay 1A @ 30V dc resistive; 0.3A @ 125V ac Serial communication: RS485 multipoint balanced RS232 half duplex Baud rate from 300 to 19200 baud
Programming	Programmable with two front buttons or with software
Operating Temperature	-35 to 75°C
Power Supply	9 - 28VDC, 125mA Max. or 85 to 250VAC, 50/60Hz with addtional power supply module MLPS
Dimensions (WxHxD)	74.9x39.1x43.4mm

443277

Description	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
LCD Display					
Standard LCD Display - 28VDC	CUB5R000	**125-3410**●			
Red/Green Backlit LCD Display - 28VDC	CUB5B000	**125-3411**●			
Accessories					
Optional Relay Output Card	CUB5RLY0	**125-3412**●			
Optional RS485 Serial Communication Card	CUB5COM1	**125-3413**●			
Optional RS232 Serial Communication Card	CUB5COM2	**125-3415**●			
Power Supply, 85-250V ac	MLPS1000	**125-3417**●			

Single and Dual Preset, One Preset + Batch - 4545 Series

VEEDER-ROOT

4 (or 8) Digit LED Display

H=48, W=48, D=110 (behind panel)

Panel cut-out=45x45

Full featured dual LED display counters providing simultaneous count and preset information. Both relay and open collector outputs are provided for easy connection to external controlled equipment. Full configuration of the counter is made via the front panel.

3 WARRANTY YEARS

Three models offer single preset or dual preset count capability, or a single preset counter with a presettable batch counter. The batch counter can be configured as an 8 digit single preset up counter.

- Dual 4-digit LED displays for count and preset values
- 10kHz count speed
- Add/subtract or bidirectional count inputs
- Digital calibrator and programmable decimal point
- Accepts current sinking or sourcing devices
- Key reset, remote reset and auto reset modes
- Four levels of programme security
- Relay (SPCO) and open collector outputs
- Reset to zero or preset number
- Accessory sensor power supply
- Universal 90-264V ac power requirements
- **IP65** sealed front panel
- Designed to comply with **EN50081** and **EN50082** EMC specifications

Supply voltage	90 to 264V ac 50/60Hz
Accessory power	12V dc ± 25% @ 100mA (+V)
Counter operation	731-924 : 1 Preset, 731-936 : 2 Preset, 731-948 : 1 Preset + 1 Batch Preset + 8 digit Single preset mode
Count rates	High speed DC to 10kHz (5kHz for quadrature) Medium speed DC to 200Hz Low speed DC to 20kHz
Calibrator	0.001 to 9.999 common to inputs A and B
Displays (LED)	Upper : 4 digit, 10mm high, Lower : 4 digit, 7mm high
Outputs, solid state	Open collector, 30V dc 100mA max,
Outputs, relay	SPCO, 5A @ 110V ac, 3A @ 240V ac (res.)
Hold time	Either output may be latched or momentary, duration from 0.01 to 99.99 secs.
Operating temperature	0°C to +55°C

223166

	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Single preset	V45450E1	**731-924**			
One preset + 1 batch preset or single preset 8 digit	V45450E3	**731-948**			

6 Digit Totaliser

CURTIS

Type 210

H = 24, W = 48, D = 25mm (overall)

Panel cut-out = 22.2 x 45mm

Connections:

1 Supply +ve (common) 3 Count

2 Reset 4 Supply -ve

- Pulse counter housed in 24x48mm DIN case sealed to **IP65** with fingerproof protected terminals to **IP20**
- Electrical reset and electrical/manual reset versions
- Supply voltage connection permits permanent display if required
- separate input connection for monitored supply
- Non-volatile memory allows data retention for 25 years
- Wide temperature range, low power consumption and high shock resistance

Supply voltage	12-48V dc (nom), 9V dc (min), 60V dc (max)
Display	6 digit LCD, 5mm height
Count frequency	500Hz (max)
Operating temperature	-30°C to +65°C

223161

Type	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Electrical reset only	210-1E073-001A (K01) 12/48VDC	**516-260**			
Manual and electrical reset	210-1M073-001A (K01) 12/48VDC	**516-272**			

Electronic LED-preselection counter with two presets

IVO

Series NE216

- Main counter with two presets
- 8-digit totalizer
- Positive and negative counting range for main counter and totalizer
- Batch counter w/o preset
- Start value can be programmed
- Scaling factor can be programmed 0,0001 - 9999,99
- Preselection mode can be programmed as progressive preselection or trailing preselection

Display:	7 Segment LED -display 5-digit display of real value, 7.6mm high Decimal point can be programmed Suppression of leading zero
Signal inputs:	Comparator inputs PNP-, NPN-, or AC-Logic, Voltage level 4...40 V
Input counting rate.:	Can be programmed to 3 Hz, 25 Hz, 10 KHz
Control inputs	2 control inputs for Reset, Stop, Hold.Keylock etc.
Signal outputs	2 floating relays to be programmed as normally open or normally closed contact (260VAC / 1A / 150VA)
Sensor supply	12…26 VDC / 60 mA
Data storage	>10 years via EEPROM
Front dimensions:	DIN-housing 48 x 48mm
Ambient temp:	0°C…+50°C
Protection:	Front IP65 to DIN 40050
Mounting	Front installation

246860

Supply Voltage Range	Mftrs List No	Order Code	Price Each 1+	10+
115 to 230VAC	NE216.012AX01	**329-0712**		
12 to 30VDC	NE216.013AX01	**329-0724**		

Electronic Counters - continued

Electronic preselection counter with two presets

Series NE134

- Main counter with 1 or 2 presets
- 8-digit totalizer
- Positive and negative counting range for main counter and totalizer
- Batch counter with or w/out preset
- Start value can be programmed
- Scaling factor can be programmed - 0,0001 - 9999,99
- Preselection mode can be programmed as progressive preselection or trailing preselection

Display	LCD-display with two rows of digits and background illuminations 6-digit display of real value,7mm high 6-digit display of set value, 4 mm high
Signal inputs	Comparator inputs PNP-, NPN-, or AC-Logic, NAMUR Voltage level 4…40 V
Control inputs	3 control inputs for Reset, Stop, Hold, Keylock etc.
Signal outputs	2 floating relays to be programmed as NO or NC contact (260 VAC / 1A / 150 VA)
Sensor supply	12…26 VDC / 60 mA
Data storage	>10 years via EEPROM
Front dimensions	DIN-housing48 x 48mm
Ambient temp.	0°C…+50°C
Protection	Front IP65 to DIN 40050
Mounting	Front installation

246870

Voltage	Mftrs. List No.	Order Code	Price Each 1+	10+
24-48VAC	NE134.011AX01	**329-0621**		
115-230VAC	NE134.012AX01	**329-0633**		
12-30VDC	NE134.013AX01	**329-0645**		

4 and 6 Digit LCD Display - LC4H

H = 48, W = 48, D = 64.5 (screw), 70.1 (11-pin)

- 5 input modes and 7 output modes
- Bright 2 colour backlit LCD display
- Seesaw buttons for easy operating (4 digit type)
- Present and preset values displayed
- Screw (flush mounting) and 11-pin (surface mounting) connection styles available
- Water and dust resistant to **IP66**
- Relay and solid state (transistor) output versions available
- **UL** Recognised and **CSA** approved

Operating modes	
Input	Up, down, directive, independent or phase difference
Output	Maintain output/held count, maintain output/over count I, maintain output/over count II, one shot/over count, one shot / recount I, one shot / recount II, one shot / hold count
Count range	-999 to 9999 (4 digit), -99999 to 999999 (6 digit)
Count speed	30Hz, 5kHz (selectable)
Contacts	3A, 250Vac (relay), 100mA, 30Vdc (transistor)
Operating voltage	100 to 240Vac (ac type), 12 to 24Vdc (dc type)
Operating temperature	-10°C to +55°C

223085

Voltage	Connection Type	Mftrs. Part No.	Order Code	Price Each 1+	5+	10+
Relay Output — 4 digit						
12V to 24V dc	Screw	LC4H-R4-DC24VS	**185-073**			
100V to 240Vac	Screw	LC4H-R4-AC240VS	**185-097**			
100V to 240Vac	11 Pin	LC4H-R4-AC240V	**185-103**			
Relay Output — 6 digit						
12V to 24V dc	Screw	LC4H-R6-DC24VS	**185-152**			
100 to 240Vac	Screw	LC4H-R6-AC240VS	**185-176**			

High Performance - H7AN

4 Digit LED Display - 72 DIN

H=72, W=72, D=115 (behind bezel)
Panel cut-out=68sq.

- Panel mounting DIN72 high speed electronic counter for batch or positional control with 4-digit LED display
- Sensor input is either relay contact or solid-state signal
- Reset is either external, manual or selfreset
- Battery backup retains count in case of supply failure
- Counter has built-in selector switches for programming functions such as maximum counting speed, UP or DOWN display, manual reset
- Connection by screw terminals
- **UL** Recognised and **CSA** approved

Supply voltage	100-240VAC, 50/60Hz
Operation mode	Counts up to preset or down to zero (selectable)
Maximum count	9999
Count and reset inputs	Contact or solid state +5V to +30V
Max. count speed	Contact: input 30 cps. Solid-state: input 5K cps
Control output	Contact: 250V ac, 3A resistive Solid state: open collector 30Vdc max, 100mA max
Power supply for externally connected components	12V dc ±10%, 80mA (permissable ripple factor 5% max)
Operating temperature range	-10°C to +55°C

Mftrs. List No. H7AN-4DM

223124

Order Code	Price Each 1+	5+	10+	25+	50+
170-561					

Electronic Timer/Counter

Digital Counter - Timer

1/16 DIN - CT500

- Dual 4-Digit LED display
- 5 Programmable timing modes
- 6 Time ranges from 0.01 sec. to 9999 hrs.
- Counter range from -999 to +9999
- 2 Independent relay outputs rated at 5A / 230V ac
- **CE** and **CSA** Approved, **UL** Recognised

H = 48, W = 48, D = 102mm

538744

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+
24V ac/dc	CT500ML	**173-4634●**	
90V to 270V ac	CT500MH	**173-4636●**	

Multifunction Counter

1/16 DIN - tico 732

- High-contrast LCD Display, 6 digits
- Small and compact DIN dimensions 48 x 48 mm
- Easy operation by one key per digit
- Direct access to parameters
- Available with 1 or 2 presets
- Transistor and relay with changeover contact, for each preset
- Integrated separate totalizer
- 5 basic functions easily programmable: counter, tachometer, time counter, shift counter and batch counter
- Display range from -99999 to 999999

The Tico 732 series of multi-function counters from Hengstler are provided with extended functions that increase their versatility and further enhance the range of possible applications.
Tico 732 models are available with LCD displays and in different versions dependent on the supply voltage and number of outputs required.
The multi-functionality of Tico 732 is due to the fact they can be programmed as an impulse or preset counter, time meters with or without presets, as a tachometer with or without limit values, or as a shift or batch counter.
For each mode of operation there are programmable parameters which are customised according to the specific tasks.
Pulse level: the new TTL input allows the use of a much wider range of pulse generators including RS422 line drivers.
Time Counter: now stops when the preset value has been reached.
Shift counter: now available with preset values to provide two separate preset counters in one housing. In addition, the total value (sum) of both counters is recorded and displayed.
Batch counter: Toggles between batch counter mode and totalising counter mode; the totalising counter mode records the total (sum) value.
Hengstler Tico 732 Counters come in a compact housing, DIN size 48 x 48mm, and are designed for easy programming via a user-convenient keyboard, easy installation by means of a clamp-on fitting and easy connection via screw type fasteners.

621952

RoHS ● Compliant ▲ Non-compliant

Supply Voltage	Output Relays	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
LCD Display						
12V DC to 24V DC	1	0.732.002	**766-926**			
12V DC to 24V DC	2	0.732.012	**766-951**			

Time Counters

OMRON

LCD Display

H = 24, W = 48, D = 48.5

- Large 8.6mm character height
- Backlit models available for improved visibility in dimly lit environments
- Black and light grey cases available
- Key protect switch prevents accidental reset
- Low panel depth 48.5mm
- Variety of input options
- 7 digits, time range 0 to 3,999d 29.9h
- Dual time range 999,999h to 3,999h23.9d or 999h 59m59 to 9,999h 59.9m
- Self-powered by built in battery, backlit models required 24V dc power supply
- **UL** Recognised **CSA** and **VDE** approved

Supply voltage	Backlight type	24V dc
	Without Backlight	Not required (internal battery)
Count input	PNP/NPN	High 4.5 to 30V dc
		Low 0 to 2V dc
Multivoltage	High 24 to 240V ac/dc	
	Low 0 to 2.4V ac/dc	
Non-voltage	Short circuit impedance 10K Ω max.	
	Open impedance 750K Ω min.	
Operating temperature	-10°C to +55°C	

223102

Range	Input	Mftrs. List No.	Order Code	Price Each 1+	5+	10+
Counters - Black Case - With Backlight						
30Hz to 1kHz	NPN/PNP	H7EC-NV-BH	**326-2730**			
Counters - Black Case						
30Hz to 1kHz	NPN/PNP	H7EC-NV-B	**326-2753**			
20Hz	Non-voltage	H7EC-N-B	**326-2790**			
Counters - Grey Case - With Backlight						
30Hz to 1kHz	NPN/PNP	H7EC-NV-H	**326-2741**			
Counters - Grey Case						
30Hz to 1kHz	NPN/PNP	H7EC-NV	**326-2765**			
20Hz	Multi-voltage	H7EC-NFV	**326-2789**			
20Hz	Non-voltage	H7EC-N	**326-2807**			
Time Counters - Black Case						
Hours/mins/sec	NPN/PNP	H7ET-NV1-B	**326-2911**			
Hours/mins/sec	Non-voltage	H7ET-N1-B	**326-2959**			
Time Counter - Grey Case						
Hours/Days	Non-voltage	H7ET-N	**326-2881**			

Counter/Timer/Tacho/Position

HENGSTLER

Indicator - TICO 731
LED or LCD

Bezel=24x48, Panel Cut-Out=22x45

- Counters with 8-digit LCD/6 digit LED displays
- Bi-directional position indicator with 6-digit LED display
- Time counters with 8-digit LCD displays
- Tachometers with 8-digit LCD and 6-digit LED display
- Display only unit for PLC serial communication, 8-digit LCD display
- Bezel sealed to **IP65**
- Reset can be manual via keypad or external, and can be locked

Function	Display	Supply	Mftrs. List No.	Order Code
Counter	LCD	Internal Lithium Battery	0.731.101	925-720
Counter (high voltage input)	LCD	Internal Lithium Battery	0.731.301	925-731
Counter	LED	12-24v dc	0.731.501	925-755
Position Indicator	LED	12-24v dc	0.731.506	925-767
Tacho	LED	12-24v dc	0.731.502	925-810

Mounting	With clamping frame
Depth behind the panel	60mm (32mm 0.731.101)
Pulse shape	Any square wave 1:1 (for max frequency)
Min. pulse length	25ms (20Hz), 17ms (30Hz), 70s (7.5kHz)
Display	8-digit LCD, 7mm or 6-digit LED, 7mm
Nominal data retention	Lithium battery version = 7 years, 12-24V versions >10 years
Amplitude thresholds	<0.7V and >5V, max. 40V ac/dc (standard modes)
	<3V and >12V, max. 250V ac/dc (high input version)
Counting Frequency	max. 7.5kHz (30Hz for contact input) standard modes
	max. 20kHz high input version only
Operating temperature	0°C to +50°C
Storage temperature	-20°C to +60°C
Electrical connection	Screw terminals

663086

Supply Voltage	Function/Display	Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+
Lithium Battery	Counter LCD	0.731.101	**925-720**				
Lithium Battery	Counter LCD	0.731.301	**925-731**				
12-24V dc	Counter LED	0.731.501	**925-755**				
12-24V dc	Position Indicator/LED	0.731.506	**925-767**				
12-24V dc	Tacho LED	0.731.502	**925-810**				

Digital Time Switches

ABB NEW

D Line

A range of digital time switches with an exclusive design, featuring a backlit white LCD display, plus extremely simple use with two-line text menus and only four pushbuttons, make the D Line products ideal for automating the functions of the installation.Thanks to the pioneering way in which vacation periods can be managed, the new D Line allows you to override the normal weekly program for one or more periods of the year or even through different years. The range includes versions with 1 and 2 channels, equipped with large capacity internal batteries so they are able to function during a blackout and an EEPROM permanent data store, to ensure that the scheduled program is followed and the date and hour settings are maintained even during a power failure.

Input voltage	230VAC
Timing Adjustment	PushbuttonVAC

659464

Contact Configuration	Mftrs. List No.	Order Code	Price Each 1+	5+	+
SPDT	2CSM258763R0621	**210-2355**●			
DPDT	2CSM256313R0621	**210-2356**●			

Electronic Indicators

Universal Intelligent Panel Meter

STATUS INSTRUMENTS

Transfer Function Module Library

H = 48, W = 96, D = 140mm
D (Behind panel) = 131,
Cutout = 45 X 92mm

5 WARRANTY YEARS

The DM3600 is an intelligent digital panel meter that can accept inputs from a wide variety of sensors and display the signal digitally.
The DM3600 is available in two versions, AC supply or DC supply. All functions are programmable via the integral front panel keys.
The DM3600 supports TFML (Transfer Function Module Library) i.e. the ability to download custom functionality by means of standard modules available from the manufacturers web site. This allows pre-written or custom control functions to be quickly and easily incorporated.

- Universal Input
- 6 Digit Display
- IP65 Sealed Front
- Internal Power Supply for Loop Exitation
- Custom Software For Your Application Option (TFML)
- Programmable Via The Front Panel Or Remote PC
- User Non Linear Function For Tank Level Applications

535022

Supply Voltage	Mftrs. List No.	Order Code	Price Each 1+
90 - 264V ac	DM3600U/S1	**170-6804**●	
20 - 35V dc	DM3600U/S2	**170-6805**●	