The same software as other Omron Motion functionality.

The CPU has the following features:

- 4 high speed encoder inputs
- Instruction set compatible with CP1H, CJ1 and CS1 series PLC
- USB programming port
- Scalable with a wide range of I/O ports
- Motion functionality
- The same software as other Omron controllers

CPU Unit - H = 90, W = 86, D = 85mm

KIT Contents:
- CPU AC Version - CP1L-J14DR-A
- CPU DC Version - CP1L-J14DT1-D
- RS-232 Option Port
- CX-one lite software
- USB Cable
- Promo CD
- Input Switchboard

Operating Voltage Range
- 85 to 264VAC CP1LSTARTERKITAC 168-7710
- 20.4 to 26.4VDC CP1LSTARTERKITDC 168-7711

08/14

Micro PLC - CPM1A Series

The CPM1A series of micro PLC from OMRON offers exceptional functionality. Expandable up to 100 I/O and with analogue capability, the CPM1A series is ideally suited to both basic and more advanced applications. Available with relay outputs and with AC or DC supply.

- Flash memory - No batteries required
- Analogue timers
- High speed counters
- 2K program memory
- Password security access
- Built in 24V dc service supply
- User definable RS232 port (Adapter required)

Output/Working Voltage

List No. | Order Code | Price Each | 1+ | 5+ | 10+
---|---|---|---|---|---
CPM1A-10CDR-A | 199-763 | |
CPM1A-30CDR-A | 199-801 | |
CPM1A-10CDR-D | 199-849 | |

Communication Adaptor

For CPM1A/ZA Series

A RS232 DIN Rail mounting adapter available for programming via a PC using Omron’s Syswin programming software.

List No. | Order Code | Price Each | 1+ | 5+ | 10+
---|---|---|---|---|---
CPM1-CP01 | 737-460 | | | |
**Logic Controllers - Crouzet - continued**

### Compact Display Units - Non Extendable - continued

**Response Time**
- 1 or 2 cycles

**Output Characteristics N/O Relay**
- Switching Voltage: 24 to 250V ac or 5 to 30 V dc
- Switching Current: 8A resistive
- Minimum Load: 10mA at 12V dc
- Response Time: Make 10ms, Release 5ms

**General Specification**
- Protection: IP20
- Certification: CE, UL, CSA & GL
- Storage Temperature Range: -40 to 70°C
- Operating Temperature: -20 to 55°C
- Relative Humidity: 0 to 95% RH non-condensing
- Dimensions (W x H x D): 26 I/O: 125x90x60mm

### Extendable Units

- Millennium 3 Logic Controllers allow you to control from 26 to 50 Input/Outputs (1 standard & 1 Sandwich extension per controller)
- Ergonomic keypad with 6 buttons/keys incl. 2 user dedicated
- Programming by pc software. Intuitive programming via function block & Sequential Flow Chart or Ladder
- Program memory: Flash EEPROM
- Functions: timing, logic, counting, control etc
- Application-specific functions: pump rotation, cam timers, calculation, archive etc
- 16 Inputs: Voltage discrete on/off
- 8 off 10 bit analogue inputs 0 to 0VDC for 1 to 10VDC inputs or 0 to 24VDC potentiometer on 24VDC versions
- 10 Outputs: N/O volt free relay contacts
- 10 bit analogue control with analogue extension with 0-20ma, 0-10VDC or PT100 inputs & 10 to 0VDC outputs
- Programmable backlit LCD display with 4 lines of 18 characters can be used as small man-machine interface
- Possibility of program saving or copying with memory cartridge. Password-protected program. Status indicators on LCD display
- Panel or DIN rail mounting
- Integrated calendar - clock, with up to 150 on/off cycles, programmable on date, day, week, month or year basis, with automatic summer/winter time change over
- Simulation & Monitoring of programming by PC software
- Input Voltage: 100 to 240VAC+10% -15%
- Response Time: 50ms

### AC Input Characteristics (AC Powered Units)

**Input Voltage**
- 0-10V dc or 0-24V dc
- Response Time: 1 to 2 cycles

### Analogue Input Characteristics

6 inputs 10 to 20 on 26 I/O 24V dc model
- Measurement Range: 0-341 or 620 bits
- Input Voltage: 0-10V dc or 0-24V dc
- Response Time: 1 to 2 cycles

### Output Characteristics N/O Relay

Switching Voltage: 24 to 250V ac or 5 to 30 V dc
- Switching Current: 5 or 8A resistive
- Minimum Load: 10mA at 12V dc
- Response Time: Make 10ms, Release 5ms

### General Specification

- Protection: IP20
- Certification: CE, UL, CSA & GL
- Storage Temperature Range: -40 to 70°C
- Operating Temperature: -20 to 55°C
- Relative Humidity: 0 to 95% RH non-condensing
- Dimensions (W x H x D): 26 I/O: 125x90x60mm

---

**GSM Modem**

- For remote control of your application
- Millennium3 alarm software supports automatic notification of alarms via SMS/E-mail or on PC
- Status and values can be embedded in SMS text messages
- Remote GSM mobile phone access to change values and status points
- Millennium 3 program can be downloaded, modified and read from central PC with modem

**Power Supplies**

- Millennium plus switch mode power supplies provide an extra stable supply in a space saving DIN rail housing
- They offer automatic surge and short circuit protection for safe trouble free operation
- They convert a supply voltage of 100 to 240V ac to 24V dc
- LED power indicator on output circuit
- DIN rail and back panel mounting
- Designed to power Millennium 3 controllers but can be used for other applications

---

**Starter Kits**

- Contains Millennium 3 unit, CD rom programming software, application specific function CD library and USB PC to Millennium 3 unit programming cable
- Characteristics are identical to controllers
**LOGO! 5 logic modules OB5**

- Logic module with menu control, optional integrated control or display unit
- Modular design: basic and upgraded appliances
- Communication modules for AS interface slave or In-\*stabus EB
- Operating voltages 12 V DC, 24 V AC/DC and 115/230 V AC/DC
- Programmable by direct input, PC software (COM) or memory module

**LOGO! 5 starter kit**

- Complete pack for new starters
- This starter kit contains everything required for initial use of LOGO4

**Analogue Signal Board Series S7**

The S7-1200 series is a line of programmable logic controllers (PLCs) that can control a variety of automation applications. Compact, low cost, and a powerful instruction set make the S7-1200 a perfect solution for controlling a wide variety of applications. The S7-1200 models and the Windows-based programming tool give you the flexibility you need to solve your automation problems.

**Software**

- Simatic step 7 basic v11 SP2 engineering-sw, floating licence key on USB stick, SW and distribution on DVD, class a, 6 languages (ge, en, fr, fr, sp, cn), executable under windows xp (32 bit), windows 7 (32/64 bit), for configuration of Simatic S7-1200, Simatic basic panels.
- Simply snap it onto a standard D rail
- Automatic daylight-saving adjustment

**Logic Controllers - Siemens**

**Logo Starter Kit Series Logo**

- The new LOGO! OB5 devices are the ideal control solution. With the new basic devices, you can easily expand old programs by adding functions. Also possible: the supplementing of additional I/O’s or the integration of a user-friendly operator guidance via touch panels. Previously developed LOGO! programs can be used as a base and easy configuration afterwards.
- These later modules now use 400 blocks (Vs 200 blocks of the 0BA6 version) to electronically trigger & process and supports a new Ethernet link.
- The S7-1200 series is a line of programmable logic controllers (PLCs) that can control a wide variety of applications. Compact, low cost, and a powerful instruction set make the S7-1200 a perfect solution for controlling a wide variety of applications. The S7-1200 models and the Windows-based programming tool give you the flexibility you need to solve your automation problems.

**TROUBLESHOOTING TIPS**

Chat online to one of our technical engineers at farnell.com
**Logic Controllers - Siemens - continued**

### Analog Signal Board - continued

**Series S7 - continued**

<table>
<thead>
<tr>
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### PSU 100 24V-0.5 to 3.0A

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### Power Supplies Series SITOP

The PSU 100C SITOP power supplies are built-in units, IP20 degree of protection, protection class I.

- Switched-mode power supplies for connection to single-phase AC supply with rated voltages of 100-230 V, 50/60 Hz, and +24 to -12 V DC output voltage, isolated and short-circuit-proof.
- Proper storage, mounting, and installation, as well as careful operation and service, are essential for the error-free, safe operation of the device.
- Setup and operation of this device are permitted only if the instructions and warnings of the corresponding documentation are observed.
- Only qualified personnel are allowed to install the device and put it into operation.
- Warning: operating voltage adjustment is for initial installation only.

### Compact Basic

- This module includes all the features of a standard module, except for programming keys and LCD display.
- Designed for use in systems up to 24VDC 4 A:
  - 6 inputs configurable as analogue inputs 0-10V
  - 2 configurable 0-10V analogue inputs

### Modular - Extendable

- For more demanding applications where an expandable solution is required up to 40 I/O
- Includes Zelio Logic 2 smart relay, programming cable and software.
- Reduced cost

### Starter Packs

These starter packs are a convenient, cost-effective way of evaluating the Zelio Logic 2 programmable relay as they include everything you need to get you started, including Zelio Logic 2 smart relay, programming cable and software.
Logic Controllers - Moeller

Easy Logic Controllers

The easy range of logic controllers comes with a choice of features and options making it suitable for a wide range of applications including small and medium sized machines automation, access control and lighting. The easy 500 and 700 are enhanced versions of the easy 400 and 600. The range is available with 12 V dc, 24 V dc and 100-240 V ac power supply.

- Starter kits consist of the controller, software and programming cable. This is an ideal way to learn about the easy controller.

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<tr>
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<td>SR3PACKBD</td>
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<tr>
<td>SR3PACKBD</td>
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<tr>
<td>SR3PACKBD</td>
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Remote Control System

TWC722

Allows to monitor and control remote units/equipments. Enables remote monitoring and control along with sending SMS/Email in case of alarm conditions.

- With the advantage of the reliable, widespread GSM network and the supported GPRS service, it becomes a remotely accessible unit from any part of the world. The inputs present on TWC722 can be used for monitoring of external devices or connecting sensors (analog/digital). Alarm conditions can be configured for monitoring of these inputs. Since it supports SMS and SMTP protocols, the device can be configured to send SMS/Email whenever alarm conditions occur. Also gives freedom to control the states of the connected outputs. By sending a simple SMS anyone can change the status of the outputs.

Applications:
- Security systems, Irrigation and fire alarm systems, Building surveillance and control, Home and garden automation projects, Heating, lighting and climate control and Remote monitoring and device/equipment control
- Single band: 900/1800 MHz
- 7A relay outputs, to drive heavy loads
- Surge and reverse voltage protection on all the inputs
- Two Analog inputs with mode selection, voltage mode (0-10V) or current mode (4-20mA)
- Turn ON/OFF the outputs by sending SMS
- Alarm message service over SMS or email

<table>
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<tr>
<th>Operating Temperature</th>
<th>-29°C to +55°C</th>
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Genie™ NX Series

Base Module

Extension Module

RS 485 Module

Performs simple logic, timing, counting, and real time clock operations providing excellent performance and functionality. An ideal programmable controller for simple control applications such as building construction equipments, HVAC, parking lot lighting and other applications in which cost is a primary design issue. All programming and data adjustments can be done through on-board keypad and display or with the help of a software. Programming Genie-NX with the help of Soft-NX facilitates program generation, documentation and communication which are accomplished simply using the pick and place functionality allowing maximum ease of operation.

- Integrated, ready to use, wide range of programmable functions including 16 timers, 16 counters, 16 time switches, 16 compare counters, 16 soft text messages, 16 auxiliary inputs, 8 digital inputs & 4 relay outputs
- Ability to add up to three extension modules expanding I/O’s to 32 digital inputs, 16 relay outputs
- Communication module allows programmable relay to be connected to a Modbus network through RS 485 link
- Backlit LCD screen for display and modification of pre-selected parameters of function blocks, viewing I/O status and programming on the device
- Ladder programming using software on PC as well on the device with the help of keypad & LCD Display
- Memory back up allowing programs to be transferred or copied into another Genie™ NX with the help of a memory card
- Soft keys for convenient control and editing of programs on the device
- Password & Parameter lock facility

<table>
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Power Consumption

Base Module

Extension Module

RS 485 Module

- -50/60 Hz
- 8A @ 240 VAC / 5A @30 VDC
- Power Consumption 5 VA
- Frequency 50/60 Hz
- Contact Rating 8A @ 240 VAC / 5A @30 VDC
- Memory back up allowing programs to be transferred or copied into another Genie™ NX with the help of G-Soft NX facilitates program generation, project simulation and documentation which are accomplished simply using the pick and place functionality allowing maximum ease of operation.

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farnell.com element14.com
### Logic Controllers - IMO

#### iSmart Intelligent Relay

- Up to 44 I/O
- Ladder or FBD programming
- AG or DC inputs
- LED backlit display
- Real time clock
- PC and PDA programming software
- CE UL 61051 approved
- 3 year manufacturers warranty
- 200 lines ladder program/99 blocks FBD program

Providing the capability of a small PLC, iSmart is a flexible, easy to use and cost effective range of "intelligent relays". With the free software provided, iSmart can be programmed via a PC, PDA or the integral keypad.

#### AC Power Supplies

- **Supply**: 50/60Hz
- **Outputs**: 200 to 240VAC
- **Inputs**: 4 to 16kHz
- **Storage Temperature**: 150% for 60 sec.

#### iSmart Intelligent Relay

- **2846**
- **2846**
- **2846**
- **2846**
- **2846**

#### Automation

- **via a PC, PDA or the integral keypad.**

#### iSmart Programmable Relay

- **Inputs**: Thermocouple and Platinum resistance thermometer
- **Operating Voltage Range**: 85% to 110% of rated supply voltage
- **Temperature**: C° to +55°C
- **Inputs**: 6 In, 4 Relay Out SMT-EA-R10

#### AC Supply - 85 to 264V ac

- **AC Supply**: 85 to 264V ac
- **Cable**: 2m, ZEN relay to PC ZEN-CIF01
- **Software**: For ZEN relay ZEN-SOFT01-V4
- **PSU**: For ZEN relay ZEN-PA03024

#### Relay Accessories

- **6 inputs, 4 outputs ZEN-10C1DR-D-V2**
- **Programming Software (PDA)** SMT-PDACONFIG
- **Programming Cable (PC)** SMT-PC03

#### ZEN Programmable Relay

- **Input**: 2.5 W (24 VDC) Indication method 7-segment digital display and individual indicators
- **Output**: 3.5 VA (24 VAC) Control method ON/OFF control or 2-PID control (with auto-tuning)

#### Logic Controllers - IMO

- **FX1S PLCs**
  - **4 I/O configurations, 10, 14, 20, & 30 points**
  - **DC powered units - 24V dc -15%, +10% power source**
  - **AC powered units - 110-240V ac -15%, +10%, 50/60Hz**
  - **24V dc inputs configurable to be sink or source sensing**
  - **Option of relay output units or transistor output units**

#### PLC's Series Plato

- The Pluto programmable logic controller (PLC) is a digital computer used for automation of electromechanical processes, such as control of machinery on factory assembly lines, amusement rides, or light fixtures. Unlike general-purpose computers, the PLC is designed for multiple inputs and output arrangements, extended temperature ranges, immunity to electrical noise, and resistance to vibration and impact.

#### Mini PLC

- Low-cost Mini-PLC
- 4 Line, 10 character backlit LCD display
- Programmed via the Free xLogicSoft Programming Software
- Settings and parameters can be set via the HMI display
- Start-up page/screen can be customized
- 12 x digital inputs
- 6 x digital outputs - mains rated relay or 24VDC transistor outputs
- 12 to 24V DC powered
- Up to 256 software counters/timers

#### EASY

- **CPU + SMS Module**
  - **CPU**: H = 90, W = 95, D = 55mm
- **CPU**: H = 90, W = 95, D = 55mm
- **CPU**: H = 90, W = 95, D = 55mm
- **CPU**: H = 90, W = 95, D = 55mm

#### PLC's Series Plato

- **Model**: ELC-18 Series Mini PLC
- **Provider**: Schneider Electric
- **Order Code**: xLogicSoft Programming Software
- **Description**: For ZEN relay ZEN-SOFT01-V4
- **Price Each**: 286-308

#### ABB-Jokab PLC

- **Identifier**: Jokab Series
- **USB Cable**: Jokab Series

---

**Farnell**

**element14**

---

**element14.com**

---

**RoHS**: Compliant

**Non-compliant**

---

**farnell.com**

---

**Overall Rating**: 36

---

**Industrial Computing & PLCs**

---

**2846**

---

**2014**
The WAVE Line has a uniform housing concept in which copper ports and optional FO connection can be integrated. Single fibre versions provide communications up to 2km distances and give EMC immunity.

**Entry-Level Industrial Ethernet Switches**

The N-TRON™ 100 Series switches provide economical, entry-level switches and peripheral products designed to expand your Industrial Ethernet network. This flexible range is ideal for data acquisition, control and Ethernet I/O applications needing unmanaged, affordable products and can be used to increase network bandwidth and determinism. The range is UL Listed, TUV Certified and can be used in Class 1, Division 2 Hazardous locations. Designed to demanding "Industrial Ethernet" standards.

**Unmanaged Fast Ethernet Switches**

- **Basic Line**
  - 10/100 BaseT(X) RJ45 connector
  - 100BaseFX Multi-Mode, SC or ST connector
  - Redundant dual 12/24/40V dc, 18 to 30V ac power inputs
  - IP30 Aluminium housing
  - Rugged hardware design suited to hazardous locations and maritime environments
  - -10°C to +60°C Operating temperature range

- **Value Line**
  - Redundant dual 24V dc power inputs
  - Relay output warning for power failure and port break alarm
  - Broadcast storm protection
  - Transparent transmission of VLAN tagged packets
  - 0°C to +60°C Operating temperature range

**Unmanaged Ethernet Switches**

- **Value Line**
  - Class 1 Division 2 approved
  - Approvals: CE, EN55024, EN55022, EN61000-6-2
  - C-Tick. UL Recognised

The WAVE Line Plug & play switches are cost-effective ways of gaining a foothold in the world of Industrial Ethernet. Ongoing adaptation of the products to new technologies with features such as auto-negotiation, auto-crossing and an operating temperature range of -10°C to +60°C enable users to set up network infrastructures for industrial applications simply and quickly.

**Entry-Level Industrial Ethernet Switches with Fibre Ports**

The N-TRON™ 100 Series switches with Fibre Ports provide economical, entry-level switches and peripheral products designed to expand your Industrial Ethernet network. This flexible range is ideal for data acquisition, control and Ethernet I/O applications needing unmanaged, affordable products and can be used to increase network bandwidth and determinism. The range is UL Listed, TUV Certified and can be used in Class 1, Division 2 Hazardous locations. Designed to demanding "Industrial Ethernet" standards.

**Unmanaged Ethernet Switches**

- **Value Line**
  - Robust housing for DIN-rail mounting
  - Compact UL 94 flammability rating VO1 housing
  - 0 to 60°C Operating temperature range
  - Redundant power supply connections standard
  - 10 - 35V dc, 12-24V ac Operation
  - Unique power bus cross connect facility for powering multiple units
  - 10 / 100 Mbps Full/Half Duplex Autonegotiation
  - MDI / MDI-X Auto crossing
  - Single Fibre port versions
  - SC Fibre Connections in Multimode

**Entry-Level Industrial Ethernet Switches**

- **Value Line**
  - N-TRON™ 100 Series copper switches provide economical, entry-level switches and peripheral products designed to expand your Industrial Ethernet network. This flexible range is ideal for data acquisition, control and Ethernet I/O applications needing unmanaged, affordable products and can be used to increase network bandwidth and determinism.

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## Gigabit Industrial Ethernet Switches

**Gigabit Industrial Ethernet Switch**

A low cost, unmanaged five port Gigabit Industrial Ethernet Switch housed in a hardened, metal, DIN-Rail enclosure. Designed for use in mission critical data acquisition where gigabit capability is required. Designed to demanding "Industrial Ethernet" standards.

### 300 Series

<table>
<thead>
<tr>
<th>Type</th>
<th>304TX-N</th>
<th>305TX-N</th>
<th>306TX-N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ports</td>
<td>4 x RJ-45 10/100 Base-T</td>
<td>4 x RJ-45 10/100 Base-T</td>
<td>4 x RJ-45 10/100 Base-T</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>79 x 51 x 86mm</td>
<td>79 x 51 x 86mm</td>
<td>88 x 51 x 86mm</td>
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<tr>
<td>Operating Temp.</td>
<td>-20°C to +70°C</td>
<td>-20°C to +70°C</td>
<td>-20°C to +70°C</td>
</tr>
<tr>
<td>Communications</td>
<td>Unmanaged Full Speed Communications</td>
<td>Full/Half Duplex</td>
<td>Full/Half Duplex</td>
</tr>
<tr>
<td>MTBF</td>
<td>&gt;2 million hours Mean Time Between Failure</td>
<td>&gt;2 million hours Mean Time Between Failure</td>
<td>&gt;2 million hours Mean Time Between Failure</td>
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### 1000MC

<table>
<thead>
<tr>
<th>Type</th>
<th>Ports</th>
<th>Dimensions (W x H x D)</th>
<th>Weight</th>
<th>Operating Temp.</th>
<th>No. of MAC addresses</th>
<th>MTBF</th>
<th>Material / Mounting</th>
<th>Sensing</th>
<th>Redundant Power Inputs</th>
<th>EMI / RFI</th>
<th>Weight</th>
<th>Warranty</th>
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<tbody>
<tr>
<td>1000MC</td>
<td>1 x RJ-45 auto sensing 10/100/1000BaseT</td>
<td>109 x 25 x 95mm</td>
<td>0.3kg</td>
<td>-40°C to +70°C</td>
<td>4.096 with up to 10.0 Gb/s Maximum Throughput</td>
<td>&gt;2 million hours Mean Time Between Failure</td>
<td>Hardened Metal Enclosure; DIN Rail Mount Included</td>
<td>Auto Sensing Speed &amp; Flow Control; MDIX Auto Sensing Cable</td>
<td>10-30 VDC, 215 mA @ 24V</td>
<td>EN55022 (10V/m)</td>
<td>0.3kg</td>
<td>36 Months</td>
</tr>
</tbody>
</table>

### Industrial Ethernet Switches

**300 Series**

The N-Tron 300 Series of hardened Industrial Ethernet switches offers high reliability and full wire speed communications in a compact size, ideal for mission-critical industrial, data acquisition, control and Ethernet I/O applications. These DIN-Rail mounted switches are designed to exceed the most demanding industrial communications needs and environmental conditions, whilst providing high throughput and minimum downtime.

Compact, reliable and economical, the 300 Series is supplied complete with N-View to provide network monitoring and performance alarms using standard OPC compliant HMI software. The 300 Series products keep the network affordable, whilst providing the simplicity of a plug and play auto sensing switch.

### Power Over Ethernet (PoE) Industrial Ethernet Switches

**Power Over Ethernet (PoE) Industrial Ethernet Switches**

N-Tron Power Over Ethernet (PoE) industrial Ethernet Switches and injector devices are designed to transmit power, along with data, over an Ethernet network and are ideal for PoE capable devices where running an AC power feed is either not possible or cost effective. This feature allows an end user to power a PoE camera, wireless access point, or any other PoE capable device without the need for running separate wires for power. This also allows the ability for a centralized battery backup for all these devices.

### Gigabit Industrial Media Converter

A ruggedised unit that allows the connection of 10/100/1000BaseT Ethernet devices to a 1000Base SX/LX fiber cabling infrastructure. Designed to demanding "Industrial Ethernet" standards.

### Ethernet Switches - continued

**Ethernet Switches - continued**

---

**Price Each**

<table>
<thead>
<tr>
<th>Mfrs. List No.</th>
<th>Order Code</th>
<th>1+</th>
<th>3+</th>
<th>5+</th>
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<tr>
<td>1005TX</td>
<td>160-60170</td>
<td>1+</td>
<td>3+</td>
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<tbody>
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<td>160-60310</td>
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</table>
**Unmanaged Ethernet Switch**

**eCon 2000 Series**

![Network devices can thus be modified for various media and can be quickly replaced in the event of a malfunction.](image)

**Ethernet Control Modules**

**Series eCon 7000**

![Housing material zinc die-cast](image)

![Suitable for rough industrial environments](image)

![Wall mounting, vertical assembly](image)

A series of Ethernet switches and converters with pneumatic contacts for use in Industrial Automation such as railway applications, single modules with standard shielded RJ45 plugs. Patch cables are assembled and removed without tools.

**Description**

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (mA)</th>
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<th>Order Code</th>
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</table>

**Power Supplies**

**Series eCon**

![Wide input range for world-wide use.](image)

![Wide operating temperature range allowing high stability.](image)

![Can be used in industrial environments such as railways.](image)

![Proof against sustained short-circuit, overloads and no load operation.](image)

The power supplies of the HARTING eCon 2000 product family are designed as power supply solutions for control units, Ethernet and other automation components. With their wide range of input voltage, the units are suitable for world-wide use. The quick connection technology and the 2 terminals per connection point guarantees easy and quick installation.

**Table:**

<table>
<thead>
<tr>
<th>Input Volts AC</th>
<th>Input Volts DC</th>
<th>Output Volts DC</th>
<th>Output Current (A)</th>
<th>Power Rating (W)</th>
<th>Mftrs.</th>
<th>Dimensions</th>
<th>Price Each</th>
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<tbody>
<tr>
<td>100V to 240V</td>
<td>100V to 375V</td>
<td>24</td>
<td>2.5</td>
<td>60</td>
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<td>100V to 240V</td>
<td>100V to 375V</td>
<td>48</td>
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<td>100V to 375V</td>
<td>48</td>
<td>5</td>
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<td>20800003130</td>
<td>208-0971</td>
<td></td>
</tr>
</tbody>
</table>

**Power Converters**

**Series eCon**

![Wide input voltage range for world wide use.](image)

![Wide operating temperature range allowing high stability.](image)

![Can be used in industrial environments such as railways.](image)

![Proof against sustained short-circuit, overloads and no load operation.](image)

The DC to DC converters of this product family HuVIS pCon 7000 are designed for the decentralised supply of power to control units, Ethernet and other automation components in industrial areas and harsh environments. With their wide range of input voltages, the units are suitable for world wide use. As a result the devices can be installed without problems in any factory in the world: in production cells or machines or on walls. The converters are maintenance free, vacuum packed and prepared for the use in devices with protection class II. The converters have to be mounted on a heat dissipating surface for cooling.

**Table:**

<table>
<thead>
<tr>
<th>Input Volts AC</th>
<th>Input Volts DC</th>
<th>Output Volts DC</th>
<th>Output Current (A)</th>
<th>Power Rating (W)</th>
<th>Mftrs.</th>
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<th>Price Each</th>
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<td>100V to 375V</td>
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<td>5</td>
<td>120</td>
<td>20800003130</td>
<td>208-0971</td>
<td></td>
</tr>
</tbody>
</table>

**Ethernet Transceiver**

**Series mCon 1000**

The mCon 1000 Ethernet switch product line is designed for data transmission via fibre-optic cables with SFP transceivers. SFPs (small form-factor pluggable) are small standardised modules used for network connections. SFP modules fit in SFF (small form factor) plug-in slots and are simple and easy to replace (hot-swappable).

Network devices can thus be modified for various media and can be quickly replaced in the event of a malfunction.

**Table:**

<table>
<thead>
<tr>
<th>Module Interface</th>
<th>List No.</th>
<th>Order Code</th>
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<tbody>
<tr>
<td>155MBit Transceiver MM</td>
<td>155</td>
<td>Ethernet 20706000300</td>
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<tr>
<td>1.25GBit Transceiver MM</td>
<td>1.25</td>
<td>Ethernet 20706010000</td>
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<tr>
<td>1.25GBit Transceiver SM</td>
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<td>Ethernet 20706020000</td>
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<tr>
<td>1.25GBit Transceiver TM</td>
<td>1.25</td>
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</tbody>
</table>

**Ethernet Switches, SPIDER unmanaged**

- Entry Level Industrial Ethernet Switches
- Store and Forward Switching Mode
- Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s)
- Versions: 5TX, 8TX and 4TX/1FX
- Plug & Work
- Autocrossing, Autonegotiation, Autopolarity
- Compact, DIN rail mountable
- 24 V DC, IP 30
- Designed for Industrial use (EMC)
- Approved cUL 508 (E175531)
## Ethernet Switches - continued

### Ethernet Switches, SPIDER unmanaged - continued

#### Technical Data:
- **Switch Type**: Unmanaged Switch for 10/100 Mbit/s
- **Status Display**: LEDs (Power, Linkstatus, Data rate)
- **Supply connection**: 1 pluggable Terminalblock, 2key
- **Rated Voltage**: 9.6 - 32V DC
- **Working Temperature**: 0°C to 60°C
- **Storage Temperature**: -40°C to + 70°C
- **RH (non condensing)**: 10 % to 95 %
- **Protection Class**: IP30
- **Mounting**: DIN rail
- **Approvals**: cUL 508 (Safety for Industrial Control Equipment)
- **Package contains**: Switch, Terminal block, Manual

<table>
<thead>
<tr>
<th>Order code</th>
<th>Type</th>
<th>Ports: Type and qty.</th>
<th>Network size (length of cable)</th>
<th>Current consumption @ 24 V DC</th>
<th>Dim. (mm) (W<em>H</em>D):</th>
</tr>
</thead>
<tbody>
<tr>
<td>964-2099</td>
<td>SPIDER 4TX/1FX</td>
<td>4 x 10/100BASE-TX, 1 x 100BASE-FX Multimode S/SL</td>
<td>Twisted Pair: 0-100m, multimode: 0-500m, multimode: 0-200m, multimode: 0-400m</td>
<td>Max. 150mA</td>
<td>25x114x79mm</td>
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<tr>
<td>964-2102</td>
<td>SPIDER STX</td>
<td>5 x 10/100BASE-TX, RJ45</td>
<td>TP: 100m</td>
<td>Max. 100mA</td>
<td>25x114x79mm</td>
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<tr>
<td>964-2110</td>
<td>SPIDER 8 TX</td>
<td>8 x 10/100BASE-TX, RJ45</td>
<td>TP: 100m</td>
<td>Max. 160mA</td>
<td>40x114x79mm</td>
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</tbody>
</table>

### FL Ethernet Switches

The advantage of the new SFNB switches is that they offer optimum suitability for industrial switching applications. FL SWITCH’s are particularly slim and Gigabit-capable. Thanks to their slim housing design, they can be easily integrated into all applications with high bandwidth requirements. They are particularly suitable for the automation of large networks or for the automation of the control systems and control centers with high transmission bandwidth requirements. FL SWITCH’s are equipped with a 4-output channel, 2-conductor device. Due to its four 0 V connections, four actuators may be directly connected to the module. Each input module has a noise-rejection filter. This filter is available with different time constants. An output module is used for electrical isolation between the bus and the field side.

### Digital I/O Switches

#### Digital Input Module

- **Type**: Digital Input Module
- **Order Code**: 750-1405
- **Price Each**: 1 + 2 + 3 + 5 + 10 + 20 +

<table>
<thead>
<tr>
<th>List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>750-1405</td>
<td>1 + 12</td>
<td>207-7670</td>
</tr>
<tr>
<td></td>
<td>2 + 12</td>
<td>207-7670</td>
</tr>
</tbody>
</table>

#### Digital Output Module

- **Type**: Digital Output Module
- **Order Code**: 750-1405
- **Price Each**: 1 + 2 + 3 + 5 + 10 + 20 +

<table>
<thead>
<tr>
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</tbody>
</table>

**Industrial Automation**

#### Industrial Eco Switches

5 and 8 Port

Industrial Eco switches featuring either 5 or 8 ports, auto-negotiation and auto MDI/MDI-X detection.

#### Power Measurement Module

- **Type**: Power Measurement Module
- **Order Code**: 750-493
- **Price Each**: 1 + 2 + 3 + 5 + 10 + 20 +

<table>
<thead>
<tr>
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<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>750-493</td>
<td>1 + 12</td>
<td>207-7670</td>
</tr>
<tr>
<td></td>
<td>2 + 12</td>
<td>207-7670</td>
</tr>
</tbody>
</table>

**Automation**

### Existing 10Mbit/s networks can be now be upgraded effortlessly by higher speed 100Mbit/s Fast ETHERNET networks

- **Cost-effective solution to keep up with the constant demands for emerging IP-based industry communication needs**
- **Easily configured**
- **Suitable for small to medium sized networks**

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**Dimensions (mm)**

<table>
<thead>
<tr>
<th>Width</th>
<th>Length</th>
<th>Depth</th>
<th>List No.</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>100</td>
<td>64</td>
<td>750-493</td>
<td>207-78620</td>
</tr>
</tbody>
</table>

### M8 and M12 Self-Assembly
- Self-assembly
- Standard interface IEC 947-5-2
- Protection class IP67
- M8 version requires no special tools/innovative insertion technology
- Positive-screw lock nut

Moulded cable versions available in Sensors Section Circular connectors for connection to AS-interface modules and sensor devices. Available in 8mm or 12mm diameters.

### Tachometer/trip boards

**Frequency to Voltage (Tachometer) Board**

Applications include: Closed loop control systems, Shaft speed control, Governors, Speed/flow monitoring, Speedometers etc. Accepts a wide range of sensing devices, e.g. Proximity detectors, Flow detectors and other signal sources.

- Mounting holes 4.4mm. Fixing centres = 78.74mm
  
  X 99.06mm & 64.77mm
  
  H = 15mm, W = 110mm, D = 90mm

- Easy to use
- Max Full Scale: 10kHz @ 10V Out
- Min Full Scale: 10Hz @ 10V Out
- Matched to many Input Devices
- Hysteresis on Inputs
- One Capacitor to set Full Scale
- Three Capacitors to set Filtering
- Supplied with full data sheet. Individually Certified as 100% tested @ 100kHz.

### PCI Bus Data Acquisition Cards-Blue Chip

**24 Channel Isolated Digital Input/Output Card**

**PCI-RLY**

- Wide input range suitable for industrial applications up to 50V dc or peak AC (35V ac RMS)
- 3 on-board 16 bit counter timers (256 compatible)
- Individually current-limited, opto-isolated inputs
- Isolated normally open relay contacts
- Individually opto-isolated counter timer inputs and outputs
- Software configurable
- Supplied with demonstration software examples
- Fully universal PCE and Plug-and-Play compliant (compatible with 3.3V and 5V buses)

<table>
<thead>
<tr>
<th>Description</th>
<th>Mftrs. List No.</th>
<th>Order Code</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI-RLY Card</td>
<td>1980-1006</td>
<td>129-88780</td>
<td>1+</td>
</tr>
</tbody>
</table>

### 32 Channel Isolated Digital Input/Output Card**

**PCI-DIO**

The PCI-DIO is a PCI-compatible half-card which provides isolated digital inputs, outputs and counter/timers. There are 16 galvanically isolated digital inputs available on the board, which will accept up to 35V dc or ac peak, and which switch normally 3.5V dc or ac peak. There are 16 open collector digital outputs which are isolated from the digital inputs and the host PC but share a common ground connection. There are also three programmable counter/timers, the enable and clock inputs being available, isolated externally, if required, and the outputs being accessible via isolated, externally and as interrupt sources.

A 4MHz crystal oscillator is available on board to allow the counter/timers to act as accurate timebases. All input/output lines are available at an industry standard 50 way D-type plug connector. One PCI interrupt line may be selectively driven by the five interrupt sources on the board, their interrupting source being readily identified by software interrogation of the on-board registers. The five interrupt sources are three counter/timer outputs and a change of state detector on each byte of the digital inputs.

<table>
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<th>Price Each</th>
</tr>
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<td>PCI-DIO Card</td>
<td>1980-1006</td>
<td>129-88780</td>
<td>1+</td>
</tr>
</tbody>
</table>

### 44 Channel Multi-Function Card**

**PCI-ADC**

The PCI-ADC is a PCI-compatible half-card which provides analogue and digital input/outputs and counter/timers. Eight differential or sixteen single ended analogue inputs are available with 12-bit resolution and programmable gain to allow full scale input ranges of between ±5mV and ±5 V. The maximum sample rate of these is 230KS/s.

A FIFO input buffer is available such that 1024 analogue samples may be taken before processor intervention is required. Four bipolar analogue outputs are provided to 12 bits resolution. Each may be individually configured as voltage or current outputs with full scale ranges of ±10V or ±20mA.

There are 24 TTL-compatible programmable digital input/outputs available from the board and there are also three programmable counter/timers, the outputs of which may be used to generate interrupts, to initiate analogue input conversion, analogue output sample update, or digital I/O. A 4 MHz crystal oscillator is available on board to allow the counter/timers to act as accurate timebases.

<table>
<thead>
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<th>Price Each</th>
</tr>
</thead>
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<tr>
<td>PCI-ADC Card</td>
<td>1980-1006</td>
<td>129-88780</td>
<td>1+</td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Mftrs. List No.</th>
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<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Way D-Type Cable</td>
<td>1371-0071</td>
<td>129-88811</td>
<td>1+</td>
</tr>
<tr>
<td>50 Way Terminal Adaptor</td>
<td>1981-0004</td>
<td>129-88822</td>
<td>1+</td>
</tr>
</tbody>
</table>
### PCI Bus Data Acquisition Cards-Blue Chip - continued

**PCI-ADC - continued**
- 8 differential inputs or 16 single-ended inputs, 12 bit resolution
- 4 x 12 bit analogue outputs
- 24 programmable digital I/O channels at TTL levels
- 3 on board 16 bit counter timers (8254 compatible)
- Suitable for monitoring input voltages with a full scale reading as low as ±5mV
- Sample and hold amplifier provides accurate readings at varying input signals
- Analogue voltage and current outputs are bi-polar
- Digital inputs can be either voltage or volt free contacts
- Software configurable
- Auto calibration
- Fully universal PCI and plug-and-play compliant (compatible with 3.3V and 5V buses)
- Supplied with demonstration software examples

### ISA Bus Data Acquisition Cards-Blue Chip

**48 Channel Programmable Input/Output Card**

**PIO-48**
- The P4O48 is an ISA compatible half-card that provides 48 or 96 programmable digital I/O channels. It is suitable for sensing the presence of or driving TTL connections only. There is provision for a set of on board pull up resistors to enable the board to be used to detect contact closures on push buttons, relay outputs etc.
- All input/output lines are available on an industry standard 50 way D-type plug connector. A very versatile cost effective board for a wide range of uses.

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**Interface- & Network Components**

**IDC To Screw Interface**
- This series of IDC interface fits all standard DIN rails, low profile cable acceptance of up to 4mm².
- 45° cable entry for easy access. Ensures simple and speedy interfacing between data and field cables.
- Custom interfaces available to order

**D SUB, Receptacle To Screw Interface**
- This series of D-SUB Receptacles fits all standard DIN rails, low profile cable acceptance of up to 4mm².
- 45° cable entry for easy access. Ensures simple and speedy interfacing between data and field cables.
- Custom interfaces available to order

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**PCI Bus Data Acquisition Cards-Arcom**

**PCI 40-channel Digital I/O & Counter Board**

**APCI-B40**
- Open-collector outputs, 5V 24mA
- Interrupt operation
- 1MHz clock; three 8254 counter-timers
- Board access LED and User LED
- Designed for digital I/O, industrial control and monitoring and interfacing to parallel I/O devices, 40 buffered, bi-directional digital I/O lines; disabled or pre-set on power-up.

To download technical manual visit: www.arcomcontrols.com
Number of Mftrs. | Order Code | Price Each
---|---|---
25 | C12/25/2 | 206-3479 |
25 | C12/25/5 | 206-3479 |
8 | CIM/2/2/2 | 206-3480 |
Component Carrier | CIM/2/2/2 | 206-3481 |
8 | CIM/2/2/2/2 | 206-3481 |

D-Rail Optocouplers

Fits all standard DIN rails, screw terminal blocks or pluggable terminals. Available with plug-in relay for easy replacement or the economy style with relay mounted direct onto the PCB.

With Number of Mftrs. | Price Each
---|---
Yes | 1 | 206-3482 |
Yes | 2 | 206-3483 |
Yes | 4 | 206-3484 |

Optical Module

No | Quad Opto | CIM/2/2/2 |

D-Rail PLC Relays

PLC interface, consisting of PLC-BP/BC basic terminal block with Push-In Technology and plug-in miniature optocoupler, for mounting on DIN rail NS 35/7.5, input range: 5V to 230V, output: 24V to 230V.

Input/Output Voltage (DC) | Order Code | Price Each
---|---|---
6/24 | PLC-DPR-12DC/24DC/2ACT | 206-4612 |
24/24 | PLC-DPR-12DC/24DC/24 | 206-4613 |
24/48 | PLC-DPR-12DC/24DC/48 | 206-4620 |
48/48 | PLC-DPR-12DC/48DC/48 | 206-4621 |
48/48 | PLC-DPR-12DC/48DC/100 | 206-4622 |
24/230 AC | PLC-DPR-24DC/230AC/1 | 206-4623 |
48/24 | PLC-DPR-48DC/48DC/24 | 206-4624 |
48/48 | PLC-DPR-48DC/48DC/48 | 206-4625 |
48/230 AC | PLC-DPR-48DC/230AC/1 | 206-4626 |
60/48 | PLC-DPR-60DC/48DC/60 | 206-4627 |
60/48 | PLC-DPR-60DC/48DC/48 | 206-4628 |
60/48 | PLC-DPR-60DC/48DC/100 | 206-4629 |
120/48 | PLC-DPR-120DC/48DC/120 | 206-4630 |
120/48 | PLC-DPR-120DC/48DC/100 | 206-4642 |
120/48 | PLC-DPR-120DC/120DC/120 | 206-4631 |
230/48 | PLC-DPR-230DC/48DC/230 | 206-4632 |
230/48 | PLC-DPR-230DC/48DC/100 | 206-4633 |
230/230 | PLC-DPR-230DC/230DC/230 | 206-4634 |
24/24 | PLC-DPR-24DC/24DC/24 | 206-4640 |
24/48 | PLC-DPR-24DC/48DC/24 | 206-4641 |

Troubleshooting Tips

Chat online to one of our technical engineers at farnell.com
Profi bus DP Modules - continued

Profi bus Distributors - PA

- Tension-clamp connection system
- EMC cable gland
- M12 plug-in connectors
- External earthing contact
- Interruption-free bus operation

- Industrial version
- Bus termination integrated (not EX)
- ATEX explosion-proof version
- Pressure-equalising element
- Protection degrees IP55, IP66, IP67
- Stainless steel versions
- PROFIBUS-PA compatible

Configuration Interfaces

Serial Interface RS-232C and RS 485

This interface allows the connection of any device which is equipped with a RS-232C / RS-485 serial interface. The interface works in accordance with the TIA/EIA-232-F, CCITT V.28/DIN 66259-1 standard.

WAGO USB Service Cable

The WAGO USB Service Cable connects a PC (notebook) to either the service interface of the 857 Series Signal Conditioners and Relay Modules (JUMPFLEX) or to WAGO I/O-SYSTEM buscouplers/controllers.

WAGO I/O CHECK RS-232 kit

Included in the kit is the CD-ROM with software and serial communication cable 750-920. Required: Microsoft® Windows® 2000 or newer, 50 MByte Hard disk storage, CD Rom and Mouse

WAGO I/O PROGRAMMING TOOL CAA

Required: Pentium PC, 16 MBYTE RAM MIN. (WINDOWS 95); MIN. 64 MBYTE (WINDOWS NT), 10 MByte Hard disk storage, VGA or higher Graphics card; recommended: Super VGA, Mouse

Profi bus D-Connectors

These Sensor/Actuator plug-in connectors are intended for use with the Weidmüller range of distributors.

INTELLIGENT ONLINE BUYING SYSTEM PROVIDING

Complete cost control, reduced administration time, visibility of your spend, flexibility and personalised to your company’s needs.

farnell.com/ibuy