



Modular PLC, 24 V DC, 8DI, 6DO, RS232, optical CAN, 128kB

**Part no.** XC-CPU101-FC128K-8DI-6DO  
**Catalog No.** 289169  
**Alternate Catalog No.** XC-CPU101-FC128K  
**EL-Nummer (Norway)** 4560925

**Delivery program**

|  |  |    |  |
|--|--|----|--|
| Digital input count                            |  |    | Digital:8; of which usable as interrupt: 4   |
| Quantity of outputs                            |  |    | Transistor: 6  |
| Built-in interfaces                            |  |    | CANopen® (FO cable)<br>RS232   |
| Description                                    |  |    | Optical CAN interface:   |
| Instructions                                   |  |    | expandable with → expansions XI/OC<br>Only on connection with →XI/OC rack            |
| User memory                                    |  |    | 128 Kbyte  |
| Cycle time for 1 k of instructions (Bit, Byte) |  | ms | 0.5  |
| <b>Memory</b>                                  |  |    |  |
| Application/marker/retain data                 |  |    | 128 KB/8 KB/8 KB   |
| Integrated Web server                          |  |    | no   |
| Information about equipment supplied           |  |    | The following accessory equipment is required: terminal clamps, module rack, battery |
| Approvals                                      |  |    | EAC  |

**Technical data**

**General**

|   |                |                 |  |
|---|----------------|-----------------|--|
| Standards   |                |                 | IEC/EN 61131-2<br>EN 50178                 |
| Ambient temperature                                   |                | °C              | 0 - +55                                    |
| Storage   | θ              | °C              | -25 - +70                                  |
| Mounting position                                     |                |                 | Horizontal                                 |
| Relative humidity, non-condensing (IEC/EN 60068-2-30) |                | %               | 10 - 95                                    |
| Air pressure (operation)                              |                | hPa             | 795 - 1080                                 |
| Vibration resistance                                  |                |                 | 10 - 57 Hz ±0.075 mm<br>57 - 150 Hz ±1.0 g |
| Mechanical shock resistance                           |                | g               | 15<br>Shock duration 11 ms                 |
| Overvoltage category/pollution degree                 |                |                 | II/2                                       |
| Degree of Protection                                  |                |                 | IP20                                       |
| Rated insulation voltage                              | U <sub>i</sub> | V               | 500  |
| Emitted interference                                  |                |                 | EN 50081-2, Class A                        |
| Interference immunity                                 |                |                 | EN 50081-2                                 |
| Battery (service life)                                |                |                 | normally 5 years                           |
| Weight  |                | kg              | 0.23                                       |
| Terminations  |                |                 | Plug-in terminal block                     |
| Terminal capacities                                   |                | mm <sup>2</sup> |  |
| Screw terminals                                       |                |                 |  |
| Flexible with ferrule                                 |                | mm <sup>2</sup> | 0.5 - 1.5                                  |
| Solid   |                | mm <sup>2</sup> | 0.5 - 2.5                                  |
| Spring-loaded terminals                               |                |                 |  |
| flexible  |                | mm <sup>2</sup> | 0.34 - 1.0                                 |
| Solid   |                | mm <sup>2</sup> | 0.14 - 1.0                                 |

**Power supply**

|                       |  |    |    |
|-----------------------|--|----|----|
| Duration of mains dip |  | ms | 10 |
| Repetition rate       |  | s  | 1  |

|   |                |                  |  |
|---|----------------|------------------|--|
| Input voltage                                 |                | V DC             | 24   |
| Admissible range                              |                | V DC             | 20.4 - 28.8  |
| Input rating                                  |                | W                | max. 26  |
| Residual ripple                               |                | %                | ≤ 5  |
| Maximum power loss (without local I/O)        | P <sub>v</sub> | W                | 6  |
| Note on heat dissipation                      |                |                  | Without local I/O  |
| Overvoltage protection                        |                |                  | Yes  |
| Protection against polarity reversal          |                |                  | Yes  |
| Mains filter (external)                       |                |                  | Yes  |
| Inrush current                                |                | x I <sub>n</sub> | No limitation (limited only by upstream 24 V DC power supply unit) |
| Signal module output voltage                  |                |                  |  |
| Rated value                                   |                | V DC             | 5  |
| Output current                                |                | A                | 3.2  |
| Short-circuit rating                          |                |                  | Yes  |
| Electrically isolated from the supply voltage |                |                  | No   |

## CPU

|           |  |  |               |
|-----------|--|--|---------------|
| Processor |  |  | Infineon C164 |
|-----------|--|--|---------------|

## Memory

|  |  |       |         |
|--|--|-------|---------|
| Program code and program data                  |  | kByte | 128/128 |
| Marker/retentive data                          |  | KByte | 8/8     |
| Cycle time for 1 k of instructions (Bit, Byte) |  | ms    | < 0.5   |

## Interfaces

|  |  |        |  |
|--|--|--------|--|
| Serial interface (RS232) without handshake lines |  |        |  |
| Data transfer rate                               |  | kbit/s | max. 57.6  |
| Connection technique                             |  |        | RJ45   |
| Potential isolation                              |  |        | No   |
| CANopen®   |  |        |  |
| Maximum data transfer rate                       |  | Bits/s | 500000   |
| Potential isolation                              |  |        | Yes  |
| Device profile                                   |  |        | To DS 301 V4   |
| PDO type   |  |        | Asyn., cyc., acyc.   |
| Connection                                       |  |        | Optical interface<br>plastic fibre with 660 mm wave length, plug e.g. HFBR-4516 Agilent Technologies |
| Bus terminating resistors                        |  |        | External   |
| Stations   |  | Number | max. 126   |
| Watchdog   |  |        | Yes  |
| RTC (real-time clock)                            |  |        | Yes  |

## Power supply of local inputs/outputs (24 V<sub>Q</sub>/0 V<sub>Q</sub>)

|                                      |  |      |                          |
|--------------------------------------|--|------|--------------------------|
| Input voltage                        |  | V DC | 24                       |
| Voltage range                        |  | V DC | 19.2 - 30, note polarity |
| Potential isolation                  |  |      |                          |
| Power supply against CPU voltage     |  |      | Yes                      |
| Overvoltage protection               |  |      | Yes                      |
| Protection against polarity reversal |  |      | Yes                      |

## Digital inputs

|  |  |        |                                     |
|--|--|--------|-------------------------------------|
| Input current per channel at nominal voltage |  | mA     | Normally 3.5                        |
| Power loss per channel                       |  |        | Normally 85 mW                      |
| Voltage level to IEC/EN 61131-2              |  |        |                                     |
| Limit value type 1                           |  |        | Low < 5 V DC, high > 15 V DC        |
| Input delay                                  |  |        |                                     |
| Off → On                                     |  | ms     | Normally 0.1                        |
| On → Off                                     |  | ms     | Normally 0.1                        |
| Inputs                                       |  | Number | 8 (4 of which are interrupt inputs) |
| Channels with the same reference potential   |  | Qty.   | 8                                   |
| Status indication                            |  |        | LED                                 |

## Digital outputs

|          |  |        |   |
|----------|--|--------|---|
| Channels |  | Number | 6 |
|----------|--|--------|---|

|  |      |  |
|--|------|--|
| Power loss per channel                     | W    | 0.08   |
| QX0.0 to QX0.3                             | A    | 0.5  |
| Output delay                               |      |  |
| Off → On                                   |      | Normally 0.1 ms                              |
| On → Off                                   |      | Normally 0.1 ms                              |
| Channels with the same reference potential | Qty. | 6  |
| Status indication                          |      | LED  |
| Switching capacity                         |      | IEC/EN 60947-5-1, utilization category DC-13 |
| duty factor                                | % DF | 100  |
| Utilization factor                         | g    | 1  |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 0  |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 0  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 6  |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | 0  |
| Operating ambient temperature max.   |            | °C | 55   |
| IEC/EN 61439 design verification   |            |    |  |
| 10.2 Strength of materials and parts   |            |    |  |
| 10.2.2 Corrosion resistance  |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.2.3.1 Verification of thermal stability of enclosures   |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat   |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.2.4 Resistance to ultra-violet (UV) radiation   |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.2.5 Lifting   |            |    |  |
|  |            |    | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.2.6 Mechanical impact   |            |    |  |
|  |            |    | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.2.7 Inscriptions  |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.3 Degree of protection of ASSEMBLIES  |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.4 Clearances and creepage distances   |            |    |  |
|  |            |    | Meets the product standard's requirements.   |
| 10.5 Protection against electric shock   |            |    |  |
|  |            |    | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.6 Incorporation of switching devices and components   |            |    |  |
|  |            |    | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.7 Internal electrical circuits and connections  |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.8 Connections for external conductors   |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.9 Insulation properties   |            |    |  |
| 10.9.2 Power-frequency electric strength   |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.9.3 Impulse withstand voltage   |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.9.4 Testing of enclosures made of insulating material   |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.10 Temperature rise   |            |    |  |
|  |            |    | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating   |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.12 Electromagnetic compatibility  |            |    |  |
|  |            |    | Is the panel builder's responsibility.   |
| 10.13 Mechanical function  |            |    |  |
|  |            |    | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |

## Technical data ETIM 7.0

|  |   |             |
|--|---|-------------|
| PLC's (EG000024) / PLC CPU-module (EC000236)   |   |             |
| Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / SPS - basic device (ecl@ss10.0.1-27-24-22-07 [AKE530014]) |   |             |
| Supply voltage AC 50 Hz  | V | 0 - 0       |
| Supply voltage AC 60 Hz  | V | 0 - 0       |
| Supply voltage DC  | V | 20.4 - 28.8 |
| Voltage type of supply voltage   |   | DC          |
| Number of relay outputs  |   | 0           |

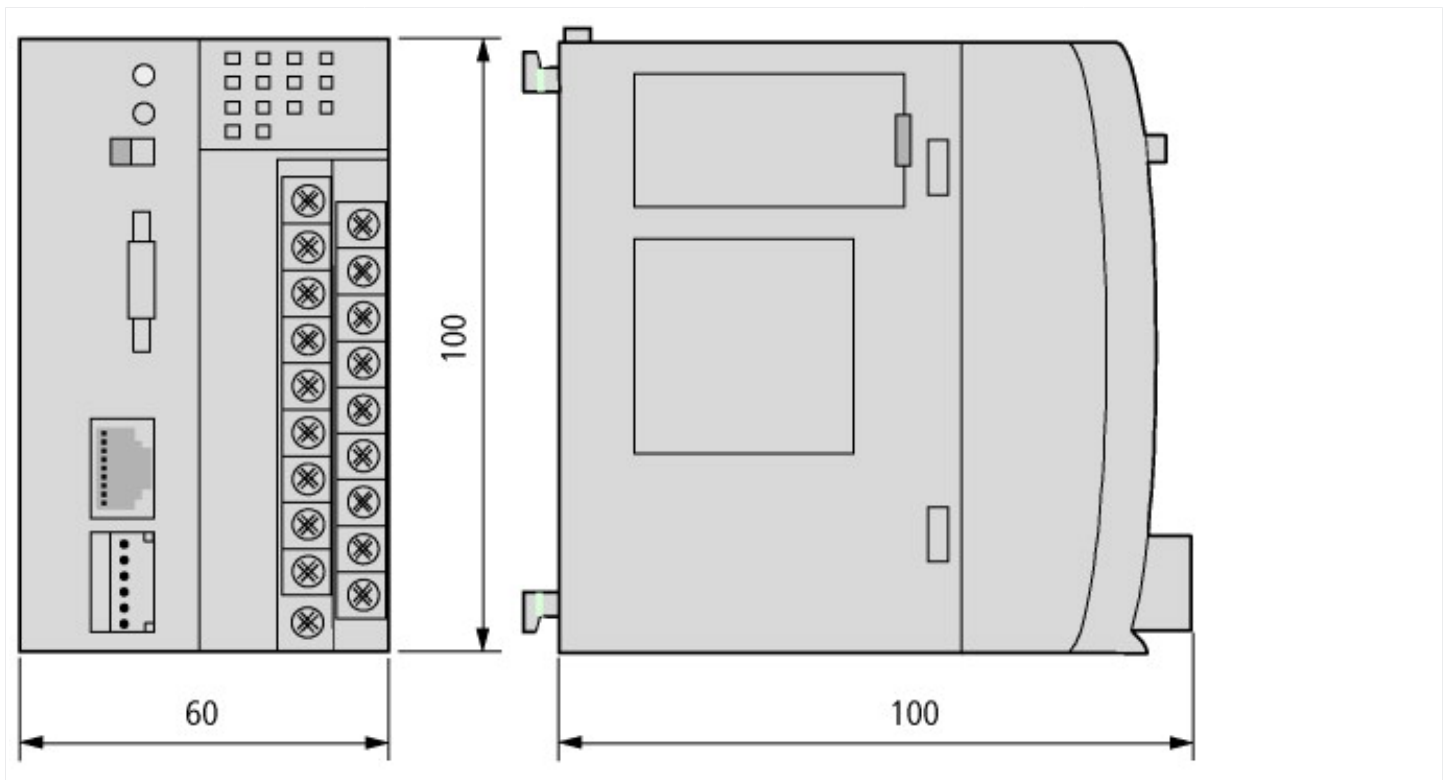
|   |       |         |
|---|-------|---------|
| Max. number of time switches                        |       | 1000    |
| Model   |       | Modular |
| Processing time (1K, binary operation)              | ms    | 0.5     |
| Number of HW-interfaces industrial Ethernet         |       | 0       |
| Number of interfaces PROFINET                       |       | 0       |
| Number of HW-interfaces RS-232                      |       | 1       |
| Number of HW-interfaces RS-422                      |       | 0       |
| Number of HW-interfaces RS-485                      |       | 0       |
| Number of HW-interfaces USB                         |       | 0       |
| Number of HW-interfaces parallel                    |       | 0       |
| Number of HW-interfaces Wireless                    |       | 0       |
| Number of HW-interfaces other                       |       | 1       |
| Number of analogue outputs                          |       | 0       |
| Number of analogue inputs                           |       | 0       |
| Number of digital inputs                            |       | 8       |
| Number of digital outputs                           |       | 6       |
| With optical interface                              |       | Yes     |
| Supporting protocol for TCP/IP                      |       | No      |
| Supporting protocol for PROFIBUS                    |       | Yes     |
| Supporting protocol for CAN                         |       | Yes     |
| Supporting protocol for INTERBUS                    |       | No      |
| Supporting protocol for ASI                         |       | No      |
| Supporting protocol for KNX                         |       | No      |
| Supporting protocol for MODBUS                      |       | Yes     |
| Supporting protocol for Data-Highway                |       | No      |
| Supporting protocol for DeviceNet                   |       | No      |
| Supporting protocol for SUCONET                     |       | Yes     |
| Supporting protocol for LON                         |       | No      |
| Supporting protocol for PROFINET IO                 |       | No      |
| Supporting protocol for PROFINET CBA                |       | No      |
| Supporting protocol for SERCOS                      |       | No      |
| Supporting protocol for Foundation Fieldbus         |       | No      |
| Supporting protocol for EtherNet/IP                 |       | No      |
| Supporting protocol for AS-Interface Safety at Work |       | No      |
| Supporting protocol for DeviceNet Safety            |       | No      |
| Supporting protocol for INTERBUS-Safety             |       | No      |
| Supporting protocol for PROFIsafe                   |       | No      |
| Supporting protocol for SafetyBUS p                 |       | No      |
| Supporting protocol for other bus systems           |       | Yes     |
| Radio standard Bluetooth                            |       | No      |
| Radio standard WLAN 802.11                          |       | No      |
| Radio standard GPRS                                 |       | No      |
| Radio standard GSM                                  |       | No      |
| Radio standard UMTS                                 |       | No      |
| IO link master                                      |       | No      |
| System accessory                                    |       | Yes     |
| Redundancy  |       | No      |
| With display  |       | No      |
| Type of memory                                      |       | RAM     |
| Memory size   | kByte | 128     |
| Additional program memory possible                  |       | Yes     |
| Rail mounting possible                              |       | Yes     |
| Wall mounting/direct mounting                       |       | Yes     |
| Front build in possible                             |       | No      |
| Rack-assembly possible                              |       | Yes     |

|                                       |    |      |
|---------------------------------------|----|------|
| Suitable for safety functions         |    | No   |
| Category according to EN 954-1        |    |      |
| SIL according to IEC 61508            |    | None |
| Performance level acc. EN ISO 13849-1 |    | None |
| Appendant operation agent (Ex ia)     |    | No   |
| Appendant operation agent (Ex ib)     |    | No   |
| Explosion safety category for gas     |    | None |
| Explosion safety category for dust    |    | None |
| Width                                 | mm | 60   |
| Height                                | mm | 100  |
| Depth                                 | mm | 100  |

## Approvals

|                                      |  |  |
|--------------------------------------|--|--|
| Product Standards                    |  | IEC: see Technical Data; UL508; CSA-C22.2 No. 0-M; CSA-C22.2 No. 142-M; CE marking |
| UL File No.                          |  | E135462  |
| UL Category Control No.              |  | NRAQ   |
| CSA File No.                         |  | 012528   |
| CSA Class No.                        |  | 2252-01  |
| North America Certification          |  | UL listed, CSA certified   |
| Specially designed for North America |  | No   |
| Current Limiting Circuit-Breaker     |  | No   |
| Degree of Protection                 |  | IEC: IP20, UL/CSA Type: -  |

## Dimensions



## Assets (links)

### Declaration of CE Conformity

00002403

### Instruction Leaflets

IL05006004Z2018\_02

### Manuals

MN05003004Z\_DE (German)

MN05003004Z\_EN (English)

## Additional product information (links)

IL05006004Z (AWA2724-2263) Compact controller Xcontrol XC-CPU101-FC128K-8DI-6DO

|   |   |
|---|---|
| IL05006004Z (AWA2724-2263) Compact controller Xcontrol XC-CPU101-FC128K-8DI-6DO | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05006004Z2018_02.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05006004Z2018_02.pdf</a> |
| <b>Manual modular PLC XC-CPU101...(-XV) MN05003004Z</b>                         |   |
| Handbuch modulare SPS XC-CPU101...(-XV) MN05003004Z - Deutsch                   | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003004Z_DE.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003004Z_DE.pdf</a>                   |
| Manual modular PLC XC-CPU101...(-XV) MN05003004Z - English                      | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003004Z_EN.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003004Z_EN.pdf</a>                   |