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

Part no. XC-CPU101-FC128K-8DI-6DO
Article no. 289169
Catalog No. XC-CPU101-FC128K

Powering Business Worldwide

Delivery program

Digital input count			Digital:8; of which usable as interrupt: 4
Quantity of outputs			Transistor: 6
Built-in interfaces			CANopen® (FO cable) RS232
Description			Optical CAN interface:
Instructions			expandable with → expansions XI/OC Only on connection with →XI/OC rack
User memory			128 Kbyte
Cycle time for 1 k of instructions (Bit, Byte)		ms	0.5
Memory			
Application/marker/retain data		KByte	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

Technical data

General

Standards			IEC/EN 61131-2 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 57 - 150 Hz ±1.0 g
Mechanical shock resistance		g	15 Shock duration 11 ms
Overvoltage category/pollution degree			II/2
Degree of Protection			IP20
Rated insulation voltage	U_i	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^2	
Screw terminals			
Flexible with ferrule		mm^2	0.5 - 1.5
Solid		mm^2	0.5 - 2.5
Spring-loaded terminals			
flexible		mm^2	0.34 - 1.0
Solid		mm^2	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_v	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_n	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 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_Q/0 V_Q)

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 6.0

PLC's (EG000024) / PLC CPU-module (EC000236)			
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / SPS basic equipment (ecl@ss8.1-27-24-22-07 [AKE530011])			
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
Max. number of addressable analogue I/O-ports			180

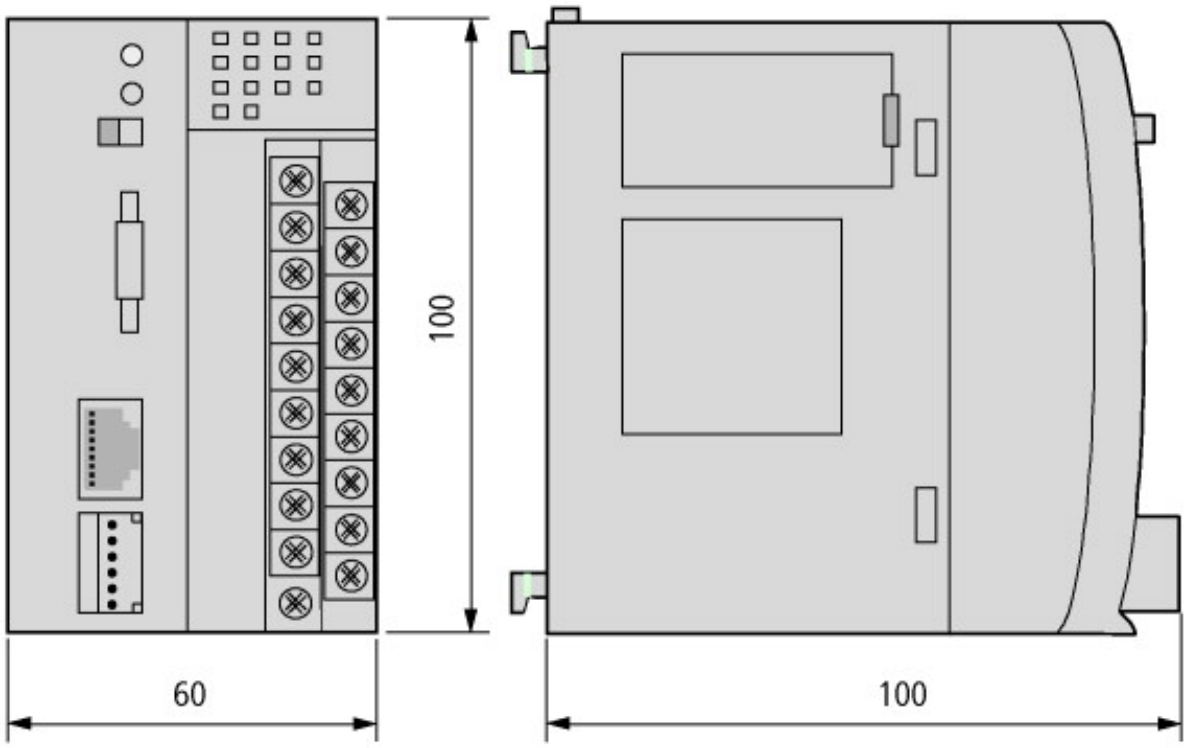
Max. number of addressable digital I/O-ports		974
Model		Modular
Processing time (1K, binary operation)	ms	0.5
Number of HW-interfaces industrial Ethernet		0
Number of HW-interfaces PROFINET		0
Number of HW-interfaces RS-232		1
Number of HW-interfaces RS-422		0
Number of HW-interfaces RS-485		0
Number of HW-interfaces serial TTY		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. to 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



Additional product information (links)

MN05003004Z Manual modular PLC XC-CPU101…(-XV)	
MN05003004Z Handbuch Modular PLC XC-CPU101…(-XV) - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003004Z_DE.pdf
MN05003004Z Manual modular PLC XC-CPU101…(-XV) - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003004Z_EN.pdf