

Compact PLC, expandable, 24 V DC, RS232, RS485(RS232), 2xCAN

Part no. XC-CPU121-2C256K
Catalog No. 290446



Delivery program

Built-in interfaces			2 x CANopen® RS232 RS485/RS232
Description			can be locally expandable with I/O module XI0-EXT-121-1 244 kByte data memory
Instructions			expandable with → expansions for XC-CPU121 expandable with → expansions XI/OC Only on connection with →XI/OC rack
User memory			256 Kbyte
Cycle time for 1 k of instructions (Bit, Byte)		ms	0.3
Memory			
Application/marker/retain data			256 KB/16 KB/8 KB
Integrated Web server			no
Approvals			EAC

Technical data

General

Standards			IEC/EN 61131-2 EN 50178
Ambient temperature		°C	0 - +55
Storage	8	°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			Frequency 5 - 9 Hz; amplitude 3.5 mm 9 - 150 Hz; 1.0 g constant acceleration
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 61000-6-4
Interference immunity			EN 61000-6-2
Backup (time at zero voltage)			min. 72 hours
Weight		kg	0.15

Connection

Supply voltage connection			
Connection type			-
Terminal capacity		mm ²	0.14 - 1 (AWG28-18)
COM1 interface			
Connection type			RJ45
COM2, CAN1, CAN2 interface			
Connection type			Spring-loaded terminal block, 6-pole
Terminal capacity		mm ²	0.14 - 0.5 (AWG28-20)

Power supply

Input voltage		V DC	24
Admissible range		V DC	20.4 - 28.8
Power consumption		W	max. 1.44
Input current		mA	60
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
Inrush current		x I _N	No limitation (limited only by upstream 24 V DC power supply unit)
Hold-up time on supply drop-out			
Duration of dip		ms	10
Repetition rate		s	1
External supply filter			Type: XT-FIL-1, →#285316
Internal supply filter			Yes

CPU

Processor			Infineon XC161
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Memory

Program code and program data		kByte	256/244
Marker/Input/Output/Retain data		KByte	16/4/4/8
Cycle time for 1 k of instructions (Bit, Byte)		ms	< 0.3

Interfaces

Serial interface (RS232) without handshake lines			
Data transfer rate		kBit/s	Programming (Character format: 8 data bits, no parity, 1 stop bit) 19.2, 38.4 (default), 57.6
Connection technique			RJ45
Potential isolation			No
in the transparent mode			
Data transfer rate		KBit/s	0.3, 0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2
Potential isolation			-
Character formats			8E1, 8O1, 8N1, 8N2, 7E2, 7O2, 7N2, 7E1
Number of Send bytes in each block			190
Number of Receive bytes in each block			190
Connection			-
COM2 (RS232/RS485) without handshake lines			
Data transfer rate		KBit/s	Transparent mode (set through function blocks) 0.3, 0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6
Character formats			8E1, 8O1, 8N1, 8N2, 7E2, 7O2, 7N2, 7E1 (set through function blocks)
Potential isolation			No
Bus termination			External, for RS485
CAN1/CAN2 interface			
Baud rate		kBit/s	10 - 500
Potential isolation			No
Station			126
Bus termination			Selectable for each interface (CAN1/CAN2)
PDO type			Asyn., cyc., acyc.

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	-
Power loss per channel			-
Voltage level to IEC/EN 61131-2			
Limit value type 1			-

Input delay			
Off → On		ms	-
On → Off		ms	-
Channels with the same reference potential		Qty.	0
Status indication			-

Digital outputs

Channels		Number	0
Power loss per channel		W	-
QX0.0 to QX0.3		A	0
Output delay			
Off → On			-
On → Off			-
Channels with the same reference potential		Qty.	0
Status indication			-
Switching capacity			-
duty factor		% DF	-
Utilization factor		g	0

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

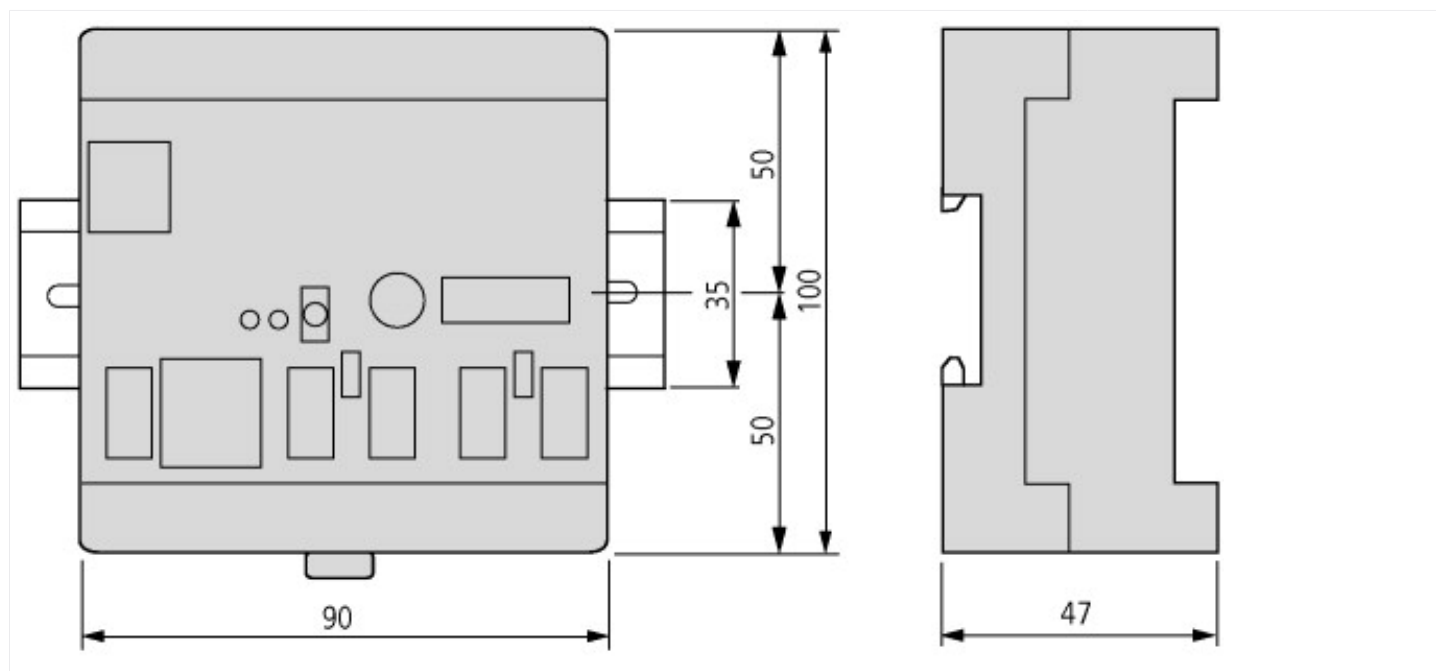
Supply voltage AC 50 Hz	V	0 - 0
Supply voltage AC 60 Hz	V	0 - 0
Supply voltage DC	V	20.4 - 28.8
Voltage type of supply voltage		DC
Number of relay outputs		0
Max. number of time switches		1000
Model		Modular
Processing time (1K, binary operation)	ms	0.5
Number of HW-interfaces industrial Ethernet		0
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		1
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		18
Number of digital outputs		8
With optical interface		No
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

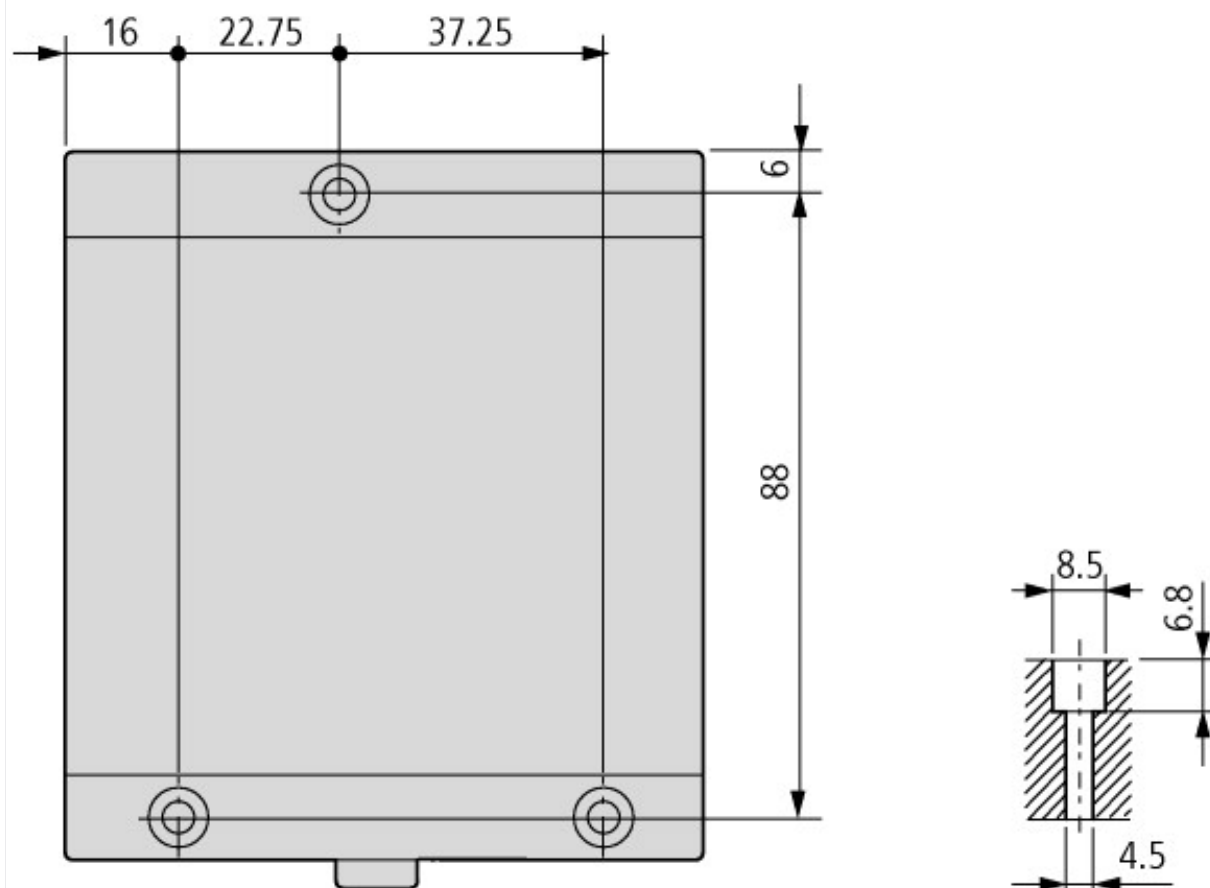
Type of memory		RAM
Memory size	kByte	256
Additional program memory possible		Yes
Rail mounting possible		Yes
Wall mounting/direct mounting		Yes
Front build in possible		No
Rack-assembly possible		No
Suitable for safety functions		No
Category according to EN 954-1		
SIL according to IEC 61508		None
Performance 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	90
Height	mm	100
Depth	mm	47

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

00002404

Instruction Leaflets

IL05006003Z2018_02

Manuals

MN05003002Z_DE (German)

MN05003002Z_EN (English)

Additional product information (links)

IL05006003Z (AWA2724-2304) Compact PLC

IL05006003Z (AWA2724-2304) Compact PLC ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05006003Z2018_02.pdf

Manual modular PLC XC-CPU121-2C256K MN05003002Z

Handbuch modulare SPS XC-CPU121-2C256K MN05003002Z - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003002Z_DE.pdf

Manual modular PLC XC-CPU121-2C256K MN05003002Z - English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05003002Z_EN.pdf