



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



Part no. **XC-CPU101-FC128K-8DI-6DO**
289169

General specifications		
Product name		Eaton XC Modular PLC
Part no.		XC-CPU101-FC128K-8DI-6DO
EAN		4015082891695
Product Length/Depth		100 millimetre
Product height		100 millimetre
Product width		60 millimetre
Product weight		0.28 kilogram
Certifications		IEC/EN 61131-2 UL508 UL UL Category Control No.: NRAQ CSA-C22.2 No. 142-M CSA-C22.2 No. 0-M CSA Class No.: 2252-01 CSA File No.: 012528 EN 50178 CSA UL File No.: E135462 CE EAC
Product Tradename		XC
Product Type		Modular PLC
Product Sub Type		None
Features & Functions		
Features		Asynchronous, cyclic, acyclic PDO types (CANopen®) Mains filter (power supply) Mains overvoltage protection (power supply) Expandable with XI/OC expansions Short-circuit protection (power supply)
Fitted with:		Real time clock Optical interface
Functions		Overvoltage protection Additional program memory possible
Processor		Infineon C164
General information		
Accessories		Order terminal clamps, module rack and battery separately.
Battery runtime		5 years typ.
Connection type		Plug-in terminal block Optical interface, , CANopen® Plastic fibre with 660 mm wave length, plug e.g. HFBR-4516 Agilent Technologies RJ45, Ethernet
Degree of protection		IP20
Model		Modular
Mounting method		Wall mounting/direct mounting Rack-assembly possible Rail mounting possible
Overvoltage category		II
Pollution degree		2
Potential isolation		CANopen®: yes Power supply of local inputs/outputs (24 V/0 V) against CPU voltage: yes
Rated insulation voltage (Ui)		500 V
Residual ripple		≤ 5 %
Voltage type		DC
Ambient conditions, mechanical		
Mounting position		Horizontal
Shock resistance		15 g, Mechanical, Shock duration 11 ms
Vibration resistance		57 - 150 Hz, ± 1.0 g 10 - 57 Hz, ± 0.075 mm

Climatic environmental conditions		
Air pressure		795 - 1080 hPa (operation)
Ambient operating temperature - min		0 °C
Ambient operating temperature - max		55 °C
Ambient storage temperature - min		-25 °C
Ambient storage temperature - max		70 °C
Relative humidity		10 - 95 % (non-condensing)
Electro magnetic compatibility		
Emitted interference		Class A (according to EN 50081-2)
Interference immunity		According to EN 50081-2
Terminal capacities		
Terminal capacity (flexible with ferrule)		0.5 - 1.5 mm ² , Screw terminals
Terminal capacity (flexible)		0.34 - 1.0 mm ² , Spring-loaded terminals
Terminal capacity (solid)		0.5 - 2.5 mm ² , Screw terminals 0.14 - 1.0 mm ² , Spring-loaded terminals
Power supply		
Input power		26 W
Input voltage		24 V DC (Power supply of local inputs/outputs) 24 V DC (Power supply)
Inrush current		No limitation (limited only by upstream 24 V DC power supply unit)
Output current		3.2 A
Output voltage		5 V DC (signal module)
Power loss		Normally 85 mW 6 W
Repetition rate		1 s
Supply voltage		20.4 - 28.8 V DC
Supply voltage at AC, 50 Hz - min		0 V AC
Supply voltage at AC, 50 Hz - max		0 V AC
Supply voltage at DC - min		20.4 V DC
Voltage dips		10 ms
Supply voltage at DC - max		28.8 V DC
Communication		
Bus termination		External, CANopen®
Cycle time		< 0.5 ms, for 1 k of instructions (Bit, Byte), memory
Data transfer rate		57.6 kBit/s, Serial interface (RS232) without handshake lines 0,5 MBit/s, CANopen®
Interfaces		RS232 (built-in) CANopen® (FO cable) (built-in)
Memory		128 kByte Program memory code, optional extension 8 kByte Marker Memory 128 kByte Program data code, optional extension 8 kByte Retain Memory 128 kByte (User memory)
Number of modules		Max. 126 (CANopen)
Operating mode		Watchdog
Protocol		CAN SUCONET Other bus systems MODBUS PROFIBUS CANopen® (To DS 301 V4)
Input/Output		
Delay time		0.1 ms typ., Digital inputs 24 V DC, Delay time from 1 to 0, Debounce OFF 0.1 ms typ., Output delay, 0n -> Off 0.1 ms typ., Digital inputs, Delay time from 0 to 1, Debounce OFF
Duty factor		100 %, Digital outputs
Input current		3.5 mA (per channel at nominal voltage, Digital inputs)
LED indicator		Status indication of digital inputs: LED
Limit value type 1		Low: < 5 V DC High: > 15 V DC
Making/breaking delay		0.1 ms

Number of channels		6
Number of inputs (analog)		0
Number of inputs (digital)		8
Number of outputs		6 (transistor outputs)
Number of outputs (analog)		0
Number of outputs (digital)		6
Number of relay outputs		0
Rated operational current (Ie)		0.5 A at AC-3, 230 V
Signal range		19.2 - 30 V DC (Power supply of local inputs/outputs, note polarity)
Switching capacity		IEC/EN 60947-5-1, utilization category DC-13, Digital outputs
Utilization factor		1 (Inductive load to EN 60947-5-1, Without external suppressor circuit, T0.95 = 1 ms, R = 48 Ω, L = 16 mH)

Safety

Explosion safety category for gas		None
Protection against polarity reversal		Yes Yes, for AS-Interface
Explosion safety category for dust		None

System

Memory capacity		128 kByte
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Design verification

Equipment heat dissipation, current-dependent Pvid		0.08 W
Heat dissipation capacity Pdis		0 W
Heat dissipation per pole, current-dependent Pvid		0 W
Rated operational current for specified heat dissipation (In)		0 A
Static heat dissipation, non-current-dependent Pvs		6 W
Heat dissipation details		Without local I/O
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 9.0

Programmable logic controllers PLC (EG000024) / SPS-Grundgerät (EC000236)		
Elektro-, Automatisierungs- und Prozessleittechnik / Steuerung / Speicherprogrammierbare Steuerung (SPS) / SPS-Grundgerät (ecl@ss13-27-24-22-07 [AKE530019])		
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 (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 EtherCAT		No
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 PROFI-safe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for other bus systems		Yes
Supporting protocol for DNP3		No
Supporting protocol for IEC 60870		No
Supporting protocol for IEC 61850 Ethernet		No
Radio standard Bluetooth		No
Radio standard WLAN 802.11		No
Radio standard GPRS		No
Radio standard GSM		No
Radio standard UMTS		No
Long-Term Evolution (LTE)		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 built-in possible		No
Rack-assembly possible		Yes
Suitable for safety functions		No
SIL according to IEC 61508		None
Performance level according 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
Certified for UL hazardous location class I		No
Certified for UL hazardous location class II		No
Certified for UL hazardous location class III		No
Certified for UL hazardous location division 1		No
Certified for UL hazardous location division 2		No
Certified for UL hazardous location group A (acetylene)		No
Certified for UL hazardous location group B (hydrogen)		No
Certified for UL hazardous location group C (ethylene)		No
Certified for UL hazardous location group D (propane)		No
Certified for UL hazardous location group E (metal dusts)		No
Certified for UL hazardous location group F (carbonaceous dusts)		No
Certified for UL hazardous location group G (non-conductive dusts)		No
Width	mm	60
Height	mm	100
Depth	mm	100