DATASHEET - XC-303-C21-001

XC303 modular PLC, small PLC, programmable CODESYS 3, SD Slot, USB, 2x Ethernet, CAN, RS485

Powering Business Worldwide

Part no. XC-303-C21-001
191081

General specifications

Product name	Eaton XC Modular PLC
Part no.	XC-303-C21-001
EAN	4015081915675
Product Length/Depth	108 millimetre
Product height	65 millimetre
Product width	85 millimetre
Product weight	0.28 kilogram
Certifications	CE EN 61131 UL File No.: E205091 EAC cULus Listed UL listed
Product Tradename	XC
Product Type	Modular PLC
Product Sub Type	None
Catalog Notes	Protective devices must be installed directly at the inductive load in order to prevent interference.

Features & Functions

Features	Short-circuit protection (digital outputs)
Functions	Redundancy Additional program memory possible

General information

Connection type	Push-in spring-cage terminal, Connection design in TOP direction
Degree of protection	IP20
Memory capacity	512,000 kByte
Model	Modular
Mounting method	Rail mounting possible
Overvoltage category	II
Pollution degree	2
Protocol	MODBUS Other bus systems CAN TCP/IP EtherNet/IP
Rated operational voltage	24 V 160 V (terminations)
Voltage type	DC

Ambient conditions, mechanical

Height of fall (IEC/EN 60068-2-32) - max	1 m
Mounting position	Vertical (on horizontal top-hat rail)
Shock resistance	15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 9 Impacts
Vibration resistance	5 - 8.4 / 8.4 -150 Hz, 3,5 mm / 1 g

Climatic environmental conditions

Air pressure	795 - 1080 hPa (operation)
Ambient operating temperature - min	-20 °C
Ambient operating temperature - max	55 °C
Ambient storage temperature - min	-40 °C
Ambient storage temperature - max	80 °C
Climatic proofing	Damp heat, constant, to IEC 60068-2-3 Dry heat to IEC 60068-2-2

Environmental conditions	Condensation: prevent with appropriate measures
Relative humidity	< 95 % (non-condensing)
Electro magnetic compatibility	
Air discharge	8 kV/4 kV, Air/contact discharge, ESD
Burst impulse	2 kV, Supply cable 1 kV, Signal cable
Electromagnetic fields	10 V/m at 0.08 - 1.0 GHz (according to IEC EN 61000-4-3) 1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3) 3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)
Emitted interference	47 dB (at 230 - 1000 MHz, Class A, radiated, high frequency) 40 dB (at 30 - 230 MHz, Class A, radiated, high frequency)
Radiated RFI	10 V
Surge rating	0.5/0.5 kV, Supply cable, balanced/unbalanced), EMC 1 kV, Signal cable, unbalanced, EMC
Terminal capacities	
Terminal capacity (AWG)	24 - 16
Terminal capacity (flexible with ferrule)	0.25 - 1.5 mm^2, with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm^2, with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
Terminal capacity (flexible)	0.2 - 1.5 mm^2, H 07V-K
Terminal capacity (solid)	0.2 - 1.5 mm^2, H07V-U
Stripping length (main cable)	10 mm
Gauge pin	A1 (according to IEC/EN 60947-1)
Insulating material group	I
Power supply	
Heat dissipation	0.1 W (Digital outputs, internal, per active channel) 0.05 W (Digital inputs according to EN61131-2 Type 1, per active channel)
Input voltage	15 - 30 V (Digital inputs, high level) 24 V DC (Digital inputs) 0 - 5 V (Digital inputs, low level)
Supply voltage at AC, 50 Hz - max	0 V AC
Output current	0.5 A
Supply voltage at DC - max	30 V DC
Supply voltage at AC, 50 Hz - min	0 V AC
Supply voltage at DC - min	18 V DC
Voltage dips	Voltage dips: 10 ms/Voltage fluctuations: Yes
Input/Output	
Delay time	200 µs, Digital outputs, Delay on signal change and resistive load, from High to Low signal 200 µs, Digital outputs, Delay on signal change and resistive load, from Low to High signal
Digital outputs	Note: Protective devices must be installed directly at the inductive load in order to prevent interference.
Input current	≤ 1.1 mA (Digital inputs, low level) ≥ 2.3 mA (Digital inputs, high level) 2 mA (Ie)
Input delay	300 µs (rising edge) 300 µs (falling edge)
Load current	Max. 6 A per 1.5 mm^2 (cross-sectional area)
Number of channels	4, Digital Outputs
Number of inputs (analog)	0
Number of inputs (digital)	0
Number of outputs (analog)	0
Number of outputs (digital)	0
Number of relay outputs	0
Rated operational current (Ie)	2.8 A (supply input)
Utilization factor	100 % (# IAmax = 2A)
Safety	
Explosion safety category for dust	None
Explosion safety category for gas	None
Potential isolation	Between Digital inputs: no

			Between Digital outputs: no

Design verification

Static heat dissipation, non-current-dependent Pvs			8 W
Heat dissipation details			The max. heat dissipation is specified as the maximum power produced inside the device's housing.
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) / PLC CPU-module (EC000236)		
Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Programmable logic control (SPS) / SPS - basic device (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	18 - 30
Voltage type (supply voltage)		DC
Number of relay outputs		0
Max. number of time switches		1000
Model		Modular
Processing time (1K, binary operation)	ms	0.001
Number of HW-interfaces industrial Ethernet		2
Number of interfaces PROFINET		0
Number of HW-interfaces RS-232		0
Number of HW-interfaces RS-422		0
Number of HW-interfaces RS-485		1
Number of HW-interfaces USB		1
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		0
Number of digital outputs		0
With optical interface		No
Supporting protocol for TCP/IP		Yes
Supporting protocol for PROFIBUS		No

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		No
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		Yes
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
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		Yes
With display		No
Type of memory		RAM
Memory size	kByte	512000
Additional program memory possible		Yes
Rail mounting possible		Yes
Wall mounting/direct mounting		No
Front built-in possible		No
Rack-assembly possible		No
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	85
Height		mm	65
Depth		mm	108