Specifications



Eaton 191081

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

General specifications	
PRODUCT NAME	Eaton XC Modular PLC
CATALOG NUMBER	191081
MODEL CODE	XC-303-C21-001
EAN	4015081915675
PRODUCT LENGTH/DEPTH	108 mm
PRODUCT HEIGHT	65 mm
PRODUCT WIDTH	85 mm
PRODUCT WEIGHT	0.28 kg
CERTIFICATIONS	CE EN 61131 UL listed EAC UL File No.: E205091 cULus Listed
CATALOG NOTES	Protective devices must be installed directly at the inductive load in order to prevent interference.

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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 - MAX	55 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT OPERATING TEMPERATURE - MIN	-20 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °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)

Design verification

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.
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.

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

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.
HEAT DISSIPATION DETAILS	The max. heat dissipation is specified as the maximum power produced inside the device's housing.
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	8 W

Features & functions

FEATURES	Short-circuit protection (digital outputs)
FUNCTIONS	Additional program memory possible Cable redundancy in the EtherCAT network using a ring topology

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

Input/Output

DELAY TIME	200 µ s, Digital outputs, Delay on signal change and resistive load, from High to Low signal 200 µ s, 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 µ s (rising edge) 300 µ s (falling edge)
LOAD CURRENT	Max. 6 A per 1.5 mm² (cross-sectional area)
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 % (Σ IAmax = 2A)
NUMBER OF CHANNELS	4, Digital Outputs

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)
OUTPUT CURRENT	0.5 A
SUPPLY VOLTAGE AT DC - MAX	30 VDC
SUPPLY VOLTAGE AT DC - MIN	18 VDC
VOLTAGE DIPS	Voltage dips: 10 ms/Voltage fluctuations: Yes

Safety

EXPLOSION SAFETY CATEGORY FOR DUST	None
EXPLOSION SAFETY CATEGORY FOR GAS	None
POTENTIAL ISOLATION	Between Digital inputs: no Between Digital outputs: no

Terminal capacities

GAUGE PIN	A1 (according to IEC/EN 60947-1)
INSULATING MATERIAL GROUP	I
STRIPPING LENGTH (MAIN CABLE)	10 mm
TERMINAL CAPACITY (AWG)	24 - 16
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	0.25 - 1.5 mm², with ferrules without plastic collar according to DIN

	46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm², with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
TERMINAL CAPACITY (FLEXIBLE)	0.2 - 1.5 mm², H 07V-K
TERMINAL CAPACITY (SOLID)	0.2 - 1.5 mm², H07V-U

Resources	
APPLICATION NOTES	eaton-codesys-managing-ssl-certificates-v3-ap050017en-us eaton-codesys-sae-j1939-first-steps-v3-ap050019en-us eaton-connection-plc-sql-database-ap050018en-us
BROCHURES	Slice card modular I/O system for the machine building industry XN300 - brochure eaton-xc300-modular-plc-brochure-br050008en-en-us.pdf
CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-modular-plc-declaration-of-conformity-eu250447en.pdf eaton-modular-plc-declaration-of-conformity-uk250930en.pdf
DRAWINGS	eaton-modular-plc-xc-modular-plc-dimensions.eps eaton-modular-plc-xc-modular-plc-3d-drawing.eps eaton-modular-plc-xc-modular-plc-3d-drawing-002.eps
ECAD MODEL	DA-CE-ETN.XC-303-C21-001
INSTALLATION INSTRUCTIONS	IL050018ZU
MANUALS AND USER GUIDES	eaton-ethernet-switch-xn300-322-5eth-ums-manual-mn050011en-us.pdf eaton-xn300-slice-modules-mn050002-en-us.pdf MN050005_EN
MCAD MODEL	eaton-cpu-modules-mcad-drawings-xc-303-c21-001.dwg

	DA-CS-xc_303_c21_001
MULTIMEDIA	XC100, XC200, XC300 – Eaton's modular PLC ranges System solutions based on EtherCAT
PRODUCT NOTIFICATIONS	eaton-xc303-eula-mz050031en-us.pdf eaton-xc-303-product-cybersecurity-guideline-mz050007en-us.pdf

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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