DATASHEET - XIOC-4AI-T



Analog input card for XC100/200, 24 V DC, 4AI(Thermoel.typ K,J,L,B,N,E,R,S,T)

Powering Business Worldwide*

Part no. XIOC-4AI-T Catalog No. 289933

EL-Nummer (Norway) 4519669

Delivery program

Function	Analog modules
	Compact I/O system for connection to XC100/200 Modular PLCs XC100/200 expandable with up to 15 XI/OC modules Optionally, screw terminals or spring-loaded terminals for digital/analog modules
Description	Inputs 4 inputs for thermocouples Type K, J, B, N, E, R, S, T

IEC/EN 61131-2

Technical data

General Standards

			EN 50178
Ambient temperature		°C	0 - +55
Storage	9	°C	-25 - +70
Vibration resistance			10 - 57 Hz ±0.075 mm 57 - 150 Hz ±1.0 mm
Mechanical shock resistance		g	15 Shock duration 11 ms
Impact resistance			500 g/Ø 50 mm ±25 g
Overvoltage category/pollution degree			11/2
Protection class			1
Degree of Protection			IP20
Emitted interference			DIN/EN 55011/22, Class A
Weight		kg	0.2
Power supply			
Rated voltage	U _e	V DC	24 (12)
Admissible range			20.4 – 28.8 (11.8 – 14.4)
Residual ripple		%	≦5
Neutral poles			
Duration of dip		ms	10
Repetition rate		s	1
Maximum power loss	P_{v}	W	4.8
Inputs			
Number			4
Conversion time			≦5 ms
Total error		%	±0.5 of measurement range
Potential isolation			
Circuit within each channel			Opto-isolated
Between the input channels			No
Terminations			Plug-in terminal block
External power supply			24 V DC (-15/+20 %), approx. 150 mA
Temperature measuring range		?C	K type: -270 1370 J type: -210 1200 B type: 100 1800 N type: -270 1300 E type: -270 1000 R type: -50 1760 T type: -200 400

Voltage measurement		- 50 mV50 mV -100 mV100 mV -500 mV500 mV -1000 mV1000 mV
Cold junction compensation		Yes, integrated
Interference voltage suppression		50 Hz, 60 Hz
Unit		0.1 °C, 0.1 F
Resolution	Bit	16
Conversion time		<1s
Temperature coefficient		< 200 ppm/°C of measurement range
Outputs		
Resolution	Bit	16
Conversion time		<1s

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	Α	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	0.5
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

10011110ur uutu E11111 7.0		
PLC's (EG000024) / PLC analogue I/O-module (EC001420)		
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / SPS analog input/output module (ecl@ss10.0.1-27-24-22-01 [AKE524014])		
Number of analogue inputs	4	
Number of analogue outputs	0	
Analogue inputs configurable	Yes	

Input, current Mo Input, voltage No Input, resistor No Input, resistance thermometer No Input, thermocouple Yes Input, signal, configurable Yes Resolution of the analogue inputs Bit 16 Output, current No No Output, voltage No No Output, voltage Sex output No Output, voltage Sex output No Output, voltage No No Output, voltage No No Resolution of the analogue outputs Sex output No Resolution of the analogue outputs No No Statisble for safety functions Sex output No Category according to EX 954-1 No No St. Laccording to EX 954-1 No No St. Laccording to EX 954-1 No No Appendant operation agent (EX ia) No No Appendant operation agent (EX ia) No No Expl			
Injut, voltage Mo Injut, resistor Mo Injut, resistor Mo Injut, resistance thermometer Mo Injut, thermocouple Yes Injut, signal, configurable Yes Resolution of the analogue injuts Bit 16 Output, current Mo No Output, voltage No No Output, signal configurable Yes No Resolution of the analogue outputs Yes No Resolution of the analogue outputs Yes No Strate of safety functions Yes Screw/spring clamp connection Category according to EK 954-1 No No Stl. according to EK 954-1 None No Stl. according to EK 954-1 None No Stl. according to EK 954-1 None No Appendant operation agent (Ex ia) No No Appendant operation agent (Ex ia) No None Explosion safety category for dust None None Width No No<	Analogue outputs configurable		Yes
Imput, resistor No Imput, resistance thermometer Mo Imput, termocouple Yes Imput signal, configurable Yes Resolution of the analogue inputs Bit 16 Output, current No No Output, voltage No No Output bignal configurable No No Resolution of the analogue outputs Bit 0 Type of electric connection Size Screw-/spring clamp connection Suitable for safety functions No No Category according to EN 954-1 None None Sil according to IEC 81508 None None Performance level acc. EN ISO 13849-1 None None Appendant operation agent (Ex ia) No None Explosion safety category for gas None None Explosion safety category for dust Mone None Width Mone None Explosion safety category for dust Mone None Width Mone None	Input, current		No
Input, resistance thermometer Mo Input, termocouple Yes Input signal, configurable Yes Resolution of the analogue inputs Bit 16 Output, current Mo No Output, voltage No No Resolution of the analogue outputs Secret/Spring clamp connection Type of electric connection Secret/Spring clamp connection Suitable for safety functions Secret/Spring clamp connection Category according to EN 954-1 No 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 None Height None	Input, voltage		No
Input, thermocouple Yes Input signal, configurable Yes Resolution of the analogue inputs Bit 16 Output, current No No Output, voltage No No Output signal configurable No No Resolution of the analogue outputs Bit 0 Suitable for safety functions Screw-/spring clamp connection Suitable for safety functions No No Category according to EN 954-1 None None Sultaccording to EC 61508 None None Performance level acc. EN ISO 13849-1 None None Appendant operation agent (Ex ia) No None Appendant operation agent (Ex ib) None None Explosion safety category for gas None None Explosion safety category for dust None None Width None None Height None None	Input, resistor		No
Input signal, configurable Resolution of the analogue inputs Output, current Output, voltage Output, voltage Output signal configurable Resolution of the analogue outputs Resolution of the an	Input, resistance thermometer		No
Resolution of the analogue inputs Output, current Output, voltage Output, voltage Output signal configurable Resolution of the analogue outputs Resolution of the analogue of the analogue outputs Resolution of the analogue of the analogue outputs Resolution of the analogue o	Input, thermocouple		Yes
Output, current Output, voltage Output, voltage Output signal configurable Resolution of the analogue outputs Resolution of the analogue of the analo	Input signal, configurable		Yes
Output signal configurable Output signal configurable Resolution of the analogue outputs Resolution of the analogue outputs Type of electric connection Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width Height No No No No No No No No No N	Resolution of the analogue inputs	Bit	16
Output signal configurable Resolution of the analogue outputs Type of electric connection Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for dust Width Height No No No No Sorew-/spring clamp connection No No No No No No No No No N	Output, current		No
Resolution of the analogue outputs Type of electric connection Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width Height Bit O Screw-/spring clamp connection No No None	Output, voltage		No
Type of electric connection Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for dust Width Height Screw-/spring clamp connection No No No No None	Output signal configurable		No
Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width Height No No No No No No No No No N	Resolution of the analogue outputs	Bit	0
Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width Height None	Type of electric connection		Server Jerring alamp composition
SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width Height None	7,5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-		Screw-/spring cramp connection
Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width mm 30 Height None	Suitable for safety functions		
Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Appendant operation agent (Ex ia) Append			
Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust Width Meight Mo None Midth Mm Mm Mm Mm Mm Mm Mm Mm Mm M	Suitable for safety functions		No
Explosion safety category for gas Explosion safety category for dust Width Mmm Mmm 100	Suitable for safety functions Category according to EN 954-1		No None
Explosion safety category for dust Width Meight None None None 100	Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508		None None
Widthmm30Heightmm100	Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1		No None None No
Height mm 100	Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia)		No None None No No
	Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib)		No None No No No No No
	Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas	mm	No None No No No No No No None None
Depth mm 95	Suitable for safety functions Category according to EN 954-1 SIL according to IEC 61508 Performance level acc. EN ISO 13849-1 Appendant operation agent (Ex ia) Appendant operation agent (Ex ib) Explosion safety category for gas Explosion safety category for dust		None None No No No No No No 30

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

