

Analog input card XI/ON, 24 V DC, 4AI (-10/0 to +10V, 0/4 to 20mA)

Part no. XN-4AI-U/I
140158
EL Number 4520678
(Norway)

| General specifications | |
|--------------------------------|---|
| Product name | Eaton XN Accessory Input card |
| Part no. | XN-4AI-U/I |
| EAN | 7640130120280 |
| Product Length/Depth | 74.1 millimetre |
| Product height | 55.4 millimetre |
| Product width | 12.6 millimetre |
| Product weight | 0.034 kilogram |
| Certifications | IEC/EN 61000-6-2 IEC/EN 61000-6-4 CSA Class No.: 2252-01, 2252-81 IEC/EN 6113-2 CSA-C22.2 No. 142 CULus UL Recognized UL File No.: E205091 Certified by UL for use in Canada CE UL report applies to both US and Canada UL 508 UL Category Control No.: NRAQ, NRAQ7 IEC/EN 61131-2 |
| Product Tradename | XN |
| Product Type | Accessory |
| Product Sub Type | Input card |
| Catalog Notes | -10/0 to +10 V DC 0.3 0/4 to 20 mA 300 ppm/°C of full scale Switchable as channels |
| Features & Functions | |
| Electric connection type | Screw-/spring clamp connection |
| Features | Input signal, configurable Input, current Input, voltage Measuring principle: Delta Sigma Analog outputs configurable Fieldbus connection over separate bus coupler possible Analog inputs configurable |
| Functions | Diagnosis function |
| General information | |
| Current consumption | 20 mA, from supply terminal 50 mA, from module bus, Analog input modules |
| Degree of protection | IP20 NEMA 1 |
| Limit frequency | 20 Hz (- 3 db) |
| Mounting method | Rail mounting possible |
| Number of channels | 4 |
| Product category | XN Slice module |
| Repetition accuracy | 0.09 % (deviation) |
| Resolution | 16-bit (Resolution of the A/D converter) |
| Suitable for | Base modules without C-Connection: 2-wire/3-wire |
| Type | XI/ON I/O module |
| Used with | XN-S6S-SBCSBC XN-S6T-SBCSBC |
| Voltage type | DC |
| Ambient conditions, mechanical | |
| Drop and topple | According to IEC 60068-2-31, free fall according to IEC 60068-2-32 |

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| Shock resistance | | Continuous according to IEC/EN 60068-2-29 Mechanical, According to IEC/EN 60068-2-27 |
| Vibration resistance | | According to IEC/EN 60068-2-6 |
| Climatic environmental conditions | | |
| Ambient operating temperature - min | | 0 °C |
| Ambient operating temperature - max | | 55 °C |
| Ambient storage temperature - min | | -25 °C |
| Ambient storage temperature - max | | 85 °C |
| Environmental conditions | | Harmful gasses - SO2: 10 ppm (relative humidity < 75%, no condensation) Harmful gasses - H2S: 1 ppm (relative humidity < 75%, no condensation) |
| Relative humidity | | 5 - 95 % (indoor, Level RH-2, non-condensing for storage at 45°C) |
| Electro magnetic compatibility | | |
| Air discharge | | According to EN 61100-4-2 |
| Burst impulse | | According to IEC/EN 61000-4-4 |
| Contact discharge | | According to EN 61100-4-2 |
| Electromagnetic fields | | According to IEC EN 61100-4-2 |
| Emitted interference | | 230 - 1000 MHz (radiated, high frequency, according to EN 55016-2-3) 30 - 230 MHz (radiated, high frequency, according to EN 55016-2-3) |
| Radiated RFI | | IEC/EN 61100-4-6 |
| Surge rating | | According to IEC/EN 61000-4-5 Level 4 |
| Voltage dips | | According to EN 61131-2 (Voltage fluctuations/voltage dips) |
| Electrical rating | | |
| Rated operational voltage | | 24 V DC (supply terminal) |
| 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 |
| Supply voltage at DC - max | | 28.8 V DC |
| Communication | | |
| Protocol | | Other bus systems |
| Input/Output | | |
| Input current | | 0/4 - 20 mA (Analog input) 50 mA (Analog input) |
| Input impedance | | < 62 kΩ > 98.5 kΩ |
| Input voltage | | -10/0 - 10 V DC (Analog input modules) Max. 35 V DC (continuous) |
| Linearity | | 0.05 % |
| Measured value representation | | 16-bit signed integer 12-bit signed integer, flush-left |
| Measured variables | | Current Voltage |
| Number of inputs (analog) | | 4 |
| Number of outputs (analog) | | 0 |
| Timing cycle | | 0.1 % Offset error |
| Safety | | |
| Explosion safety category for dust | | None |
| Explosion safety category for gas | | None |
| Potential isolation | | Through optocoupler: yes |
| Design verification | | |
| Equipment heat dissipation, current-dependent Pvid | | 1 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 | | 1 W |
| 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. |

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| 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

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| Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - analogue I/O module (EC001596) | | |
| Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss13-27-24-26-01 [BAA061019]) | | |
| 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 |
| Power consumption | W | |
| Input, current | | Yes |
| Input, voltage | | Yes |
| Input, resistor | | No |
| Input, resistance thermometer | | No |
| Input, thermocouple | | No |
| Input signal, configurable | | Yes |
| Resolution of the analogue inputs | Bit | 16 |
| Output, current | | No |
| Output, voltage | | No |
| Output signal configurable | | No |
| Resolution of the analogue outputs | Bit | 0 |
| Number of analogue inputs | | 4 |
| Number of analogue outputs | | 0 |
| Analogue inputs configurable | | Yes |
| Analogue outputs configurable | | Yes |
| Number of HW-interfaces industrial Ethernet | | 0 |
| 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 | | 0 |
| Number of HW-interfaces serial TTY | | 0 |
| Number of HW-interfaces parallel | | 0 |
| Number of HW-interfaces wireless | | 0 |
| Number of HW-interfaces USB | | 0 |
| Number of HW-interfaces other | | 1 |
| Supporting protocol for EtherCAT | | No |

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| Supporting protocol for TCP/IP | | No |
| Supporting protocol for PROFIBUS | | No |
| Supporting protocol for CAN | | No |
| Supporting protocol for INTERBUS | | No |
| Supporting protocol for ASI | | No |
| Supporting protocol for KNX | | No |
| Supporting protocol for Modbus | | No |
| 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 | | 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 |
| Degree of protection (IP) | | IP20 |
| Degree of protection (NEMA) | | 1 |
| Type of electric connection | | Screw-/spring clamp connection |
| Fieldbus connection over separate bus coupler 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 |

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| Certified for UL hazardous location group G (non-conductive dusts) | | No |
| Width | mm | 12.6 |
| Height | mm | 55.4 |
| Depth | mm | 74.1 |