

Digital input module; 20 digital inputs 24 V DC each; pulse-switching; 0.5 ms

Part no. **XN-322-20DI-PF**
178768

| General specifications | | |
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| Product name | | Eaton XN-322 Accessory Input module |
| Part no. | | XN-322-20DI-PF |
| EAN | | 7640130098329 |
| Product Length/Depth | | 104.2 millimetre |
| Product height | | 16.8 millimetre |
| Product width | | 80.3 millimetre |
| Product weight | | 0.054 kilogram |
| Certifications | | CE IEC/EN 61000-6-4 IEC/EN 61131-2 IEC/EN 61000-6-2 UL File No.: E135462 CULus |
| Product Tradename | | XN-322 |
| Product Type | | Accessory |
| Product Sub Type | | Input module |
| Catalog Notes | | The max. heat dissipation is specified as the maximum power produced inside the device's housing. |
| Features & Functions | | |
| Electric connection type | | Plug-in connection |
| Features | | Fieldbus connection over separate bus coupler possible |
| General information | | |
| Current consumption | | None mA (typ.), for +24 V, Power supply - Input 35 mA (typ.), for +5 V power supply (internal), Power supply - Input |
| Degree of protection | | IP20 |
| Mounting method | | Rail mounting possible |
| Number of channels | | 20 |
| Overvoltage category | | III |
| Pollution degree | | 3 |
| Product category | | XN-322 digital input module |
| Type | | Digital I/O module with twenty 24 V DC / 3.7 mA (EN61131-2 type 1) inputs with a 0.5 ms input filter. XN300 I/O slice module |
| Used with | | XN-312-... XN300 |
| Voltage type | | DC |
| Ambient conditions, mechanical | | |
| Height of fall (IEC/EN 60068-2-32) - max | | 1 m |
| Mounting position | | Horizontal |
| Shock resistance | | 15 g, Mechanical, Half-sinusoidal shock 11 ms, 18 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 | | 0 °C |
| Ambient operating temperature - max | | 55 °C |
| Ambient storage temperature - min | | -20 °C |
| Ambient storage temperature - max | | 85 °C |
| Climatic proofing | | Dry heat to IEC 60068-2-2 Damp heat, constant, to IEC 60068-2-3 |
| Environmental conditions | | Condensation: prevent with appropriate measures |
| Relative humidity | | 0 - 95 % (non-condensing) |

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| Electro magnetic compatibility | | |
| Air discharge | | 8 kV |
| Burst impulse | | 2 kV, Supply cable 1 kV, Signal cable |
| Contact discharge | | 4 kV |
| Electromagnetic fields | | 1 V/m at 2 - 2.7 GHz (according to IEC EN 61000-4-3) 10 V/m at 0.08 - 1.0 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 | | 40 dB (at 30 - 230 MHz, Class A, radiated, high frequency) 47 dB (at 230 - 1000 MHz, Class A, radiated, high frequency) |
| Radiated RFI | | 10 V |
| Surge rating | | 1 kV, Signal cable, unbalanced, EMC 0.5/0.5 kV, Supply cable, balanced/unbalanced, EMC |
| Voltage dips | | Voltage dips: 10 ms/Voltage fluctuations: Yes |
| Terminal capacities | | |
| Terminal capacity | | 0.25 - 1.5 mm ² , with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.25 - 1.5 mm ² , with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight) 0.2 - 1.5 mm ² , solid, H07V-U 0.2 - 1.5 mm ² , flexible without ferrule, H07V-K 24 - 16 AWG |
| Gauge pin | | A1 (according to IEC/EN 60947-1) |
| Stripping length (main cable) | | 10 mm |
| Insulating material group | | I |
| Electrical rating | | |
| Rated operational voltage | | 160 V (terminations) |
| 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 | | 18 V DC |
| Supply voltage at DC - max | | 30 V DC |
| Communication | | |
| Connection type | | Push-in spring-cage terminal (plug-in connection), Connection design in TOP direction |
| Protocol | | Other bus systems |
| Input/Output | | |
| Input | | Digital inputs (according to EN61131-2 Type 1) |
| Input current | | 3.7 mA (Digital inputs) ≤ 1.1 mA (Digital inputs, low level) ≥ 2.3 mA (Digital inputs, high level) |
| Input current at signal 1 | | 3.7 mA |
| Input delay | | 500 μs (rising edge) 500 μs (falling edge) |
| Input voltage | | 24 V DC (Digital inputs) 0 - 8 V (Digital inputs, low level) 14 - 30 V (Digital inputs, high level) |
| Load current | | Not specified by plug manufacturer |
| Number of inputs (digital) | | 20 |
| Number of outputs (digital) | | 0 |
| Output current | | 0 A |
| Safety | | |
| Explosion safety category for dust | | None |
| Explosion safety category for gas | | None |
| Potential isolation | | Between Digital inputs: no |
| Design verification | | |
| Equipment heat dissipation, current-dependent P _{vid} | | 0.25 W |
| Heat dissipation capacity P _{diss} | | 0 W |
| Heat dissipation per pole, current-dependent P _{vid} | | 0 W |
| Rated operational current for specified heat dissipation (I _n) | | 0 A |
| Static heat dissipation, non-current-dependent P _{vs} | | 3.045 W |
| 10.2.2 Corrosion resistance | | Meets the product standard's requirements. |

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| 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

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| Programmable logic controllers PLC (EG000024) / Fieldbus, decentr. periphery - digital I/O module (EC001599) | | |
| Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Field bus, decentralized peripheral / Field bus, decentralized peripheral - digital I/O module (ecl@ss13-27-24-26-04 [BAA055019]) | | |
| 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 digital inputs | | 20 |
| Number of digital outputs | | 0 |
| Digital inputs configurable | | No |
| Digital outputs configurable | | No |
| Input current at signal 1 | mA | 3.7 |
| Permitted voltage at input | V | 0 - 30 |
| Type of voltage (input voltage) | | DC |
| Type of digital output | | None |
| Output current | A | 0 |
| Permitted voltage at output | V | 0 - 0 |
| Type of output voltage | | DC |
| Short-circuit protection, outputs available | | No |
| 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 |
| With optical interface | | No |
| Supporting protocol for EtherCAT | | No |
| Supporting protocol for TCP/IP | | No |

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| 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 |
| Type of electric connection | | | Plug-in connection |
| Time delay at signal change | | ms | 0.4 - 0.6 |
| 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 |
| Certified for UL hazardous location group G (non-conductive dusts) | | | No |

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| Width | mm | 80.3 |
| Height | mm | 16.8 |
| Depth | mm | 104.2 |