# DATASHEET - XIOC-1CNT-100KHZ

**Counter module for XC100/200, 24 V DC, 1x100kHz, 2DO(T)**

| | |
|---|---|
| **Part no.** | **XIOC-1CNT-100KHZ** |
| | **257906** |
| **EL Number (Norway)** | **4519680** |

## General specifications

| | |
|---|---|
| Product name | Eaton XIOC Counter module |
| Part no. | XIOC-1CNT-100KHZ |
| EAN | 4015082579067 |
| Product Length/Depth | 100 millimetre |
| Product height | 95 millimetre |
| Product width | 30 millimetre |
| Product weight | 0.155 kilogram |
| Certifications | CSA File No.: 012528<br>EN 50178<br>IEC/EN 61131-2<br>CE<br>UL Category Control No.: NRAQ<br>UL508<br>CSA<br>CSA-C22.2 No. 142-M<br>CSA Class No.: 2252-01<br>UL File No.: E135462<br>CSA-C22.2 No. 0-M<br>UL |
| Product Tradename | XIOC |
| Product Type | Counter module |
| Product Sub Type | None |
| Catalog Notes | 4 VA/W, Voltage for Off<br>optocoupled, 24 V DC |

## Features & Functions

| | |
|---|---|
| Functions | Single-axis controller possible<br>Single-axis positioning possible |

## General information

| | |
|---|---|
| Admissible range | 20.4 – 28.8 V (11.8 – 14.4 V), Power supply |
| Current consumption | 200 mA, Outputs<br>200 mA (Ie), internal current consumption, Inputs |
| Degree of protection | IP20 |
| Number of channels | 2, Output |
| Overvoltage category | II |
| Pollution degree | 2 |
| Protection class | 1 |
| Rated frequency | 100 (25 with four-fold resolution) |
| Repetition rate | 1 s |
| Residual ripple | ≤ 5 % |
| Suitable for | Counting<br>Incremental data detection |
| Type | Counter module |
| Used with | XC100/200 (expandable with up to 15 XI/OC modules) |

## Ambient conditions, mechanical

| | |
|---|---|
| Impact resistance | 500 g/∅ 50 mm ±25 g |
| Shock resistance | 15 g, Mechanical, Shock duration 11 ms |
| Vibration resistance | 10 - 57 Hz, ± 0.075 mm<br>57 - 150 Hz ± 1.0 mm |

## 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 | 70 °C |

| | |
|---|---|
| **Electro magnetic compatibility** | |
| Emitted interference | Class A (according to DIN/EN 55011/22) |
| Voltage dips | 10 ms |
| **Terminal capacities** | |
| Terminals | Optionally, screw terminals or spring-loaded terminals for digital/analog modules |
| **Electrical rating** | |
| Leakage current | 0.5 A |
| Power loss | 1.2 W |
| Rated control voltage (Uc) | -5 - 8 V DC |
| Rated operational current (Ie) | 10 A |
| Rated operational voltage | 24 (12) V DC |
| Supply voltage at DC - min | 2 V DC |
| Supply voltage at DC - max | 5 V DC |
| **Communication** | |
| Connection | 30-pole plug: XIOC-TERM30-CNT4, Connection of external input (max. 30 m cable length), Inputs<br>Screened, twisted pair cable, Inputs<br>30 pole connector required for counter module<br>Screened, twisted pair cable, Output termination<br>Of external output: 30-pole plug XIOC-TERM30-CNT4 |
| **Input/Output** | |
| Counter limits | 0 - 4294967295 (32 bit) |
| Delay time | 1 ms, Outputs, Delay time from 0 to 1, Debounce OFF<br>1 ms, Outputs, Delay time from 1 to 0, Debounce OFF |
| Input | 1 Input (up to 100 kHz, 24 V DC, 5 V DC)<br>1 Analog input |
| Input current | 4 mA (high signal)<br>Input B1-C: max. 35 A |
| Input voltage | ± 5 V DC (differential)<br>12 - 24 V DC |
| Load current | Min. 1 mA<br>Max. 20 mA (Ie) |
| Output | Transistor (open collector)<br>2 Digital Transistor Outputs |
| Pulse characteristics | On ≥ 4 µs (minimum pulse width) |
| Voltage drop (Ud) | 1.5 V |
| **Safety** | |
| Explosion safety category for dust | None |
| Explosion safety category for gas | None |
| Potential isolation | Opto-isolated (Inputs)<br>Outputs: Opto-isolated |
| **Design verification** | |
| Equipment heat dissipation, current-dependent Pvid | 0 W |
| Heat dissipation capacity Pdiss | 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 | 1.2 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. |
| 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 function/technology module (EC001422) | | | |
| Electric engineering, automation, process control engineering / Control, Process Control System (PCS) / Programmable logic control (SPS) / SPS functional/technological module (ecl@ss13-27-24-22-05 [AKE528019]) | | | |
| Number of functions | | | 1 |
| Redundancy | | | No |
| Suitable for counting | | | Yes |
| Suitable for weighing | | | No |
| Suitable for temperature control | | | No |
| Suitable for welding control | | | No |
| Suitable for pressure control | | | No |
| Suitable for NC | | | No |
| Suitable for electronic positioning | | | No |
| Suitable for CNC | | | No |
| Suitable for SSI | | | No |
| Suitable for incremental data detection | | | Yes |
| Suitable for detection absolute value | | | No |
| Suitable for flux controller | | | No |
| Suitable for flux measurement | | | No |
| Suitable for path controller | | | No |
| Suitable for cam controller | | | No |
| Suitable for flying saw | | | No |
| Suitable for multi-axis control | | | No |
| Suitable for single-axis controller | | | Yes |
| Suitable for multi-axis positioning | | | No |
| Suitable for single-axis positioning | | | Yes |
| 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 |
| Width | | mm | 30 |
| Height | | mm | 95 |
| Depth | | mm | 100 |