



Digital output module for XC100/200, 24 V DC, 16DO(T), short-circuit proof



Part no. **XIOC-16DO-S**  
 Catalog No. **257895**

EL-Nummer  
 (Norway) **4519665**

## Delivery program

|             |  |  |   |
|-------------|--|--|---|
| Function    |  |  | Digital modules   |
| Description |  |  | Compact I/O system for connection to XC100/200 Modular PLCs<br>XC100/200 expandable with up to 15 XI/OC modules<br>Optionally, screw terminals or spring-loaded terminals for digital/analog modules<br>16 outputs, 24 V DC, 0.8 A<br>short-circuit proof |

## Technical data

### General

|                                       |   |    |   |
|---------------------------------------|---|----|---|
| Standards                             |   |    | IEC/EN 61131-2<br>EN 50178                  |
| Ambient temperature                   |   | °C | 0 - +55                                     |
| Storage                               | θ | °C | -25 - +70                                   |
| Vibration resistance                  |   |    | 10 - 57 Hz ±0.075 mm<br>57 - 150 Hz ±1.0 mm |
| Mechanical shock resistance           |   | g  | 15<br>Shock duration 11 ms                  |
| Impact resistance                     |   |    | 500 g/∅ 50 mm ±25 g                         |
| Overvoltage category/pollution degree |   |    | II/2  |
| Protection class                      |   |    | 1   |
| Degree of Protection                  |   |    | IP20  |
| Emitted interference                  |   |    | DIN/EN 55011/22, Class A                    |
| Weight                                |   | kg | 0.16  |

### Power supply

|                    |                |      |                           |
|--------------------|----------------|------|---------------------------|
| Rated voltage      | U <sub>e</sub> | V DC | 24 (12)                   |
| Admissible range   |                |      | 20.4 – 28.8 (11.8 – 14.4) |
| Neutral poles      |                |      |                           |
| Duration of dip    |                | ms   | 10                        |
| Repetition rate    |                | s    | 1                         |
| Residual ripple    |                | %    | ≤ 5                       |
| Maximum power loss | P <sub>v</sub> | W    | 0.75                      |

### Outputs

|                               |  |      |                          |
|-------------------------------|--|------|--------------------------|
| Output type                   |  |      | Transistor (source type) |
| Output voltage                |  | V DC | 24 (-15...+20 %)         |
| Minimum switching current     |  | mA   | 1                        |
| Leakage current               |  | mA   | 0.1                      |
| Maximum load current          |  |      |                          |
| Per circuit                   |  | A    | 0.8                      |
| Per common potential terminal |  | A    | 5                        |
| Output delay                  |  |      |                          |
| Off → On                      |  | ms   |                          |
| Debounce OFF                  |  | ms   | 0.3                      |
| On → Off                      |  | ms   |                          |
| Debounce OFF                  |  | ms   | 1                        |
| Output channels               |  | Qty. | 16                       |

|   |       |      |                        |
|---|-------|------|------------------------|
| Channels with the same reference potential                    |       | Qty. | 16                     |
| Overvoltage protection  |       |      | Built-in               |
| Fuse  |       | A    | None                   |
| Short-circuit protection                                      |       |      | Yes                    |
| Potential isolation   |       |      | Opto-isolated          |
| Indication elements   |       |      | LED (green)            |
| Terminations  |       |      | Plug-in terminal block |
| Internal current consumption (5 V DC)                         |       | mA   | 50                     |
| External voltage for outputs/module (30 mA for module supply) | $U_s$ | V    | 24 DC (-15/+20%)       |
| Short-circuit protection                                      |       |      | Yes                    |

### Notes

The following applies to the external power supply for operating the relay: in UL applications the supply cables must be AWG 16 (1.3 mm<sup>2</sup>).

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 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  | 0.75   |
| 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

|   |   |       |
|---|---|-------|
| PLC's (EG000024) / PLC digital I/O-module (EC001419)  |   |       |
| Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / SPS digital input/output module (ecl@ss10.0.1-27-24-22-04 [AKE527014]) |   |       |
| 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 of supply voltage              |    | DC                             |
| Number of digital inputs                    |    | 0                              |
| Number of digital outputs                   |    | 16                             |
| Digital inputs configurable                 |    | No                             |
| Digital outputs configurable                |    | No                             |
| Input current at signal 1                   | mA | 0                              |
| Permitted voltage at input                  | V  | 20.4 - 28.8                    |
| Type of voltage (input voltage)             |    | DC                             |
| Type of digital output                      |    | Transistor                     |
| Output current                              | A  | 0.8                            |
| Permitted voltage at output                 | V  | 20.4 - 28.8                    |
| Type of output voltage                      |    | DC                             |
| Short-circuit protection, outputs available |    | Yes                            |
| Redundancy                                  |    | No                             |
| Type of electric connection                 |    | Screw-/spring clamp connection |
| Time delay at signal exchange               | ms | 0.3 - 0.3                      |
| Suitable for safety functions               |    | No                             |
| Category according to EN 954-1              |    |                                |
| 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                                       | mm | 30                             |
| Height                                      | mm | 100                            |
| Depth                                       | mm | 95                             |

## 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

