

## PRODUCT DATASHEET

# ES-IO-01-M001

## Industrial Motion Controller

EtherCAT Remote I/O | EtherCAT Remote I/O Series - ES-IO-01

### Product Overview

Industrial Motion Controller with weight Approx. 70 g, digital outputs 8 digital outputs; relay, dry-contact, normally open and dimensions 12 × 100 × 80mm.

### Key Specifications

| PARAMETER                         | VALUE                                                                                                                                                                                                                                                                                                | UNIT |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Weight                            | Approx. 70 g                                                                                                                                                                                                                                                                                         |      |
| Digital outputs                   | 8 digital outputs; relay, dry-contact, normally open                                                                                                                                                                                                                                                 |      |
| Dimensions                        | 12 × 100 × 80mm                                                                                                                                                                                                                                                                                      |      |
| Module type                       | Digital output module                                                                                                                                                                                                                                                                                |      |
| CE compliance                     | CE conformity recorded; tested to EN IEC 61000-6-2:2019 and EN IEC 61000-6-4:2019                                                                                                                                                                                                                    |      |
| Cooling Method                    | Natural convection cooling                                                                                                                                                                                                                                                                           |      |
| Electrical life                   | 100,000 operations                                                                                                                                                                                                                                                                                   |      |
| Electromagnetic compatibility     | EMC immunity: Zone B, IEC 63313-2; ESD: 8 kV air and 4 kV contact discharge, performance criterion A; surge: DC supply 0.5 kV CM and 0.5 kV DM, I/O and communication ports 1 kV CM, criterion A; EFT/burst: supply coupling 2 kV at 5 kHz and I/O/communication coupling 1 kV at 5 kHz, criterion A |      |
| Expansion-bus current consumption | 135 mA at 5 VDC, room temperature                                                                                                                                                                                                                                                                    |      |

## Technical Specifications

| PARAMETER                             | SPECIFICATION                                                       | UNIT | NOTES                  |
|---------------------------------------|---------------------------------------------------------------------|------|------------------------|
| <b>ELECTRICAL</b>                     |                                                                     |      |                        |
| Maximum switching frequency           | 20 operations/min                                                   |      |                        |
| On resistance                         | Typical: 0.15 $\Omega$ ; maximum: 0.3 $\Omega$                      |      |                        |
| Switch-on delay                       | < 50 $\mu$ s                                                        |      |                        |
| Status indicators - PR                | Flashes after power-up and stays on when communication is connected |      |                        |
| Status indicators - ERR               | Operating fault                                                     |      |                        |
| Status indicators - Green channel LED | Output active                                                       |      |                        |
| Output load - Resistive load          | 2 A/point                                                           |      | Per module: 8 A/module |
| Output load - Inductive load          | 1 A/point                                                           |      | Per module: 4 A/module |
| Output load - Lamp load               | 1.25 A/point                                                        |      | Per module: 5 A/module |
| Terminal input supply current         | 60 mA typical at 24 V                                               |      |                        |
| Isolation                             | Yes                                                                 |      |                        |
| Rated input supply voltage            | 24 VDC; allowable range 20.4–28.8 VDC                               |      |                        |
| Protection Functions                  | Short-circuit and overcurrent protection                            |      |                        |
| Electrical life                       | 100,000 operations                                                  |      |                        |
| Mechanical life                       | 20 million operations                                               |      |                        |

## Technical Specifications

| PARAMETER                         | SPECIFICATION                                                                     | UNIT |
|-----------------------------------|-----------------------------------------------------------------------------------|------|
| ELECTRICAL                        |                                                                                   |      |
| Rated output voltage              | 250 / 30                                                                          | V AC |
| Relay on state                    | Relay on                                                                          |      |
| Expansion-bus current consumption | 135 mA at 5 VDC, room temperature                                                 |      |
| Relay off state                   | Relay off                                                                         |      |
| Switch-off delay                  | < 50 $\mu$ s                                                                      |      |
| Hot-swap support                  | Not supported                                                                     |      |
| MECHANICAL                        |                                                                                   |      |
| Weight                            | Approx. 70 g                                                                      |      |
| Mounting Orientation              | DIN 35 mm rail mounting                                                           |      |
| INTERFACES                        |                                                                                   |      |
| Digital outputs                   | 8 digital outputs; relay, dry-contact, normally open                              |      |
| Programming software              | IEC 61131-3 CODESYS programming software                                          |      |
| ENVIRONMENTAL                     |                                                                                   |      |
| Cooling Method                    | Natural convection cooling                                                        |      |
| Packaged drop test                | Packaged free-fall: 5 drops from 1 m onto a concrete floor                        |      |
| CE compliance                     | CE conformity recorded; tested to EN IEC 61000-6-2:2019 and EN IEC 61000-6-4:2019 |      |

## Technical Specifications

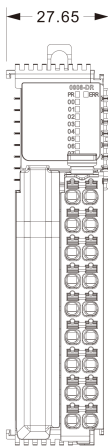
| PARAMETER                                             | SPECIFICATION                                                                                                                                                                                                                                                                                        | UNIT | NOTES                                      |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------|
| <b>ENVIRONMENTAL</b>                                  |                                                                                                                                                                                                                                                                                                      |      |                                            |
| Mechanical vibration and shock - Sinusoidal vibration | Random: 3.5 mm displacement; continuous: 1.75 mm displacement                                                                                                                                                                                                                                        |      | 5 < f < 8.4 Hz                             |
|                                                       | Random: 1.0 g; continuous: 0.5 g acceleration                                                                                                                                                                                                                                                        |      | 8.4 < f < 150 Hz                           |
| Mechanical vibration and shock - Shock                | Half-sine, 15 g, 11 ms, 6 times per axis                                                                                                                                                                                                                                                             |      |                                            |
| Electromagnetic compatibility                         | EMC immunity: Zone B, IEC 63313-2; ESD: 8 kV air and 4 kV contact discharge, performance criterion A; surge: DC supply 0.5 kV CM and 0.5 kV DM, I/O and communication ports 1 kV CM, criterion A; EFT/burst: supply coupling 2 kV at 5 kHz and I/O/communication coupling 1 kV at 5 kHz, criterion A |      |                                            |
| Operating climate conditions - Ambient temperature    | -20 to +55                                                                                                                                                                                                                                                                                           | °C   | An open, naturally ventilated installation |
| Operating climate conditions - Relative humidity      | 10-95%                                                                                                                                                                                                                                                                                               |      | Non-condensing                             |
| Operating climate conditions - Altitude               | ≤2,000 m                                                                                                                                                                                                                                                                                             |      |                                            |
| Operating climate conditions - Pollution degree       | 2                                                                                                                                                                                                                                                                                                    |      |                                            |
| Storage climate conditions - Ambient temperature      | -40 to +70                                                                                                                                                                                                                                                                                           | °C   |                                            |
| Storage climate conditions - Relative humidity        | 10-95%                                                                                                                                                                                                                                                                                               |      | Non-condensing                             |
| Storage climate conditions - Altitude                 | 0-3,000 m                                                                                                                                                                                                                                                                                            |      |                                            |
| <b>SAFETY</b>                                         |                                                                                                                                                                                                                                                                                                      |      |                                            |
| Ingress Protection Rating                             | IP20                                                                                                                                                                                                                                                                                                 |      |                                            |
| <b>CONFIGURATION</b>                                  |                                                                                                                                                                                                                                                                                                      |      |                                            |
| Module type                                           | Digital output module                                                                                                                                                                                                                                                                                |      |                                            |
| Dimensions                                            | 12 × 100 × 80mm                                                                                                                                                                                                                                                                                      |      |                                            |
| <b>ADDITIONAL SPECIFICATIONS</b>                      |                                                                                                                                                                                                                                                                                                      |      |                                            |
| Protection rating                                     | IP20                                                                                                                                                                                                                                                                                                 |      |                                            |

## Dimensional & Integration Overview

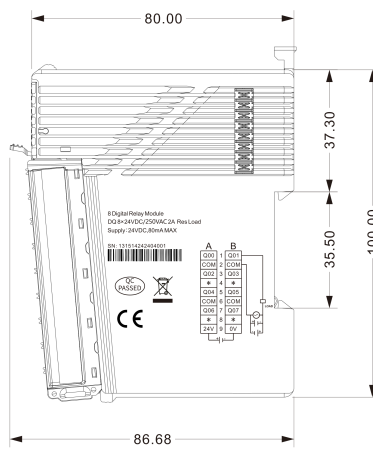
### Mechanical Overview

| PARAMETER            | VALUE                   | UNIT |
|----------------------|-------------------------|------|
| Weight               | Approx. 70 g            |      |
| Mounting Orientation | DIN 35 mm rail mounting |      |
| Dimensions           | 12 × 100 × 80mm         |      |

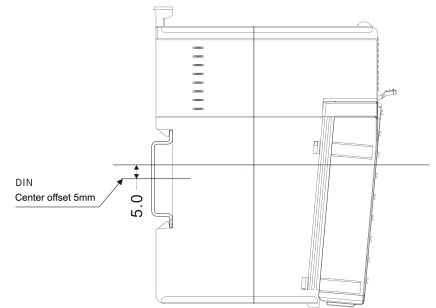
### Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

## 2D Drawing Dimensions & Callouts

| VIEW              | FIELD                             | VALUE                               |
|-------------------|-----------------------------------|-------------------------------------|
| Mechanical View 1 | Module width                      | 27.65 mm                            |
|                   | Module model number               | 0008-DR                             |
| Mechanical View 2 | Module Overall Width              | 80.00 mm                            |
|                   | Module Overall Height             | 100.00 mm                           |
|                   | Module Overall Length             | 86.68 mm                            |
|                   | Upper Mounting Dimension          | 37.30 mm                            |
|                   | Lower Mounting Dimension          | 35.50 mm                            |
| Mechanical View 3 | DIN rail mounting position offset | 5.0 mm downward from product center |

[View Product Online](#)   [Request Engineering Data](#)   [Request a Quote](#)

**01** Specifications are subject to change without notice. Verify the current product configuration before final design release.

**02** 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.