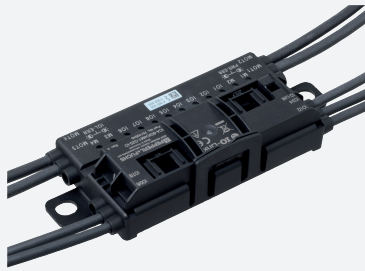


IO-Link Motor Roller Module

ICA-8IO-4M4-G20-IO-P14



- Configuration and control via IO-Link
- Connections for 24 V or 48 V DC roller motors
- Inputs for 2- and 3-wire sensors
- Electronic PNP outputs
- Function indicator for motors, inputs and outputs
- Mounting directly in the support profile

G20 MDR module with IO-Link for 8 digital inputs/outputs and 4 connections for MDRs (24 V / 48 V)



Function

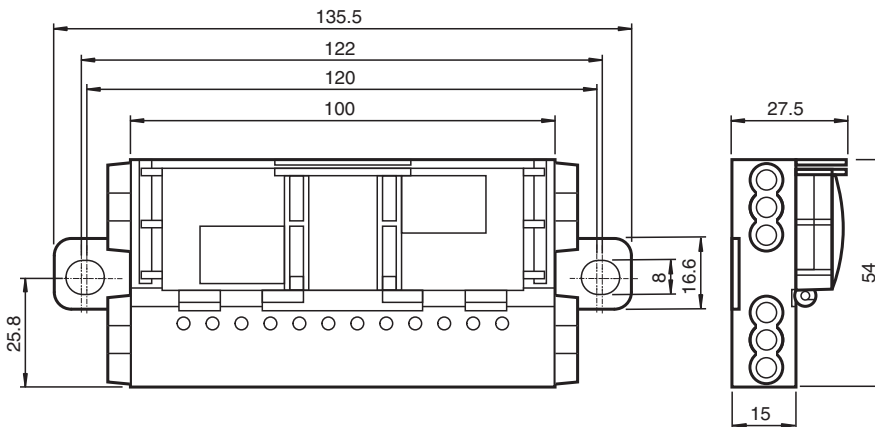
The ICA-8IO-4M4-G20-IO-P14 intelligent motor control module is a field module with eight combined sensor inputs or electronic digital outputs. The four outputs can be used to actuate DC roller motors with operating voltages of 24 V or 48 V. The compact housing is installed directly into support profiles or cable ducts. The voltage supply U_{PWR} is provided by piercing technology. The swiveling flat cable guide locks using a snap-fit without the use of tools.

The combined inputs and outputs and the motor outputs are connected using cable outputs with round M8 plug connectors. The inputs and outputs have 4-pin cable sockets with knurled screws, while the motor outputs have 5-pin snap-on female cordsets. A cable outlet with a 4-pin circular M12 connector is available for connection to IO-Link. The inputs and outputs are supplied via IO-Link. The motor outputs are supplied from U_{PWR} .

The current switch state or an overload of the inputs or outputs are indicated via the IO LEDs. The M LEDs signal the operating state of the motors (stop/operation/fault).

The module is configured via IO-Link.

Dimensions



Technical Data

General specifications

| | |
|--------------------------|---|
| UL File Number | E223772 "For use in NFPA 79 Applications only" |
| MTBF | 90 a |
| Compatible roller motors | Interroll EC310 Interroll EC5000 24 V AI (20 W / 35 W / 50 W) Interroll EC5000 48 V AI (20 W / 35 W / 50 W) Rulmeca BL3 Itoh Denki PM500XK Itoh Denki PM500XC PULSEROLLER Senergy-IDC MTA MRD50 (A interface, 24 V to 40 W) MTA MRD50 (A interface, 48 V to 44 W) |

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Technical Data

| | | |
|-----------------------------------|-----------|---|
| Indicators/operating means | | |
| LED yellow/red | | IO1 ... IO8: IN, OUT, IO-Link status M1 ... M4: motor status |
| Electrical specifications | | |
| Auxiliary voltage | U_{PWR} | 18 ... 56 V DC PELV Max. 10 A Current limitation of the supply max. 30 A For UL: Z-type miniature circuit breaker in accordance with UL 1077, max. 20 A, required |
| Operating voltage | U_B | 18 ... 30 V DC, PELV Current limitation of the supply max. 4 A |
| No-load supply current | I_0 | ≤ 25 mA |
| Operating current | I_B | max. 2.5 A |
| Interface | | |
| Interface type | | IO-Link |
| IO-Link revision | | 1.1 |
| Device profile | | Identification and Diagnosis - I&D Firmware update |
| Process data | | 8 byte inputs (STD/EXT) 6 byte outputs (STD) 18 byte outputs (EXT) |
| Vendor ID | | 1 (0x0001) |
| Device ID | | 984068 (0x0F0404) (STD) - default 984067 (0x0F0403) (EXT) |
| Data transfer rate | | COM3 (230.4 kbits/s) |
| Min. cycle time | | 1.2 ms (STD) 2 ms (EXT) |
| SIO mode support | | no |
| Compatible master port type | | Class A |
| Input | | |
| Number/Type | | 8 Inputs for 3-wire sensors (PNP), DC (IO1 ... IO8) |
| Supply | | from IO-Link |
| Current loading capacity | | 200 mA per connection IO1/2 ... IO7/8 , overload and short-circuit protected |
| Input current | | ≤ 5 mA (limited internally) |
| Switching point | | Type 3 according to IEC 61131-2 |
| Output 1 | | |
| Number/Type | | 8 electronic outputs, PNP (IO1 ... IO8), overload proof and short-circuit proof |
| Supply | | from IO-Link |
| Current | | 200 mA per output |
| Voltage | | ≥ ($U_e - 1.5$ V) |
| Output 2 | | |
| Number/Type | | 4 outputs for DC roller motors (MOT1 ... MOT4) |
| Supply | | via U_{PWR} |
| Current loading capacity | | 3.5 A (continuous), 5 A (< 2 s), max. 7.5 A (< 0.3 s) per motor Total current (continuous) max. 10 A per device ($T_B \leq 50$ °C) max. 6 A per device ($T_B \leq 60$ °C) |
| Overload protection | | Fuse 4 A, $I^2t = 122.5$ A ² s per motor |
| Signal level | | Speed: $U_S = 0.3 \dots 10$ V in no-load operation $R_i = 5.6$ k Ω , $R_{LOAD} \geq 35$ k Ω Direction of rotation: Digital output PNP U_D low = high resistance U_D high ≥ 12 V $R_i = 5.6$ k Ω , $R_{LOAD} \geq 15$ k Ω |
| Fault level | | Motor fault: Digital input NPN 0 (no error) ≥ 125 μ A 1 (error) ≤ 25 μ A |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 61000-6-2:2005-08 EN 61000-6-4:2007-01 EN 61000-6-4/A1:2011-02 |

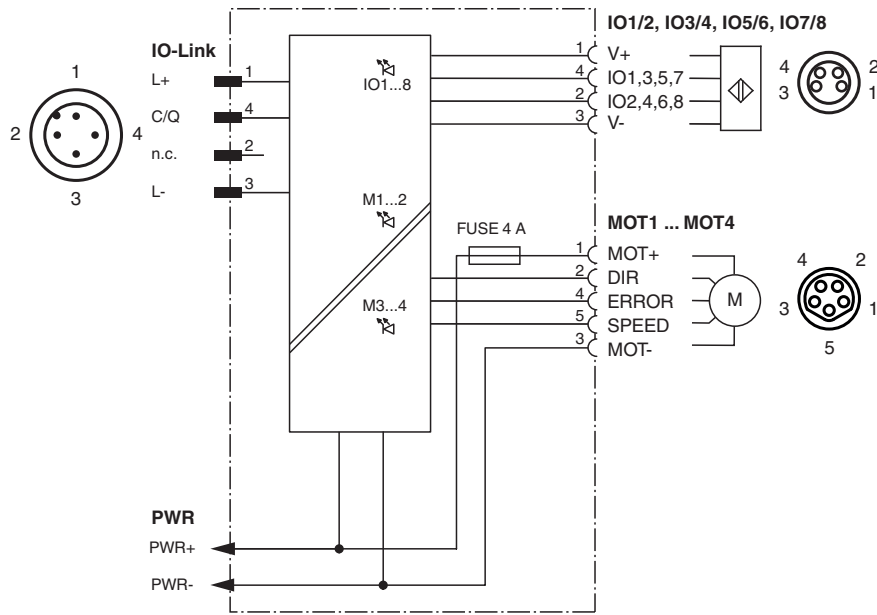
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Technical Data

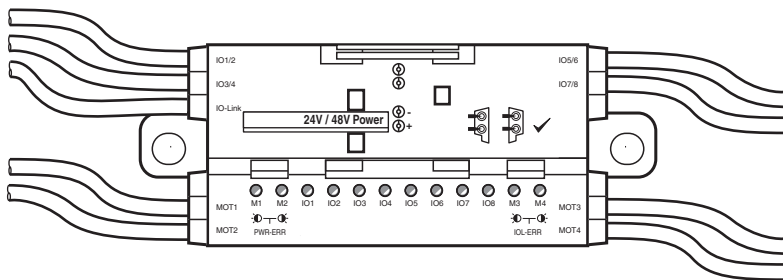
| Standard conformity | |
|-----------------------------|---|
| Degree of protection | EN 60529:2000 |
| Input | EN 61131-2:2007 |
| Communication interface | IEC 61131-9 / IO-Link V1.1.3 |
| Emitted interference | EN 61000-6-4:2007 |
| Noise immunity | EN 61000-6-2:2005, EN 61326-1:2006 |
| Approvals and certificates | |
| UL approval | O1 ... O8 (Output 1): Load specification DC General Use / DC Pilot Duty Degree of protection not tested by UL; tested by Pepperl+Fuchs SE |
| Ambient conditions | |
| Ambient temperature | -25 ... 60 °C (-13 ... 140 °F) |
| Storage temperature | -30 ... 85 °C (-22 ... 185 °F) |
| Relative humidity | 85 % non-condensing |
| Climatic conditions | For indoor use only |
| Altitude | ≤ 5000 m above MSL |
| Shock and impact resistance | 30 g, 11 ms in 6 spatial directions, 3 shocks 10 g, 16 ms in 6 spatial directions, 1000 shocks |
| Vibration resistance | 0.35 mm / 5 g 5 ... 500 Hz |
| Pollution degree | 2 |
| Mechanical specifications | |
| Degree of protection | IP54 according to EN 60529 |
| Connection | 24 V/48 V power (PWR): Piercing technology, black or gray flat cable IO-Link: M12 round plug connector in accordance with EN 61076-2-101, LM type (4-pin, connector contacts, screw-locking, A-coded) Female connector: LF type or similar Inputs/outputs (IO), motors (MOT): M8 round plug connector in accordance with EN 61076-2-104 IO: LF type (4-pin, bushing contacts, screw-locking, A-coded) Female connector: LM type or similar MOT: NF type (5-pin, bushing contacts, snap-locking, B-coded) Female connector: NM type or similar |
| Mass | 390 g |
| Dimensions | |
| Height | 27.5 mm |
| Width | 131.5 mm |
| Length | 54 mm |
| Mounting | 2 clips with Ø 8 mm drill hole The module must be secured to a solid, continuous surface using the two lugs |
| Cable length | 1 m (IO-Link) 1.5 m (IO1/2, IO7/8), 0.8 m (IO3/4, IO5/6) 1.0 m (MOT1, MOT4); 0.4 m (MOT2, MOT3) max. 10 m |
| Note | The flat cable routing is designed for 100 actuation cycles |

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Connection



Indication



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