

# AL1400



## IO-Link master with PROFINET interface

IO-Link Master PFL PN 4P IP67



| Application                        |      |                                               |
|------------------------------------|------|-----------------------------------------------|
| Application                        |      | I/O modules for field applications            |
| Daisy-chain function               |      | power supply; fieldbus interface              |
| Electrical data                    |      |                                               |
| Operating voltage                  | [V]  | 20...30 DC; (US ; to SELV/PELV)               |
| Current consumption                | [mA] | 300...3900; (US)                              |
| Protection class                   |      | III                                           |
| Additional voltage supply          | [V]  | 20...30 DC; (UA)                              |
| Actuator supply UA                 |      |                                               |
| Max. current load total            | [A]  | 8                                             |
| Current rating per port            | [A]  | 2; (adjustable: 0...2; Factory setting: 2)    |
| Sensor supply US                   |      |                                               |
| Max. current load total            | [A]  | 3.6                                           |
| Current rating per port            | [A]  | 2; (adjustable: 0...2; Factory setting: 0,45) |
| Inputs / outputs                   |      |                                               |
| Total number of inputs and outputs |      | 8; (configurable)                             |



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|                                                 |  |                                                           |  |                                                         |  |
|-------------------------------------------------|--|-----------------------------------------------------------|--|---------------------------------------------------------|--|
| Number of inputs and outputs                    |  | Number of digital inputs: 4; Number of digital outputs: 8 |  |                                                         |  |
| Inputs                                          |  |                                                           |  |                                                         |  |
| Number of digital inputs                        |  | 4; (IO-Link Port Class B: 4 x 1)                          |  |                                                         |  |
| Switching level high [V]                        |  | 11...30                                                   |  |                                                         |  |
| Switching level low [V]                         |  | 0...5                                                     |  |                                                         |  |
| Digital inputs protected against short circuits |  | yes                                                       |  |                                                         |  |
| Outputs                                         |  |                                                           |  |                                                         |  |
| Number of digital outputs                       |  | 8; (IO-Link Port Class B: 4 x 2)                          |  |                                                         |  |
| Short-circuit proof                             |  | yes                                                       |  |                                                         |  |
| Actuator supply UA                              |  |                                                           |  |                                                         |  |
| Max. current load per output [mA]               |  | 2000                                                      |  |                                                         |  |
| Sensor supply US                                |  |                                                           |  |                                                         |  |
| Max. current load per output [mA]               |  | 2000                                                      |  |                                                         |  |
| Interfaces                                      |  |                                                           |  |                                                         |  |
| Communication interface                         |  | Ethernet; IO-Link                                         |  |                                                         |  |
| Ethernet - PROFINET                             |  |                                                           |  |                                                         |  |
| Transmission standard                           |  | 100Base-TX                                                |  |                                                         |  |
| Transmission rate                               |  | 100 MBit/s                                                |  |                                                         |  |
| Protocol                                        |  | PROFINET                                                  |  |                                                         |  |
| Factory settings                                |  | IP address: 0.0.0.0                                       |  |                                                         |  |
|                                                 |  | subnet mask: 0.0.0.0                                      |  |                                                         |  |
|                                                 |  | gateway IP address: 0.0.0.0                               |  |                                                         |  |
|                                                 |  | MAC address: see type label                               |  |                                                         |  |
|                                                 |  | IO-Link Integration Edition 2                             |  |                                                         |  |
| Note on interfaces                              |  | CC-C (Conformance Class C) (IRT-Switch)                   |  |                                                         |  |
|                                                 |  | S2 redundancy                                             |  |                                                         |  |
|                                                 |  | Netload Class III                                         |  |                                                         |  |
|                                                 |  | CiR (Configuration in Run)                                |  |                                                         |  |
|                                                 |  | SNMP (Simple Network Management Protocol)                 |  |                                                         |  |
|                                                 |  | MRP (Media Redundancy Protocol)                           |  |                                                         |  |
|                                                 |  | Supported network topologies: line                        |  |                                                         |  |
|                                                 |  | ring                                                      |  |                                                         |  |
|                                                 |  | IO-Link Master                                            |  |                                                         |  |
|                                                 |  | Transmission type                                         |  | COM1 (4,8 kBaud); COM2 (38,4 kBaud); COM3 (230,4 kBaud) |  |
| IO-Link revision                                |  | 1.1                                                       |  |                                                         |  |
| Number of ports class B                         |  | 4                                                         |  |                                                         |  |
| Operating conditions                            |  |                                                           |  |                                                         |  |
| Ambient temperature [°C]                        |  | -25...60                                                  |  |                                                         |  |
| Storage temperature [°C]                        |  | -25...85                                                  |  |                                                         |  |
| Max. relative air humidity [%]                  |  | 90                                                        |  |                                                         |  |
| Protection                                      |  | IP 65; IP 66; IP 67                                       |  |                                                         |  |
| Protection rating (NEMA 250)                    |  | 6P                                                        |  |                                                         |  |
| Pollution degree                                |  | 2                                                         |  |                                                         |  |

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|                |                 |                                     |
|----------------|-----------------|-------------------------------------|
| Chemical media | ISO 16750-5     | AA, BA, BD, HLP, CC, DB, DC, DD, CA |
|                | NEMA 250 5.13.1 | AA                                  |

### Tests / approvals

|                      |                           |    |
|----------------------|---------------------------|----|
| EMC                  | EN 61000-6-2              |    |
|                      | EN 61000-6-4              |    |
| Shock resistance     | DIN EN 60068-2-27         |    |
| Vibration resistance | DIN EN 60068-2-64 2009-04 |    |
|                      | DIN EN 60068-2-6 2008-10  |    |
| MTTF [years]         |                           | 60 |

### Mechanical data

|                  |                                                 |
|------------------|-------------------------------------------------|
| Weight [g]       | 308.1                                           |
| Materials        | housing: PA orange; socket: brass nickel-plated |
| Sealing material | FKM                                             |

### Remarks

|               |                                                                |
|---------------|----------------------------------------------------------------|
| Remarks       | For further information please see the operating instructions. |
| Pack quantity | 1 pcs.                                                         |

### Electrical connection

#### Electrical connection - Ethernet

Connector: M12; coding: D; Sealing: FKM

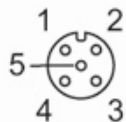


#### IN / OUT XF1, XF2

|   |          |
|---|----------|
| 1 | TX +     |
| 2 | RX +     |
| 3 | TX -     |
| 4 | RX -     |
| 5 | not used |

#### Electrical connection - Process connection

Connector: M12; coding: A; Sealing: FKM





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### IO-Link Port Class B X1...X4

|   |                                          |
|---|------------------------------------------|
| 1 | Sensor supply (US) L +                   |
| 2 | actuator supply / digital output (UA) L+ |
| 3 | Sensor supply (US) L-                    |
| 4 | C/Q IO-Link                              |
| 5 | actuator supply (UA) L-                  |

### Electrical connection - power supply IN

Connector: M12; coding: L



### XD1

|   |                      |
|---|----------------------|
| 1 | + 24 V DC (US) brown |
| 2 | GND (UA) white       |
| 3 | GND (US) blue        |
| 4 | + 24 V DC (UA) black |
| 5 | FE grey              |

### Electrical connection - power supply OUT

Connector: M12; coding: L; Sealing: FKM



### XD2

|   |                      |
|---|----------------------|
| 1 | + 24 V DC (US) brown |
| 2 | GND (UA) white       |
| 3 | GND (US) blue        |
| 4 | + 24 V DC (UA) black |
| 5 | FE grey              |