

## FLM DIO 8/8 M12

Order No.: 2736848

<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2736848>

The local bus device has digital inputs and outputs. Functions: 8 digital inputs, 3 ms filter time, 8 digital outputs of 500 mA each, 500 kbaud/2 Mbaud selection, channel-specific diagnostics, short-circuit and overload protection, M12 fast connection technology.

### Commercial data

|                          |                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------|
| GTIN (EAN)               | <br>4 046356 135603 |
| sales group              | L081                                                                                                   |
| Pack                     | 1 pcs.                                                                                                 |
| Customs tariff           | 85176200                                                                                               |
| Catalog page information | Page 373 (AX-2009)                                                                                     |

### Product notes

WEEE/RoHS-compliant since:  
10/02/2008



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### Technical data

#### General data

|        |        |
|--------|--------|
| Width  | 70 mm  |
| Height | 178 mm |
| Depth  | 50 mm  |

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| Drill hole spacing                       | 168 mm                                            |
| Weight                                   | 330 g                                             |
| Mounting type                            | Wall mounting                                     |
| Ambient temperature (operation)          | -25 °C ... 60 °C                                  |
| Ambient temperature (storage/transport)  | -25 °C ... 85 °C                                  |
| Permissible humidity (storage/transport) | 95 %                                              |
| Air pressure (operation)                 | 80 kPa ... 106 kPa (up to 2000 m above sea level) |
| Air pressure (storage/transport)         | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Degree of protection                     | IP65/67                                           |
| Protection class                         | III, IEC 61140, EN 61140, VDE 0140-1              |
| Test section                             | To I/O 500 V AC                                   |

#### Interface

|                              |                                     |
|------------------------------|-------------------------------------|
| Name                         | Local bus                           |
| Type of connection           | M12 connector, B-coded              |
| Designation connection point | Copper cable                        |
| Transmission speed           | 500 kBaud/ 2 MBaud, can be selected |
| Number of positions          | 5                                   |

#### Power supply for module electronics

|                      |                                                    |
|----------------------|----------------------------------------------------|
| Type of connection   | M12 male connector                                 |
| Name                 | $U_L$                                              |
| Supply voltage       | 24 V DC                                            |
| Supply voltage range | 18 V DC ... 30 V DC IEC 61131-2 (including ripple) |

#### Fieldline potential routing

|                                |                                           |
|--------------------------------|-------------------------------------------|
| Voltage supply $U_L$           | 24 V DC                                   |
| Power supply at $U_L$          | max. 4 A                                  |
| Current consumption from $U_L$ | max. 55 mA (At 2 Mbaud)                   |
|                                | Typ. 50 mA (At 2 Mbaud)                   |
|                                | max. 50 mA (At 500 kBaud)                 |
|                                | Typ. 40 mA (At 500 kBaud)                 |
| Voltage supply $U_S$           | 24 V DC                                   |
| Power supply at $U_S$          | max. 4 A                                  |
| Current consumption from $U_S$ | Typ. 5 mA (plus power supply for sensors) |
|                                | max. 600 mA                               |
| Voltage supply $U_{A11}$       | 24 V DC                                   |

|                                  |           |
|----------------------------------|-----------|
| Power supply at $U_{A11}$        | max. 4 A  |
| Current consumption at $U_{A11}$ | Typ. 3 mA |
|                                  | max. 2 A  |
| Voltage supply $U_{A12}$         | 24 V DC   |
| Power supply at $U_{A12}$        | max. 4 A  |
| Current consumption at $U_{A12}$ | Typ. 3 mA |
|                                  | max. 4 A  |

#### Digital inputs

|                                |                                      |
|--------------------------------|--------------------------------------|
| Input name                     | Digital inputs                       |
| Type of connection             | M12 male connector                   |
| Connection method              | 2, 3, 4-wire                         |
| Number of inputs               | 8                                    |
| Protective circuit             | Protection against polarity reversal |
| Filter time                    | 3 ms                                 |
| Input characteristic curve     | IEC 61131-2 type 1                   |
| Input voltage                  | 24 V DC                              |
| Input voltage range "0" signal | -30 V DC ... 5 V DC                  |
| Input voltage range "1" signal | 13 V DC ... 30 V DC                  |

#### Digital outputs

|                                    |                          |
|------------------------------------|--------------------------|
| Output name                        | Digital outputs          |
| Type of connection                 | M12 male connector       |
| Connection method                  | 2, 3-wire                |
| Number of outputs                  | 8                        |
| Protective circuit                 | Short-circuit protection |
| Output voltage                     | 24 V DC                  |
| Maximum output current per channel | 500 mA                   |

#### Certificates / Approvals



|                   |               |
|-------------------|---------------|
| Certification     | CUL, UL       |
| Certification Ex: | CUL-EX, UL-EX |

## Accessories

| Item                   | Designation                    | Description                                                                                                                                                             |
|------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cable/conductor</b> |                                |                                                                                                                                                                         |
| 1518368                | SAC-5P- 2,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Free conductor end, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 2 m                           |
| 1507117                | SAC-5P- 2,0-900/M12FSB         | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Free conductor end, on Socket, straight M12, B-coded, Cable length: 2 m            |
| 1518371                | SAC-5P- 5,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Free conductor end, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 5 m                           |
| 1507120                | SAC-5P- 5,0-900/M12FSB         | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Free conductor end, on Socket, straight M12, B-coded, Cable length: 5 m            |
| 1518384                | SAC-5P-10,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Free conductor end, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 10 m                          |
| 1507133                | SAC-5P-10,0-900/M12FSB         | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Free conductor end, on Socket, straight M12, B-coded, Cable length: 10 m           |
| 1518397                | SAC-5P-15,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Free conductor end, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 15 m                          |
| 1507146                | SAC-5P-15,0-900/M12FSB         | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Free conductor end, on Socket, straight M12, B-coded, Cable length: 15 m           |
| 1507162                | SAC-5P-M12MSB/ 0,3-900/ M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 0.3 m |
| 1507175                | SAC-5P-M12MSB/ 0,5-900/ M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 0.5 m |
| 1507188                | SAC-5P-M12MSB/ 1,0-900/ M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 1 m   |
| 1507065                | SAC-5P-M12MSB/ 2,0-900         | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Free conductor end, Cable length: 2 m              |
| 1507191                | SAC-5P-M12MSB/ 2,0-900/ M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 2 m   |

|         |                                   |                                                                                                                                                                        |
|---------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1507078 | SAC-5P-M12MSB/ 5,0-900            | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Free conductor end, Cable length: 5 m             |
| 1507201 | SAC-5P-M12MSB/ 5,0-900/<br>M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 5 m  |
| 1507081 | SAC-5P-M12MSB/10,0-900            | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Free conductor end, Cable length: 10 m            |
| 1507214 | SAC-5P-M12MSB/10,0-900/<br>M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 10 m |
| 1507094 | SAC-5P-M12MSB/15,0-900            | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Free conductor end, Cable length: 15 m            |
| 1507227 | SAC-5P-M12MSB/15,0-900/<br>M12FSB | Bus system cable, INTERBUS, 5-position, PUR, halogen-free, Green RAL 6017, shielded, Plug, straight M12, B-coded, on Socket, straight M12, B-coded, Cable length: 15 m |
| 1518407 | SAC-5P-MS/ 0,3-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 0.3 m      |
| 1518410 | SAC-5P-MS/ 0,5-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 0.5 m      |
| 1518423 | SAC-5P-MS/ 1,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 1 m        |
| 1518326 | SAC-5P-MS/ 2,0-186 SCO            | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Free conductor end, Cable length: 2 m                            |
| 1518436 | SAC-5P-MS/ 2,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 2 m        |
| 1518339 | SAC-5P-MS/ 5,0-186 SCO            | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Free conductor end, Cable length: 5 m                            |
| 1518449 | SAC-5P-MS/ 5,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 5 m        |
| 1518342 | SAC-5P-MS/10,0-186 SCO            | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Free conductor end, Cable length: 10 m                           |
| 1518452 | SAC-5P-MS/10,0-186/FS SCO         | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 10 m       |
| 1518355 | SAC-5P-MS/15,0-186 SCO            | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Free conductor end, Cable length: 15 m                           |

|                     |                                |                                                                                                                                                                                            |
|---------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1518465             | SAC-5P-MS/15,0-186/FS SCO      | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 15 m                           |
| <b>Marking</b>      |                                |                                                                                                                                                                                            |
| 0809735             | ZBF 12:UNBEDRUCKT              | Zack strip, flat, unprinted, 5-section, divisible, for labeling by the customer                                                                                                            |
| <b>Plug/Adapter</b> |                                |                                                                                                                                                                                            |
| 1683455             | SAC-3P-M12Y/2XM12FS PE         | Y-distributor, 3-pos. +PE, straight connector M12 on 2 x straight socket M12                                                                                                               |
| 1518481             | SAC-5P-MS/ 0,13-186/FS SCO     | Sensor/Actuator cable, 5-position, PUR, Black-gray RAL 7021, Plug, straight M12-SPEEDCON, A-coded, on Socket, straight M12-SPEEDCON, A-coded, Cable length: 0.13 m                         |
| 1518478             | SAC-5P-MSB/0,13-PUR/FSB SCO SH | Sensor/Actuator cable, 5-position, PUR, halogen-free, Black-gray RAL 7021, shielded, Plug, straight M12-SPEEDCON, B-coded, on Socket, straight M12-SPEEDCON, B-coded, Cable length: 0.13 m |
| 1513606             | SACC-M12FRB-5SC SH             | Sensor/actuator connector, female, angled, 5-pos., M12, shielded, B-coded, spring-cage connection, metal knurl, cable cross section max. 8 mm                                              |
| 1508200             | SACC-M12FS-5SC M               | Sensor/actuator connector, female, straight, 5-pos., M12, A-coded, spring-cage connection, metal knurl, cable cross section max. 8 mm                                                      |
| 1507777             | SACC-M12FSB-5CON-PG9 SH AU     | Bus system plug connector, female, straight, 5-pos., M12, shielded, gold-plated contacts, B-coded, screw connection, metal knurl, cable screw connection Pg9                               |
| 1513596             | SACC-M12FSB-5SC SH             | Sensor/actuator connector, female, straight, 5-pos., M12, shielded, B-coded, spring-cage connection, metal knurl, cable cross section max. 8 mm                                            |
| 1513583             | SACC-M12MRB-5SC SH             | Sensor/actuator connector, male, angled, 5-pos., M12, shielded, B-coded, spring-cage connection, metal knurl, cable cross section max. 8 mm                                                |
| 1508187             | SACC-M12MS-5SC M               | Sensor/actuator connector, male, straight, 5-pos., M12, A-coded, spring-cage connection, metal knurl, cable cross section max. 8 mm                                                        |
| 1507764             | SACC-M12MSB-5CON-PG9 SH AU     | Bus system plug connector, male straight, 5-pos., M12, shielded, gold-plated contacts, B-coded, screw connection, metal knurl, cable screw connection Pg9                                  |
| 1513570             | SACC-M12MSB-5SC SH             | Sensor/actuator connector, male, straight, 5-pos., M12, shielded, B-coded, spring-cage connection, metal knurl, cable cross section max. 8 mm                                              |

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