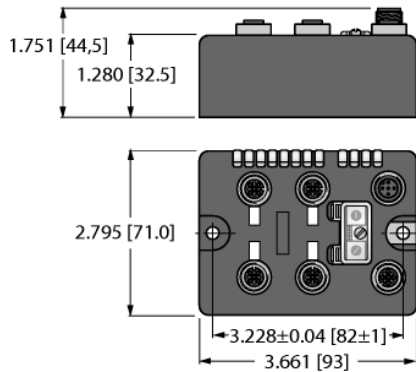


# BL compact™ fieldbus station for DeviceNet™

## 8 Configurable Digital PNP Channels

### BLCDN-4M12S-8XSG-PD

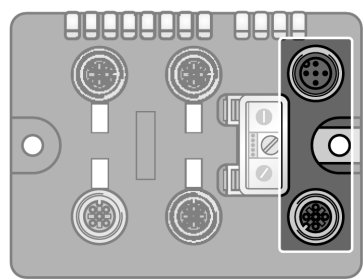
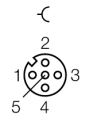
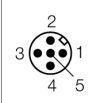
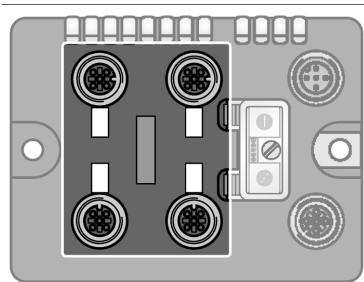
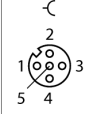


|                                    |                                                                                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                               | BLCDN-4M12S-8XSG-PD                                                                                                                                                         |
| ID                                 | 6811007                                                                                                                                                                     |
| Nominal system voltage             | 24 VDC                                                                                                                                                                      |
| System power supply                | Via DeviceNet                                                                                                                                                               |
| Admissible range V+                | 18...30 VDC                                                                                                                                                                 |
| Nominal current V+                 | 230 mA                                                                                                                                                                      |
| Max. current V+                    | 4 A                                                                                                                                                                         |
| Electrical isolation               | The inputs and outputs of the 8XSG I/O cards are supplied via a common ground. Therefore, it is recommend not to use this module for safety or emergency stop applications. |
| Fieldbus transmission rate         | 125/250/500 kbps                                                                                                                                                            |
| Adjustment transmission rate       | Automatic detection                                                                                                                                                         |
| Fieldbus address range             | 0...63<br>64...80 (MacID programmable)<br>81...99 (manufacturer specific)                                                                                                   |
| Fieldbus addressing                | 2 decimally coded rotary switches                                                                                                                                           |
| Fieldbus connection technology     | 2 × M12<br>5-pole                                                                                                                                                           |
| Fieldbus termination               | external                                                                                                                                                                    |
| Service interface                  | RS232 interface                                                                                                                                                             |
| Vendor ID                          | 48                                                                                                                                                                          |
| Product type                       | 12                                                                                                                                                                          |
| Product code                       | 11007                                                                                                                                                                       |
| Digital inputs                     | from 8XSG                                                                                                                                                                   |
| Input type                         | PNP                                                                                                                                                                         |
| Type of input diagnostics          | Channel diagnostics                                                                                                                                                         |
| Sensor supply (V <sub>SENS</sub> ) | 24 VDC, 100 mA short-circuit limiting                                                                                                                                       |
| Low-level signal voltage           | < 4.5 VDC                                                                                                                                                                   |
| High level signal voltage          | 7 ... 30 VDC                                                                                                                                                                |
| Low level signal current           | < 1.5 mA                                                                                                                                                                    |
| High level signal current          | 2.1 ... 3.7 mA                                                                                                                                                              |
| Input delay                        | 0.25 ms or 2.5 ms (configurable)                                                                                                                                            |

- On-machine Compact fieldbus I/O block
- DeviceNet™ slave
- 125 / 250 / 500 kbps
- Two 5-pole M12 connectors for fieldbus connection
- 2 rotary switches for node address
- IP67, IP69K
- M12 I/O connectors
- LEDs indicating status and diagnostics
- Electronics galvanically separated from the field level via optocouplers
- 8 Configurable digital PNP channels, 24 VDC
- Max. 0.5A per channel
- Channel diagnostics
- Selection of filtering times (Input delay)
- Invertible inputs

|                                    |                                                    |
|------------------------------------|----------------------------------------------------|
| Digital outputs                    | from 8XSG                                          |
| Output type                        | PNP                                                |
| Type of output diagnostics         | Channel diagnostics                                |
| Sensor supply (V <sub>SENS</sub> ) | 24 VDC                                             |
| Output current per channel         | 0.5 A                                              |
| Output voltage                     | 24 VDC from supply voltage                         |
| Output delay                       | 3 ms                                               |
| Load type                          | resistive, inductive, lamp load                    |
| Load resistance, resistive         | > 48 Ω                                             |
| Load resistance, inductive         | < 1.2 H                                            |
| Lamp load                          | < 3 W                                              |
| Switching frequency, resistive     | < 200 Hz                                           |
| Switching frequency, inductive     | < 2 Hz                                             |
| Switching frequency, lamp load     | < 20 Hz                                            |
| Short-circuit protection           | yes                                                |
| Dimensions                         | 93 x 71 x 32.5 mm                                  |
| Mounting                           | 2 × 5.4 mm diameter holes, 1.7 Nm torque           |
| Weight                             | 320 ± 20 g                                         |
| Housing material                   | Glass-filled nylon, nickel plated brass connectors |
| Housing color                      | Black                                              |
| Material screw                     | Nickel-plated brass                                |
| Material label                     | Polyester with polycarbonate overlay               |
| Ground label material              | Nickel plated brass                                |
| Protection class                   | IP67<br>IP69K                                      |
| Ambient temperature                | -40...+70 °C                                       |
| Storage temperature                | -40...+85 °C                                       |
| Relative humidity                  | 15 to 95% (non-condensing)                         |
| Vibration test                     | Acc. to IEC 61131-2                                |
| - up to 20 g (at 10 up to 150 Hz)  | For mounting on base plate or machinery            |
| Shock test                         | according to IEC 61131-2                           |
| Electromagnetic compatibility      | Acc. to IEC 61131-2                                |
| Approvals and certificates         | CE, cULus                                          |

Pinning and wiring diagram

|                                                                                   |                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><b>DeviceNet</b></p> <p>Fieldbus cable (example): RSC RKC 572-2M ident-no. U0323 or RSC-RKC572-2M ident-no. 6603629</p>                              | <p>Pin Assignment</p> <div></div> <ul style="list-style-type: none"><li>1 = shield</li><li>2 = V +</li><li>3 = V -</li><li>4 = CAN_H</li><li>5 = CAN_L</li></ul>     |
|  | <p><b>Digital Inputs and Outputs</b></p> <p>Extension cable (example): RK 4.4T-2-RS 4.4T ident-no. U2445 or RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208</p> | <p>Pin Assignment</p> <div></div> <ul style="list-style-type: none"><li>1 = VSENS</li><li>2 = Signal B</li><li>3 = GND</li><li>4 = Signal A</li><li>5 = PE</li></ul> |

#### Station LED status

| LED | Color | Status          | Description                          |
|-----|-------|-----------------|--------------------------------------|
| IOs |       | OFF             | No power                             |
|     | RED   | ON              | Low power or station error           |
|     | RED   | FLASHING (1 Hz) | I/O module configuration error       |
|     | RED   | FLASHING (4 Hz) | No I/O module bus communication      |
|     | GREEN | ON              | Station ok                           |
|     | GREEN | FLASHING        | Force mode active                    |
| MNS |       | OFF             | No connection                        |
|     | GREEN | ON              | Connection established               |
|     | GREEN | FLASHING (1 Hz) | No connection established, device OK |
|     | RED   | ON              | Duplicate MAC-ID                     |
|     | RED   | FLASHING        | Connection time out                  |
| IO  | GREEN | ON              | I/O active                           |
|     | GREEN | FLASHING (1 Hz) | One or more I/O in Idle State        |
|     | RED   | ON              | One or more I/O error                |
|     | RED   | FLASHING        | One or more I/O in Faulted State     |

#### I/O LED status

| LED                   | Color | Status           | Description                                            |
|-----------------------|-------|------------------|--------------------------------------------------------|
| D *                   |       | OFF              | No diagnostics active                                  |
|                       | RED   | ON               | Station error/ module bus communication failure        |
|                       | RED   | FLASHING (0.5Hz) | Diagnostics active                                     |
| XSG channels<br>0...7 |       | OFF              | Channel status x = "0" (OFF),<br>no diagnostics active |
|                       | GREEN | ON               | Channel status x = "1" (ON)                            |
|                       | RED   | ON               | Short-circuit at output                                |
|                       | RED   | FLASHING (2 Hz)  | Short-circuit sensor supply                            |

\* D LED also indicates gateway diagnostics

# I/O & Diagnostic Data Map

| INPUT                | BYTE | Bit 7                                   | Bit 6                             | Bit 5                             | Bit 4                             | Bit 3                                                 | Bit 2                                                 | Bit 1                                                 | Bit 0                                                 |
|----------------------|------|-----------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
|                      | 0    | DI 1 <sub>7</sub>                       | DI 1 <sub>6</sub>                 | DI 1 <sub>5</sub>                 | DI 1 <sub>4</sub>                 | DI 1 <sub>3</sub>                                     | DI 1 <sub>2</sub>                                     | DI 1 <sub>1</sub>                                     | DI 1 <sub>0</sub>                                     |
|                      | 1    | -                                       | -                                 | -                                 | -                                 | -                                                     | -                                                     | -                                                     | -                                                     |
| Diagnostics          | 2    | Module number reporting diagnostic data |                                   |                                   |                                   |                                                       |                                                       |                                                       |                                                       |
|                      | 3    | Replace Station                         | -                                 | Diagnostics Active                | -                                 | -                                                     | -                                                     | -                                                     | -                                                     |
| Slot 1 (ref. Byte 2) | 4    | -                                       | -                                 | -                                 | -                                 | Over Current<br>DI 1 <sub>3</sub> / DI 1 <sub>7</sub> | Over Current<br>DI 1 <sub>2</sub> / DI 1 <sub>6</sub> | Over Current<br>DI 1 <sub>1</sub> / DI 1 <sub>5</sub> | Over Current<br>DI 1 <sub>0</sub> / DI 1 <sub>4</sub> |
|                      | 5    | Over Current<br>DO 1 <sub>7</sub>       | Over Current<br>DO 1 <sub>6</sub> | Over Current<br>DO 1 <sub>5</sub> | Over Current<br>DO 1 <sub>4</sub> | Over Current<br>DO 1 <sub>3</sub>                     | Over Current<br>DO 1 <sub>2</sub>                     | Over Current<br>DO 1 <sub>1</sub>                     | Over Current<br>DO 1 <sub>0</sub>                     |
| OUTPUT               | BYTE | Bit 7                                   | Bit 6                             | Bit 5                             | Bit 4                             | Bit 3                                                 | Bit 2                                                 | Bit 1                                                 | Bit 0                                                 |
|                      | 0    | DO 1 <sub>7</sub>                       | DO 1 <sub>6</sub>                 | DO 1 <sub>5</sub>                 | DO 1 <sub>4</sub>                 | DO 1 <sub>3</sub>                                     | DO 1 <sub>2</sub>                                     | DO 1 <sub>1</sub>                                     | DO 1 <sub>0</sub>                                     |
|                      | 1    | -                                       | -                                 | -                                 | -                                 | -                                                     | -                                                     | -                                                     | -                                                     |