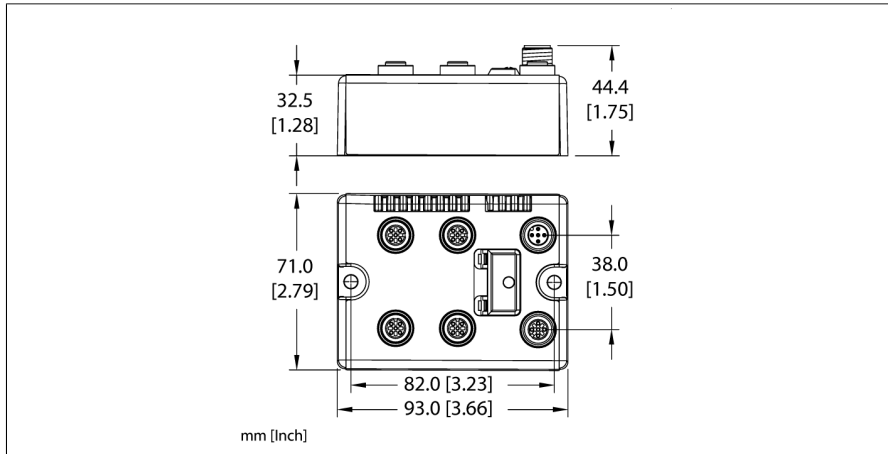


# BL compact™ fieldbus station for DeviceNet™

## 8 Configurable Digital PNP Channels

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

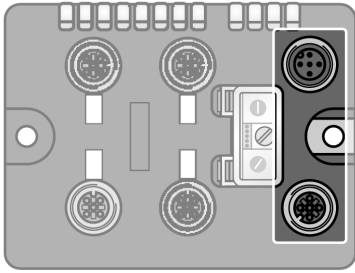


|                                    |   |
|------------------------------------|---|
| ID                                 | 6811007   |
| Nominal system voltage             | 24 VDC  |
| System power supply                | Via DeviceNet   |
| Admissible range V+                | 18...30 VDC   |
| Nominal 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   |
| 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 ( $V_{\text{SENS}}$ ) | 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 $\Omega$                                      |
| 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 x 5.4 mm diameter holes, 1.7 Nm torque           |
| Weight                              | 320 $\pm$ 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 $^{\circ}$ C                             |
| Storage temperature                 | -40...+85 $^{\circ}$ 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  |

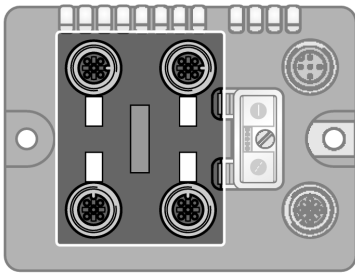
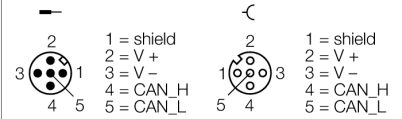
## Pinning and wiring diagram



### DeviceNet

Fieldbus cable (example): RSC RKC 572-2M ident-no. U0323 or RSC-RKC572-2M ident-no. 6603629

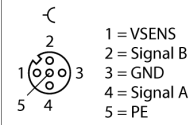
### Pin Assignment



### Digital Inputs and Outputs

Extension cable (example): RK 4.4T-2-RS 4.4T ident-no. U2445 or RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208

### Pin Assignment



**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**

| <b>INPUT</b>         | <b>BYTE</b> | <b>Bit 7</b>                            | <b>Bit 6</b>                      | <b>Bit 5</b>                      | <b>Bit 4</b>                      | <b>Bit 3</b>  | <b>Bit 2</b>  | <b>Bit 1</b>  | <b>Bit 0</b>  |
|----------------------|-------------|---|-----------------------------------|-----------------------------------|-----------------------------------|---|---|---|---|
|                      | 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           | -                                       | -                                 | -                                 | -                                 | -   | -   | -   | -   |
| Diagnosics           | 2           | Module number reporting diagnostic data |                                   |                                   |                                   |   |   |   |   |
|                      | 3           | Replace Station                         | -                                 | Diagnosics 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>0</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>                     |
| <b>OUTPUT</b>        | <b>BYTE</b> | <b>Bit 7</b>                            | <b>Bit 6</b>                      | <b>Bit 5</b>                      | <b>Bit 4</b>                      | <b>Bit 3</b>  | <b>Bit 2</b>  | <b>Bit 1</b>  | <b>Bit 0</b>  |
|                      | 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           | -                                       | -                                 | -                                 | -                                 | -   | -   | -   | -   |