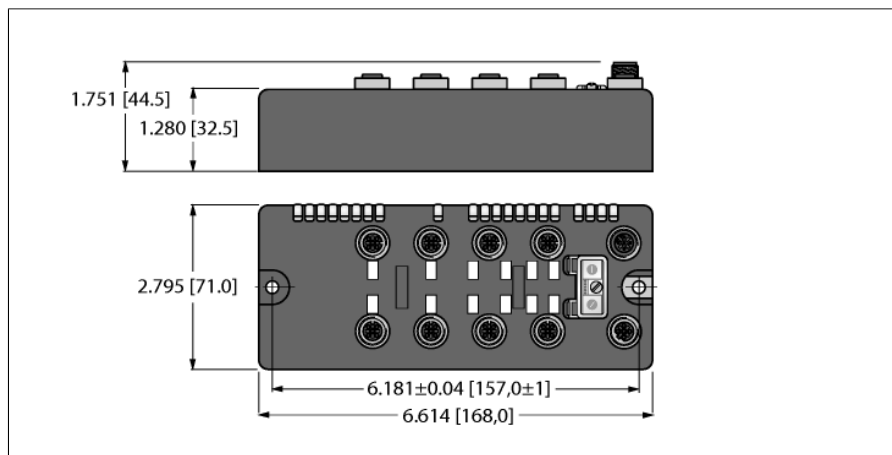


# BL compact™ fieldbus station for DeviceNet™

## 8 Digital PNP Inputs and 8 Digital NPN Inputs

### BLCDN-8M12L-8DI-P-8DI-N

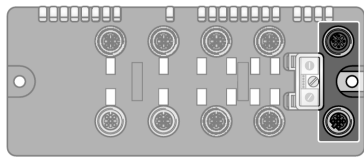


|                                    |                                                                           |
|------------------------------------|---------------------------------------------------------------------------|
| Type                               | BLCDN-8M12L-8DI-P-8DI-N                                                   |
| ID                                 | 6811070                                                                   |
| Nominal system voltage             | 24 VDC                                                                    |
| System power supply                | Via DeviceNet                                                             |
| Admissible range V+                | 11...30 VDC                                                               |
| Nominal current V+                 | 71 mA                                                                     |
| Max. current V+                    | 4 A                                                                       |
| 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               | 5-pole<br>external                                                        |
| Service interface                  | RS232 interface                                                           |
| Vendor ID                          | 48                                                                        |
| Product type                       | 12                                                                        |
| Product code                       | 11070                                                                     |
| Digital inputs                     |                                                                           |
| Input type                         | PNP                                                                       |
| Type of input diagnostics          | Group diagnostics                                                         |
| Sensor supply (V <sub>SENS</sub> ) | 24 VDC                                                                    |
| 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                                                                   |

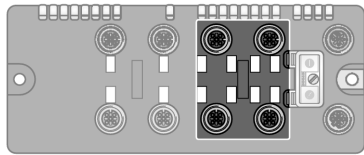
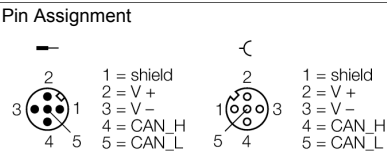
- On-machine Compact fieldbus I/O block
- DeviceNet™ slave
- 125 / 250 / 500 kbps
- Two 5-pole M12 connectors for fieldbus connection
- 2 rotary switches for node address
- IP67, IP69K
- M12 I/O connectors
- LEDs indicating status and diagnostics
- Electronics galvanically separated from the field level via optocouplers
- 8 digital NPN inputs, 24 VDC

|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| Input type                          | NPN                                                |
| Type of input diagnostics           | Group diagnostics                                  |
| Sensor supply ( $V_{\text{SENS}}$ ) | 24 VDC                                             |
| Low-level signal voltage            | 7 V                                                |
| Low-level signal voltage            | 7...30 VDC                                         |
| High-level signal voltage           | < 5 VDC                                            |
| Low-level signal current            | < 1.2 mA                                           |
| High-level signal current           | > 1.5 mA                                           |
| Input delay                         | 0.25 ms                                            |
| Dimensions                          | 168 x 71 x 32.5 mm                                 |
| Mounting                            | 2 × 5.4 mm diameter holes, 1.7 Nm torque           |
| Weight                              | 550 ± 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

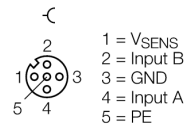


**DeviceNet**  
Fieldbus cable (example): RSC RKC 572-2M ident-no. U0323 or  
RSC-RKC572-2M ident-no. 6603629

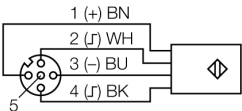


**Slot 1: Digital Inputs**  
Extension cable (example): RK 4.4T-2-RS 4.4T ident-no. U2445 or  
RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208

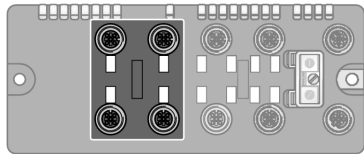
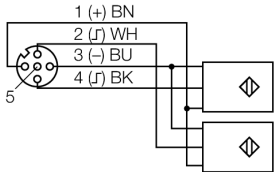
Pin Assignment



Wiring Diagram for Dual Input Sensor

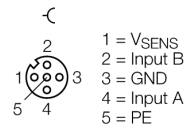


Wiring Diagram for 2 Sensors



**Slot 2: Digital Inputs**  
See slot 1

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 slot 1

| LED                              | Color | Status           | Description                                     |
|----------------------------------|-------|------------------|-------------------------------------------------|
| D1 *                             |       | OFF              | No diagnostics active                           |
|                                  | RED   | ON               | Station error/ module bus communication failure |
|                                  | RED   | FLASHING (0.5Hz) | Diagnostics active (Slot 1)                     |
| DI Channels                      |       | OFF              | Status of channel x = „0“ (OFF)                 |
| 1 <sub>0</sub> ...1 <sub>7</sub> | GREEN | ON               | Status of channel x = „1“ (ON)                  |

\* D1 LED also indicates gateway diagnostics

#### I/O LED status slot 2

| LED  | Color | Status           | Description                                     |
|------|-------|------------------|-------------------------------------------------|
| D2 * |       | OFF              | No diagnostics active                           |
|      | RED   | ON               | Station error/ module bus communication failure |
|      | RED   | FLASHING (0.5Hz) | Diagnostics active (Slot 2)                     |

\* D2 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    | DI 2 <sub>7</sub> | DI 2 <sub>6</sub> | DI 2 <sub>5</sub> | DI 2 <sub>4</sub> | DI 2 <sub>3</sub> | DI 2 <sub>2</sub> | DI 2 <sub>1</sub> | DI 2 <sub>0</sub> |