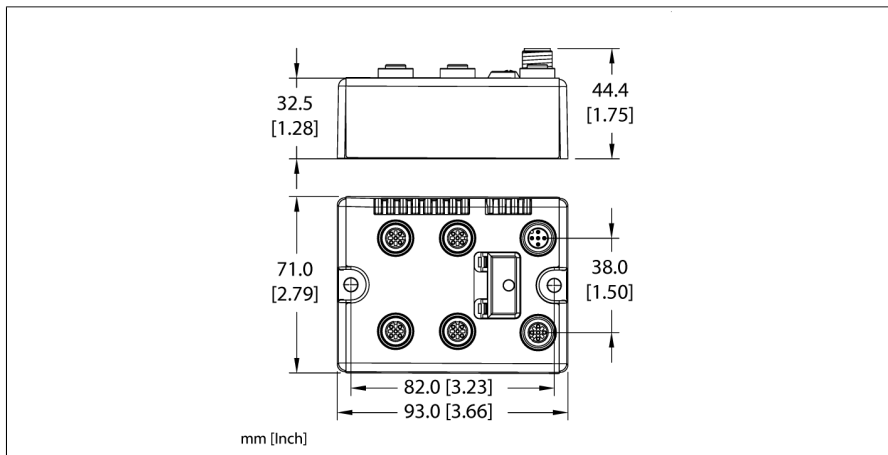


# BL compact™ fieldbus station for DeviceNet™

## 4 Analog Inputs for Current or Voltage

### BLCDN-4M12S-4AI-VI

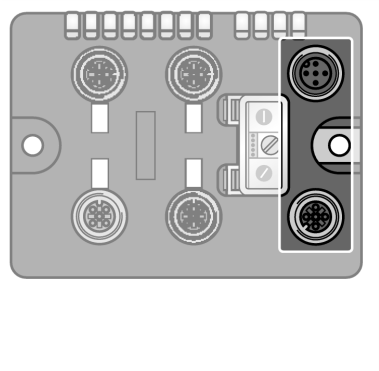
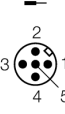
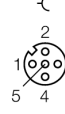
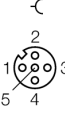
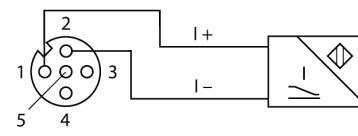
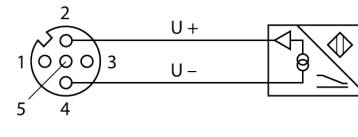
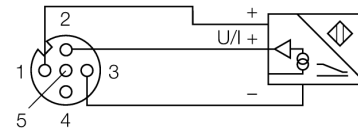
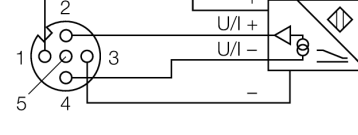
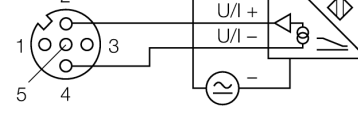


|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| ID                                | 6811003                                                                   |
| Nominal system voltage            | 24 VDC                                                                    |
| System power supply               | Via DeviceNet                                                             |
| Admissible range V+               | 11...30 VDC                                                               |
| Nominal current V+                | 42 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                      | 11003                                                                     |
| Analog inputs                     | from 4AI-VI                                                               |
| Operating modes                   | 0/4 ... 20 mA or -10/0 ... 10 VDC                                         |
| Type of input diagnostics         | Channel diagnostics                                                       |
| Sensor supply                     | 24 VDC, 1 amp max.                                                        |
| Input resistance                  | Current: < 0.125 KΩ, Voltage: < 98.5 KΩ                                   |
| Maximum limiting frequency analog | < 20 Hz                                                                   |
| Basic fault limit at 23 °C        | < 0.3 %                                                                   |
| Repeatability                     | < 0.05 %                                                                  |
| Temperature coefficient           | < 300 ppm / °C of full scale                                              |
| Resolution                        | 16 Bit                                                                    |
| Measuring principle               | Sigma Delta                                                               |
| Measurement display               | 16 bit signed integer<br>12 bit full range left-justified                 |

- 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
- 4 analog inputs for current or voltage
- 0/4...20 mA or -10/0...+10 VDC (selectable per channel)

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| 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><b>Pin Assignment</b></p> <div><p>1 = shield<br/>2 = V +<br/>3 = V -<br/>4 = CAN_H<br/>5 = CAN_L</p></div> <div><p>1 = shield<br/>2 = V +<br/>3 = V -<br/>4 = CAN_H<br/>5 = CAN_L</p></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|  | <p><b>Analog Inputs</b></p> <p>Extension cable (example): RK 4.5T-2-RS 4.5T/S653 ident-no. U2187-09 or RKC4.5T-2-RSC4.5T/TEL ident-no. 6625212</p> | <p><b>Pin Assignment</b></p> <div><p>1 = V<sub>SENS</sub><br/>2 = AI +<br/>3 = GND<br/>4 = AI -<br/>5 = PE</p></div> <p><b>2-wire Technology (Current)</b></p> <div></div> <p><b>2-wire Technology (Voltage)</b></p> <div></div> <p><b>3-wire Technology</b></p> <div></div> <p><b>4-wire Technology</b></p> <div></div> <p><b>4-wire Technology (External Power)</b></p> <div></div> |

#### 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                              |
| AI channel<br>0...3 |       | OFF               | Not active                                      |
|                     | GREEN | ON                | Active                                          |
|                     | GREEN | FLASHING (0.5 Hz) | Underflow in measuring range                    |
|                     | GREEN | FLASHING (4 Hz)   | Overflow in measuring range                     |

\* 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                            |
|-------------------------|------|-----------------------------------------|-------|-----------------------|-------|-------|-------|-----------------------------------|----------------------------------|
| AI 1 <sub>0</sub>       | 0    | AI 1 <sub>0</sub> LSB                   |       |                       |       |       |       |                                   |                                  |
|                         | 1    | AI 1 <sub>0</sub> MSB                   |       |                       |       |       |       |                                   |                                  |
| AI 1 <sub>1</sub>       | 2    | AI 1 <sub>1</sub> LSB                   |       |                       |       |       |       |                                   |                                  |
|                         | 3    | AI 1 <sub>1</sub> MSB                   |       |                       |       |       |       |                                   |                                  |
| AI 1 <sub>2</sub>       | 4    | AI 1 <sub>2</sub> LSB                   |       |                       |       |       |       |                                   |                                  |
|                         | 5    | AI 1 <sub>2</sub> MSB                   |       |                       |       |       |       |                                   |                                  |
| AI 1 <sub>3</sub>       | 6    | AI 1 <sub>3</sub> LSB                   |       |                       |       |       |       |                                   |                                  |
|                         | 7    | AI 1 <sub>3</sub> MSB                   |       |                       |       |       |       |                                   |                                  |
| Diagnostics             | 8    | Module number reporting diagnostic data |       |                       |       |       |       |                                   |                                  |
|                         | 9    | Replace Sta-<br>tion                    | -     | Diagnostics<br>Active | -     | -     | -     | -                                 | -                                |
| Slot 1 (ref. Byte<br>8) | 10   | -                                       | -     | -                     | -     | -     | -     | Open Circuit<br>AI 1 <sub>0</sub> | Range Error<br>AI 1 <sub>0</sub> |
|                         | 11   | -                                       | -     | -                     | -     | -     | -     | Open Circuit<br>AI 1 <sub>1</sub> | Range Error<br>AI 1 <sub>1</sub> |
|                         | 12   | -                                       | -     | -                     | -     | -     | -     | Open Circuit<br>AI 1 <sub>2</sub> | Range Error<br>AI 1 <sub>2</sub> |
|                         | 13   | -                                       | -     | -                     | -     | -     | -     | Open Circuit<br>AI 1 <sub>3</sub> | Range Error<br>AI 1 <sub>3</sub> |