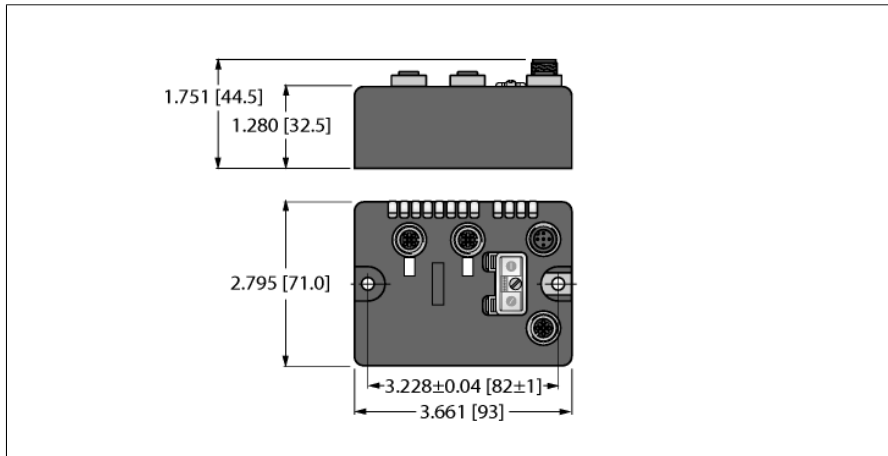


**BL compact™ fieldbus station for DeviceNet™**  
**2 Analog Inputs for Thermocouple Elements**  
**BLCDN-2M12S-2AI-TC**

- 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
- 2 analog inputs for Thermo Couples
- Types B, E, J, K, N, R, S or T (selectable per channel)
- Cold-junction compensation via a Pt1000 in special connector

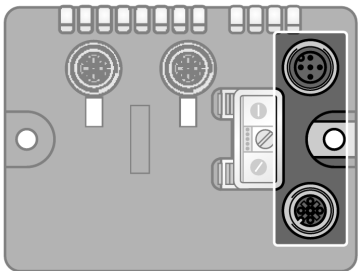
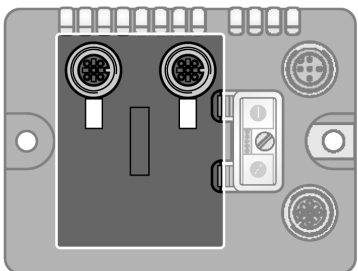
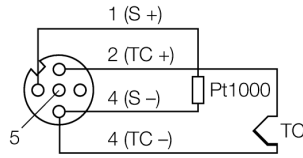
|                                   |                                   |
|-----------------------------------|-----------------------------------|
| <b>Type designation</b>           | BLCDN-2M12S-2AI-TC                |
| Ident-No.                         | 6811040                           |
| <b>Nominal system voltage</b>     | 24 VDC                            |
| System power supply               | Via DeviceNet                     |
| Admissible range V+               | 11...30VDC                        |
| Nominal current V+                | 60 mA                             |
| Max. current V+                   | 4 A                               |
| <b>Fieldbus transmission rate</b> | 125/250/500 kbps                  |
| Adjustment transmission rate      | Automatic detection               |
| Fieldbus address range            | 0...63                            |
|                                   | 64...80 (programmable MACID)      |
|                                   | 81...99 (manufacturer specific)   |
| Fieldbus addressing               | 2 decimally coded rotary switches |
| Fieldbus connection technology    | 2 × M12                           |
|                                   | 5-pole                            |
| Fieldbus termination              | external                          |
| Service interface                 | RS232 interface                   |
| Vendor ID                         | 48                                |
| Product type                      | 12                                |
| Product code                      | 11040                             |
| <b>Analog inputs</b>              | from 2AI-TC                       |
| Operating modes                   | Types B, E, J, K, N, R, S, T      |
| Type of input diagnostics         | Channel diagnostics               |
| Sensor supply                     | 24 VDC, 1 amp max.                |
| Voltage resolution                | ± 50 mV: < 2 µV                   |
|                                   | ± 100 mV: < 4 µV                  |
|                                   | ± 500 mV: < 20 µV                 |
|                                   | ± 1000 mV: < 50 µV                |
| Basic fault limit at 23 °C        | < 0.2 %                           |
| Repeatability                     | < 0.05 %                          |
| Temperature coefficient           | < 300 ppm / °C of full scale      |
| Resolution                        | 16 bit                            |
| Measurement display               | 16 bit signed integer             |
|                                   | 12 bit full range left-justified  |

**BL compact™ fieldbus station for DeviceNet™**  
**2 Analag Inputs for Thermocouple Elements**  
**BLCDN-2M12S-2AI-TC**

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| <b>Dimensions</b>                 | 93 x 71 x 32.5 mm                                  |
| Mounting                          | 2 × 5.4 mm diameter holes, 1.7 Nm torque           |
| Weight                            | 290 ± 20 g                                         |
| Housing material                  | Glass-filled nylon, nickel plated brass connectors |
| Housing color                     | Black                                              |
| Window material                   | Lexan                                              |
| Material screw                    | Nickel-plated brass                                |
| Material label                    | Polyester with polycarbonate overlay               |
| Ground label material             | Nickel plated brass                                |
| Protection class                  | IP67<br>IP69K                                      |
| Operating temperature             | -40...+70 °C                                       |
| Storage temperature               | -40...+85 °C                                       |
| Relative humidity                 | 15 to 95% (non-condensing)                         |
| Vibration test                    | according to IEC 61131-2                           |
| Extended vibration resistance     |                                                    |
| - 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     | according to IEC 61131-2                           |
| Approvals and certificates        | CE, cULus                                          |

**BL compact™ fieldbus station for DeviceNet™**  
**2 Analag Inputs for Thermocouple Elements**  
**BLCDN-2M12S-2AI-TC**

**Pinning and wiring diagram**

|                                                                                    |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p><b>DeviceNet™</b><br/>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 style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>1 = shield<br/>2 = V +<br/>3 = V -<br/>4 = CAN_H<br/>5 = CAN_L</p> </div> <div style="text-align: center;">  <p>1 = shield<br/>2 = V +<br/>3 = V -<br/>4 = CAN_H<br/>5 = CAN_L</p> </div> </div> |
|  | <p><b>Thermocouple Inputs</b><br/>TC compensating connector BL67-WAS5-THERMO ident-no. 6827197</p>                       | <p><b>Pin Assignment</b></p> <div style="text-align: center;">  <p>1 = S +<br/>2 = TC +<br/>3 = GND<br/>4 = TC - / S -<br/>5 = PE</p> </div> <p><b>Wiring Diagram</b></p>                                                                                                                                                      |

**BL compact™ fieldbus station for DeviceNet™**  
**2 Analag Inputs for Thermocouple Elements**  
**BLCDN-2M12S-2AI-TC****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 / 1 |       |                  | Not connected                                   |

\* D LED also indicates gateway diagnostics

**BL compact™ fieldbus station for DeviceNet™**  
**2 Analog Inputs for Thermocouple Elements**  
**BLCDN-2M12S-2AI-TC****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                   |       |                       |       |       |       |                                   |                                  |
| Diagnostics             | 4    | Module number reporting diagnostic data |       |                       |       |       |       |                                   |                                  |
|                         | 5    | Replace Sta-<br>tion                    | -     | Diagnostics<br>Active | -     | -     | -     | -                                 | -                                |
| Slot 1 (ref. Byte<br>4) | 6    | -                                       | -     | -                     | -     | -     | -     | Open Circuit<br>AI 1 <sub>0</sub> | Range Error<br>AI 1 <sub>0</sub> |
|                         | 7    | -                                       | -     | -                     | -     | -     | -     | Open Circuit<br>AI 1 <sub>1</sub> | Range Error<br>AI 1 <sub>1</sub> |