TURCK

Industrial Automation

FLEXIBLE FIELDBUS I/O BLOCK MODULES

BL compact

Sense it! Connect it! Bus it! Solve it!

BL compact –
flexible as a system, compact as a module

BL67 – Remote I/O system

The extendable modular I/O system for the automation industry meets all requirements of the sensor/actuator communication. It consists of a fieldbus gateway, base modules and electronic modules for different signal types. The modular concept of BL67 provides highest flexibility in processing a broad range of fieldbus signals.

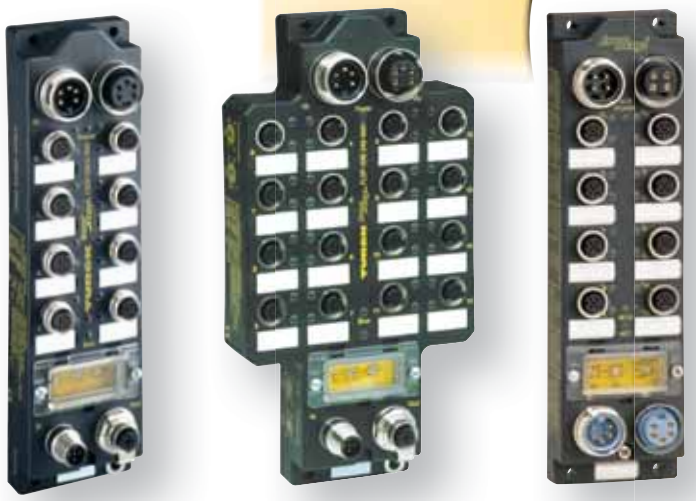
MODULAR

RFID

ANALOG

Compact fieldbus stations

The compact fieldbus stations are ideal for limited spaces conditions and function as a remote I/O level for automation tasks outside the control cabinet. They are robust, tried and tested and easy to handle, although the classical block I/Os can currently only process digital fieldbus signals.



DIGITAL

COMPACT

ROBUST

DeviceNet™

PROFI® PROCESS FIELD BUS

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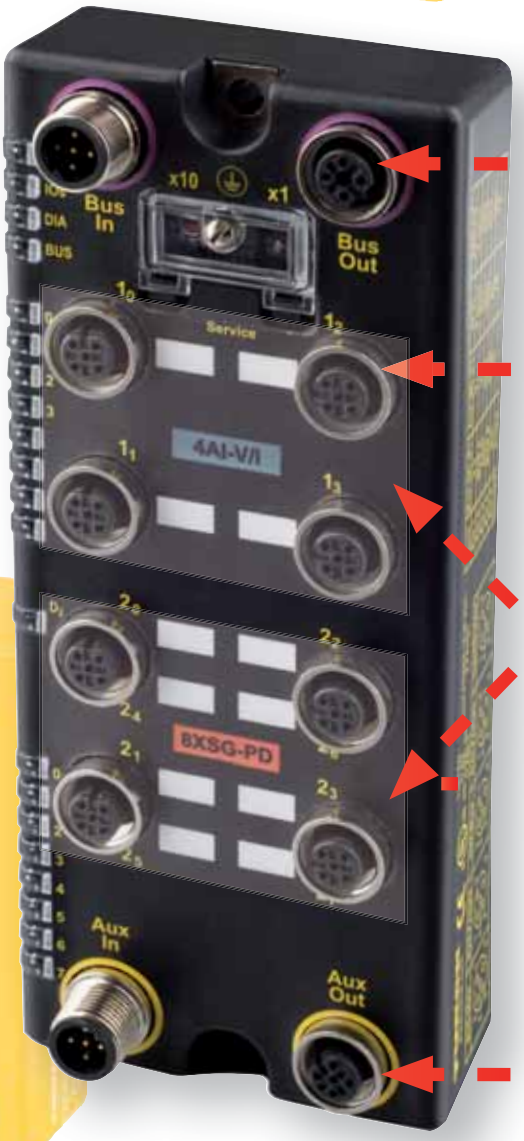
BL compact

BL compact combines the unique signal diversity of a BL67 system with the simple and compact housing style of the block I/Os. Up to 16 digital or analog input signals can be combined flexibly.This allows the creation of tailor-made, compact and robust IP67 fieldbus I/O modules with the optimum signal combination for your application.

- Wide range of signals: Digital, analog, temperature, RS232/485/422, counter, SSI and RFID
- Local diagnostics and status indications via LEDs
- Standardized metal connectors
- Connection of I/O signals via single, dual or multicore pinouts:
- Fibre-glass reinforced plastic housing
- Fully encapsulated electronics
- Extended temperature range -40 … +70 °C



Bus connection
Standard M12 connector for fieldbus connection to DeviceNet™ or PROFIBUS (further fieldbuses in the pipeline).

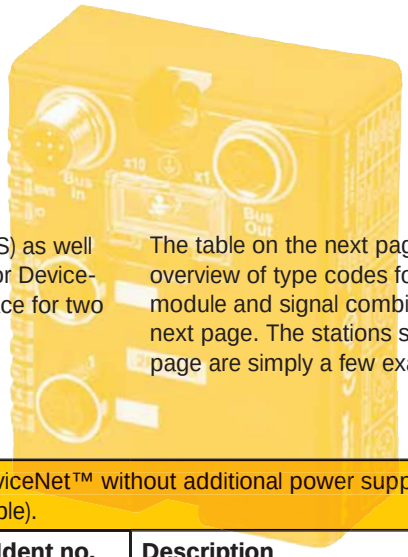
Connectivity
Tried and tested metal connectors (M8, M12 and M16) for the I/O and fieldbus connections.

I/O signals
Up to two independent BL67 modules can be incorporated in one *BL compact* station; for example the modules 4AI-VI and 8XSG-PD.

Power supply
The power is supplied via M12 connectors and daisy-chained from station to station.

BL compact

I/O block modules *BL compact* – Examples of housing styles



BL compact I/O block modules are available in three different housing styles: The smallest version M12S without power supply (only for DeviceNet™), separate housing style M12MT with power supply (for DeviceNet™ and PROFIBUS) as well as the largest version M12LT (for DeviceNet™ and PROFIBUS) with space for two modules.

The table on the next page shows an overview of type codes for all possible module and signal combinations on the next page. The stations shown on this page are simply a few examples.

M12S

DeviceNet

The smallest *BL compact* housing style for DeviceNet™ without additional power supply (Supply of the DeviceNet™ devices via bus cable).

Type	Ident no.	Description
BLCDN-4M12S-8DI-P	6811004	digital inputs, pnp
BLCDN-4M12S-4AI-VI	6811003	analog inputs, 0/4…20 mA or -10/0…10 VDC
BLCDN-2M12S-2AI-PT	6811039	analog inputs, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni1000
BLCDN-2M12S-2RFID-S	6811002	simple RFID interface

M12MT

DeviceNet PROFIBUS

BL compact housing style for PROFIBUS devices or DeviceNet™ output modules
2 x M12 connectors for power supply.

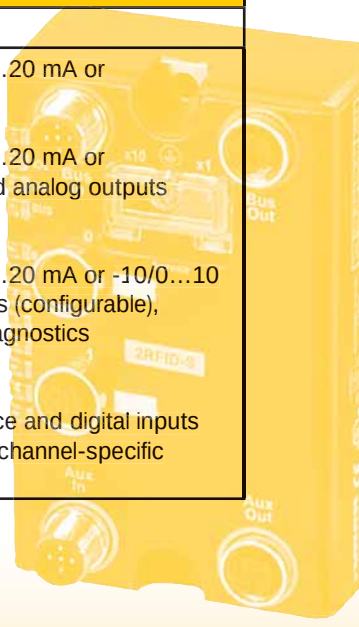
Type	Ident no.	Description
BLCDN-4M12MT-8XSG-PD	6811008	digital I/O signals (configurable) channel-specific diagnostics
BLCDN-1M16MT-16DO-0.1A-P	6811035	digital outputs, pnp, 0.1 A
BLCDP-4M12MT-4AI-VI	6811167	analog inputs, 0/4…20 mA or -10/0…10 VDC
BLCDP-2M12MT-2RFID-S	6811177	simple RFID inteface

M12LT

DeviceNet PROFIBUS

BL compact housing style for PROFIBUS devices or DeviceNet™.
Full range of I/O signals due to the combination of two different modules.

Type	Ident no.	Description
BLCDN-8M12L-4AI-VI-4AI-VI	6811043	analog inputs, 0/4…20 mA or -10/0…10 VDC
BLCDN-6M12L-4AI-VI-2AO-V	6811001	analog inputs, 0/4…20 mA or -10/0…10 VDC and analog outputs -10/0...10 VDC
BLCDP-8M12LT-4AI-VI-8XSG-PD	6811175	analog inputs, 0/4…20 mA or -10/0…10 VDC and digital I/Os (configurable), channel-specific diagnostics
BLCDP-6M12LT-2RFID-S-8DI-PD	6811178	simple RFID interface and digital inputs pnp (configurable), channel-specific diagnostics



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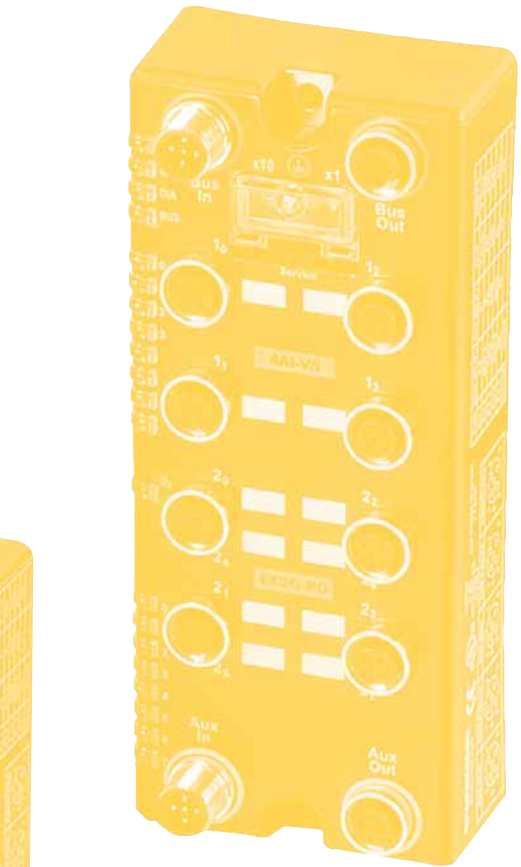
Overview device types – Type code

With the *BL compact* modular conception, new device types are easy to implement. The constantly growing product portfolio can always be accessed on:

www.turck.de/blcompact

Please contact us if the device required for your application is not shown on the website. We will be glad to check whether the *BL compact* modular system can fulfill your requirements.

The overview on the right shows possible fieldbus, connectivity and signal combinations.



1. Fieldbus types:	
BLCDN	DeviceNet™
BLCDP	PROFIBUS-DP
BLCCO	CANopen (in preparation)
2. I/O connectors, housings, power supply:	
8	Number of I/O connections 1, 2, 4, 6, 8, 16
M8	M8 x 1 connector
M12	M12 x 1 connector
M16	M16 x 0.75 connector
S	Small housing: 93 x 71 x 32.5 (h x w x d)
M	Middle housing: 113 x 71 x 32.5 (h x w x d)
L	Large housing: 168 x 71 x 32.5 (h x w x d), for two modules
T	separate M12 connector for power supply
(no text)	no separate power supply
3. I/O modules:	
1CVI	CANopen interface module
1RS232	RS232 interface
1RS485-422	RS485/422- interface
1SSI	Synchronous serial interface
2AI-I	2 analog inputs, current
2AI-PT	2 analog inputs, Pt
2AI-TC	2 analog inputs, thermoelement
2AI-V	2 analog inputs, voltage
2AO-I	2 analog outputs, current
2AO-V	2 analog outputs, voltage
2RFID-S	simple RFID interface
4AI-VI	4 analog inputs, voltage or current
4DI4DO-PD	4 digital inputs and 4 digital outputs, pnp, diagnostics
4DI-N	4 digital inputs, npn
4DI-P	4 digital inputs, pnp
4DI-PD	4 digital inputs, pnp, diagnostics
4DO-0.5A-P	4 digital outputs, 0.5 A, pnp
4DO-2A-N	4 digital outputs, 2.0 A, npn
4DO-2A-P	4 digital outputs, 2.0 A, pnp
8DI-N	8 digital inputs, npn
8DI-P	8 digital inputs, pnp
8DI-PD	8 digital inputs, pnp, diagnostics
8DO-0.5A-N	8 digital outputs, 0.5 A, npn
8DO-0.5A-P	8 digital outputs, 0.5 A, pnp
8DO-R-NO	8 digital outputs, relays, normaly open
8XSG-PD	8 digital inputs/outputs, configurable, pnp, diagnostics
16DO-0.1A-P	16 digital outputs, 0.1 A, pnp

Type code – Example: BLCDN-8M12LT-4AI-VI-8DI-P:

1. Fieldbus type: *BL compact* station for fieldbus system DeviceNet™
2. Connectivity: 8 I/O connections, M12 x1 connectors, housing style L (large), separate M12-connection for power supply
3. Two I/O modules: 4AI-VI and 8DI-P

BL compact – Part of a sophisticated over-all concept

BL compact integrated in the I/O-ASSISTANT

The I/O-ASSISTANT enables simple paramterization on the basis of FDT/DTM standards.

- System configuration, parameterization and diagnostics via a graphical interface based on FDT/DTM technology.
- DTMs can be integrated into any FDT frame application for configuration, commissioning and servicing.
- I/O-ASSISTANT and DTM freeware are available on www.turck.com

Description
The configuration software I/O-ASSISTANT supports you in the planning and implementation of an I/O system. Whether in online or offline mode, the I/O-ASSISTANT simplifies project planning as well as configuration and parameterization of the modules. This software is also extremely helpful in system set-up and testing.

Functions
- Supporting software tool
- Selection of the required modules
- Offline planning and configuration of BL67, BL20 and *BL compact* I/O modules
- Configuration, parameterization and commissioning of individual modules
- Reading and setting of process data
- Commissioning help for testing the wiring and sensors without PLC
- Realistic display of the selected I/O components
- Documentation of BL67, BL20 and *BL compact* systems.

BL compact and the *BL ident*® RFID system

The modular RFID system *BL ident*® enables tailor-made RFID solutions for many different industrial applications. Whether used in production control systems, in logistics or automation processes: Both technologies – interference immune HF and long read range UHF – are integrated in one housing and can be operated simultaneously.

Considerably longer sensing ranges are achievable, even under industrial conditions and with data exchange on-the-fly .

The *BL compact* product portfolio offers the appropriate RFID module to connect read-write heads to the automation infrastructure. The modules are available either as 2 or 4-channel RFID blocks or as two combined RFID channels with digital I/Os for example (8XSG-PD module). They may be used to detect trigger signals or to trigger crossovers.

BL ident®

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BL compact as *BL remote* subnet

BL remote is a TURCK concept, which is used to integrate different subnets such as DeviceNet™, CANopen, SmartWire or IO-Link in modern automation hierarchies via fieldbus and Ethernet. You as the user will not only profit from the wide range of components to implement different tasks, but you can also integrate components from other manufacturers in your system solution.

The *BL compact* stations are easily and quickly to integrate in the *BL remote* subnet and can be controlled by BL67 Ethernet gateways for Modbus TCP or EtherNet/IP. The modular BL67 system and *BL compact* stations thus complement each other perfectly to provide decentralized and flexible IP67 automation solutions.

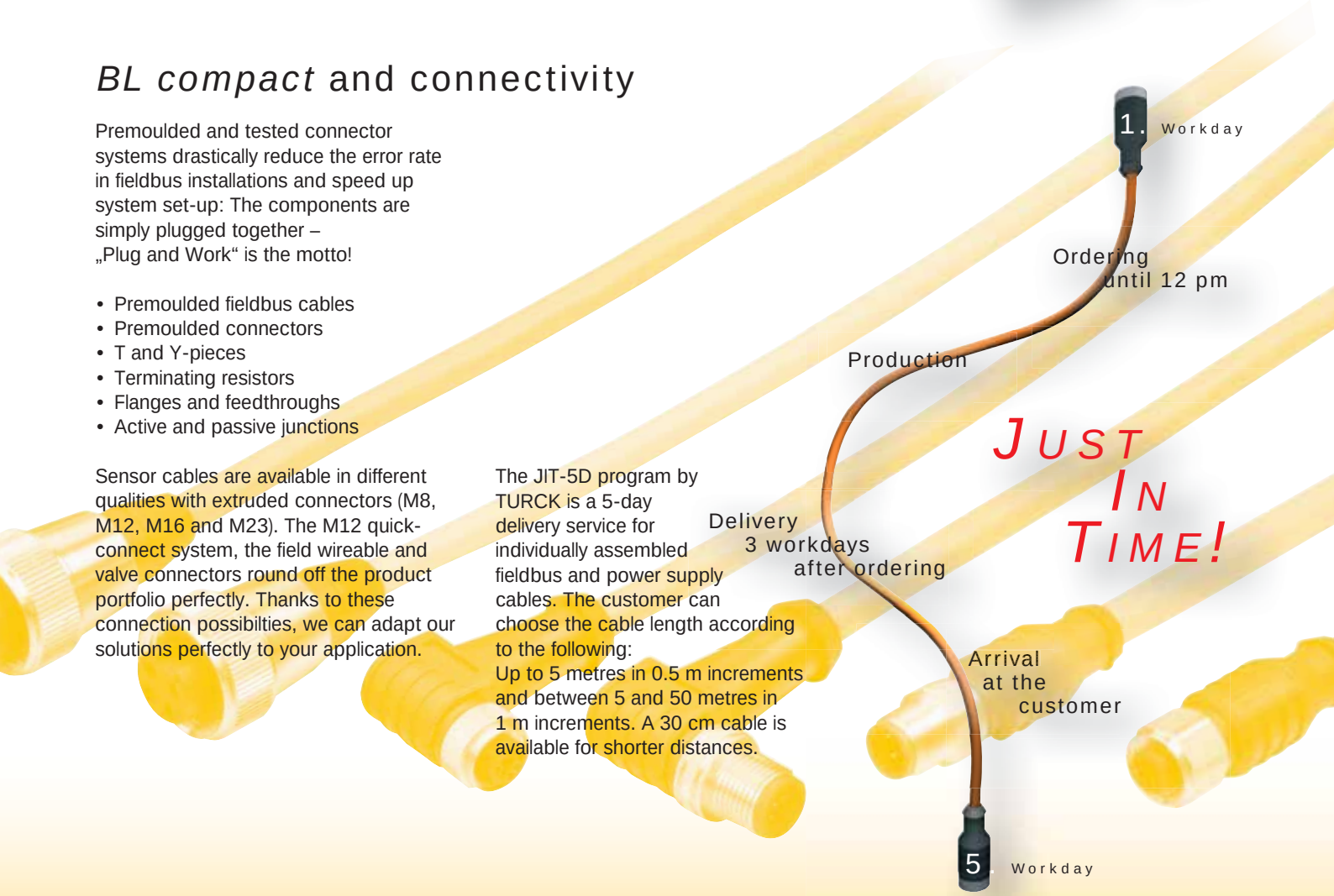
BL compact and connectivity

Premoulded and tested connector systems drastically reduce the error rate in fieldbus installations and speed up system set-up: The components are simply plugged together – „Plug and Work“ is the motto!

- Premoulded fieldbus cables
- Premoulded connectors
- T and Y-pieces
- Terminating resistors
- Flanges and feedthroughs
- Active and passive junctions

Sensor cables are available in different qualities with extruded connectors (M8, M12, M16 and M23). The M12 quick-connect system, the field wireable and valve connectors round off the product portfolio perfectly. Thanks to these connection possibilties, we can adapt our solutions perfectly to your application.

The JIT-5D program by TURCK is a 5-day delivery service for individually assembled fieldbus and power supply cables. The customer can choose the cable length according to the following:
Up to 5 metres in 0.5 m increments and between 5 and 50 metres in 1 m increments. A 30 cm cable is available for shorter distances.



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