# Интерфейсы ВЧ/УВЧ

Интерфейсы RFID от Turck обеспечивают связь головок чтения/записи с сетями OPC UA, PROFINET, EtherNet/IP, Modbus TCP, TCP/IP, PROFIBUS-DP, DeviceNet, CANopen и EtherCAT. Полностью герметизированные многопротокольные модули TBEN с RFID и входами-выходами (IP67/IP69K), а также модульные системы BL67 (IP67) идеально подойдут для эксплуатации в тяжелых условиях. Пользователи, таким образом, не должны выполнять задачу настройки защитных корпусов в полевых условиях. Клиенты используют модульную систему Turck BL20 для монтажа на DIN-рейку в распределительном шкафу. Программируемые варианты интерфейсов RFID

# TBEN-S2-2RFID | TBEN-Lx-4RFID
# Compact RFID Modules with I/Os
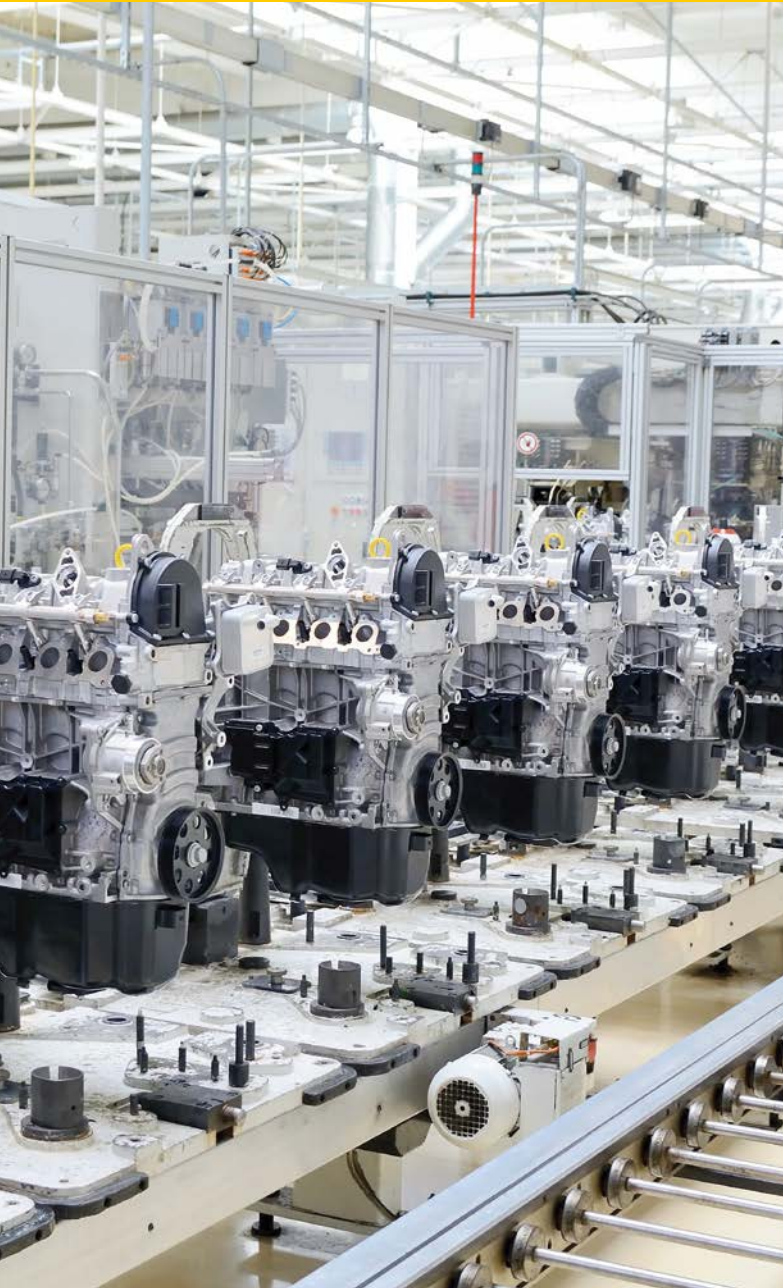
# Compact RFID Modules with I/Os

RFID integration must be easier to ensure seamless transparency in the industrial production of the future. Turck therefore presents new compact Ethernet RFID interfaces based on its block I/O families TBEN-L and TBEN-S. The multiprotocol devices use data from HF or UHF read/write heads for control via PROFINET, Ethernet/IP™ or Modbus TCP.

The compact TBEN-S-RFID module simplifies implementation through integration without extra programming effort or function block.

The Codesys-programmable TBEN-L variant offers control functions and can therefore filter and pre-process RFID data, and even link it directly with control activities.  In addition,

Turck offers the TBEN-L RFID interface with Linux in a version for system integrators.

Another variant available is the TBEN-L-RFID interface with an integrated OPC UA server, which complies with the Auto-ID Companion Specification.
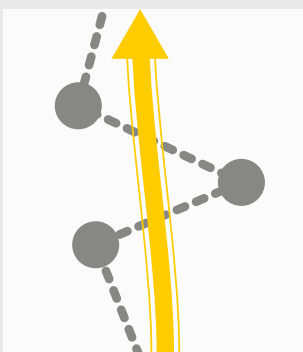


**Easy integration**
Integration with PLC systems can be implemented without special function block. Process data transmission is cyclical. Various HF and UHF interfaces in the data interface can be selected depending on the application and provide the necessary RFID functionality.

**Multiprotocol**
The modules support Turck multiprotocol, and can therefore be operated in any of the three Ethernet systems EtherNet/IP™, Modbus TCP and PROFINET. They also have an integrated web server.

## Customer benefits

- Turck multiprotocol: EtherNet/IP™, Modbus TCP or PROFINET
- Easy integration with PLC systems with no special function module
- Execution of commands using RFID data interface
- Bus mode for connecting up to 32 bus-capable HF read/write heads per channel for static applications

- (Mixed) operation of HF and UHF read/write heads and connection of sensors and lamps via DXPs
- CODESYS 3 for the filtering and pre-processing of RFID data and the execution of control actions
- Suitable for industrial environments
- TBEN-L5-4RFID-8DXP-LNX can replace functionality of price-intensive IPCs

## U data interface

- Cyclical process data transmission
- Up to 128 bytes of user data per read/write cycle per channel and use of fragments for larger data volumes
- Various HF and UHF interfaces can be selected depending on the application
- Automatic triggering and execution of commands on the HF/UHF read/write head
- Evaluation of additional information such as RSSI in UHF applications
- Password functionality for HF and UHF
- Writing with validation of data
- Grouping of similar EPCs with multiple UHF data carriers
- Backup and restoration of the UHF read/write head configuration
- Automatic addressing in HF bus mode
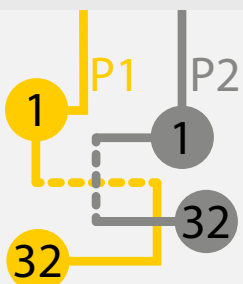
**Bus mode**
HF bus mode for operating up to 32 bus-capable HF read/write heads per channel for static and slow dynamic applications.
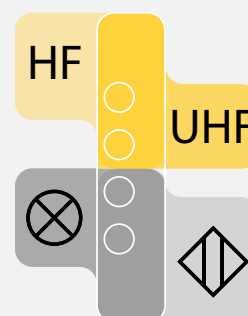
**Mixed operation of HF and UHF**
HF read/write heads and an UHF read/write head can be operated in parallel on one module. It is also possible to connect additional sensors and lamps via DXPs.

## Application examples

- Automatic identification of vehicles, systems, tools, workpieces and products
- Tracking of production processes
- Picking
- Control of the flow of goods
- Read/write even large data volumes (e.g. 8 or 64 kB)
- Product protection
- Container management
- Order control
- Authentication
- Tool and format changes
- Hose connections
- Gate applications (UHF) and fast recording rates, even with large data carrier volumes (> 100)
- Industry 4.0 scenarios

**PLC functionality**
Decentralized execution of control tasks via CODESYS 3 or Field Logic Controller function (FLC) in combination with the engineering environment ARGEE to relieve the control or autarkic use without higher-level control.

IP65
IP67
IP69K

**Protection classes IP65/IP67/IP69K**
Suitable for use in an industrial environment: Protection class IP65/IP67/IP69K, glass fiber reinforced housing, shock and vibration tested, fully potted module electronics.

# Types and Features

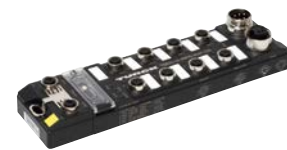| Ident-no. | Type code | Description | Voltage supply connection | Dimensions |
|---|---|---|---|---|
| 6814029 | TBEN-S2-2RFID-4DXP | Compact multiprotocol RFID and I/O module with U data interface | 4-pin, M8 | 32 x 144 x 31 mm |
| 100000836 | TBEN-L5-4RFID-8DXP | Compact multiprotocol RFID and I/O module with U data interface | 5-pin, 7/8" | 60.4 x 230.4 x 39 mm |
| 6814120 | TBEN-L5-4RFID-8DXP-CDS | Programmable, compact multiprotocol RFID and I/O module with CODESYS 3 and U data interface | 5-pin, 7/8" | 60.4 x 230.4 x 39 mm |
| 100000960 | TBEN-L5-4RFID-8DXP-CDS-WV | Programmable, compact multiprotocol RFID and I/O module with CODESYS 3 and U data interface | 5-pin, 7/8" | 60.4 x 230.4 x 39 mm |
| 6814124 | TBEN-L5-4RFID-8DXP-LNX | Compact RFID and I/O module with Linux for implementation through system integrators | 5-pin, 7/8" | 60.4 x 230.4 x 39 mm |
| 6814126 | TBEN-L5-4RFID-8DXP-OPC-UA | Compact RFID and I/O module with integrated OPC UA server | 5-pin, 7/8" | 60.4 x 230.4 x 39 mm |

| TBEN-S2-2RFID-4DXP | TBEN-L4-4RFID-8DXP<br>TBEN-L5-4RFID-8DXP | TBEN-L4-4RFID-8DXP-CDS<br>TBEN-L5-4RFID-8DXP-CDS<br>TBEN-L5-4RFID-8DXP-CDS-WV |
|---|---|---|
| | | |
| Multiprotocol: EtherNet/IP™ device, Modbus TCP slave or PROFINET device | Multiprotocol: EtherNet/IP™ device, Modbus TCP slave or PROFINET device | Multiprotocol: EtherNet/IP™ device, Modbus TCP master/slave, or PROFINET device, CODESYS OPC UA Server |
| Power supply via M8 connector | Power supply via 7/8" connector | Power supply via 7/8" connector |
| – | – | CPU 800 MHz, 128 MB DDR3 RAM, flash memory 256 MB |
| Optional: FLC/ARGEE programmable | Optional: FLC/ARGEE programmable | PLC functionality via CODESYS 3 |
| 2 x M8, 4-pin, Ethernet connection | 2 x M12, 4-pin, D-coded, Ethernet fieldbus connection | 2 x M12, 4-pin, D-coded, Ethernet fieldbus connection |
| 2 channels with M12 connection for RFID | 4 channels with M12 connection for RFID | 4 channels with M12 connection for RFID |
| 4 digital channels, configurable as PNP inputs or 0.5 A outputs | 8 digital channels, configurable as PNP inputs or 2 A outputs | 8 digital channels, configurable as PNP inputs or 2 A outputs |
| U data interface for convenient use of the RFID functionality | U data interface for convenient use of the RFID functionality | U data interface for convenient use of the RFID functionality |
| Integrated web server | Integrated web server | Integrated web server |
| Turck HF and UHF read/write heads and HF bus-mode are supported | Turck HF and UHF read/write heads and HF bus-mode are supported | Turck HF and UHF read/write heads and HF bus-mode are supported |
| LED displays and diagnostics | LED displays and diagnostics | LED displays and diagnostics |
| Integrated Ethernet switch allows line topology | Integrated Ethernet switch allows line topology | Integrated Ethernet switch allows line topology |
| Transmission rate: 10 Mbps/100 Mbps | Transmission rate: 10 Mbps/100 Mbps | Transmission rate: 10 Mbps/100 Mbps |
| Protection classes IP65/IP67/IP69K | Protection classes IP65/IP67/IP69K | Protection classes IP65/IP67/IP69K |