# TURCK

Your Global Automation Partner

# TBEN-S
# Ultra-Compact
# Multiprotocol I/O Modules

Products are linked with further information.

# Ultra-Compact Multiprotocol I/O Modules in IP67

## Your advantages

The ultra-compact TBEN-S block I/O modules are the smallest multiprotocol Ethernet block I/O modules on the market.

- Multiprotocol: one module, three protocols
- Extended temperature range -40…+70 °C
- High protection classes IP65, IP67 and IP69K
- Ultra-compact design (32 x 144 x 31 mm)
- Lightweight construction
- Easily mounted
- Two M8 connectors for Ethernet
- End-to-end diagnostics concept
- Easily configured
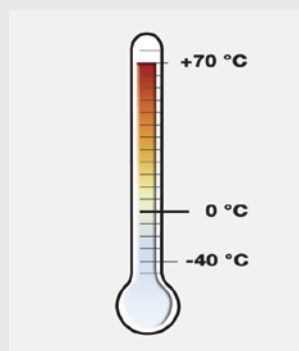- Web server integrated in each module

1:1 scale

## Digital I/O modules

The TBEN-S product series includes digital modules in 8 x M8 and 4 x M12 connectivity.

- Digital inputs with channel or group diagnosis
- Digital outputs 0.5 A or 2.0 A
- Field Logic Controller ARGEE (FLC) programmable with
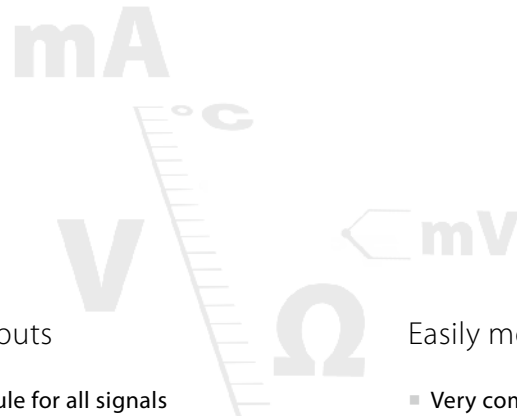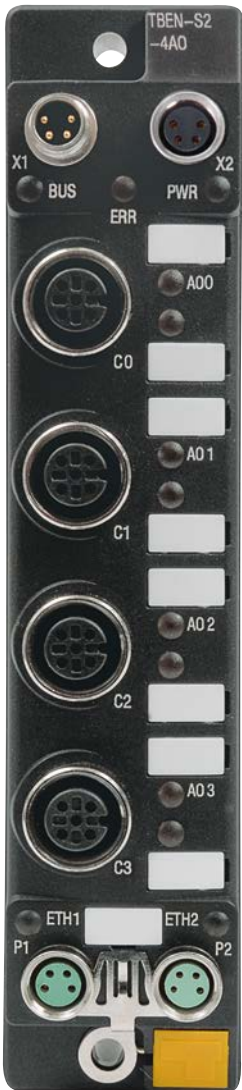- Extended functions: Counter, PWM, impulse stretching, latched inputs

POWERED BY
LabVIEW

ARGEE

**Ethernet multiprotocol**
Each module speaks PROFINET, EtherNet/IP™ or Modbus TCP. During the start-up phase, the module automatically identifies the bus protocol. This reduces the required device variants and enables operation of one machine on different control systems.

+70 °C
0 °C
-40 °C

**Harsh environmental conditions**
In addition to the fully potted module electronics, the extended temperature range of -40…+70 °C and the high protection classes IP65, IP67 and IP69K contribute to the robust overall concept. This increases the application possibilities in industrial environments.

## Four analog inputs

- One combi module for all signals
- Current, voltage, RTD or thermocouple selectable per channel

## Four analog outputs

- One combi module for all signals
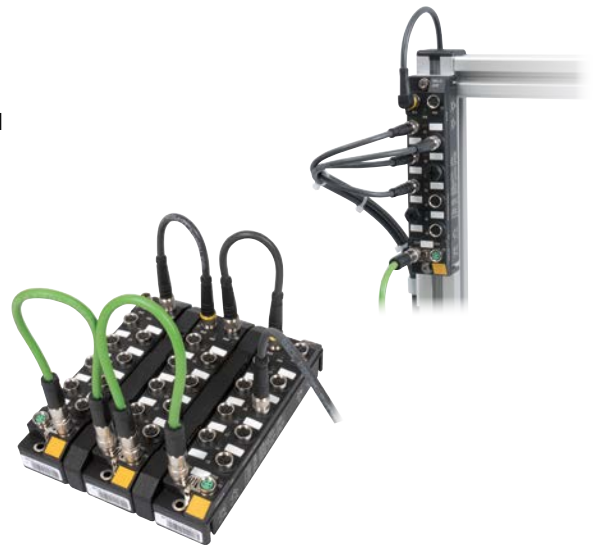- Current or voltage selectable per channel

## IO-Link master

The 4-channel IO-Link master is the link for digital communication, covering the "last meter" to the sensor or field level. It enables the simple integration of IO-Link devices such as

- Sensors and field devices
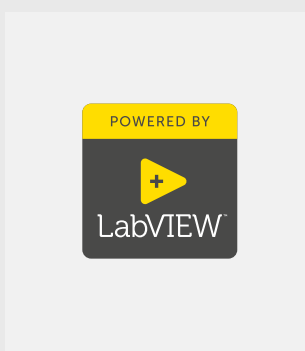- I/O hubs (digital passive junction boxes)
- Valve manifolds

## 2 serial ports

- RS232 and RS485 selectable per interface
- Integrated Modbus RTU master
- Additional four universal digital inputs/outputs

## Easily mounted

- Very compact design: 32 x 144 mm
- Two M4 bores in line
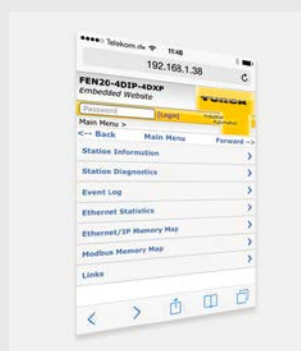- Lightweight construction
- Adjustable grounding concept

## TBEN-S composite

TBEN-S modules can be combined to form a compact unit to simplify installation

- Spacer for mounting on panel or DIN rail
- Matched bridges for Ethernet and supply

**Control via Labview**
Selected modules can be controlled directly from Labview. This allows test benches to benefit from decentralized architectures based on IP67 modules. Using Labview to control and visualize system components entirely without a PLC saves further costs.

**Web server**
The web server provides further support for commissioning, maintenance and diagnostics. IP address or PROFINET name can also be set without additional tools. The web server displays diagnoses and information clearly in plain text - also on mobile devices thanks to responsive design.

# TBEN-S – Types and Features

| TBEN-S1:<br>8 x M8 I/O-Ports | TBEN-S2:<br>4 x M12 I/O-Ports | ID | Type code | Description |
|---|---|---|---|---|
| | | 6814020 | TBEN-S1-8DIP | 8 digital inputs, PNP, Input group diagnostics |
| | | 6814034 | TBEN-S1-8DIP-D | 8 digital inputs, PNP, Input diagnostics per channel |
| | | 6814021 | TBEN-S1-4DIP-4DOP | 4 digital inputs, PNP and 4 digital outputs 2.0 A, PNP |
| | | 6814022 | TBEN-S1-8DOP | 8 digital outputs 2.0 A, PNP |
| | | 6814023 | TBEN-S1-8DXP | 8 universal digital channels, 2.0 A, PNP |
| | | 00006468 | TBEN-S1-4DXP | 4 universal digital channels, 2.0 A, PNP |
| | | 6814073 | TBEN-S2-8DIP | 8 digital inputs, PNP, Input group diagnostics |
| | | 6814076 | TBEN-S2-8DXP | 8 universal digital channels, 2.0 A, PNP |
| | | 6814025 | TBEN-S2-4AI | 4 analog inputs, U, I, RTD or TC selectable per channel |
| | | 6814028 | TBEN-S2-4AO | 4 analog outputs, U or I selectable per channel |
| | | 6814024 | TBEN-S2-4IOL | 4 IO-Link master channels and 4 universal digital channels, 0.5 A, PNP |
| | | 6814031 | TBEN-S2-2COM-4DXP | 2 serial interfaces and 4 universal digital channels, 0.5 A, PNP |

| Spacer | ID | Type code | Description |
|---|---|---|---|
| | 6814040 | TBNN-S0-DRS-01 | Spacer for TBEN-S composite on DIN rail, 1 item per unit |
| | 6814041 | TBNN-S0-DRS-05 | Spacer for TBEN-S composite on DIN rail, 5 items per unit |
| | 6814042 | TBNN-S0-DRS-10 | Spacer for TBEN-S composite on DIN rail, 10 items per unit |
| | 6814043 | TBNN-S0-STD-01 | Spacer for TBEN-S composite on mounting panel, 1 item per unit |
| | 6814044 | TBNN-S0-STD-05 | Spacer for TBEN-S composite on mounting panel, 5 items per unit |
| | 6814045 | TBNN-S0-STD-10 | Spacer for TBEN-S composite on mounting panel, 10 items per unit |

| Ethernet cables | Type code | Description |
|---|---|---|
| | PSGS4M-PSGS4M-4416-xM | M8 male to M8 male |
| | RSSD-PSGS4M-4416-xM | M12 male to M8 male |
| | PSGS4M-RJ45S-4416-xM | M8 male to RJ45 male |
| | PSGS4M-4416-xM | M8 male to open end |
| | PSGS4M-0,2-PSGS4M/TXN | M8 Ethernet bridge for TBEN-S composite |

**x = Length in meters, variants on request**

| Power supply | Type code | Description |
|---|---|---|
| | PKG4M-x-PSG4M/TXL | M8 female straight to M8 male straight |
| | PKW4M-x-PSG4M/TXL | M8 female angled to M8 male straight |
| | PKG4M-x-PSW4M/TXL | M8 female straight to M8 male angled |
| | PKW4M-x-PSW4M/TXL | M8 female angled to M8 male angled |
| | PKG4M-x/TXL | M8 female straight to open end |
| | PKW4M-x/TXL | M8 female angled to open end |
| | PKG4M-0,2-PSG4M/TXL | M8 Ethernet bridge for TBEN-S composite |

**x = Length in meters, variants on request**
**More accessories can be found on www.turck.com**

Products are linked with further information.

Over 30 subsidiaries and
60 representatives worldwide!

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