Your Global Automation Partner

TBEN-L-SE-M2
Managed Ethernet Switches in IP67

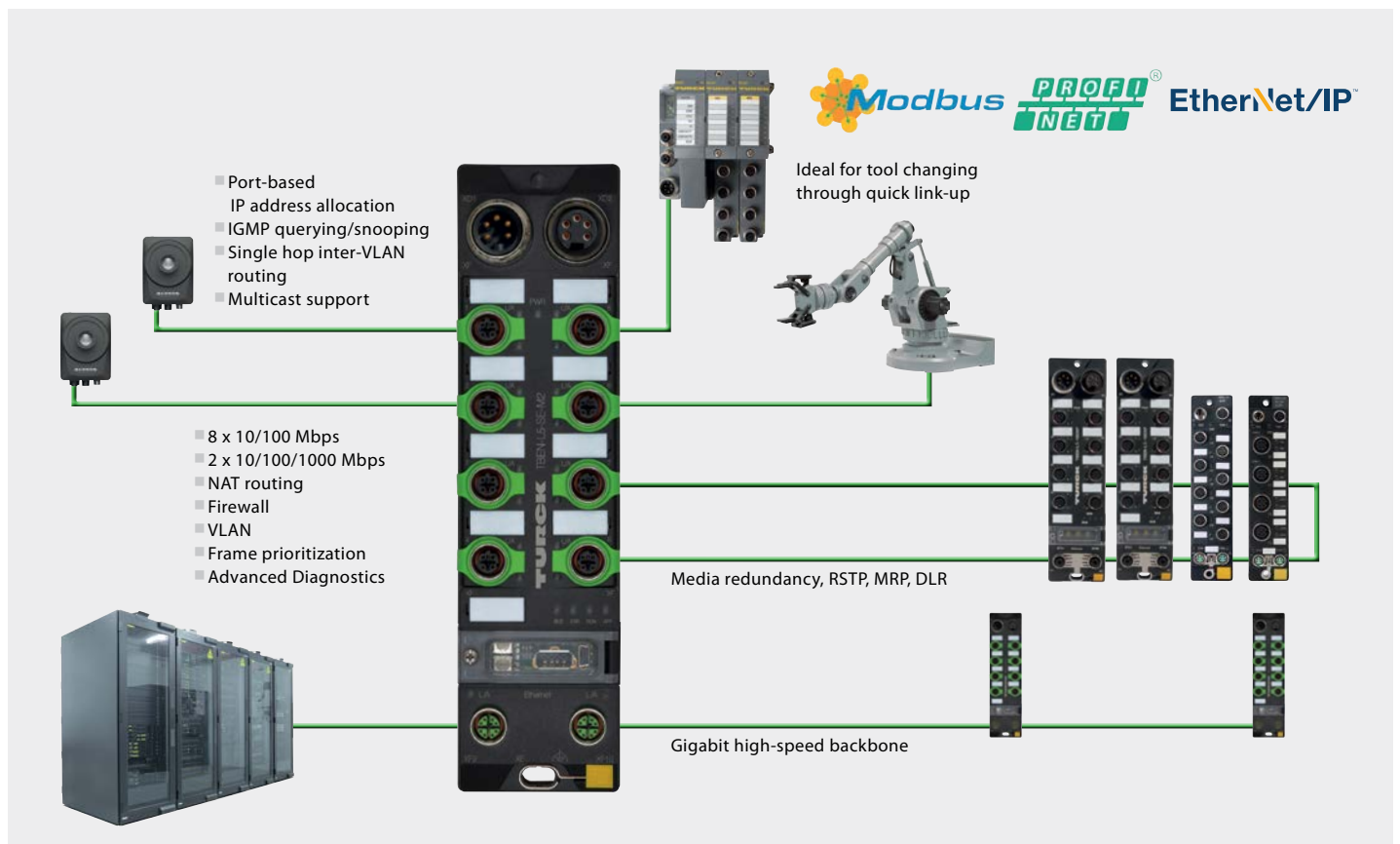Products are linked with further information.

Managed Ethernet Switches in IP67

Secure turbocharger for IIoT

Extremely fast, compact, robust and secure: The TBEN-L managed Ethernet switch combines these features, thus enabling the creation of decentralized Ethernet connections directly at the machine. With two GBit high-speed backbone ports, the switch offers enough bandwidth for a high-performance data flow of the eight standard ports (100 Mbps). Supported by the fastest linkup times and cut-through forwarding, the switch ensures high cycle rates even in tool changing applications. In many applications it therefore saves wiring effort and supports modular machine concepts without the need for a control cabinet.

Modbus   PROFI NET®   EtherNet/IP™

- Port-based IP address allocation
- IGMP querying/snooping
- Single hop inter-VLAN routing
- Multicast support

Ideal for tool changing through quick link-up

- 8 x 10/100 Mbps
- 2 x 10/100/1000 Mbps
- NAT routing
- Firewall
- VLAN
- Frame prioritization
- Advanced Diagnostics

Media redundancy, RSTP, MRP, DLR

Gigabit high-speed backbone

Secure network
The switch offers NAT routing for the secure integration of machines without IP address conflicts. The embedded firewall ensures managed and above all secure data exchange. The network load monitoring function of the switch helps to diagnose impending overloads early in order to intervene in advance.

Advanced Network Health analysis"
Due to it large set of available diagnostics, the device is an ideal data source to determine the status of the network. Data can be viewed in the webserver and as well be distributed using fieldbus communication or even trigger diagnostic alarms.

Ethernet Cables

Ethernet cables with X-coded M12 connectors suitable for the IP67 switch are now also available which can transfer up to 10 Gbps. Turck is thus expanding its range of conventional Ethernet cables for industrial applications, which were previously D-coded for transfer rates of up to 100 Mbps. These Ethernet connection cables and cordsets are available with M8, M12, RJ45 or flange connectors in lengths between 0.2 and 100 meters.
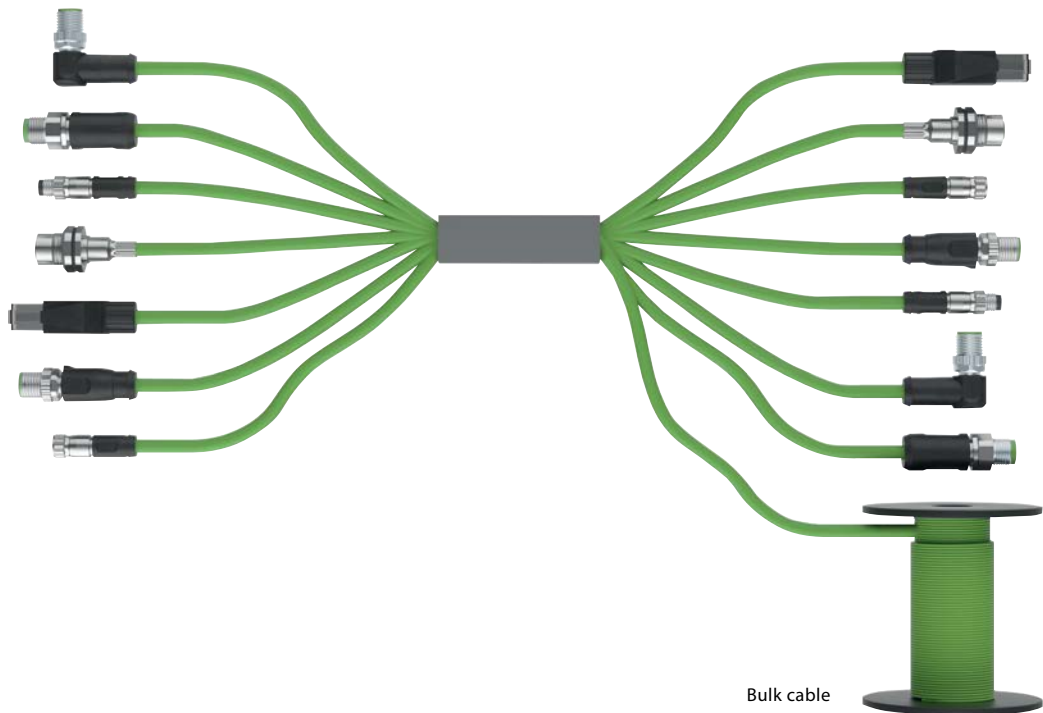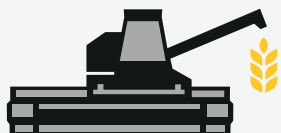
M12 D-coded

M12 X-coded
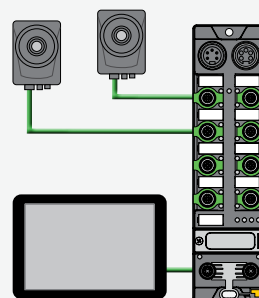
M8

Flange coupling

RJ45

M12 D-coded

M8

Bulk cable

Suitable for mobile equipment
The lower voltage threshold of 8 VDC, its UV resistance and protection against voltage spikes (load dump) makes the switch ideal for use in convenience functions for mobile equipment such as the connection of cameras.

Gigabit high-speed backbone
Two gigabit Ethernet ports enable the switch to also offer the throughput required for data-intensive applications like the transfer of video streams. The cut-through packet forwarding ensures here almost latency-free data transmission.

Types and Features

Ethernet switches

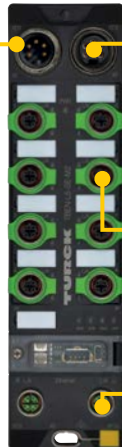|	TBEN-L4-SE-M2	TBEN-L5-SE-M2	TBEN-LL-SE-M2
Power supply	2 x 7/8" 4-pin.	2 x 7/8" 5-pin.	2 x M12 L 5-pin.
Configuration	Engineering-tool, Web-based management, backup and restore of the configuration		
DHCP function	DHCP Server		
	DHCP client, DHCP server option 82, port-based IP address assignment		
Media redundancy	MRP, DLR, RSTP		
Profinet	Conformance Class B		
Ethernet/IP	Single hop inter-VLAN routing		
Prioritization according to IEEE 802.1q	yes		
Advanced diagnostics	Frame Errors, Netload, Duplexity, Linkspeed, PROFINET DHC		
Other functions	VLAN, Firewall, NAT Routing, Port Mirroring, Fieldbus Integration (PROFINET, Ethernet/IP, Modbus)		

Cables

	Ethernet 8814/Cat 6A	Ethernet 4416/Cat 5e
Jacket material	PUR	
Jacket color	Green	
Flexibility	Good	Very good
Robot application	Not suitable	Suitable
Single wire	7 x 0.16 mm	7 x 0.25 mm
Strand layout	4 x 2 x 0.14 mm²	2 x 2 x 0.32 mm²
Oil-resistant	Acc. to DIN EN 60811-404	Acc. to DIN EN 60811-2-1
Drag chain	Suitable	Well suited
UV resistant	yes	
Temperature range	-40…+80 °C	-40…+70 °C
RoHS compliant	yes	
Flame-retardant	Acc. to IEC 60332-1-2	Acc. to IEC 60332-1-2 and UL2556 VW1
Halogen free	yes	

Managed 10-port Ethernet switch in IP67

Robust housing
- 60 x 230 x 39 mm
- IP65/IP67/IP69K
- Fully potted
- UV resistant
- -40…+70 °C
- FE connection
- Marking to DIN EN 81346-2

Power supply
- Wide voltage range from 8 VDC…30 VDC
- Power-in, power-out, 7/8" or M12 L-coded
- Load-dump resistant

8 x 10/100 Mbps Ethernet ports
- M12 D-coded
- Ideal for tool changing through quick link-up

2 x 10/100/1000 Mbps Ethernet ports
- M12 X-coded, high-speed backbone

Products are linked with further information.

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