

## Solutions for Mobile Equipment

### Combines

**Distributing signals**

- Customized extension cables transmit data securely, even under extreme application conditions
- The ready-made and overmoulded cables are highly tight, resistant to mechanical load and chemicals and thereby ensure failsafe operation of the entire network

**Monitoring inclination**

- Biaxial inclinometers** monitor the inclination of harvesters and automatically level the driver cabin, threshing system and grain tank
- The sensors fulfill the highest demands on electronics and mechanics

**Monitoring rotation speeds**

- Rectangular **inductive sensors** monitor the rotation speed of the threshing drum and the blower
- Thanks to the flat rectangular design, they fit almost anywhere. Mechanics and electronics are ruggedly designed, thus ensuring safe operation of all functions, including diagnostics of wire-break and short-circuit

### Harvesters

**Determining the trunk diameter**

- Inductive angle sensors** located at the delimiting knives measure the trunk diameter in order to bring the saw in the right position for cutting
- Thanks to the contactless operating principle, wear-out failures belong to the past and costly maintenance measures are reduced

**Monitoring the inclination of the driver's cabin**

- Biaxial inclinometers** monitor and automatically level the inclination of the cabin for more ease of use
- Individual setup of parameters for reliable levelling

**Monitoring the steps outside the driver's cabin**

- Rectangular **inductive proximity switches** enhance the operational safety through monitoring the steps outside the driver cabin
- The sensors are easily and securely mounted – risk of mechanical damage is reduced thanks to the compact design and the large switching distance

### Mobile Crane

**Determining the boom inclination**

- Uniaxial inclinometers** with CANopen interface or analog output determine the boom position for optimal control of the vehicle
- The sensors are optimally adjusted to the crane's individual limit states and parameters thanks to various setup options

**Determining the stabilizers' positions**

- Draw-wire sensors** with CANopen interface or analog output capture the position of the stabilizers to determine the maximum load torque
- Rugged encoder and draw-wire mechanics for high operational safety

**Determining the boom angle position**

- Inductive angle sensors** with analog output capture the boom position to determine the limit states
- Thanks to the compact design and the wear and magnet-free operating principle, the sensors are easily and quickly mounted and thereby made for long-term reliable operation

**Monitoring the crane's inclination**

- Biaxial inclinometers** with CANopen interface or analog output monitor and automatically level the crane's inclination
- The compact design and rugged construction according to the e1 type approval, ensure safe operation at all times

Your Global Automation Partner

## Solutions for Mobile Equipment



Over 30 subsidiaries and 60 representations worldwide!





## Collect Precisely

### Inductive sensors

- E1 type-approval of the Federal Motor Transport Authority
- High protection rating (IP69K) and highly thermostable
- Load-dump protection and improved EMC properties
- Many different designs, optionally available with vehicle-specific connectivity



### Inclinometers

- Available with analog and switching output or CANopen interface
- Rugged IP69K rated design, improved thermostability
- Fulfill the requirements of the e1 specification
- Individual filter settings for suppression of vibration and shock



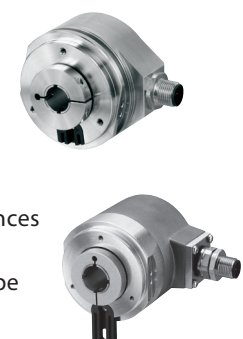
### Capacitive sensors

- High protection rating (IP69K) and improved EMC properties
- Fixed customized settings or adjustable sensitivity
- Adjustable foreground suppression
- Many different designs, optionally available with vehicle-specific connectivity



### Encoders and draw-wire sensors

- Highly shock and vibration proof
- IP69K rated and immune to interferences at high speed rotation
- Optionally available with SIL or e1 type approval



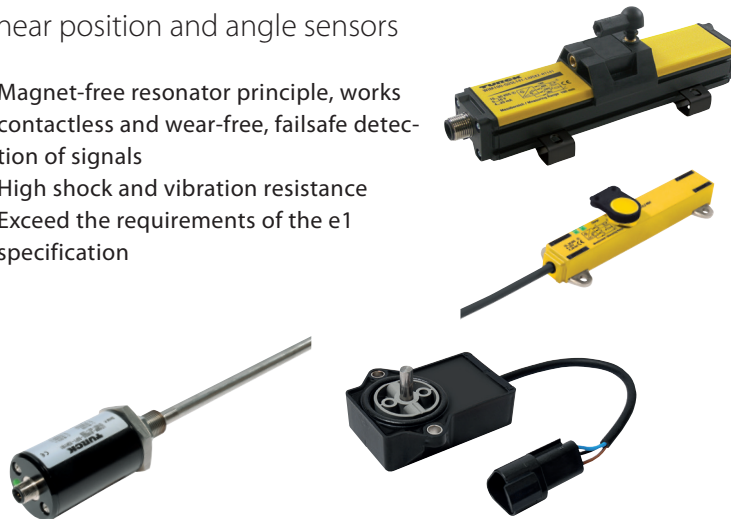
### Pressure sensors

- Peak pressure cover prevents damage caused by high pressure shocks
- High operational safety thanks to rugged mechanical and electronic design
- Broad medium temperature range
- Various electrical connection options such as Deutsch, AMP, Kostal and others
- Various analog outputs for 5VDC, 12VDC and 24VDC on-board power supply



### Linear position and angle sensors

- Magnet-free resonator principle, works contactless and wear-free, failsafe detection of signals
- High shock and vibration resistance
- Exceed the requirements of the e1 specification



### Ultrasonic sensors

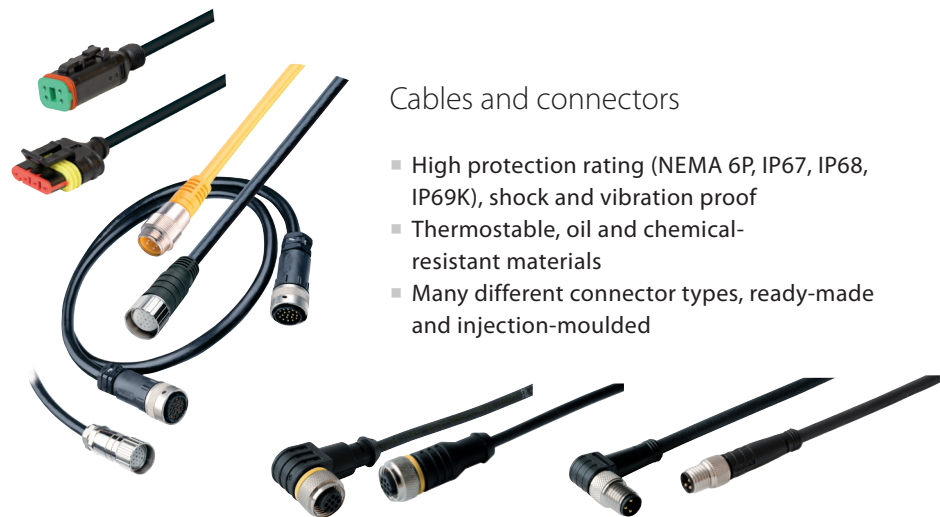
- V4A metal-encased sensors for extremely harsh application conditions
- Compact sensors with teach function
- Measuring range up to 8 m



## Connect Reliably

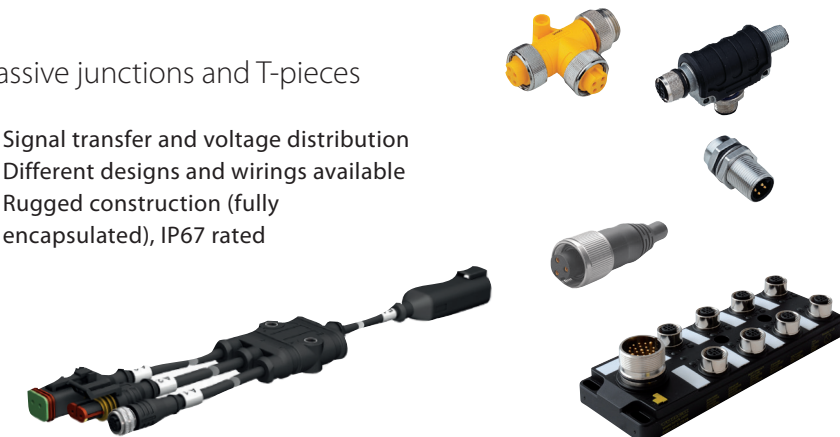
### Cables and connectors

- High protection rating (NEMA 6P, IP67, IP68, IP69K), shock and vibration proof
- Thermostable, oil and chemical-resistant materials
- Many different connector types, ready-made and injection-moulded



### Passive junctions and T-pieces

- Signal transfer and voltage distribution
- Different designs and wirings available
- Rugged construction (fully encapsulated), IP67 rated



### Interface modules and power supply units

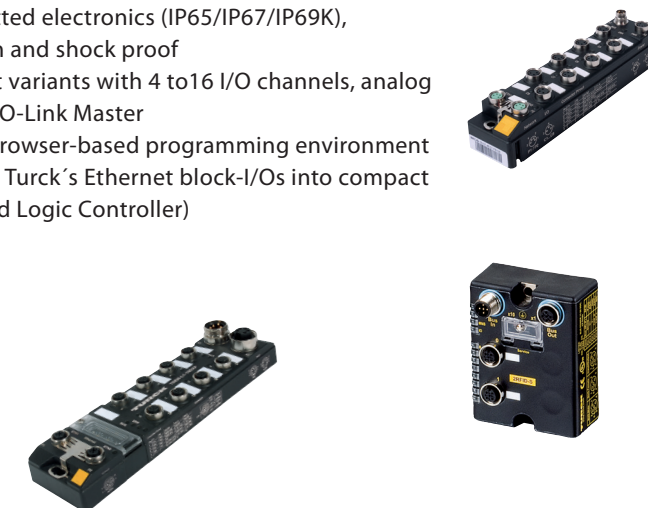
- Modules to isolate, convert, process and condition analog and digital signals
- Different standard designs and widths



## Communicate Effectively

### Compact I/O modules in IP67 and IP9K

- Multiprotocol technology for use with PROFINET, EtherNet/IP and Modbus TCP
- Fully potted electronics (IP65/IP67/IP69K), vibration and shock proof
- Different variants with 4 to 16 I/O channels, analog signals, IO-Link Master
- ARGEE browser-based programming environment converts Turck's Ethernet block-I/Os into compact FLC (Field Logic Controller)



### Modular I/O system BL67

- Gateways for many different fieldbuses and Ethernet, also available as programmable versions with CODESYS V3
- Multiprotocol technology for PROFINET, EtherNet/IP and Modbus TCP
- I/O modules available as: digital, analog, temperature, RS232/485/422, SSI, RFID, valve manifolds
- Connectivity: M8, M12, M23 and 7/8"



### Wireless system DX

- Flexible network modules for radio transmission of sensor signals
- Point-to-Point connection, star topology, multi-hop repeater network
- Configuration software



## Automate Efficiently

### HMI panel with CODESYS PLC

- Easy programming of control and visualization functions with CODESYS V3
- Can be flexibly used as a PROFINET master, EtherNet/IP scanner, Modbus TCP/RTU master or Modbus TCP/RTU slave
- Brilliant 4 to 21-inch TFT displays



### Tower lights and LED strips

- Long-life LED technology, very low power consumption
- Excellent light quality, clearly visible over long distances and in daylight
- Insensitive to impact, shock and vibration
- Flexible and simple installation due to versatile mounting accessories



### Peripheral control

- CODESYS-programmable gateways for the I/O system BL67
- CODESYS-programmable BLOCK-I/O-PLC modules in IP65/IP67/IP69K



### RFID-System BL ident®

- Flexible and easy integration into systems, thanks to a big variation of communication modules in IP67
- Many application possibilities thanks to mixed HF and UHF operation
- Application-optimized data carriers and read/write heads, also for use in Ex areas

