

## Product overview

**EPHY MESS**

Gesellschaft für Elektro-Physikalische Meßgeräte mbH



**Tailor-made sensors. Worldwide.**

## 16. SENSORS FOR RAILWAY INDUSTRY

Temperature sensors are used worldwide in high-speed-, cargo- and commuter-trains, subways, tramways and trolley busses. They monitor the temperature of motors, gears and wheel-set bearings in the bogie. The temperature sensors are assembled in a harness, ideally already including EPHY-MESS speed sensors, which are responsible for the detection of speed and direction. Speed sensors also work reliably even under harsh conditions in the mining industry.



Temperature sensors for rolling stock

### Temperature sensors for rolling stock

- highly vibration resistant temperature sensors for monitoring rail vehicle drives and wheelset bearings
- complete cable harnesses assembled with temperature sensors and speed sensors including installation kit
- measuring range from -50°C ... +250°C
- Pt100, Pt500, Pt1000 in 2-, 3-, 4-wire circuit
- also available as double Pt100 and double Pt1000 version
- shock and vibration resistant acc. to DIN EN 61373, cat. 3
- fire behaviour acc. to DIN EN 45545-1
- halogen and silicone free
- protection classes up to IP68
- maintenance-free



BM-S-T

EPHY-MESS produces temperature sensors, speed sensors and oil level gauges especially designed for the demanding requirements of the railway industry and according to the „International Railway Industry Standard“ IRIS Rev.3 (ISO/TS 22163).

#### Certificates



Speed sensors for rolling stock

### Speed sensors for rolling stock

- reliable detection of rotational direction and speed
- easy and quick installation
- shock resistant acc. to DIN EN 61373 cat. 3, DIN EN 60068-2-64
- vibration resistant acc. to DIN EN 61373 cat. 3, DIN EN 60068-2-27
- fire behaviour acc. to DIN EN 45545-1
- maintenance and wear free
- operating temperature up to +125 ° C (ferromagnetic wheels)
- operating temperature up to +100°C (electrically conductive wheels)
- output in push-pull technology
- compact design



DWG

### EPHY-MESS produces the following speed sensors

- Speed sensors for ferromagnetic gear wheels, 8 V to 24 V DC (limit 30 V) (Hall-effect)
- Speed sensors for electrically conductive gear wheels, 8 V to 20 V DC (eddy current principle)
- Speed sensors as current loop version 7 mA / 14 mA

#### Certificates



A special construction is the high-voltage speed sensor for 110 V DC (77.5 V - 137 V). This speed sensor is only available with housing version DWG41 (grinding housing). It is designed especially for Ø 200 mm gear wheels with 120 teeth (module 1.67).



Modular system for rolling stock

### EPHY-MESS modular system for rolling stock

The modular system combines tried-and-tested products ensuring safe operation, high availability and low susceptibility to faults. Sensor, cable and connector can be flexibly combined. This allows the measurement sensors to be individually adapted to the requirements of the railway industry:

- low construction costs
- safe operation
- low interference susceptibility
- high availability
- rapid and safe disconnection from vehicle during maintenance

### The modular concept is based on four main components

- temperature sensor
- speed sensor
- cable connection
- plug connectors

#### Certificates

