

# Railway technology

Pressure switches - Pressure transmitters - Thermostats



### Lubrication systems

Pressure monitoring for automatic lubrication systems.

### Control and safety systems

Overload control, door-closing systems, fire extinguishing systems.

### Pantographs

Control and monitoring of pneumatically operated pantographs.

### Galley systems

Cooling machine, control of the inlet and outlet pressure of the cooling system, level monitoring of the cooling liquid.

### Bogie suspensions

Air pressure control for level regulation.

### Brake systems

Pneumatic and hydraulic brake systems, emergency brake systems.

Global market leaders in railway technology put their trust in Trafag

Alstom

DB Deutsche Bahn

Sigma Coachair Group

Bombardier

SNCF

Wabtec Faiveley

CRRC

Siemens

Medha Servo Drives



### Diagnostic systems

Mobile units for testing pressures on rail cars. Hydraulic monitoring systems on railway switches.

### Diesel engines

Pressure and temperature monitoring of lubrication, fuel, intake and charge air or cooling water.

### Air-conditioning systems

Pressure monitoring of cooling compressors, monitoring of room temperature.

### Windscreen washer systems

Level monitoring in windscreen washer water tanks.

### Sanding systems

Monitoring of the pressure in sanding systems.

### Propulsion

Monitoring of pressure and temperature in water or oil circuits of motors, gearboxes and in cooling circuits of current converters.

### Maintenance systems

Track tamping machines, rail milling machines for reprofiling the rail head.

# Overview railway products

## Pressure transmitters



### NAR 8258

Very compact and robust. 1<sup>st</sup> choice for all applications with electrical connector M12x1 or Industrial standard.

6



### ECR 8478

1<sup>st</sup> choice for absolute versions, low measuring ranges and corrosive or clogging media. Frontal membrane and corrosion resistant materials available.

8



### NAH 8253

Very compact and robust. For applications where accuracy of 0.15 % is required (e.g. braking systems).

6



### EPR 8293

For applications with electrical connection DIN EN 175301-803-A.

8



### EPR 8283

Very robust, wide range of process connections. 1<sup>st</sup> choice for all applications with electrical connector DIN EN 175301-803-A.

7



### CMP 8270

With CANopen output signal for pressure and temperature. Accuracy up to 0.1 %.

9

## Pressure switches



### NAR 8258

Very compact and robust electronic pressure switch with 1 or 2 configurable switching outputs.

10



### 9R5

Electromechanical pressure switch with one microswitch in stainless steel housing.

12



### EPN-S 8320

Robust electronic pressure switch for applications with electrical connector DIN EN 175301-803-A or cable. 1 switching output, configurable with SC.

11

## Temperature monitoring



**I/IS 404/414**  
Capillary tube thermostat with extra robust housing for applications in rough environment.

**14**



**M/MS 624/634**  
Thermostat with a wide range of options and versions. 1<sup>st</sup> choice as it covers most applications.

**15**



**IA/IAS 409/419**  
Ambient temperature thermostat with robust housing for applications in rough environment.

**14**



**MS...R 630/632**  
Thermostat with limiter functionality. Used in applications where manual reset to original status is required.

**15**

## General accessories



**SC**  
Handheld for parameterisation of pressure transmitters and electronic pressure switches.

**11**



**THP...**  
Hand pump with precision manometer.

**13**



**V6/V7**  
Stop valve for exchanging pressure transmitter without interrupting the process.

**13**



**A.../D...**  
Adapters with manometer pressure ports.

**13**

# NAR 8258

## Railway Pressure Transmitter



- Measuring accuracy 0.3 %
- Excellent long-term stability
- Completely welded steel sensor system without additional seals
- Dielectrical strength: 750 VDC, meets EN 50155 (Railways)

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 6 to 0 ... 700 bar 0 ... 100 to 0 ... 10000 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.3 % FS typ.
Media temperature	-40°C ... +85°C
Ambient temperature	-40°C ... +85°C EN 50155: OT6

Data sheet [www.trafag.com/H72307](http://www.trafag.com/H72307)

# NAH 8253

## Precision pressure transmitter



- Optional: Switching output 1 or 2 PNP transistors
- Accuracy classes 0.1 %, 0.15 %
- Excellent temperature resistance
- Dielectrical strength 600 VAC, meets EN 50155 (Railways)

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.3 % FS typ. ± 0.15 % FS typ. ± 0.1 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C

Data sheet [www.trafag.com/H72300](http://www.trafag.com/H72300)

# EPR 8283

## Railway Pressure Transmitter



- Accuracy classes 0.3 %, 0.5 %
- Completely welded steel sensor system without additional seals
- Dielectrical strength: 750 VDC, meets EN 50155 (Railways)

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### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C

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Data sheet

[www.trafag.com/H72319](http://www.trafag.com/H72319)



# ECR 8478

## Railway Pressure Transmitter with ceramic sensor



- Measuring ranges from 100 mbar
- Relative or absolute pressure measurement
- Frontal membrane optional
- Dielectrical strength: 600 VAC / 750 VDC, meets EN 50155 (Railways)

### Technical Data

Measuring principle	Thick-film-on-ceramic
Measuring range	0 ... 0.1 to 0 ... 60 bar 0 ... 1.5 to 0 ... 1000 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.3 % FS typ. (± 0.5 % FS typ., ± 1 % FS typ.)
Media temperature	-25°C ... +125°C
Ambient temperature	-25°C ... +125°C

Data sheet [www.trafag.com/H72337](http://www.trafag.com/H72337)

# EPR 8293

## Railway Pressure Transmitter



- Accuracy classes 0.3 %, 0.5 %
- Completely welded steel sensor system without additional seals
- Dielectrical strength: 500 VAC, 50 Hz, meets EN 50155 (Railways)

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 600 bar
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C

Data sheet [www.trafag.com/H72311](http://www.trafag.com/H72311)

# CMP 8270

## CANopen Miniature Pressure Transmitter

CANopen



- Accuracy classes 0.1 %, 0.15 %, 0.3 %, 0.5 %
- Measurement of pressure and temperature
- CANopen bus protocol DS301/DS404 supports CAN 2.0A/B

### Technical Data

Measuring principle	Thin-film-on-steel, piezoresistive
Measuring range	0 ... 0.2 to 0 ... 600 bar 0 ... 3 to 0 ... 7500 psi
Output signal	Bus protocol CANopen DS404
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ. ± 0.15 % FS typ. ± 0.1 % FS typ.
Media temperature	-50°C ... +135°C
Ambient temperature	-40°C ... +125°C

Data sheet

[www.trafag.com/H72614](http://www.trafag.com/H72614)



# NAR 8258

## Electronic pressure switch



- Measuring accuracy 0.3 %
- 1 or 2 PNP transistors
- Parameterization via smartphone App (Android)
- Switching current up to 400 mA
- Dielectrical strength: 750 VDC, meets EN 50155 (Railways)

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### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 6 to 0 ... 700 bar 0 ... 100 to 0 ... 10000 psi
Output signal	Switching output: 1 or 2 PNP transistors
Accuracy @ 25°C typ.	± 0.3 % FS typ.
Media temperature	-40°C ... +85°C
Ambient temperature	EN 50155: OT6 (-40°C ... +85°C)

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Data sheet [www.trafag.com/H72307](http://www.trafag.com/H72307)

# EPN-S 8320

## Electronic Pressure Switch



- Rugged design for harsh environments
- 1 PNP transistor
- Wide temperature range
- Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC

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### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 600 bar 0 ... 30 to 0 ... 7500 psi
Output signal	Switching output: 1 transistor
Accuracy @ 25°C typ.	± 0.5 % FS typ. (Switchpoint)
Media temperature	-40°C ... +125°C
Ambient temperature	Standard: -25°C ... +85°C Option accessory 67: -40°C ... +125°C

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Data sheet [www.trafag.com/H72333](http://www.trafag.com/H72333)

# SC

## Sensor Communicator



- Read out of sensor data
- Adjustment of zero point and span
- Real time pressure measuring
- Software update and battery charge with USB-interface

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### Technical Data

- Identification of device data: Model, signal output, type plate, manufacturing date
- Setting of switchpoint (8320 EPN-S)
- CANopen: Setting of Node-ID and baudrate
- Reset to factory settings

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Flyer [www.trafag.com/H70654](http://www.trafag.com/H70654)

# 9R5

## Mechanical pressure switch Picostat



- Stainless steel housing
- Stainless steel bellow sensor, welded
- Compact design

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### Technical Data

Measuring principle	Steel bellow welded
Setting range	-0.8 ... 2 to 7 ... 12 bar -11 ... 29 to 102 ... 174 psi
Output signal	1 Floating change-over contact (SPDT)
Media temperature	-40°C ... +85°C
Ambient temperature	-40°C ... +85°C (EN 50155: OT6)

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Data sheet [www.trafag.com/H72370](http://www.trafag.com/H72370)



## THP...

### Hand pump



- For testing of pressure transmitters and pressure switches

#### Technical Data

Connection G1/4" female

#### Product No. Range [bar]

THP30 -0.85 ... +25

THP700 0 ... 700 Resolution 0.2 bar

## V6/V7

### Stop valve



- Allows replacement of instruments without interruption of process (max. 40 bar)

#### Technical Data

Material 1.4305 / FKM

Pressure max. 600 bar

Media temperature -25°C ... +125 °C

Data sheet [www.trafag.com/H72258](http://www.trafag.com/H72258)

## A.../D...

### Adapters with manometer pressure ports



- Pressure adapters with different thread combinations and materials for individual applications

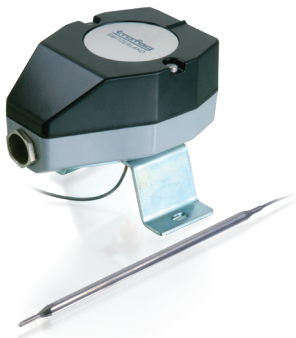
#### Technical Data

Material 1.4435 (AISI316L) / Brass

Data sheet [www.trafag.com/H72258](http://www.trafag.com/H72258)

# I/IS 404/414

Industat



- Rugged housing
- Protection IP65

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## Technical Data

Measuring range	-30°C ... +40°C to +70°C ... +350°C
Output signal	Floating change-over contact
Media temperature	-30°C ... +350°C

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Data sheet [www.trafag.com/H72110](http://www.trafag.com/H72110)

# IA/IAS 409/419

Industat



- Rugged housing
- Protection IP65

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## Technical Data

Measuring range	-30°C ... +30°C to 0°C ... +60°C
Output signal	Floating change-over contact
Media temperature	-30°C ... +60°C

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Data sheet [www.trafag.com/H72116](http://www.trafag.com/H72116)

# MST 624/634

## Ministat



- Protection IP54
- Electrical connection on terminal screw

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### Technical Data

Measuring range	-30°C ... +40°C to +70°C ... +350°C
Output signal	Floating change-over contact
Media temperature	-30°C ... +350°C

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Data sheet [www.trafag.com/H72184](http://www.trafag.com/H72184)

# MS...R 630/632

## Mini Limistat



- External or internal resetting
- Protection IP54
- Electrical connection on terminal screw

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### Technical Data

Measuring range	-30°C ... +40°C to +70°C ... +350°C
Output signal	Floating change-over contact
Media temperature	-30°C ... +350°C

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Data sheet [www.trafag.com/H72173](http://www.trafag.com/H72173)

# Reliable quality

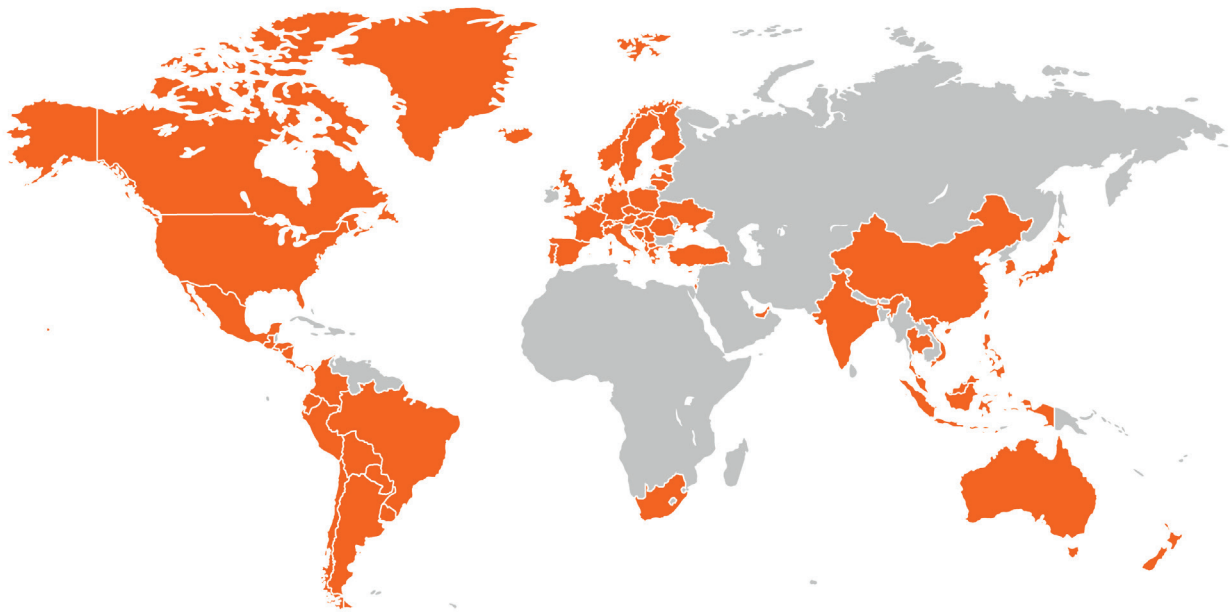
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Coordinates of representatives can be found at [www.trafag.com/trafag-worldwide](http://www.trafag.com/trafag-worldwide)



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