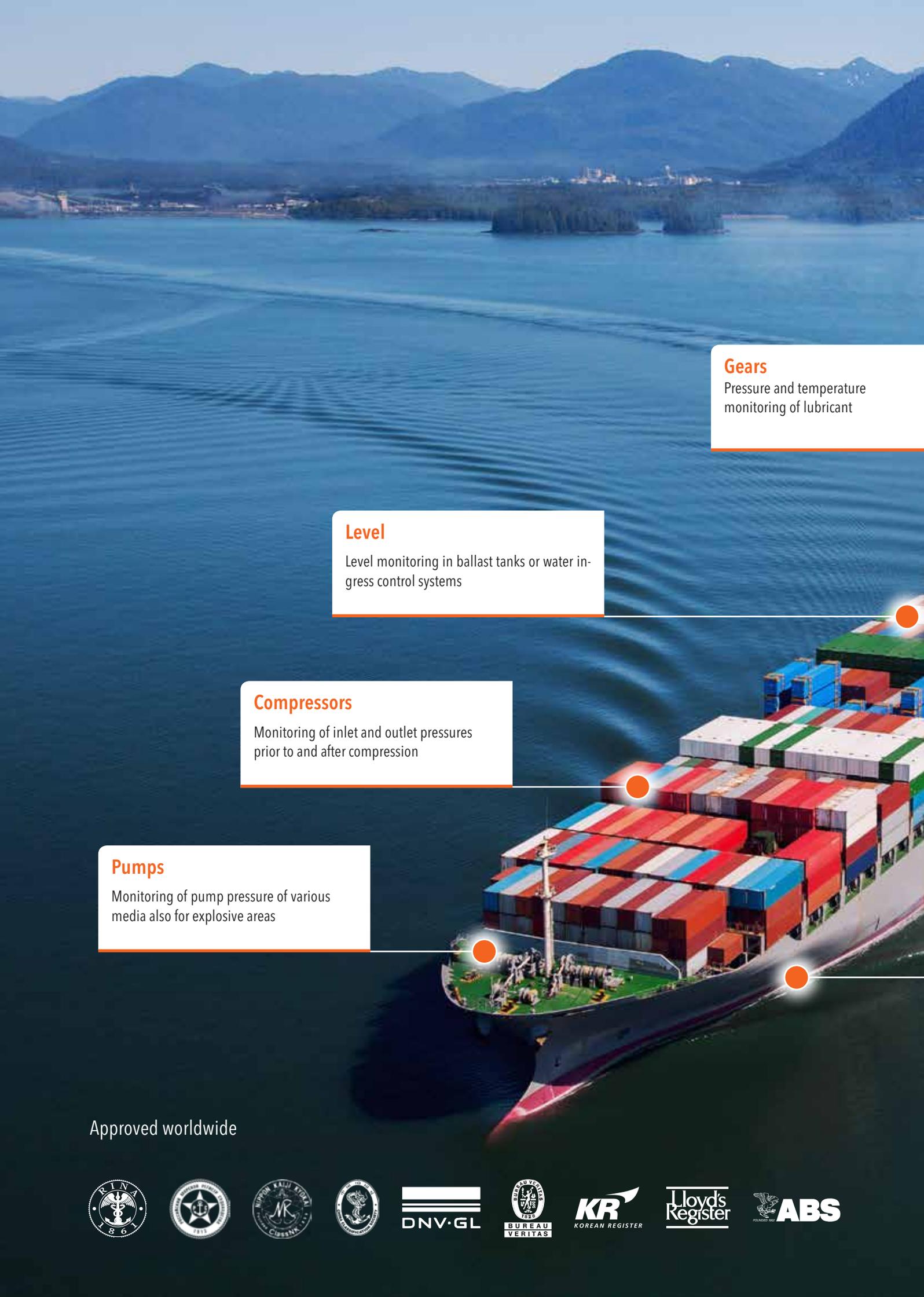


# Shipbuilding

Pressure switches - Pressure transmitters - Thermostats





### Gears

Pressure and temperature monitoring of lubricant

### Level

Level monitoring in ballast tanks or water ingress control systems

### Compressors

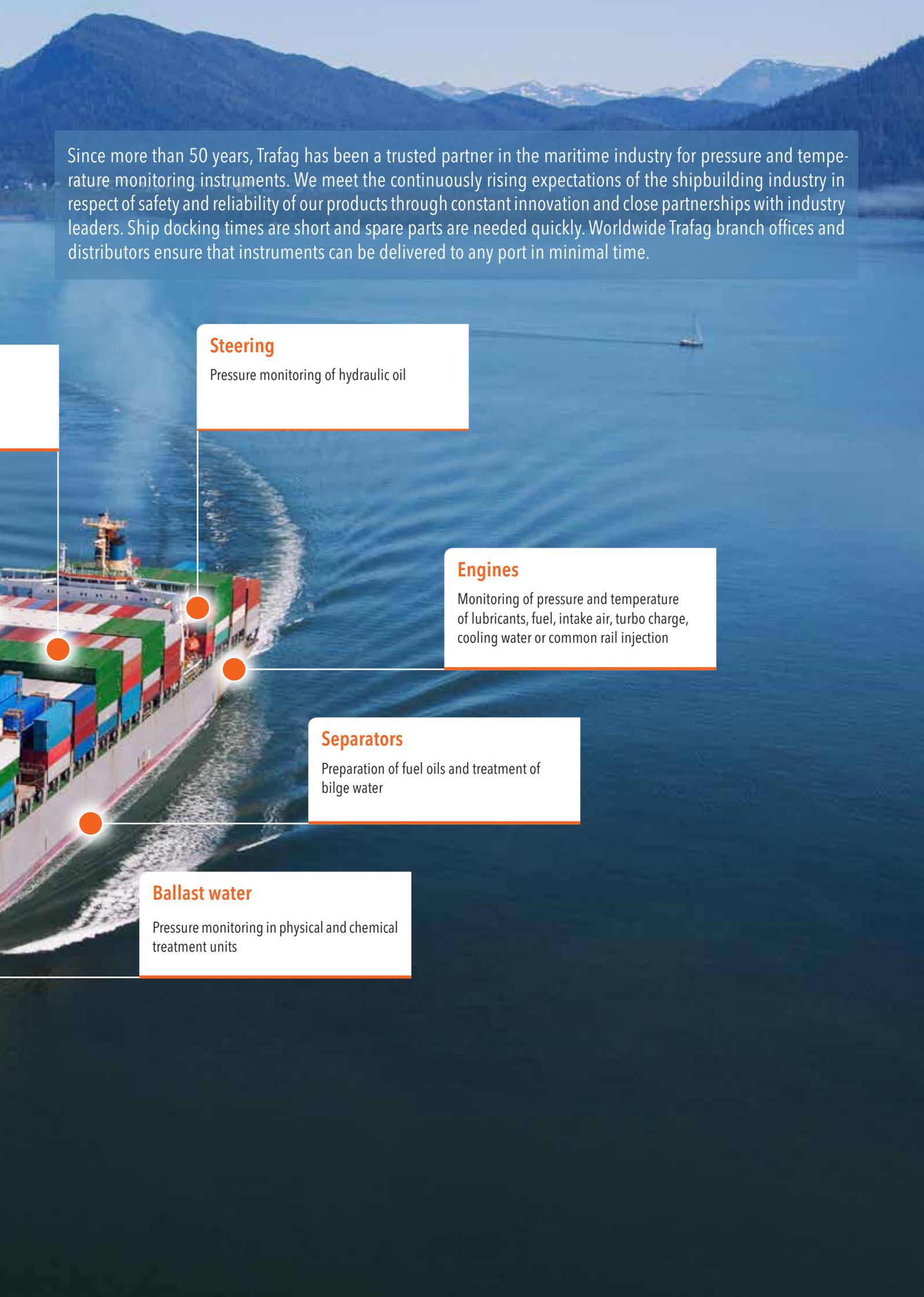
Monitoring of inlet and outlet pressures prior to and after compression

### Pumps

Monitoring of pump pressure of various media also for explosive areas

Approved worldwide





Since more than 50 years, Trafag has been a trusted partner in the maritime industry for pressure and temperature monitoring instruments. We meet the continuously rising expectations of the shipbuilding industry in respect of safety and reliability of our products through constant innovation and close partnerships with industry leaders. Ship docking times are short and spare parts are needed quickly. Worldwide Trafag branch offices and distributors ensure that instruments can be delivered to any port in minimal time.

### Steering

Pressure monitoring of hydraulic oil

### Engines

Monitoring of pressure and temperature of lubricants, fuel, intake air, turbo charge, cooling water or common rail injection

### Separators

Preparation of fuel oils and treatment of bilge water

### Ballast water

Pressure monitoring in physical and chemical treatment units

# Overview marine products

## Pressure transmitters

NAE 8256



**Marine pressure transmitter 6**

Pressure transmitter in miniature design for limited space

NPN 8264



**Picotrans 9**

Pressure transmitter in block design for engines and installation on valve blocks

NSL 8257



**Low pressure transmitter 6**

Miniature pressure transmitter for measuring ranges < 2.5 bar

ECL 8439



**Submersible pressure transmitter 10**

Submersible pressure transmitter with adjustable measuring ranges

EPN 8288



**Marine pressure transmitter 7**

Robust and versatile pressure transmitter

NAL 8838



**Special submersible pressure transmitter 11**

Submersible pressure transmitter for special applications

ECTN 8477



**Marine pressure transmitter 7**

Pressure transmitter with ceramic measuring cell for corrosive and clogging media

EXNT 8292



**Ex Pressure transmitter 12**

ATEX/IECEx certified pressure transmitter

EPN/EPNCR 8298



**Engine pressure transmitter 8**

Pressure transmitter for high measuring ranges up to 2500 bar

EXNAL 8859



**Ex Submersible pressure transmitter 13**

ATEX/IECEx certified submersible pressure transmitter

EPN-S 8320



**Electronic pressure switch 9**

Electronic pressure switch for marine applications

EXNA 8852/8853



**Ex Pressure transmitter 13**

ATEX/IECEx certified pressure transmitter for special applications

## Thermostats

ISP/ISPT 474



**Picotherm 16**

Thermostat in block design for engines

ISN/ISNT 471/472



**Navistat 16**

Thermostat in extra-rugged housing design

## Pressure switches

PST4B 9B4



**Picostat Pressure switch**

Mechanical pressure switch in block design for engines and installation on valve blocks

**14**

P/PS 900/904/912 **Pressostat**



Mechanical pressure switch in housing design

**15**

PSTD 9D0



**Differential pressure Picostat**

Mechanical differential pressure switch

**14**

PV/PVF 03/907/915/940/941/942 **Vari Pressostat**



Mechanical pressure switch with adjustable hysteresis

**15**

## Accessories

SMI



Parameterisation device for setting the measuring ranges

**10**

DVB



Diagnostic Valve Block

**18**

SC



Handheld for parameterisation of pressure transmitters and electronic pressure switches

**18**

THP...



Hand pump with precision manometer

**19**

83.../84...



Protection tubes for capillary tube sensors

**17**

V6/V7



Stop valve for exchanging pressure transmitter without interrupting the process

**19**

121.../141...



Protection tube for direct mounting

**17**

A.../D...



Adapters with manometer pressure ports

**19**

# NAE 8256

## Marine Pressure Transmitter



- Measuring accuracy 0.3 %, 0.5 %
- Optional: Switching output 1 or 2 PNP transistors
- Completely welded steel sensor system without additional seals
- Smallest design
- High resistance to over pressure
- Excellent long-term stability

---

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 0.2 to 0 ... 700 bar 0 ... 3 to 0 ... 10'000 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	0.5 %: ± 0.5 % FS typ. 0.3 %: ± 0.3 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C
Approval / conformity	DNV-GL EU RO Mutual Recognition Type Approval Certificate

---

Data sheet [www.trafag.com/H72305](http://www.trafag.com/H72305)

# NSL 8257

## Low Pressure Transmitter



- Smallest design
- Relative or absolute pressure measurement
- Excellent temperature resistance
- Improved vibration resistance
- Completely welded steel sensor system without additional seals

---

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 0.2 to 0 ... 2.5 bar 0 ... 3 to 0 ... 30 psi
Output signal	4 ... 20 mA, 0 ... 5 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric
Accuracy @ 25°C typ.	0.15 ... 0.8 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C
Approval / conformity	DNV-GL

---

Data sheet [www.trafag.com/H72302](http://www.trafag.com/H72302)

## EPN 8288

### Marine pressure transmitter with steel sensor



- Excellent long-term stability
- High resistance to over pressure
- Completely welded steel sensor system without additional seals
- Different accuracy classes

#### 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, 0 ... 10 VDC
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C
Approval / conformity	DNV-GL EU RO Mutual Recognition Type Approval Certificate

Data sheet

[www.trafag.com/H72318](http://www.trafag.com/H72318)

## ECTN 8477

### Marine pressure transmitter with ceramic sensor



- Measuring ranges from 100 mbar
- Excellent media compatibility
- Relative or absolute pressure measurement
- Titanium version optional
- Frontal membrane optional

#### Technical Data

Measuring principle	Thick-film-on-ceramic
Measuring range	0 ... 0.1 to 0 ... 250 bar 0 ... 1.5 to 0 ... 3000 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
Approval / conformity	DNV-GL EU RO Mutual Recognition Type Approval Certificate

Data sheet

[www.trafag.com/H72322](http://www.trafag.com/H72322)

# EPN/EPNCR 8298

## Engine Pressure Transmitter



Sensor Communicator SC see page 18

- Nominal pressure up to 2500 bar (Common Rail) with high pressure threaded connection
- High vibration resistance
- Good temperature resistance
- Different accuracy classes
- Completely welded steel sensor system without additional seals

---

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 2500 bar
Output signal	4 ... 20 mA 0.5 ... 4.5 VDC ratiometric
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C
Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LRS, NKK, RINA, RMRS

---

Data sheet

[www.trafag.com/H72312](http://www.trafag.com/H72312)

# EPN-S 8320

## Electronic Pressure Switch



Sensor Communicator SC voir page 18

- Rugged design for harsh environments
- Wide temperature range
- Excellent long-term stability
- Very compact design
- Switchpoint factory set or programmable on site with Trafag Sensor Communicator SC

### 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	Transistor (open source)
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
Approval / conformity	DNV-GL, RMRS

Data sheet

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

# NPN 8264

## Picotrans pressure transmitter for flange connection



Sensor Communicator SC see page 18

- Compact design
- Flange connection (PICO family)
- High vibration resistance
- Good temperature resistance
- Completely welded steel sensor system without additional seals

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 250 bar
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Media temperature	-40°C ... +100°C
Ambient temperature	-40°C ... +100°C
Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LRS, NKK, RINA, RMRS

Data sheet

[www.trafag.com/H72313](http://www.trafag.com/H72313)

# ECL 8439

## Submersible Pressure Transmitter



- Suitable for thick and viscous media
- Different materials for optimum media compatibility
- Lightning protection integrated
- Configurable measuring ranges

---

### Technical Data

Measuring principle	Thick-film-on-ceramic
Measuring range	0 ... 0.1 to 0 ... 6.0 bar 0 ... 1.5 to 0 ... 100 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.3 % FS typ. ± 0.5 % FS typ.
Media temperature	max. -25°C ... +70°C
Ambient temperature	max. -25°C ... +70°C
Approval / conformity	DNV-GL EU RO Mutual Recognition Type Approval Certificate

---

Data sheet

[www.trafag.com/H72336](http://www.trafag.com/H72336)

# Sensor Master Interface SMI

## Configuration of the measuring ranges



- Fast and easy operation via Android App «Sensor Master Communicator SMC»
- Read out of sensor data
- Reset pressure measurement instruments to factory settings

---

### Technical Data

Ambient temperature	0°C ... +40°C
Supply voltage	5 VDC, ±0.25, 1 A (Supply via USB interface)
Protection	IP20
Storage temperature	-10°C ... +50°C
Dimensions	LxWxH: 120x76x27 mm
Communication SMC/SMI via Bluetooth LE	
Operation Interface	via Android App «Sensor Master Communicator SMC»

---

Data sheet

[www.trafag.com/H72618](http://www.trafag.com/H72618)

# NAL 8838

## Special submersible pressure transmitter



- Pressure ranges from 100 mbar
- No media contacting O-rings
- Cable PUR or FEP
- Option: Chemical resistant material, in titanium
- Option: Lightning protection (IEC 61000-4-5)

---

### Technical Data

Measuring principle	Piezoresistive
Measuring range	0 ... 0.1 to 0 ... 25 bar
Output signal	4 ... 20 mA 0 ... 10 VDC
Media temperature	-5°C ... +50°C
Ambient temperature	-5°C ... +50°C
Approval / conformity	DNV-GL

---

Data sheet [www.trafag.com/H72228](http://www.trafag.com/H72228)

# EXNT 8292

## Ex Pressure Transmitter



- II 1G Ex ia IIC T4/T6 Ga
- II 1D Ex ia IIIC T200160°C Da
- I M1 Ex ia I Ma
- II 1/2G Ex ia IIC T4/T6 Ga/Gb  
(with plastic-type connector)
- Pressure ranges from 0.4 to 2000 bar
- Completely welded sensor system
- Optional with hydrogen-compatible sensor

### Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 0.4 to 0 ... 2000 bar 0 ... 5 to 0 ... 30000 psi
Output signal	4 ... 20 mA
Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Media temperature	Max. -40°C ... +120°C
Ambient temperature	Max. -40°C ... +120°C
Approval / conformity	DNV-GL, KRS, RMRS ATEX / IECEx, according to the norm EN/IEC 60079-0/EN 60079-11/ EN 60079-26/ EN 50303

Data sheet

[www.trafag.com/H72329](http://www.trafag.com/H72329)

# EXNAL 8859

## Ex Submersible pressure transmitter



- ATEX and IECEx
- Pressure ranges from 100 mbar
- No media contacting O-rings
- Cable PUR or FEP

### Technical Data

Measuring principle	Piezoresistive
Measuring range	0 ... 0.1 to 0 ... 25 bar
Output signal	4 ... 20 mA
Media temperature	-5°C ... +80°C
Ambient temperature	-5°C ... +80°C
Approval / conformity	DNV-GL Ex according to standards, IEC/EN 60079-0/-11/-26, EN 50303

Data sheet [www.trafag.com/H72335](http://www.trafag.com/H72335)

# EXNA 8852/8853

## Ex Pressure Transmitter



- Ex SEV 11 ATEX 0145 X
- Pressure ranges from 100 mbar
- Versions with frontal or with flush diaphragm
- Media temperature to 150°C
- Option: Lightning protection (IEC 61000-4-5), 10kA (8/20 μs)

### Technical Data

Measuring principle	Piezoresistive
Measuring range	0 ... 0.1 to 0 ... 1000 bar
Output signal	4 ... 20 mA
Media temperature	T3: -25°C ... +150°C T4: -25°C ... +100°C T6: -25°C ... +55°C
Ambient temperature	T3/T4: -25°C ... +85°C T6: -25°C ... +55°C
Approval / conformity	DNV-GL

Data sheet [www.trafag.com/H72227](http://www.trafag.com/H72227)

# PST4B 9B4

## Picostat Pressure switch



- Improved vibration resistance
- Compact design
- Rugged housing
- Protection IP65

### Technical Data

Measuring principle	Bellow
Measuring range	-0.6 ... 3.4 to 4 ... 40 bar -8 ... 45 to 60 ... 500 psi
Output signal	1 Floating change-over contact (SPDT)
Switching differential	Not adjustable
Repeatability	± 0.5 % FS typ.
Media temperature	Standard: -25°C ... +125°C with sensor 789/790/791: -40°C ... +125°C
Ambient temperature	Standard: -25°C ... +85°C with sensor 789/790/791: -40°C ... +85°C
Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LR, NKK, RINA, RMRS

Data sheet [www.trafag.com/H72367](http://www.trafag.com/H72367)

# PSTD 9D0

## Picostat differential pressure switch



- Compact design
- Rugged housing
- High repeatability
- Protection IP65 (with plug connector)
- Any mounting position possible

### Technical Data

Measuring principle	Bellow
Measuring range	-1 ... 6 and -1 ... 8 bar
Druckdifferenz	0 ... 4 and 0 ... 6 bar
Output signal	1 Floating change-over contact (SPDT)
Switching differential	Not adjustable
Repeatability	± 1.0 % FS typ.
Media temperature	-25°C ... +120°C
Ambient temperature	-25°C ... +85°C
Approval / conformity	DNV-GL

Data sheet [www.trafag.com/H72273](http://www.trafag.com/H72273)

# P/PS 900/904/912

## Pressostat



- Rugged aluminium housing
- Protection IP65
- Any mounting position possible

### Technical Data

Measuring principle	Bellow
Measuring range	-0.9 ... 1.5 to 10 ... 100 bar 5 ... 50 to 125 ... 1500 psi
Output signal	1 Floating change-over contact (SPDT)
Differential pressure	Not adjustable
Repeatability	± 1.0 % FS typ.
Media temperature	-40°C ... +150°C
Ambient temperature	-25°C ... +70°C
Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LRS, RINA

Data sheet

[www.trafag.com/H72252](http://www.trafag.com/H72252)

# PV/PVF 903/907/915/940/941/942

## Vari Pressostat



- Rugged aluminium housing
- Protection IP65
- Any mounting position possible

### Technical Data

Measuring principle	Bellow
Measuring range	-0.9 ... 1.5 to 4 ... 40 bar 5 ... 50 to 50 ... 500 psi
Output signal	1 Floating change-over contact (SPDT)
Switching differential	Adjustable
Repeatability	± 1.0 % FS typ.
Media temperature	-40°C ... +150°C
Ambient temperature	-25°C ... +70°C
Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LRS, RINA

Data sheet

[www.trafag.com/H72263](http://www.trafag.com/H72263)

# ISP/ISPT 474

## Picotherm - Thermostat for engine construction



- Compact design
- Rugged housing
- High repeatability
- Protection IP65

---

### Technical Data

Measuring range	+5°C ... +95°C to +20°C ... +150°C
Output signal	Floating change-over contact
Differential pressure	Not adjustable
Repeatability	± 1 % FS typ.
Approval / conformity	DNV-GL EU RO Mutual Recognition Type Approval Certificate

---

Data sheet [www.trafag.com/H72113](http://www.trafag.com/H72113)

# ISN/ISNT 471/472

## Navistat - Marine thermostat



- Rugged housing
- High repeatability
- Protection IP65
- Any mounting position possible

---

### Technical Data

Measuring range	+20°C ... +110°C to +40°C ... +300°C
Output signal	Floating change-over contact
Switching differential	Not adjustable
Repeatability	± 0.5 % FS typ.
Approval / conformity	DNV-GL EU RO Mutual Recognition Type Approval Certificate

---

Data sheet [www.trafag.com/H72111](http://www.trafag.com/H72111)

## 83.../84...

### Protection tubes for remote sensors



- For liquid media
- Pressure proof up to 25 bar (types 83xx)
- Pressure proof up to 40 bar (types 84xx)

---

#### Technical Data

Material	Stainless steel 1.44435/316L, brass nickel plated
----------	--

---

Data sheet	<a href="http://www.trafag.com/H72163">www.trafag.com/H72163</a>
------------	--

## 121.../141...

### Protection tubes for direct mounting



121x..

141x..

- Pressure proof up to 40 bar (types 141x)
- With captive nut (types 141x)

---

#### Technical Data

Material	Stainless steel 1.44435/316L, brass nickel plated
----------	--

---

Data sheet	<a href="http://www.trafag.com/H72163">www.trafag.com/H72163</a>
------------	--

# 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

---

### 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

---

### Content of delivery:

- 1 pce SC incl. batteries
- 1 pce USB-cable
- 1 pce Measuring bridge cable
- Option: Adapter cable (see table)

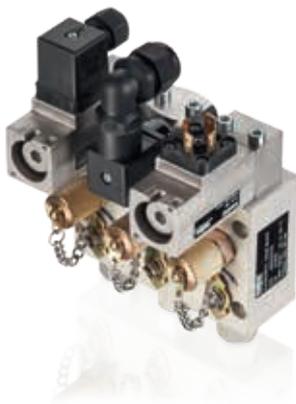
---

Instruction

[www.trafag.com/H73699](http://www.trafag.com/H73699)

# DVB

## Diagnostic Valve Block



- Function tests during operation (no interruption necessary) with stop valve and test connection

---

### Technical Data

---

Pressure -0.8 ... 100 bar

---

Data sheet

[www.trafag.com/H72361](http://www.trafag.com/H72361)

## THP...

### Hand pump



THP30

THP700

- 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



V6

V7

- 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	<a href="http://www.trafag.com/H72258">www.trafag.com/H72258</a>
------------	--

## 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	<a href="http://www.trafag.com/H72258">www.trafag.com/H72258</a>
------------	--



# Reliable quality

Worldwide represented, globally trusted, Swiss based

## ■ Headquarters

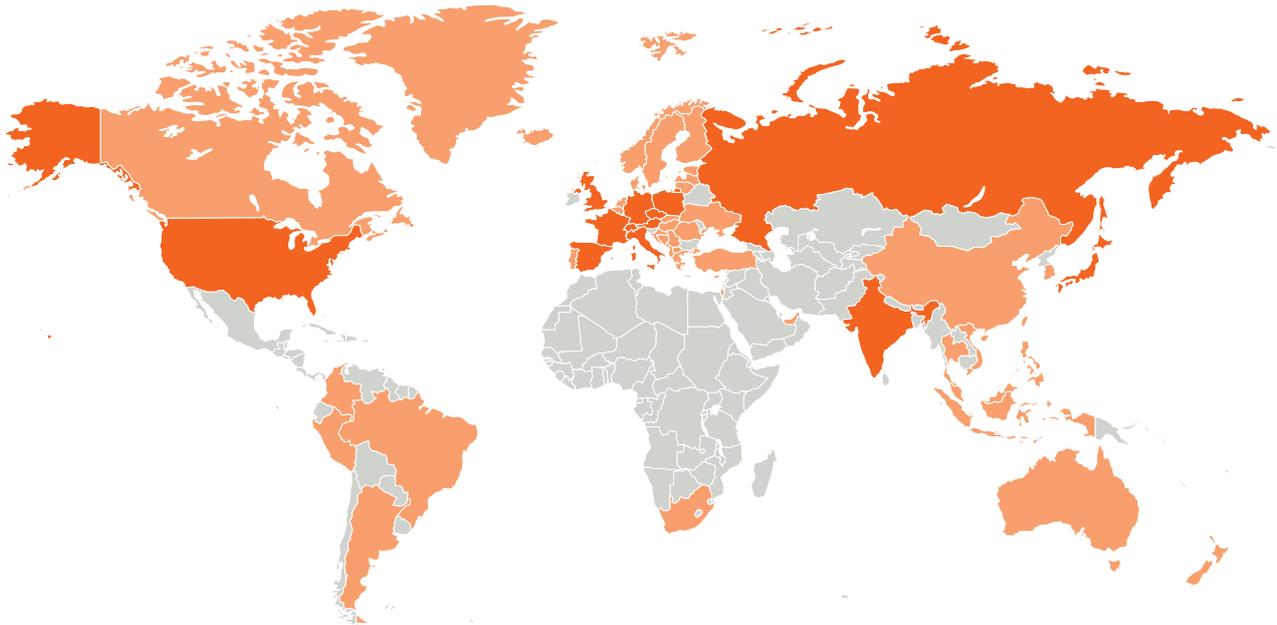
Switzerland

## ■ Subsidiaries

Austria  
Czech Republic  
France  
Germany  
Great Britain  
India  
Italy  
Japan  
Poland (Joint Venture)  
Russia (Joint Venture)  
Spain  
USA

## ■ Representatives

Australia	Greece	Portugal
Belgium	Hungary	Romania
Brazil	Iceland	Singapore
Canada	Indonesia	South Africa
China	Israel	Sweden
Colombia	Korea	Taiwan
Croatia	Malaysia	Thailand
Cyprus	Netherlands	Turkey
Denmark	New Zealand	Ukraine
Estonia	Norway	United Arab Emirates
Finland	Philippines	Vietnam



Subject to change H70656f Trafag AG 03/2021