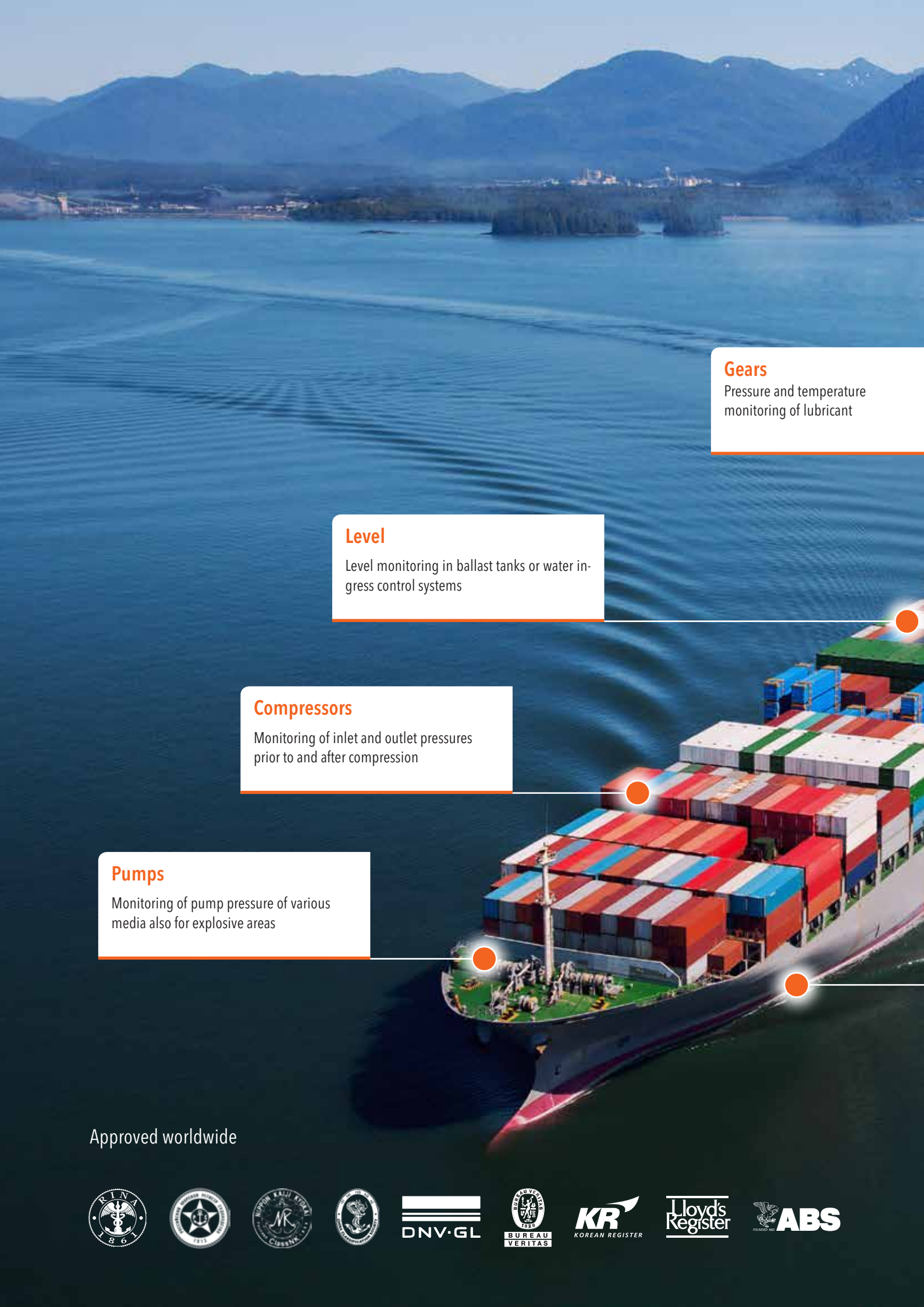


Shipbuilding

Pressure switches - Pressure transmitters - Thermostats





Gears

Pressure and temperature monitoring of lubricant

Level

Level monitoring in ballast tanks or water ingress control systems

Compressors

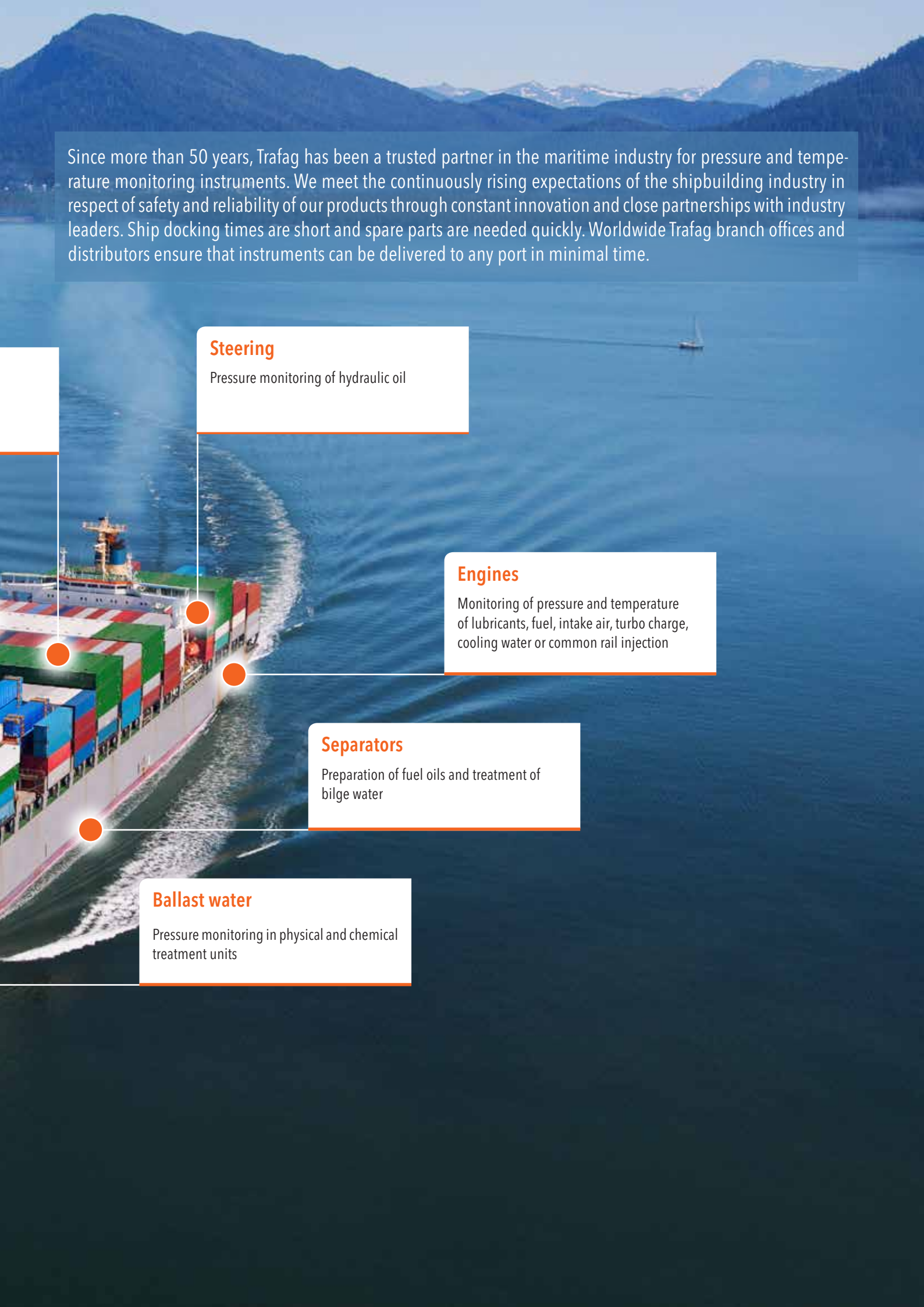
Monitoring of inlet and outlet pressures prior to and after compression

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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	www.trafag.com/H72163
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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
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Data sheet	www.trafag.com/H72163
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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:

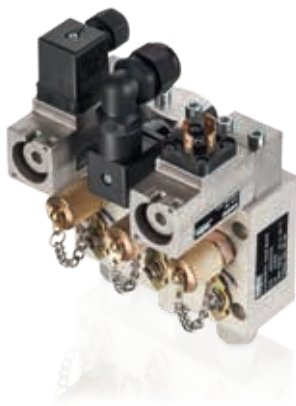
- 1 pce SC incl. batteries
- 1 pce USB-cable
- 1 pce Measuring bridge cable
- Option: Adapter cable (see table)

Instruction

www.trafag.com/H73699

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

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
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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
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Data sheet	www.trafag.com/H72258
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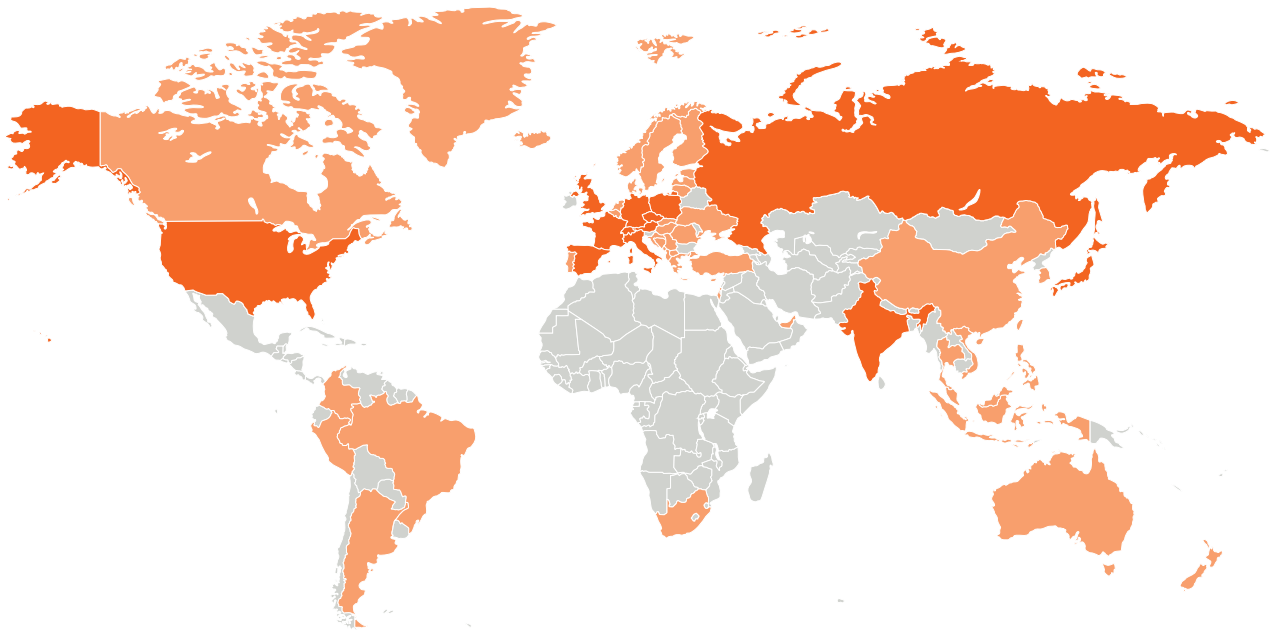
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Marktechnical B.V.
Netherlands

Lage Ham 172-178
5102 AE Dongen

+31 162 31 42 85
www.marktechnical.nl

