Data sheet

High Pressure Transmitter for marine applications Type MBS 6300

The design of the high pressure transmitters, type MBS 6300 ensures that the transmitters are accurate and reliable, even in extreme environments with pressure peaks, vibration, temperature fluctuations and EMC interference.

The robust product design withstands humidity cycles and heavy vibration.

Features

- Typical applications
  – High pressure fuel injection
- Designed for use in harsh environment
- Overload pressure 3000 bar
- Enclosure stainless steel (AISI 304)
- Wetted parts stainless steel (AISI 630)
- Pressure ranges from 0 up to 2500 bar
- Output signals: 4 – 20 mA, ratiometric and absolute voltage
- Temperature compensated
- High vibration stability
- For medium and ambient temperature up to 125 °C

Approvals

Lloyds Register of shipping, LRS
Germanischer Lloyd, GL
Bureau Veritas, BV
Det Norske Veritas, DNV
Registro Italiano Navale, RINA
Nippon Kaiji Kyokai, NKK
American Bureau of Shipping, ABS
Korean Register of Shipping, KR
China Classification Society, CCS
Russian Maritime Register of Shipping, RMRS

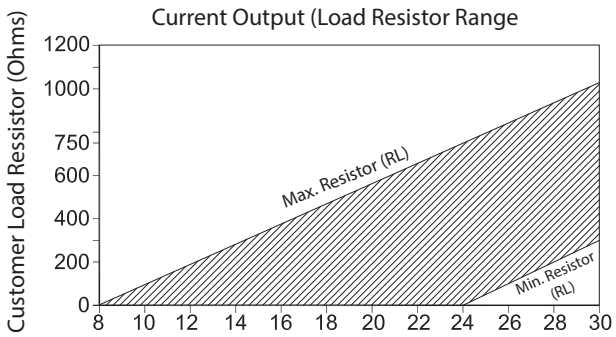
Technical data

Performance (EN 60770)

Accuracy (incl. non-linearity, hysteresis and repeatability)	≤ ± 1.0% FS
Non-linearity BFSL (conformity)	≤ ± 0.2% FS
Hysteresis and repeatability	≤ ± 1.0% FS
Total error band @Temp. 0 – 90 °C	≤ ± 2.0% FS[1]
Total error band @Temp. 90 – 125 °C	≤ ± 3.0% FS
Response time	≤ 1 ms
Overload pressure (static)	3000 bar
Burst pressure	> 4000 bar

Electrical specifications

Nom. output signal (Short-circuit protected)	**4 – 20 mA (2 wire)**	**0 – 5, 1 – 5 1 – 6 V**	**0 – 10 V**	**10 – 90% ratiometric**
Supply voltage [U_B], polarity protected	24 V (8 – 30 V)	24 V (8 – 30 V)	24 V (12 – 30 V)	5V (5V ± 0.5 V)
Supply – current consumption	—	4.5 mA	4.5 mA	4.5 mA
Output impedance	—	≤ 90 Ω	≤ 90 Ω	≤ 90 Ω
Load [R_L] (connected to 0 V)	See chart below	R_L ≥ 10 kΩ	R_L ≥ 10 kΩ	R_L ≥ 10 kΩ
Load [R_L] (connected to + V)	See chart below	Not possible	Not possible	R_L ≥ 5 kΩ



Note:
Loop current should not exceed 22 mA continuous or 25 mA temporarily.

Environmental conditions

Media temperature range			-40 – 125 °C
Ambient temperature range (depending on electrical connection)			see page 3
Compensated temperature range			0 – 125 °C
Storage temperature			-50 – 125 °C
EMC – Emission			EN 61000-6-3
EMC – Immunity			EN 61000-6-2
DC isolation			1000 V
Vibration stability	Sinusoidal	20 g / 25 – 2 kHz	IEC 60068-2-6 Fc
Shock resistance	Shock	500 g / 1ms	IEC 60068 - 2 - 27
Enclosure			IP67

Mechanical conditions

Materials	Wetted parts	17 – 4 PH / AISI 630
	Enclosure	AISI 304
	Pressure connection	see page 3
	Electrical connection	see page 3
Recommended mounting torque		30 Nm
Net weight (here of 1 m cable)		160 g (40 g)

1*) Requirement for Ratiometric output is relaxed to ±3% for Conducted RF immunity in the range 150kHz – 500kHz

Ordering standard

MBS 6300 1 – 0

Measuring range
- 0 – 2000 bar: 4 4
- 0 – 2500 bar: 4 6

Pressure reference
- Gauge (relative): 1

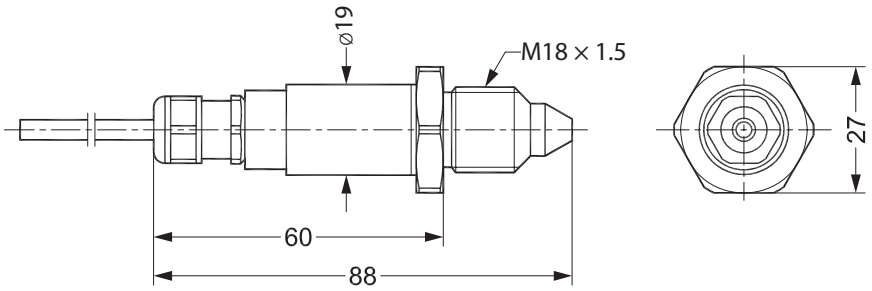
Output signal
- 4 – 20 mA: 1
- Ratiometric, 10 – 90%: 6
- 0 – 5 V: 2
- 1 – 5 V: 3
- 1 – 6 V: 4
- 0 – 10 V: 5

Gasket
- 0: No gasket

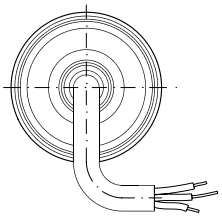
Pressure connections (HEX 27 mm)
- H P 1 2: M18 × 1.5 (ISO 2974 / SAEJ1949)

Electrical connection
- D 1: Cable ship approved 5.0 m
- D 2: Cable ship approved 3.0 m
- D 3: Cable ship approved 1.5 m

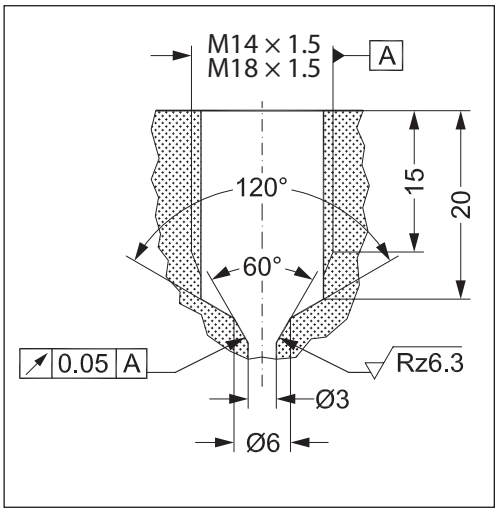
Dimensions [mm]



Electrical connections

Type code	1
	 Screened cable ø4.9
Ambient temperature 4 – 20 mA	- 35 – 110 °C
Ambient temperature, ratiometric and absolute voltage	- 35 – 125 °C
Enclosure	IP67
Material	Polyofin cable; Screen (Cu-Sn) Insulation ETFE
Electrical connections, 4 – 20 mA (2 wire)	Red wire: + supply White wire: ÷ supply Red/black wire: not used White/black wire: not used Screen: not connected to MBS housing
Electrical connection, reatiometric output and absolute voltage output	Red wire: + supply White wire: ÷ supply Red/black wire: output White/black wire: not used Screen: not connected to MBS housing

Female part



Recommended hardness:
HRC 50 or higher