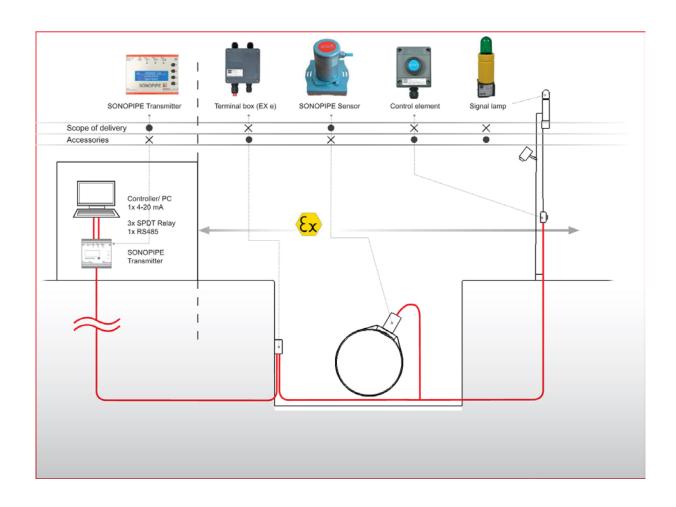# Technical Data Sheet

Pipeline Monitor SONOPIPE 13

Technical data of the SONOPIPE 13 system

System designation	**Pipeline monitor SONOPIPE 13S** and **Pipeline monitor SONOPIPE 13E respectively**
Function	Product characterization and pig passage detection in liquid-filled pipelines: - without contact of the sensor with the liquid - without structural changes at the pipeline because the measurement is carried out from outside through the wall.
Pipeline diameter	6 ... 60 '' (15,24 ... 152,4 cm) (outside diameter)
Media	Liquids with a maximum absolute viscosity of up to 500 cSt., no multiphase systems, no air/gas bubbles, no large foreign items
Scope of delivery	Sensor SONOPIPE 11 with 5 m sensor cable Fastening material for mounting at the pipeline Transmitter SONOPIPE 13 (EJB-housing for installation of the SONOPIPE 13E in hazardous areas) Coupling medium Operating Instructions
Accessories	Equipotential bonding cable 3 m Terminal box (Ex e) Communication software SONOVIEW with online help Power supply unit: 230 V AC / 50 Hz – 24 V DC Overvoltage protection terminals Connecting cable USB/RS485 converter

Technical data of the sensor

Designation	SONOPIPE 11
Setup	Sensor unit - consisting of resiliently supported ultrasonic element and amplifier electronics, cable connection chamber (Ex e), closed with a screw cap
Fastening to the pipeline **Coupling**	Mounting at the desired position by means of clamping strap and fitting plate with integrated equipotential bonding connector. Coupling to the pipeline by means of adhesive. The contact pressure is regulated by a spring hanger of the sensor element.
Power supply **Fusing**	Completely realized by the transmitter SONOPIPE 13 Reverse-connect protection, overvoltage protection Fusing of the operating voltage with external fuse 80 mA (located in the SONOPIPE 13) Fusing of the 2 data lines with one 40 mA fuse each (located in the SONOPIPE 13)
Connectors	5 x Cable clamp (Ex e), maximally 1.5 mm² core cross-section: V+ Positive operating voltage V - 0 V / GND ⊥ Shield A Data line - A to SONOPIPE 13 B Data line - B to SONOPIPE 13
Cables	4 x 0.75 mm² shielded cable, 5 m long (possible cable diameter: 5 – 10 mm)
Parameters	Parameterization is effected via SONOPIPE 13 and PC
Temperature ranges	Ambient temperature: -40 ... +80 °C Storage temperature: -40 ... +80 °C
Insulation resistance	1500 V AC Insulation resistance of the internal circuits to the housing according to DIN EN 60079-18
Housing	Stainless steel 1.4305, H x Ø: 148 mm x 70 mm
Protection Classification (IP)	IP66 / IP67 (for IP68 separate documentation)
Mass	About 1.8 kg
Ex Identification	II2G Ex e mb IIB T4 Gb, IBExU07ATEX1131 X

Technical data of the SONOPIPE 13 transmitter

Designation	SONOPIPE 13
Housing **Fastening**	Plastic, L x B x H: 100 mm x 75 mm x 110 mm Degree of protection IP 20; pluggable screw terminals TS 35 - mounting rail 35 mm
Power supply	18 ... 30 V DC, 350 mA 10% Ripple (when switching on transiently 1 A) Electronics galvanically isolated by internal DC/DC converter Polarity reversal protection, reverse-connect protection
Display	Graphic display: size 61 mm x 19 mm; blue/white adjustable contrast Last pig passage with time and date Sound running time, temperature, sound velocity, temperature compensated sound velocity, normalized sound velocity, product type
Operating elements	4 Keys for setting the display contrast and the time and Menu navigation for calling the last 10 pig passages. Connector for external reset button
Switch outputs	2 independently configurable switch outputs for the pig message, 1 switch output for the error message output, in each case Type changeover contact maximum switching voltage / current: 250 V / 5 A
Switch display	Status display of the relays via LED, one LED per relay
Sensor connection	V+ Positive operating voltage V- 0 V / GND Fusing of the operating voltage with 80 mA fast-blow ⊥ Shield A Data line - A to SONOPIPE 11 B Data line - B to SONOPIPE 11 Fusing of the data lines with 40 mA fast-blow each
Interfaces	Serial interface RS485 for connecting to a PC
Sensor setting	Parameterization is effected via PC with SONOVIEW software
Temperature Range	Ambient temperature: -20°C ... +70 °C Storage temperature: -20°C ... +70 °C
Mass	about 0.5 kg

Technical data of the terminal box, Ex e (only for SONOPIPE 13S)

Designation / type	Terminal box (Ex e) – type 8118/.122 (Stahl)
Function	Connection of probe cable (from SONOPIPE 11) with the connecting cable (to SONOPIPE 13) Earthing of the sensor and connecting cable shield via an earth terminal cable
Ex Identification	II2G Ex e II T6/T5
Dimensions	L x W x H: 115 mm x 115 mm x 64 mm about 0.6 kg
Cable feedthrough	3 x M16 x 1.5; Cable – Ø: 4 - 9 mm 1 x M20 x 1.5; Cable – Ø: 6 – 13 mm
Connecting terminals	4 x Terminal blocks 0.5 mm² - 2.5 mm² 2 x PE/PA Terminals 2.5 mm² - 4 mm²
Operating temperature	-50 ... +55 °C
Protection Classification (IP)	IP 66

Technical data of the pressure-proof housing (only for SONOPIPE 13E)

Designation / type	Pressure-proof housing – type EJB
Function	Accommodation of the SONOPIPE 13 and other optional components (power supply unit, overvoltage protection) in the hazardous area for complete installation
Ex Identification	II2G Ex d IIB T5 (For the installation of the SONOPIPE 13)
Dimensions Mass	L x W x H: 418 mm x 218 mm x 213 mm about 13 kg
Cable feedthrough	1 Cable screw fitting Ø 7.5...11.0 mm 1 Cable screw fitting Ø 3.0...8.0 mm
Operating temperature	-20 ... +55 °C
Protection Classification (IP)	IP 65