



Technical Datasheet

SONOCONTROL 14 for hazardous areas



Type of equipment	SONOCONTROL 14 Type 5, Type 6: Ultrasonic position switch for usage in hazardous area 1 for - piston detection in piston accumulators (without piston pole) - piston detection in hydraulic cylinders - level control
Sensor construction	Compact sensor unit consisting of sensor element and evaluation electronics
Measuring principle	Contactless ultrasonic impulse echo method - no contact between sensor and liquid - no structural changes of the piston accumulator necessary, since it measures from the outside through the wall
Operating mode / Numbers of sensors	1 sensor → single operating mode 2 sensors → synchronous operating mode
Measuring frequency	Max. 155 Hz
Attachment at the cylinder/vessel	Mounting at required position with mounting plate + tightening strap + lock
Coupling	Coupling with coupling medium to cylinder / vessel
Reproducibility	Static ± 1 mm (at same conditions of measurement)
Specified and (feasible) cylinder/vessel dimensions	Type 5: External diameter: (60) 98 ... 600 (950) mm Internal diameter: (50) 70 ... 500 (800) mm Type 6: External diameter: (150) 200 ... 950 (1600) mm Internal diameter: (120) 160 ... 800 (1500) mm
Hydraulic fluid	Mineral oil (HL, HLP), HFA, (HFB), HFC, HFD water and water-like liquids, 20 μ m purity
Max. absolute viscosity	100 cSt for Type 5 500 cSt for Type 6
Power supply	18 ... 24 VDC, max. 80 mA, ripple 2 % - low voltage identification - inverse-polarity protection - overvoltage protection - operating voltage with internal safety fuse 100 mA - control cable with internal safety fuse 50 mA
Switching output	NPN or PNP - max. switching voltage: positive operating voltage - max. switching current: 20 mA at 24 V 0.48 W switching capacity. (Requires external fuse!)
Serial interface	One-wire interface for synchronisation and configuration (with programming adapter and PC)

Connections	Fixed cable connection with cable gland M12 Cable, 4-pole shielded Brown: positive operating voltage 18 ... 24 VDC Blue: negative operating voltage (GND) Black: output signal White: synchronisation, serial programming for configuration
Sensor cable length	10 meters of fixed cable
Switching point indicator	Externally only
Temperature range	Temperature of piston accumulator/vessel: -20 ... +60 °C Ambient temperature: -20 ... +60 °C Storage temperature: -20 ... +60 °C Attention: The range of working temperature is further restricted by the absolute viscosity.
Protection class	IP 67, oil resistant
Housing	Stainless steel 1.4571, earthed against GND Type 5: H x Ø: 86 x 50 mm, thread M30 x 1.5 Type 6: H x Ø: 93 x 50 mm, thread M45 x 1.5
Weight	Approx. 500 g
Explosion protection	EC-type-examination certificate Type 5: IBE _x U 06 ATEX 1072 X Type 6: IBE _x U 06 ATEX 1073 X Marking:   II2G Ex mb IIC T4 Gb
Scope of delivery	Sensor, mounting element, couple medium, connection cable, operating manual, optional parameterizing adapter

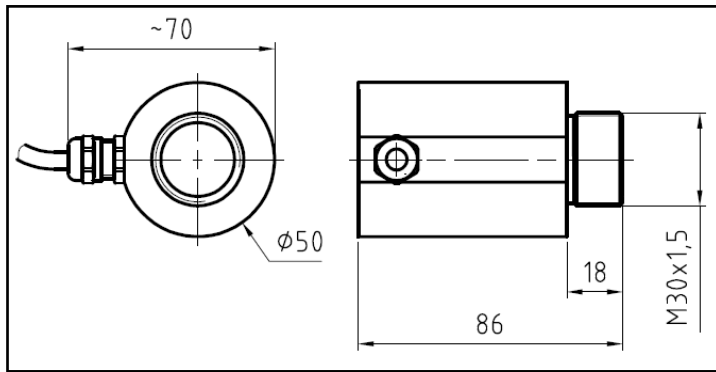


Fig. 1: SONOCONTROL 14 Type 5

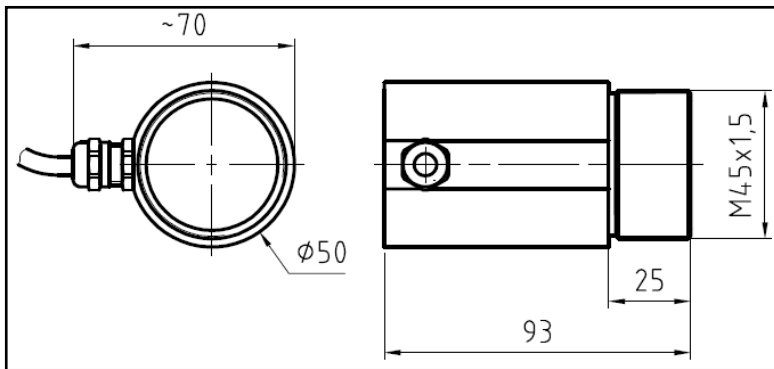


Fig. 2: SONOCONTROL 14 Type 6

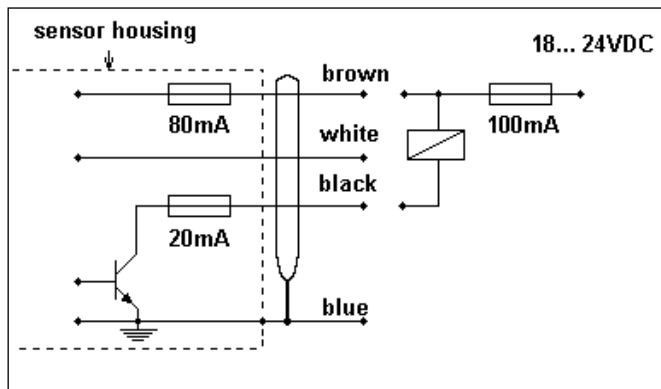


Fig. 3: pin assignment NPN type

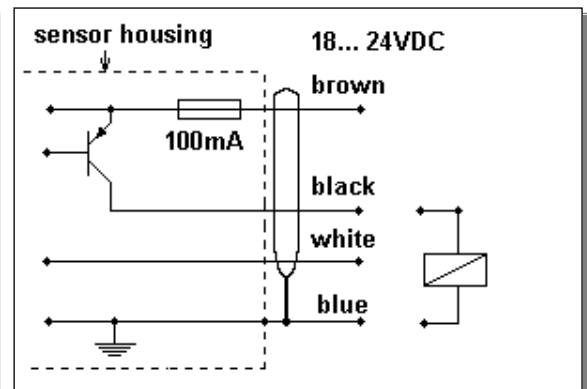


Fig. 4: pin assignment PNP type