

Technical Data Sheet

## SONOCONTROL 14



<b>Type of equipment</b>	SONOCONTROL 14 Type 1, Type 3: ultrasonic position switch for - piston detection in piston accumulators (without piston pole)
<b>Sensor design</b>	Compact sensor unit, consisting of sensor element and evaluation electronics
<b>Measuring principle</b>	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
<b>Operating mode / Number of sensors</b>	1 sensor → single operating mode 2 sensors → synchronous operating mode
<b>Measuring frequency</b>	Max. 155 Hz
<b>Attachment at the Cylinder / Coupling</b>	Mounting at required position with mounting plate + tightening strap + lock Coupling with coupling medium to cylinder
<b>Accuracy</b>	Static: ± 1 mm (at same conditions of measurement) Dynamic: dependent on piston velocity
<b>Cylinder dimensions</b>	Type 1: Outer diameter: (60) 98 ... 600 (950) mm Inner diameter: (50) 70 ... 500 (800) mm Type 3: Outer diameter: (150) 200 ... 950 (1600) mm Inner diameter: (120) 160 ... 800 (1500) mm (Depending on type: mounting with sound deadening mat necessary)
<b>Hydraulic fluid</b>	Mineral oil (HL, HLP), HFA, (HFB), HFC, HFD water and water-like liquids
<b>Max. absolute viscosity</b>	100 cSt for Type 1 500 cSt for Type 3
<b>Power supply</b>	18 ... 30 VDC, max. 80 mA (+ switching current), ripple 10 % - low voltage identification - inverse-polarity protection - overvoltage protection
<b>Switching output</b>	NPN or PNP - max. switching voltage: positive operating voltage - max. switching capacity: 1,8 W (Requires external fuse!) - max. switching current: 150 mA, short-circuit proof (from SN: 12100)
<b>Serial interface</b>	One-wire-interface for synchronisation and configuration (with programming adapter and PC)

<b>Connections</b>	Sensor plug-in connector M12 (for sensor cable with angle plug) Cable, 4-pole without shielding Brown: positive operating voltage 18 ... 30 VDC Blue: negative operating voltage (GND) Black: switching output White: synchronisation, serial programming for configuration
<b>Sensor cable length</b>	5 or 10 meters with angle plug
<b>Switching point indicator</b>	Integrated LED within angle plug
<b>Temperature range</b>	Temperature of cylinder or vessel: -20 ... +60 °C Ambient temperature: -20 ... +60 °C Storage temperature: -20 ... +60 °C <b>Attention:</b> The range of working temperature is further restricted by the absolute viscosity.
<b>Protection class</b>	IP 67, oil resistant
<b>Housing</b>	Aluminium anodized, earthed against GND
<b>Weight</b>	Approx. 170 g ... 500 g
<b>CE Conformity</b>	Ingress protection: DIN EN 60529:1991 + A1:2000 EMC active: DIN EN 61326-1:2006 EMC passive: IEC61000-4-2, -3, -4, -5, -6
<b>Scope of delivery</b>	Sensor, mounting element, coupling medium, connecting cable, operating manual, optional parameterizing adapter

Configuration	Thread	Housing	Max. absolute viscosity	NPN	PNP
Type 1	M30x1,5	Aluminium	100 cSt	x	x
Type 3	M45x1,5	Aluminium	500 cSt	x	x

Tab. 1.: SONOCONTROL 14 – Configuration of available types

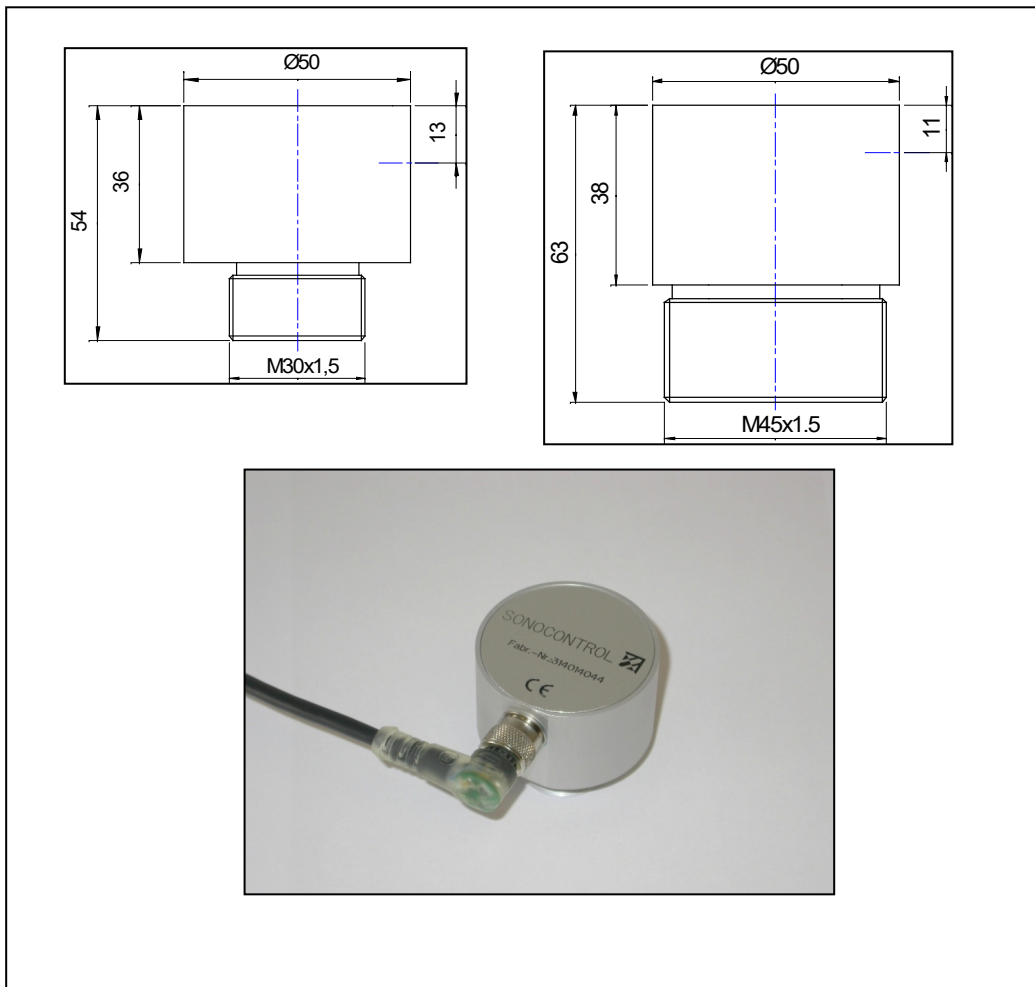


Fig. 1: SONOCONTROL14 sizes (left: Type 1, right: Type 3)  
Photo: SONOCONTROL14 Type 1 with angle plug

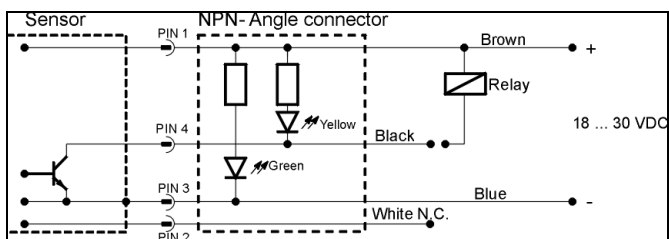


Fig. 2: pin assignment NPN

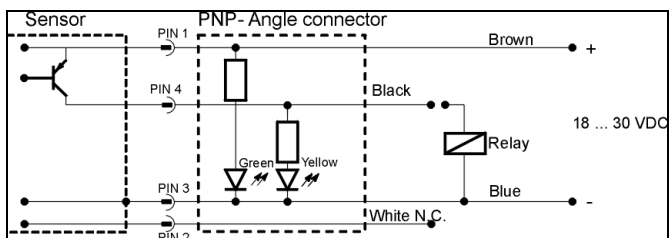


Fig. 3: pin assignment PNP

Information is subject to change without notice!