POSITION IDENTIFICATION OF PISTONS IN HYDRAULIC CYLINDERS

from the outside contactless with ultrasound

THROUGH THE WALL

SONOCONTROL 14

fast safe cost-effective
The new ultrasonic sensor SONOCONTROL 14 identifies the position of pistons in hydraulic cylinders. The ultrasonic procedure is harmless compared to methods based on radiation sources.

Advantages

- The retrofitting of cylinders can be carried out even in mounted condition.
- The integration of the system is feasible without interruption of ongoing operations.
- The installation of the new ultrasonic sensor SONOCONTROL 14 can be carried out easily. No mechanical extension at pistons are needed. No sealing problems due to holes in the cylinder wall occur.
- High safety of the system is guaranteed through a permanent couple and function control.
- A signal is always available.

Application Example

Using compact sensors with active sensor electronics leads to a very high interference resistance and allows a reliable operation in rough industrial environments.

Measurement principle: contact less ultrasound-pulse-echo-system
- no contact between sensor and piston
- no constructional changes at the cylinder

Fastening at the cylinder: installation at the desired position with fastening clamp with fitting panel and thread M30x1.5

Accuracy:
- static ± 1 mm, from the middle of sensor

Cylinder dimension:
- inner diameter [mm]: 70 – 800
- outer diameter [mm]: 95 – 950

Hydraulic fluid:
- mineral oil (HL, HLP), HFA, (HFB), HFC, HFD, water, viscosity 15...100 cSt, purity 20µm

Voltage supply:
- 18...30 VDC, max. 80 mA, undulation 10 %-
- undervoltage recognition, inverse-polarity protection, overvoltage protection

Switching output:
- PNP / NPN, max. switching current 60 mA with max. switching voltage 30 VDC

Connectors:
- sensor pin-and-socket connector M12
  - brown: positive operating voltage 18..30 VDC
  - blue: negative operating voltage (GND)
  - black: switching output
  - white: synchronisation

Coupling:
- at the cylinder with coupling medium

Sensor cable length:
- 2 or 5 m respectively with right-angle plug

Switching point display:
- integrated LED in the right-angle plug (green, yellow)

Temperature range:
- piston-type accumulator temperature: - 20 ... + 80 °C (attention to viscosity!)
- ambient temperature: - 20 ... + 60 °C
- storage temperature: - 40 ... + 65 °C

Housing:
- IP 67, oil-resistant, aluminium anodised, H x Ø: 50 x 52 mm, thread M30x1.5

Regulation:
- Protection Type IEC529 (DIN 40050)EMV active
- EN50081, EN 55011EMV passive
- EN50082, IEC61000-4-2, -3, -4, -5, -6

SONOCONTROL for position control at locks of a waterway in Middle Germany

SONOTEC preserves the right to change technical specifications without further notice.  
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