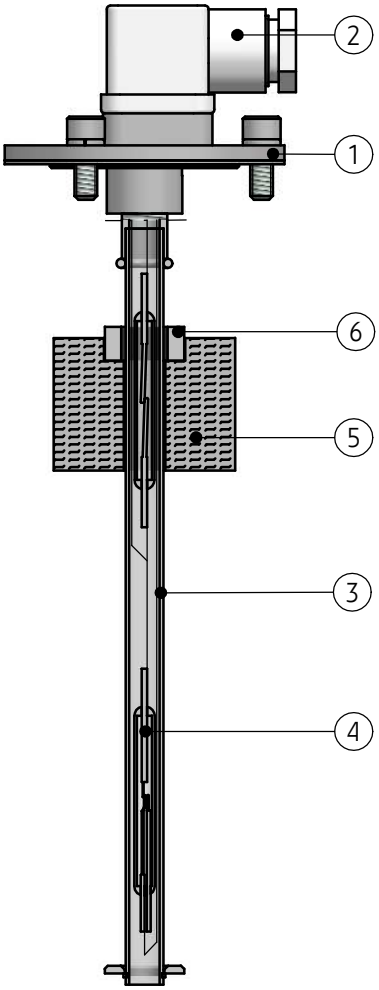
PONAR wadowice	**Oil level indicator type UOSP** Monitoring oil level in tanks	**WK 470 080** 07.2014

DATA SHEET - OPERATION MANUAL

APPLICATION

Oil level indicator type **UOSP...** is designed to monitor oil level in tanks of hydraulic power packs. Depending on the design, oil level indicator allows to monitor one or two oil levels.

DESCRIPTION OF OPERATION



Oil level indicator type **UOSP...** is composed of the flange (1) with socket and plug-in-connector (2), probe (3) made of a tube, in which one or two reed relays (4) and the float (5) with a permanent magnet (6) are incorporated.

The magnetic field of the magnet (6) acts on operating contacts (4) inside the probe (3).

When the oil level is changed the float (5) moves along the probe (3) and the contacts (4) of reed relays connect or disconnect.

Oil level indicator can be equipped with reed relays with contacts (normally – open) – version UOSP.../...**Z**... or contacts (normally – closed) – version UOSP.../...**R**....

TECHNICAL DATA

Technical data for oil level indicator type UOSP...

Hydraulic fluid	mineral oil	
Nominal fluid viscosity	37 mm ^{2}/s at temperature 55 °C	
Viscosity range	2,8 up to 380 mm ^{2}/s	
Fluid temperature range (in a tank)	recommended	40 °C up to 55 °C
	max	-20 °C up to +70 °C
Ambient temperature range	- 20 °C up to +70 °C	
Minimum distance between fluid level and the flange (dimension a_{min} according to page 3)	**65 mm**	
Minimum distance between fluid levels monitored (dimension b_{min} according to page 3)	**65 mm**	
Maximum distance between fluid levels monitored (dimension b_{max} according to page 3)	**400 mm**	
Sensivity (minimumchange in oil level causing transmission of a signal by oil level indicator)	**15 mm**	
Maximum voltage of signaling circuit	**below 50V AC** **below 75V DC**	
Maximum current for connecting contacts (control current)	**0,4 A**	

Technical characteristics of reed relays used in oil level indicators type UOSP...

Power reed relay (normally-open)

Type of reed relay	**ZW-103**
Contact form	power reed relay (normally-open)
Combined power max	**60 W**
Switching current max	**3 A**
Continuous current max	5 A
Operating time max	2,5 ms
Release time max	0,2 ms
Contact resistance max	100 mΩ
Coil resistance min	10^{10} Ω

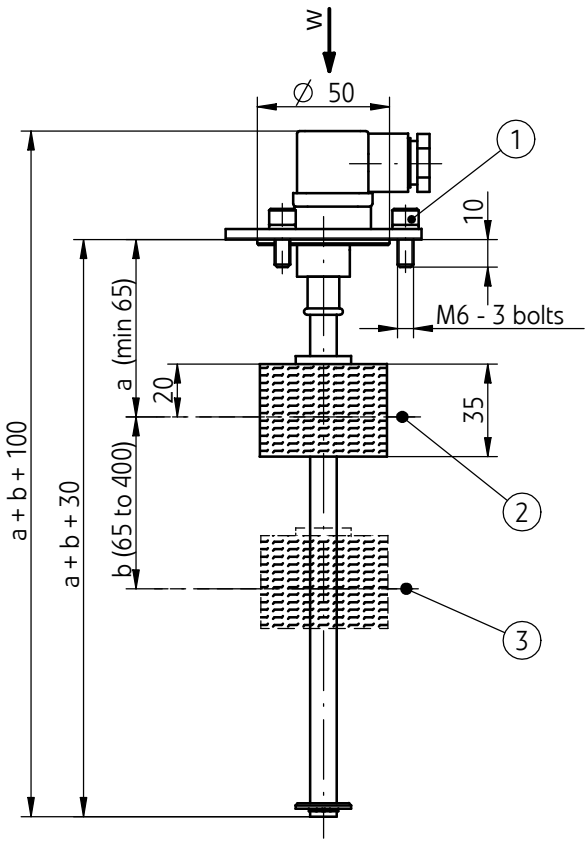
Reed relay (normally-closed)

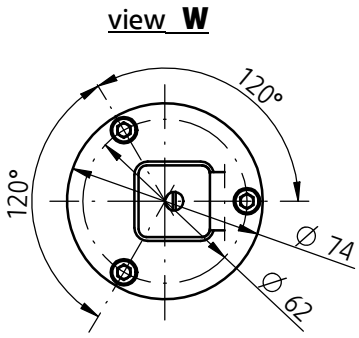
Type of reed relay	**ZW- 211**
Contact form	reed relay (normally-closed)
Combined power max	**20 W**
Switching current max	**0,5 A**
Continuous current max	2 A
Operating time max	3 ms
Release time max	0,5 ms
Contact resistance max	150 mΩ
Coil resistance min	10^8 Ω

INSTALLATION AND OPERATION REQUIREMENTS

1. Only oil level indicator working properly and suitably installed may be connected to an electric system. Only skilled workers are allowed to connect and disconnect electric system.
2. Ground connection (⏚) must be connected with protective earth wire (PE ⏚) in supply system according to appropriate instructions.
3. It is forbidden to apply oil level indicator if the supply cable in the gland of plug-in-connector is not properly tightened and the plug-in-connector is not properly tightened to the socket and is not secured by screwing bolt tightly.
4. Due to heating, oil level indicators should be placed in order to eliminate the possibility of incidental touch while using, or, they should be equipped with the covers (in accordance with the European standards: PN - EN ISO 13732 -1 and PN - EN 982).
5. During the operation one must maintain the recommended fluid viscosity specified in this Data Sheet - Operation Manual.
6. In order to ensure safe and failure-free operation of oil level indicator, the following must be checked:
   - operation of the indicator
   - cleanliness of the hydraulic fluid
7. In order to provide proper operation of oil level indicator, one should ensure the indicator operation parameters as specified in this Data Sheet - Operation Manual.
8. A person operating the indicator must be familiarized with the content of this Data Sheet - Operation Manual.

OVERALL AND CONNECTION DIMENSIONS



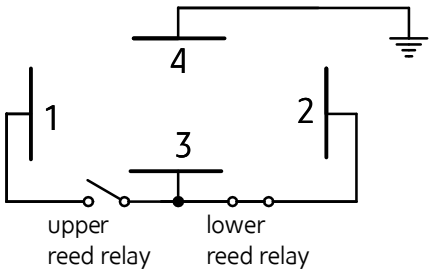


1 - Mounting bolt **M6 x 20 - 8.8** in accordance with **PN-EN ISO 4762** - 3 pcs/kit
2 - Upper oil level in tank
3 - Lower oil level in tank

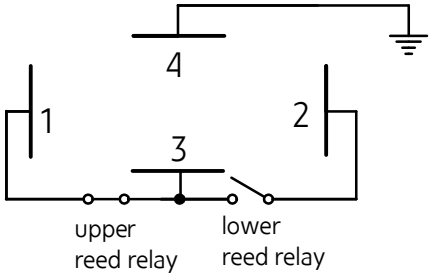
SCHEMES

Electric connection schemes for oil level Indicators with 2 oil levels

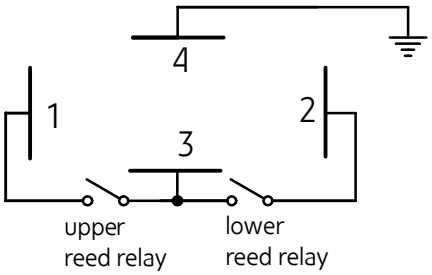
version UOSP2/...Z...R



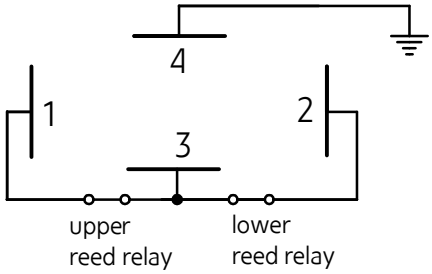
version UOSP2/...R...Z



version UOSP2/...Z...Z

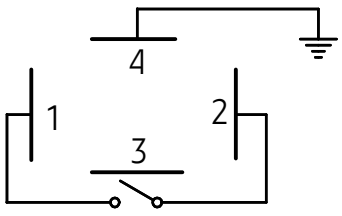


version UOSP2/...R...R

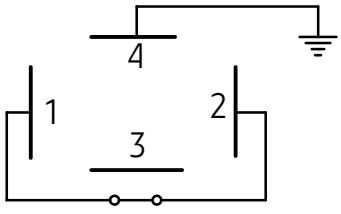


Electric connection schemes for oil level Indicators with 1 oil level

version UOSP1/...Z



version UOSP1/...R



HOW TO ORDER

UOSP		/				★

Number of oil levels indicated
monitoring 1 level (1 reed relay) = **1**
monitoring 2 levels (2 reed relays) = **2**

Indication of upper oil level
distance between upper oil level and the flange
according to an order = dimension **a** [**mm**] according **to page 3**

Type of reed relay indicating upper oil level
reed relay normally-open (see schemes **on page 4**) = **Z**
reed relay normally-closed (see schemes **on page 4**) = **R**

Indication of lower oil level (only for version UOSP2/...
distance between lower oil level and the flange
according to an order = dimension **b** [**mm**] according **to page 3**

Type of reed relay indicating lower oil level (only for version UOSP2/...
reed relay normally-open (see schemes **on page 4**) = **Z**
reed relay normally-closed (see schemes **on page 4**) = **R**

Further requirements in clear text (to be agreed with the manufacturer)

NOTES:

Oil level indicator should be ordered according to the above coding.
The symbols in bold are preferred versions in short delivery time.
Coding example for oil level indicator with 2 oil levels: upper level at **a** = 300 mm indicated by normally-open reed relay, lower level at **b** = 500 mm indicated by normally-closed reed relay: UOSP2/300Z 500R

MOUNTING BOLTS

Mounting bolts **M6 x 20 - 8.8** in accordance with **PN-EN ISO 4762** - 3 pcs/kit
should be ordered separately.

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