

BEZBEDNOŠNA TEHNOLOGIJA  
ZA ZAŠTITU ŽIVOTNE SREDINE

SAFETY AND  
ENVIRONMENTAL  
TECHNOLOGY

E.L.B.  
FÜLLSTANDSGERÄTE

11-00-01E

## Instrumenti za merenje nivoa tecnosti Serija TK-30... Opšti podaci

T30... trajne magnetne uronjene sonde se koriste za kvazi-akviziciju nivoa ispunjavanja u rezervoarima sa tecnim supstancama. Materijali koji se koriste uključuju PVC, PE, PTFE, mesing ili nerđajući celik (1,4571), u zavisnosti od zahteva. Ovo omogućuje da se magnetne zaronjene sonde koriste takođe sa vrlo agresivnim supstancama.

Prsten magnetna, koji se spušta niz provodnu cev, je instaliran unutar pločka. Svojim magnetnim poljem on uključuje kontakt jezicka ugradjenog u provodnu cev. Ovi kontakti jezicka neprekidno otkucavaju parcijalan otpor na lanac otpora, koji je sastavljen od pojedinačnih otpora - parcijalni otpor je u tom slučaju proporcionalan nivou ispunjavanja. Zbog tehnike koja se koristi, ovaj proces otkucavanja je kvazi-trajan. Veze su hermetični zatvorene zaštitne gasne veze, i ugradjene su u štampano kolo ploče u unutrašnjosti provodne cevi. Korišćenjem moguće mrežnog sistema 7,5/10/15/20 mm ili 1%/2%/5% rezolucija može se podesiti prema zahtevima.

### Ex-verzija

Kada su povezani sa sertifikovanim suštinski sigurnim kolima kategorije "ia" uređaji za trajnu pracenje nivoa tipa iz serije TK-30... mogu se koristiti u potencijalno eksplozivnim oblastima kategorije 1 i 2.

- Nezavisan od pritiska, temperature, pene, provodljivosti, dielektrike
- Izlazni signal je proporcionalan nivou ispunjavanja i nezavisan je od oblika rezervoara
- Rezolucija mera može se odrediti izborom mrežnog sistema. Na ovaj način posebne mere mogu se optimalno prilagoditi uslovima.
- Slobodan izbor limitnih vrednosti nad kompletnim mernim obimom sonde
- Moguce je naknadno dodavanje limitnih vrednosti

## Detalji o sistemu

U kombinaciji sa našim uređajima-predajnicima za evaluaciju / odredjivanje granicne vrednosti iz serije TK-31... /AD-31... R/I transduktorom TK-100 instaliranim u kutiji spoja (vidite sekciju 14) i uređaja za indikaciju iz serije TK-32... (vidite sekciju 14) trajne magnetne uronjene sonde ovog tipa i serije su moguće za korišćenje u skoro svim slučajevima.

**Specijalni modeli dostupni na zahtev**

## Liquid Level Measuring Instruments Series TK-30... General Data

T30... continuous magnetic immersible probes are used for quasi-acquisition of the filling level in containers with liquid media. Materials used include PVC, PE, PPH, PTFE, brass or stainless steel (1.4571), depending on requirements. This enables the magnetic immersible probes to be used also with highly aggressive media.

A ring magnet, which slides on the guide pipe, is installed in the float. With its magnetic field this switches the reed contact built into the guide pipe. These reed contacts continuously tap a partial resistance on a resistance chain, which is made up of individual resistances – the partial resistance being proportional to the filling level. Owing to the technique used this tapping process is quasi-continuous. The contacts are hermetically sealed protective gas contacts which are mounted on a printed circuit board in the interior of the guide pipe. Using a possible grid system 7.5/10/15/20 mm or 1%/2%/5% the resolution can be adapted to requirements.

### Ex-version

When connected to certified intrinsically safe circuits of category "ia" continuous level sensing devices of the type series TK-30... can be used in potentially explosive areas of category 1 and 2.

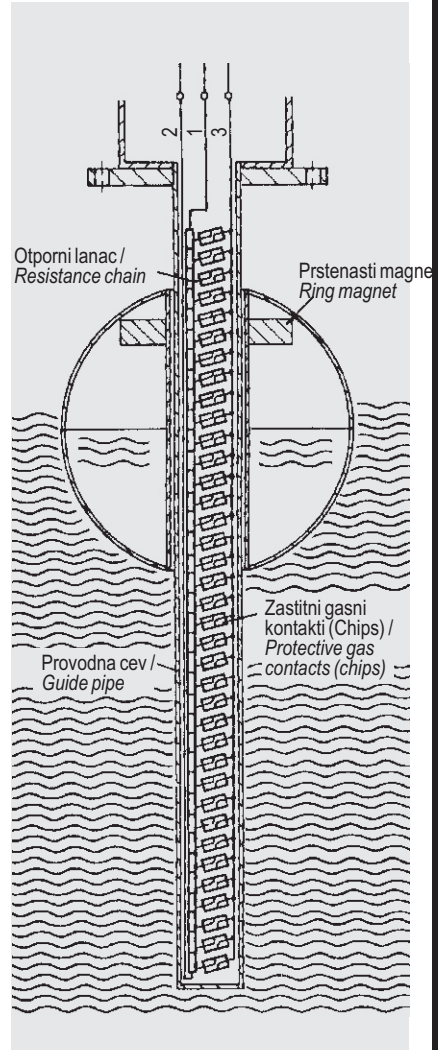
- Independent of pressure, temperature, foam, conductivity, dielectrics
- The output signal is proportional to the filling level and independent of the tank form
- Resolution of the measurement can be determined by selection of the grid system. In this way the respective measurement can be optimally adapted to the conditions.
- Free selection of limit values over the complete measuring range of the probes.
- Subsequent supplementation of limit values is possible

## System Details

In combination with our evaluation devices / limit value transmitters of the type series TK-31.../AD-31... or R/I transducer TK-100 installed in a connection box (see section 14) and indicating devices of the type series TK-32... (see section 14) - the continuous magnetic immersible probes type series is usable in almost all applications.

**Special models available on request**

## Funkcionisanje Function



KONTINUIERLICHE TAUCHSONDEN • CONTINUOUS IMMERSIBLE PROBES

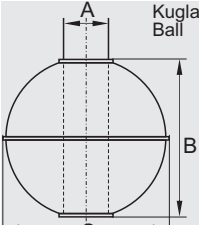
**Tehnicki podaci**

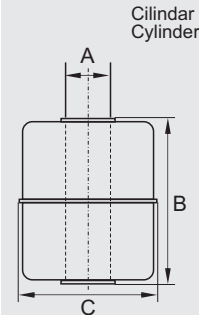
Spoj	Poliester-kutija Aluminijum-kutija
Navoj veze	Utkac prema DIN 43650 G 3/8", G 1/2", G 1", G 1 1/2", G 2", G 3" Druge velicine na zahtev
Kabl	LiYY max. 80°C Silikon max. 130°C
Dužina cevi	Max. 6000mm
Operativna temperatura	Max. +60...+130°C U zavisnosti od modela više/nije temperature na zahtev Min. -20...-10°C U zavisnosti od modela
Operativni pritisak	Max. 20 bar u zavisnosti od modela
Gustina supstance	Vidite podatke o plovku
Viskoznost	<100cp
Histereza ukljućivanja	Pribl. pola rezolucije
Rezolucija	7,5mm, 10mm, 15mm, 20mm ili 1%, 2%, 5% u zavisnosti od modela
Ukupni otpor	Pribl. 5 kΩ
Merna voltaža	Max. 24 V
Merna struja	Max. 0,1 A

**Technical Data**

Connector	Polyester box Aluminum box plug accord. to DIN 43650
Connecting thread	G 3/8", G 1/2", G 1" G 1 1/2", G 2", G 3" other sizes on request
Cable	LiYY max. 80 °C Silicone max. 130 °C
Pipe length	max. 6000 mm
Operating temperature	max. +60...+130 °C depending on model, higher temperatures on request min. -20...-10 °C depending on model
Operating pressure	max. 20 bar depending on model
Media density	see floater data
Viscosity	< 100 cp
Switch hysteresis	approx. half resolution
Resolution	7,5 mm, 10 mm, 15 mm, 20 mm or 1 %, 2 %, 5 % dep. on model
Total resistance	approx. 5 kΩ
Measuring voltage	max. 24 V
Measuring current	max. 0,1 A

**Tip plovka / Float Type**

Kugla Ball	Tip Type	Material Material	A	B	C	ET	Min. Temp	Max. Temp	Max.prit. Max. Press.	Min.gust. Min.Density
			A	B	C					
	03	1.4571	15	52	52	33	-10 °C	+130 °C	20 bar	0,87 g/cm <sup>3</sup>
	04	1.4571	15	62	62	35	-10 °C	+130 °C	20 bar	0,72 g/cm <sup>3</sup>
	05	1.4571	18	96	80	60	-20 °C	+130 °C	20 bar	0,89 g/cm <sup>3</sup>
	06	1.4571	18	110	94	65	-20 °C	+130 °C	20 bar	0,72 g/cm <sup>3</sup>
	07	1.4571	23	102	105	50	-20 °C	+130 °C	20 bar	0,58 g/cm <sup>3</sup>

Cilindar Cylinder	Tip Type	Material Material	A	B	C	ET	Min. Temp	Max. Temp	Max.prit. Max. Press.	Min.gust. Min.Density
			A	B	C					
	09	1.4571	15	52	44	38	-10 °C	+130 °C	15 bar	0,87 g/cm <sup>3</sup>
	10	PE	19	63	52	40	-20 °C	+80 °C	6 bar	0,72 g/cm <sup>3</sup>
	11	PE	25	80	78	40	-20 °C	+80 °C	6 bar	0,60 g/cm <sup>3</sup>
	14	PPH	19	65	52	40	-20 °C	+90 °C	6 bar	0,72 g/cm <sup>3</sup>
	15	PPH	25	80	78	40	-20 °C	+90 °C	6 bar	0,59 g/cm <sup>3</sup>
	16	PTFE	25	80	80	51	-20 °C	+120 °C	3 bar	0,79 g/cm <sup>3</sup>
	17	PVC	25	80	78	42	-20 °C	+60 °C	6 bar	0,63 g/cm <sup>3</sup>

Dimenzije u mm / Dimensioning in mm

ET = dubina uranjanja (pri gustini od 1 g/cm<sup>3</sup>) /  
depth of immersion (at density 1 g/cm<sup>3</sup>)

Moguće izmene bez prethodne najave.

Subject to change without prior notice,  
errors excepted.