



## Electronic Temperature Sensor for Liquids



measuring  
•  
monitoring  
•  
analysing

TDA



TDA-...P3M  
TDA-...N3M

TDA-...L3M

- Measuring range: -50 ... +125 °C
- Pressure: max. 80 bar
- Accuracy:  $\pm 0.5$  °C (for -10 ... +85 °C)
- Housing material: stainless steel
- Connection:  
G 1/2, G 3/4, 1/2" NPT, 3/4" NPT or M25 x 1.5



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## Electronic Temperature Sensor for Liquids Model TDA



### Description

The KOBOLD Model TDA temperature sensor is used for economical measuring and monitoring of temperature. It can be used for any application in which temperatures must be monitored with great accuracy.

The sensor element is a semiconductor that outputs a digital signal to the electronic analyser in 0.5 °C steps. The measured values are shown on a 3-digit LED display. The analogue output can be adjusted as required within the measuring range.

### Applications

- Compressors
- Mechanical engineering
- Plant engineering
- Pumps

### Accessories: Electrical connection

Description	Model
M12x1 box with terminal	ZUB-KAB-12D500
M12x1 box with 2 m cable	ZUB-KAB-12K002
M12x1 box with Quickon plug	ZUB-KAB-12Q000

### Technical Data

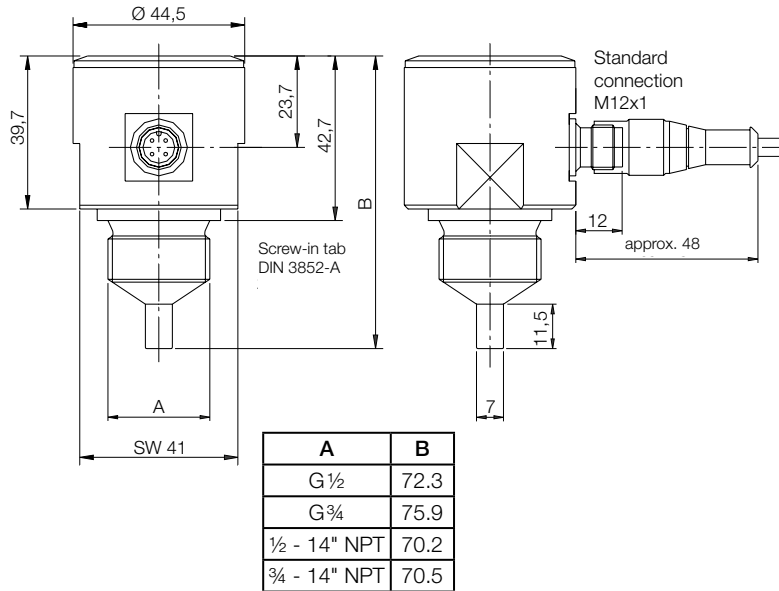
Housing cover:	stainless steel 1.4305
Housing:	st. steel 1.4404 (compact version) st. steel 1.4305 (separate version)
Sensor :	stainless steel 1.4401/1.4404
Connection compact version:	G 1/2 or G 3/4 male thread option: 1/2" NPT or 3/4" NPT
Connection separately mounted version:	Sensor: 100 mm, 6 mm Cable: 2.5 m PTFE with M12x1 plug Housing: M25 x 1.5 with counter nut
Principle of measurement:	semiconductor
Display:	3-digit LED, digit-height: 7 mm
Resolution:	0.5 (up to 99.9 °C) 1 °C (from 100 °C)
Max. temperature of measured medium:	-20 ... +120 °C (compact version) -50 ... +125 °C (separate version)
Max. ambient temp.:	-20 ... +50 °C
Max. pressure:	80 bar
Power supply:	24 V <sub>DC</sub> ±20 %
Power consumption:	40 mA (TDA-...L3M); approx. 70 mA (TDA-...P3M, TDA-...N3M) (without switching output)
Electrical connection:	plug M12 x 1
Analogue output:	0 (4) - 20 mA adjustable, max. load 500 Ω
Switching output:	semiconductor; PNP or NPN (factory set), max. 300 mA, short-circuit proof
Contact function:	N/O / N/C, window, adjustable
Switching point adjustment:	adjustable via 2 keys
Switching display:	adjustable
Switch. state display:	1 (2) LED
Hysteresis:	adjustable via 2 keys
ON/OFF-switching delay:	0.5 ... 99.5 s (separately adjustable)
Measuring cycle:	0.5 s
Response time:	t <sub>50/90</sub> : approx. 13/30 s
Accuracy (sensor):	±0.5 °C (between -10 ... +85 °C) ±2 °C (between +85 ... 125 °C and -50 ... -10 °C)
Protection:	IP 65

### Order Details (Example: TDA-15H2 R4 0 L 3M)

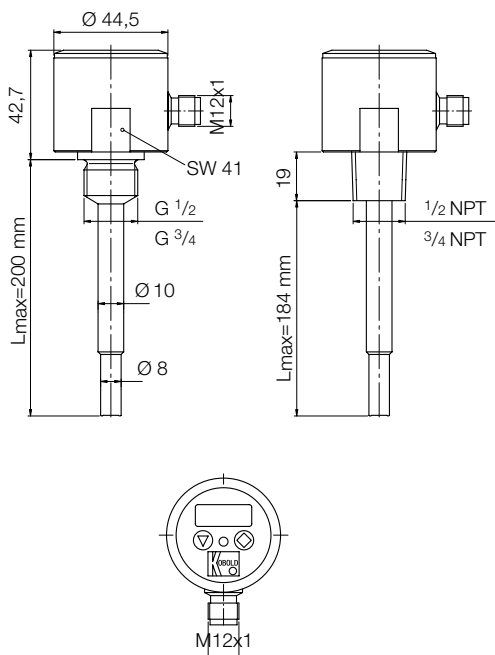
Display	Measuring range	Connection	Model	Sensor length	Output	Electrical connection
3-position LED display	-20 ... +120 °C	G 1/2	TDA-15H2 R4	0 = short 1 = 100 mm 2 = 200 mm*	L = 0 (4) -20 mA P = 0 (4) -20 mA, PNP-switch output N = 0 (4) -20 mA, NPN-switch output	3M = M12x1 plug connector
		G 3/4	TDA-15H2 R5			
		1/2 NPT	TDA-15H2 N4			
		3/4 NPT	TDA-15H2 N5			
	-50 ... +125 °C	separately mounted version, smooth sensor	TDA-15H3 D6	1 = 100 mm		

\* Maximum length for NPT screw thread is 184 mm instead of 200 mm.

**Dimensions:**  
Compact version, short



**Compact version, long**



**Separately mounted version**

