

TLD1..TLD4

Duct Temperature Sensors

Application

The TLD1..TLD4 sensors are used as controlled variable sensors for duct installation in all outside-temperature controlled or fixed-value controlled ventilation and air-conditioning systems. They can also be used for closed-loop room temperature control in industrial spaces and workshops.

The sensors are used in conjunction with all loop controllers and control systems that have a sensor connection for the KP10 measuring element.



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Important Information on Product Safety

Safety instructions

This document contains information on installing and commissioning the product "TLD1..TLD4". Each person who carries out work on this product must have read and understood this document. If you have any questions that are not resolved by this document, you can obtain further information from the supplier or manufacturer.

If the product is not used in accordance with this document, the protection provided could be impaired.

The applicable regulations must be observed when installing and using the devices. Within the EU, these include regulations regarding occupational safety and accident prevention as well as those from the VDE (German Association for Electrical, Electronic & Information Technologies).

If the device is used outside of the EU, it is the responsibility of the plant engineer or operator to comply with local regulations.

Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. Qualified technicians are persons who are familiar with the described product and who can assess given tasks and recognize possible dangers based on their technical training, knowledge and experience, as well as their knowledge of the applicable regulations.

Symbol meanings



WARNING

Indicates a hazard of medium risk which can result in death or serious bodily injury if not avoided.



CAUTION

Indicates a hazard of low risk which can result in minor or medium bodily injury if not avoided.



CAUTION

Indicates a hazard which can result in material damage or malfunctions if not avoided.



NOTE

Indicates additional information that can simplify working with the product.

Notes on disposal

In accordance with the applicable laws and directives of the European Union countries, the product should not be disposed of with household waste. This ensures environmental protection and sustainable recycling or raw materials.

Commercial users should contact their supplier and observe the conditions of the purchase agreement. This device may not be disposed of together with other commercial waste.

The local and currently applicable laws must be observed.

Product Description**TLD1..TLD4****Item**

TLD1	Duct temperature sensor with KP10 measuring system Support tube for measuring element is 100 mm; duct installation depth is 80 mm
TLD2	Duct temperature sensor with KP10 measuring system Support tube for measuring element is 200 mm; duct installation depth is 180 mm
TLD3	Duct temperature sensor with KP10 measuring system Support tube for measuring element is 300 mm; duct installation depth is 280 mm
TLD4	Duct temperature sensor with KP10 measuring system Support tube for measuring element is 400 mm; duct installation depth is 380 mm

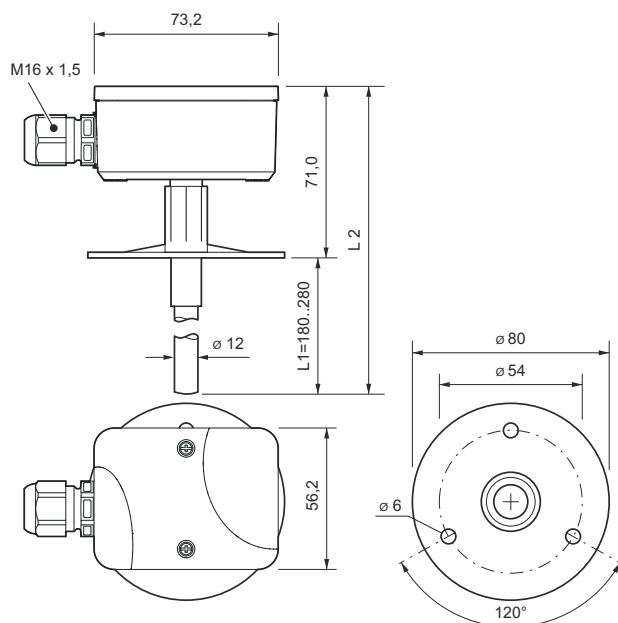
Technical Data

Measuring element	KP10; 2.731 V / 0 °C; TC = 10 mV/K
Measured quantity	Duct temperature
Measuring range	-30 °C..+100 °C
Measuring tolerance	Typically ±0.2K
Time constant	T = 35 s at 2 m/s air velocity
Ambient temperature	Sensor: -30 °C..+100 °C Housing: -30 °C..+80 °C
Ambient humidity	< 95 % r.h.; non-condensing
Connection	Screw terminals, ≤ 2.5 mm ²
Housing	Plastic, cable entry M16 x 1.5
Color	Cover: RAL7015 slate gray Base: RAL7035 pale gray
Degree of protection	IP65
Weight	TLD1: 105.9 g TLD2: 110 g TLD3: 114.1 g TLD4: 118.2 g
Dimensions (W x H x D)	Housing (without support tube and mount-on components): 56.2 mm x 73.2 mm x 71.0 mm

Accessories (not included in delivery)

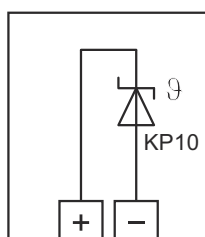
B3	Socket flange for variable installation depth
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TLD1..TLD4**Product Description****Dimensions**

L1 = support tube length

L2 = available space for installation above the installation location

Connection

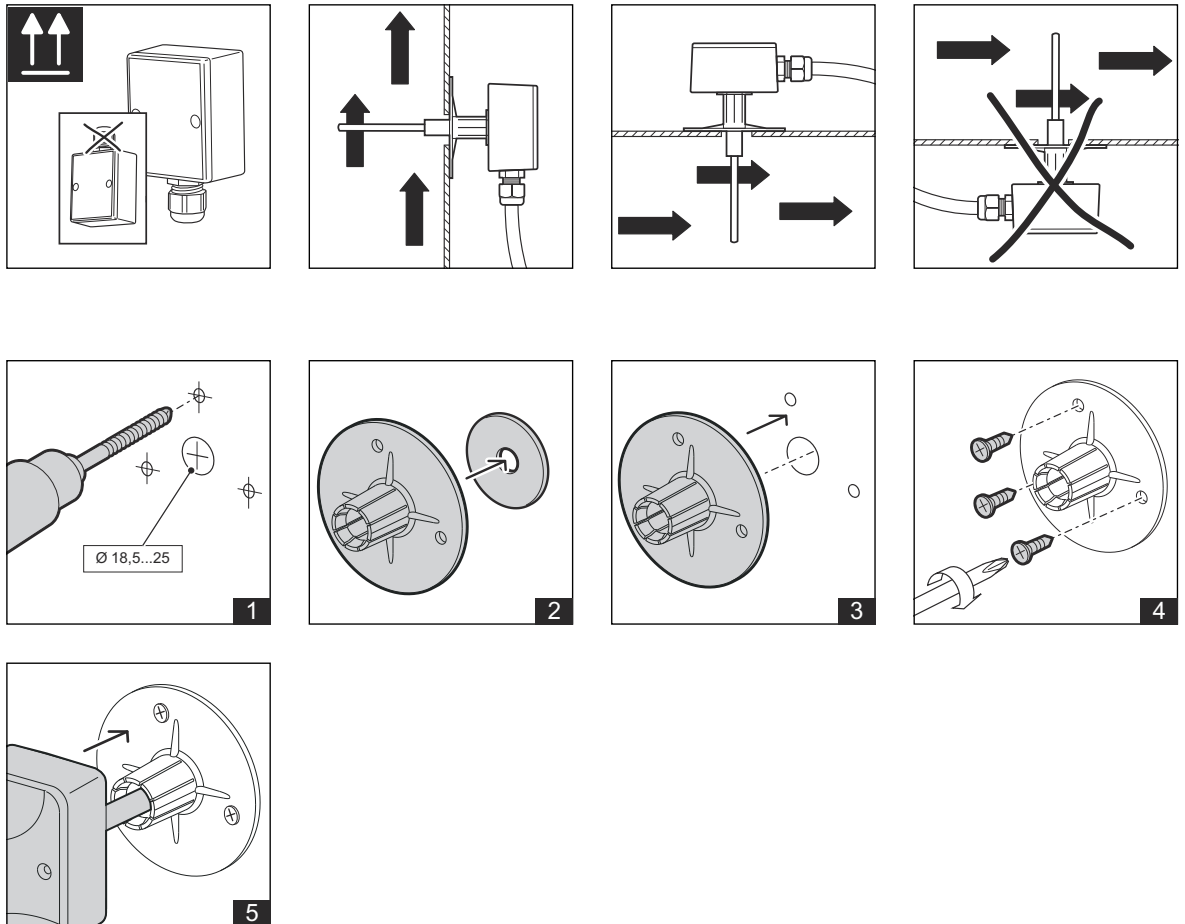
Mounting



CAUTION

Mounting and removal may only be performed by qualified technicians.

Comply with the specified mounting position.



- ▶ Screw the socket flange (with gasket) tightly onto the ventilation duct.
- ▶ Insert the duct humidity/temperature sensor into the socket flange until it locks into place.
- ▶ Be sure to leave enough space to connect the device.

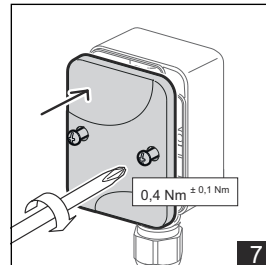
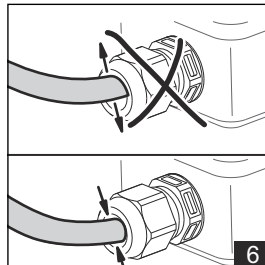
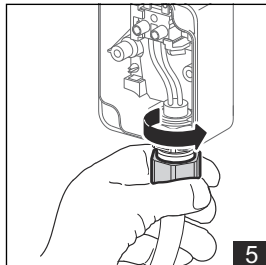
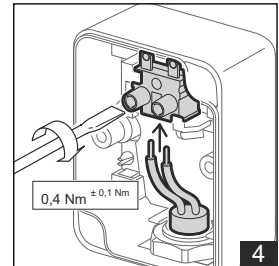
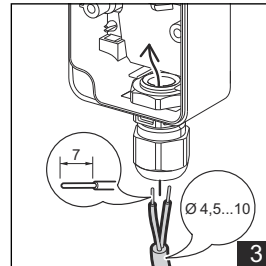
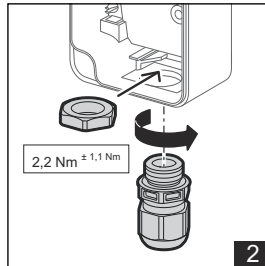
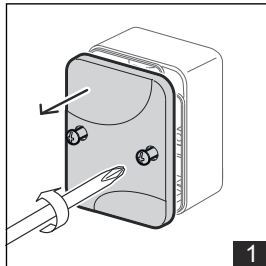
The sensor is uninstalled in reverse order.

Installation



CAUTION

Electrical installation for connecting the device may only be carried out by qualified technicians. Ensure that this process complies with guidelines from the VDE (Association for Electrical, Electronic & Information Technologies) and local wiring regulations.



Product Description

TLD1..TLD4

Temperature/voltage table for the KP10 measuring element

Temperature range from -30 °C..+100 °C for TLD1..TLD4

T (°C)	V (V)	T (°C)	V (V)	T (°C)	V (V)	T (°C)	V (V)
-30	2.43	10	2.83	50	3.23	90	3.63
-29	2.44	11	2.84	51	3.24	91	3.64
-28	2.45	12	2.85	52	3.25	92	3.65
-27	2.46	13	2.86	53	3.26	93	3.66
-26	2.47	14	2.87	54	3.27	94	3.67
-25	2.48	15	2.88	55	3.28	95	3.68
-24	2.49	16	2.89	56	3.29	96	3.69
-23	2.50	17	2.90	57	3.30	97	3.70
-22	2.51	18	2.91	58	3.31	98	3.71
-21	2.52	19	2.92	59	3.32	99	3.72
-20	2.53	20	2.93	60	3.33	100	3.73
-19	2.54	21	2.94	61	3.34		
-18	2.55	22	2.95	62	3.35		
-17	2.56	23	2.96	63	3.36		
-16	2.57	24	2.97	64	3.37		
-15	2.58	25	2.98	65	3.38		
-14	2.59	26	2.99	66	3.39		
-13	2.60	27	3.00	67	3.40		
-12	2.61	28	3.01	68	3.41		
-11	2.62	29	3.02	69	3.42		
-10	2.63	30	3.03	70	3.43		
-9	2.64	31	3.04	71	3.44		
-8	2.65	32	3.05	72	3.45		
-7	2.66	33	3.06	73	3.46		
-6	2.67	34	3.07	74	3.47		
-5	2.68	35	3.08	75	3.48		
-4	2.69	36	3.09	76	3.49		
-3	2.70	37	3.10	77	3.50		
-2	2.71	38	3.11	78	3.51		
-1	2.72	39	3.12	79	3.52		
0	2.73	40	3.13	80	3.53		
1	2.74	41	3.14	81	3.54		
2	2.75	42	3.15	82	3.55		
3	2.76	43	3.16	83	3.56		
4	2.77	44	3.17	84	3.57		
5	2.78	45	3.18	85	3.58		
6	2.79	46	3.19	86	3.59		
7	2.80	47	3.20	87	3.60		
8	2.81	48	3.21	88	3.61		
9	2.82	49	3.22	89	3.62		
10	2.83	50	3.23	90	3.63		

TLD1..TLD4	Product Description
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