



TI202en

# Technical Information

**thermokon**<sup>®</sup>  
asia pacific

TDI1- Series (T)

Duct Temperature Sensor  
with Active Output

The TDI1- Series (T) is designed to measure temperature in air ducts or water pipes

The sensor operates with low voltage power supply

Multiple measuring ranges on board available

The temperature sensor output is active



## USE

Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System

Temperature measuring in air ducts and water pipes (with accessory)

Used in all common HVAC applications

Used in Commercial and Industrial Buildings

## Features

Sensor with active output

Sensor Output 0...10V and 4...20mA

Multiple (4) measuring ranges on board available

Different immersion lengths for all common air duct and water pipe sizes

Temperature Field calibration potentiometer

Professional and practical product design

Easy to use, install and maintain

## Product Range

Temperature Sensor						Thermowell									
Type Code	Sensor Accuracy	Power Supply	Output	Measuring Ranges	Immersion Pocket Dimensions	Type Code	Immersion Pocket Dimensions	Material	Max. Velocity	Pressure Rating	Max. Temp.				
TDI1.AE	± 0.5K over full measuring range	AC/DC 24V (±10%)	0...10V* or 4...20mA	-50...50°C	ø6x50mm	→	TPA0.Ga	ø9mmx100mm	V4A	1m/s	PN40	260°C			
TDI1.GE					ø6x100mm	→	TPA0.Ma	ø9mmx100mm	V4A	1m/s	PN40	260°C			
TDI1.BE					ø6x150mm	→	TPA0.Ha	ø9mmx150mm	V4A	7m/s	PN40	260°C			
TDI1.CE							0...50°C	ø6x200mm	→	TPA0.Ia	ø9mmx200mm	V4A	6m/s	PN40	260°C
TDI1.FE							-20...80°C*	ø6x250mm	→	TPA0.Ka	ø9mmx250mm	V4A	3m/s	PN40	260°C
TDI1.DE								ø6x300mm	→	TPA0.La	ø9mmx300mm	V4A	2m/s	PN40	260°C
TDI1.EE								ø6x450mm	→	TPA0.Na	ø9mmx450mm	V4A	1m/s	PN40	260°C

\*default values

All Information and technical data are subject to alteration  
TDI1- Series (T) V23.1

<b>Sensor Specification</b>	Sensor Specification	Measured Sensor Characteristics Sensor Output (s) Output Load 0...10V output 4...20mA output Accuracy Measuring Range (s) Optional Measuring Range (s)	Temperature Active 0...10V and 4...20mA  Min. load 5kΩ @ AC/DC 24V Max. load 500Ω @ DC 24V ±1% over measuring range -20°C...+80°C -50°C...+50°C ; 0°C...+50°C ; 0°C...+100°C ;
<b>Technical Information</b>	Electrical Information	Power Supply Frequency Terminal Clarr Power Consumption Type with 0...10V output Type with 4...20mA output	AC/DC 24V (±10%) 50 / 60 Hz at AC 24V Screw terminal, max. 1.5mm <sup>2</sup>  ≤ 0.4W / AC 24V; ≤ 0.85VA / DC 24V ≤ 20mA / DC 24V
<b>Technical Information</b>	Mechanical Information	Immersion Rod Diameter Immersion Rod Length Cable Entry Sensing Element Pos	Ø6mm See Product Range, Page 1 M16, Ø6...Ø8mm cables external, top of the immersion rod
<b>Technical Information</b>	Color and Materials	Housing Cover  Lock Screws  Lock Nuts Cable Gland Gland Rubber Seal Protection Caps Immersion Rod	White ABS, RAL9001 (Cream White)  US:AISI 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301  Brass White ABS, RAL2002 (Vermilion) White TBS, RAL9010 (Pure White) White ABS, RAL2002 (Vermilion) US:AISI 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301
<b>Technical Information</b>	Environmental Conditions	Cable Operation Temperature Operation Humidity Transport Temperature Transport Humidity Storage Temperature Storage Humidity	TPEE (black) -25°C...+70°C 100% r.h., with condensation -35°C...+70°C < 90% r.h. -10°C...+70°C < 85% r.h., no condensation
<b>Technical Information</b>	Norms and Directives	IP- Rating Safety Class Product Standard 1 Product Standard 2 CE Conformities to CE Electromagnetic Compatibility Emitted Interference CE Electromagnetic Compatibility Interference resistance RoHS Compatibility Operation Climatic Condition Operation Mechanical Condition Transport to Climatic Condition Transport Mechanical Condition Storage Climatic Condition Storage Mechanical Condition	IP65 to IEC60529 III to EN 60 730 Automatic Electric. Controls for household and similar use 2009/EN 60 730-1 2004/108/EG Electromagnetic Compatibility EMV 2000/EN60730-1 Emitted Interference  2000/EN60730-1 Interference Resistance  RoHS 3, Directive 2015/863 IEC 60 721-3-3 IEC 60 721-3-2 to class2M2 IEC 60 721-3-2 IEC 60 721-3-2 to class2M2 IEC 60 721-3-1 IEC 60 721-3-1 to class2M2
<b>Miscellaneous</b>	Accessories	Mounting Kit, Included in delivery Accessory not included in delivery	TDK0.G Thermowell
<b>Miscellaneous</b>	Shipping & Handling	Minimum Order Package Material Order Code	1 box with 2 pieces, multiple of 2 pieces Rigid Cardboards Packaging See Product Range, Page 1, e.g. TD11.AE

**Installation Notes**

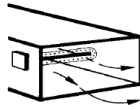
Advices



Observe the following general regulation for engineering and implementation:

- All relevant national and heavy power regulations
- Other country specific regulations
- Country-specific regulations
- Local electrical supply authority regulation
- Schematics, cable listings, dispositions, specification and arrangements from the customer or engineering office in charge
- Third party specifications, e.g. general contractors or constructors.

**Mounting Advices**



**Disposal Notes**



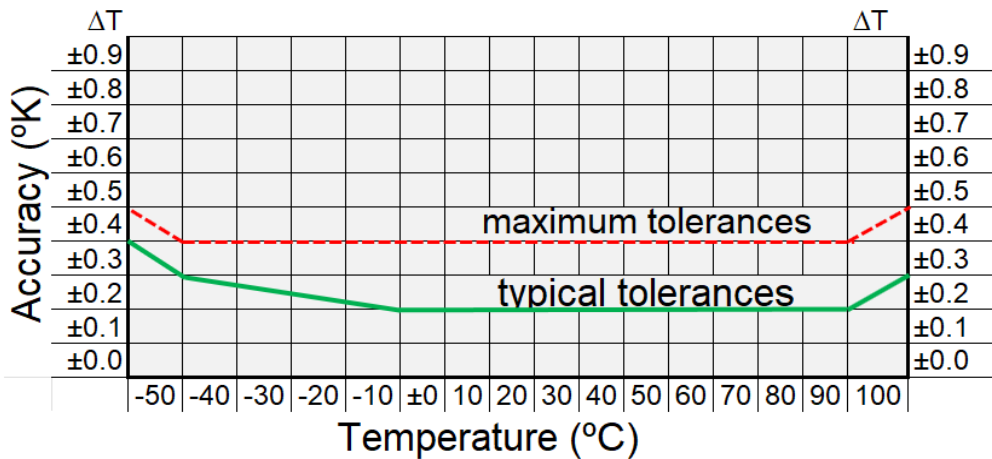
The device is considered an electronic device for disposal in terms of the EUROPEAN DIRECTIVE 2012/19/EU.

The device may not be disposed as domestic garbage.

The device must be disposed through channels provided for this purpose.

It is mandatory to comply with local currently applying laws and regulations.

Accuracy Curves



Connections & Settings

Terminals TDI.xE					
T1	T2	T3	T4	T5	T6
UB+	24V AC/DC	GND	Temperature	not in use	not in use
				S+	T passive
				S-	T passive

R1- Off-set potentiometer (TE)



R2- Off-set potentiometer

not in use

DIP Settings TDI1.xE									
Temperature Setting (DIP1 & DIP 2)						DIP3 / DIP4		DIP 5	
DIP1	DIP2	DIP1	DIP2	DIP1	DIP2	DIP3	DIP4	DIP5	DIP5
Black	White	Black	White	Black	White	Black	Black	White	Black
-50...50°C		0...50°C		-20...80°C		0...100°C		not used	4...20mA

Dimensional Drawing

