TDE2- Series (T_fp) Duct Temperature Frost Prevention Switch



The TDE2-Series (T_fp) is designed to prevent frost damage by measuring the temperature in air ducts, air out/inlets or heat/cool registers. The control output is 2-point (ON/OFF). Several lengths are available to cover all common applications.



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

Frost protection in HVAC systems

Used in all common HVAC applications

Used in Commercial and Industrial Buildings

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Sensor with passive output

Different immersion lengths for all common air duct sizes

With automatic or manual reset function

Internal Frost Prevention setpoint point selector

Professional and practical product design, withstands rough environmental conditions

Easy to use, install and maintain

Product Range

	Capillary Tube Length			Rese	t
Model	1800mm	3000mm	6000mm	Automatically	Manual
TDE2.CA	•			•	
TDE2.DA		•		•	
TDE2.EA			•	•	
TDE2.HA	•				•
TDE2.FA		•			•
TDE2.GA			•		•

	Function Diagram			
Sensor Specification		Normal Operation 1 - SD set p 1 length 4 auto (con	frost protection thermostat trips when the temperature drops below the selected point (contact 1-4 closes); the temperature is measured over a total capillary th. Simultaneously contact 1-2 breaks and can be used as a signal contact. An immatic reset is made when the temperature exceeds the adjusted set point again tact 1-2 closes). For model with manual reset is required to press the reset on. The device is self-secured, meaning that in case of a capillary diaphragm	
		Cold Warm diaple	age, it switches automatically to the frost prevention position. The gas filled hragm system and the capillary tube are forming a unit of measurement which is hanically linked to the micro-switch.	
ens	Sensor Specification	Measured	Temperature	
S		Sensor Characteristics	Passive	
		Sensor Output (s) Accuracy	See Product Range, Page 1 ± 0.5K over full measuring range	
		Repeatability	±0.5°K	
		Measuring Range (s)	-50°C+50°C	
	Electrical Information	Terminal Clamp	Screw terminal, max. 2.5mm ²	
		Relay Rating Differential Gap	AC 250, max 10A 1 ±0.5K	
		Contact Material	Gold Plated	
	Mechanical Information	Immersion Rod Diameter	Ø2mm	
		Immersion Rod Length	See Product Range, Page 1	
		Cable Entry Sensing Element Position	M16, Ø6Ø8mm cables external, along the immersion rod	
	User Interface	Set Point Adjustments	-15°C15°C	
		Release Button	Push down button	
	Color and Materials	Housing Cover Housing Bottom	White PA6, RAL9001 (Cream White) White PA6, RAL9001 (Cream White)	
		Lock Screws	Screws, Zinc ZLO410	
_		Cable Gland	White PA6, RAL9001 (Cream White)	
Technical Information		Gland Rubber Seal	White ENSOFT50, RAL9016 (Traffic White)	
ша	Environmental Conditions	Immersion Rod Operation Temperature	Red PC, RAL3001 (Signal Red) -25°C+70°C	
Jfor	Environmental Conditions	Operation Humidity	100% r.h., with condensation	
<u>=</u>		Transport Temperature	-35°C+70°C	
niç		Transport Humidity	< 90% r.h.	
ech		Storage Temperature Storage Humidity	-10°C+70°C < 85% r.h., no condensation	
ř	Norms and Directives	IP- Rating	IP65 to IEC60529	
		Safety Class	III to EN 60 730	
		Product Standard 1	Automatic Electric. Controls for household and similar use	
		Product Standard 2 CE Conformities to	2009/EN 60 730-1 2004/108/EG Electromagnetic Compatibility EMV 2000/EN60730-1 Emitted Interference 2000/EN60730-1 Interference Resistance	
		CE Electromagnetic Compatibility Emitted Interference		
		CE Electromagnetic Compatibility Interference resistance		
		RoHS Compatibility Operation Climatic Condition	RoHS 2011/65/EC IEC 60 721-3-3	
		Operation Mechanical Condition	IEC 60 721-3-3 to class2M2	
		Transport to Climatic Condition	IEC 60 721-3-2	
		Transport Mechanical Condition	IEC 60 721-3-2 to class2M2	
		Storage Climatic Condition Storage Mechanical Condition	IEC 60 721-3-1 IEC 60 721-3-1 to class2M2	
	Terminal Connection	1	ILC 00 721 3 1 to classifie	
Connection		T 1 - 2 Normal Operation		
		1 - 3 Frost Danger		
	Accessories	Mounting Kit, Included in delivery	Duct Mounting Set, Mounting Clamps for Immersion Rod	
	Shipping & Handling	Minimum Order	1 box with 1 piece	
		Product Dimension (L x W x H) / ~Weight	130mm x 110mm x 100mm / 460gr. 1800mm Rod	
			130mm x 110mm x 100mm / 480gr. 3000mm Rod	
Miscellanies		Transport and Storage dimension (L. v. M. v. 11). / -1Mainte	130mm x 110mm x 100mm / 525gr. 6000mm Rod	
		Transport and Storage dimension (L x W x H) / \sim Weight	150mm x 140mm x 100mm / 530gr. 1800mm Rod 150mm x 140mm x 100mm / 550gr. 3000mm Rod	
			150mm x 140mm x 100mm / 595gr. 6000mm Rod	
	Package Material		Rigid Cardboards Packaging	
	Order Notes	Order Code	See Product Range, Page 1, e.g. TDE2.CA	
Thermokon As	sia Pacific	All Information and technical data are subject to alternation TDE2- Series (T_fp) V1.0	Page 2/3	
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	Security Advice The installation and assembly of electrical equipment may only be performed by a skilled electrician.				
	Caution	Isolate installation before removal of cover (disconnect fuse) and protect against reconnection.			
	The products must not be used in any relation with equipment that supports, directly or indirectly, human health, life or with applications that can				
		result in danger for people, animals or real value.			
	Mounting Advices				
	^	It is recommended to mount the freet protection thermostation a checkel removable tray directly downstream of the heating call			
	Caution	It is recommended to mount the frost protection thermostat on a special removable tray directly downstream of the heating coil. The connecting cable must be long enough to enable the tray to be inserted and removed smoothly.			
		For heating coils with a large cross section, several frost protection thermostats can be fitted and connected in series. In such cases, the			
		temperature set point has to be set individually for each frost protection thermostat.			
		The capillary tube must be mounted on the downstream side of the heating coil (and on the upstream side in case of cooling coils) and should			
		be looped diagonally across the heat exchanger pipes at a distance of approx. 5cm and should cover the entire area evenly.			
ses					
Advices	Installation Notes				
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	Z! Caution	The product must be installed at a suitable place and within the range of validity of the local electrical installation laws and regulations.			
		The ambient temperature of frost protection thermostat housing (with the test loop) must be at least 2°C above the pre-adjusted set point. If this			
		cannot be guaranteed (e.g. outdoors or in exposed spaces), housing and test loop must be installed inside the supply air unit.			
	Commissioning Notes				
	<u> </u>	Sensing devices with transducers should in principle be operated in the middle of the measuring range.			
	Caution	The ambient temperature of the transducer electronics should be kept constant.			
		When switching the supply voltage on/off, power surges must be avoided on site.			
		For test purposes, it is recommended to have a loop of approx. 60cm directly beneath the housing outside the entry to the duct. To prevent			
		damage to the capillary tube a minimum bending radius of 20mm must be ensured. Mounting can be facilitated by using the capillary tube clamps.			
Dimensional Drawing		9 Only for TDE2 CA/HA			
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