


560e		Product Information		<div>thermokon[®]</div> <div>asia pacific</div>																																																
TDE2- Series (T_fp)		Duct Temperature Frost Prevention Switch																																																		
<div>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.</div> <div></div>																																																				
Use	<div>Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System</div> <div>Frost protection in HVAC systems</div> <div>Used in all common HVAC applications</div> <div>Used in Commercial and Industrial Buildings</div>																																																			
Features	<div>Sensor with passive output</div> <div>Different immersion lengths for all common air duct sizes</div> <div>With automatic or manual reset function</div> <div>Internal Frost Prevention setpoint point selector</div> <div>Professional and practical product design, withstands rough environmental conditions</div> <div>Easy to use, install and maintain</div>																																																			
Product Range	<table><tr><th rowspan="2">Model</th><th colspan="3">Capillary Tube Length</th><th colspan="2">Reset</th></tr><tr><th>1800mm</th><th>3000mm</th><th>6000mm</th><th>Automatically</th><th>Manual</th></tr><tr><td>TDE2.CA</td><td>•</td><td></td><td></td><td>•</td><td></td></tr><tr><td>TDE2.DA</td><td></td><td>•</td><td></td><td>•</td><td></td></tr><tr><td>TDE2.EA</td><td></td><td></td><td>•</td><td>•</td><td></td></tr><tr><td>TDE2.HA</td><td>•</td><td></td><td></td><td></td><td>•</td></tr><tr><td>TDE2.FA</td><td></td><td>•</td><td></td><td></td><td>•</td></tr><tr><td>TDE2.GA</td><td></td><td></td><td>•</td><td></td><td>•</td></tr></table>					Model	Capillary Tube Length			Reset		1800mm	3000mm	6000mm	Automatically	Manual	TDE2.CA	•			•		TDE2.DA		•		•		TDE2.EA			•	•		TDE2.HA	•				•	TDE2.FA		•			•	TDE2.GA			•		•
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Sensor Specification	Function Diagram	<p>The frost protection thermostat trips when the temperature drops below the selected set point (contact 1-4 closes); the temperature is measured over a total capillary length. Simultaneously contact 1-2 breaks and can be used as a signal contact. An automatic reset is made when the temperature exceeds the adjusted set point again (contact 1-2 closes). For model with manual reset is required to press the reset button. The device is self-secured, meaning that in case of a capillary diaphragm damage, it switches automatically to the frost prevention position. The gas filled diaphragm system and the capillary tube are forming a unit of measurement which is mechanically linked to the micro-switch.</p>	
	Sensor Specification	Measured Sensor Characteristics Sensor Output (s) Accuracy Repeatability Measuring Range (s)	Temperature Passive See Product Range, Page 1 $\pm 0.5K$ over full measuring range $\pm 0.5^{\circ}K$ $-50^{\circ}C...+50^{\circ}C$
Technical Information	Electrical Information	Terminal Clamp	Screw terminal, max. 2.5mm ²
	Mechanical Information	Relay Rating	AC 250, max 10A
		Differential Gap	1 $\pm 0.5K$
		Contact Material	Gold Plated
		Immersion Rod Diameter	$\varnothing 2mm$
		Immersion Rod Length	See Product Range, Page 1
		Cable Entry	M16, $\varnothing 6... \varnothing 8mm$ cables
		Sensing Element Position	external, along the immersion rod
	User Interface	Set Point Adjustments	$-15^{\circ}C...+15^{\circ}C$
		Release Button	Push down button
	Color and Materials	Housing Cover	White PA6, RAL9001 (Cream White)
		Housing Bottom	White PA6, RAL9001 (Cream White)
		Lock Screws	Screws, Zinc ZLO410
		Cable Gland	White PA6, RAL9001 (Cream White)
		Gland Rubber Seal	White ENSOFT50, RAL9016 (Traffic White)
		Immersion Rod	Red PC, RAL3001 (Signal Red)
	Environmental Conditions	Operation Temperature	$-25^{\circ}C...+70^{\circ}C$
		Operation Humidity	100% r.h., with condensation
		Transport Temperature	$-35^{\circ}C...+70^{\circ}C$
		Transport Humidity	< 90% r.h.
		Storage Temperature	$-10^{\circ}C...+70^{\circ}C$
		Storage Humidity	< 85% r.h., no condensation
	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	2009/EN 60 730-1
		CE Conformities to	2004/108/EG Electromagnetic Compatibility EMV
		CE Electromagnetic Compatibility Emitted Interference	2000/EN60730-1 Emitted Interference
		CE Electromagnetic Compatibility Interference resistance	2000/EN60730-1 Interference Resistance
		RoHS Compatibility	RoHS 2011/65/EC
		Operation Climatic Condition	IEC 60 721-3-3
		Operation Mechanical Condition	IEC 60 721-3-2 to class2M2
		Transport to Climatic Condition	IEC 60 721-3-2
		Transport Mechanical Condition	IEC 60 721-3-2 to class2M2
		Storage Climatic Condition	IEC 60 721-3-1
		Storage Mechanical Condition	IEC 60 721-3-1 to class2M2
Connection	Terminal Connection	<p>1 - 2 Normal Operation 1 - 3 Frost Danger</p>	
Miscellanies	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
			130mm x 110mm x 100mm / 525gr. 6000mm Rod
		Transport and Storage dimension (L x W x H) / ~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

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