


600e	<b>Product Information</b>	
TUU1- Series (T)	<b>Universal Temperature Active Sensor</b>	

The TUU1-Series is designed to measure temperature for universal use. The sensor can be used for air temperature or water temperature measurements. The sensor output is active.



Use	Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System  Universal temperature measurement in air and water applications  Used in all common HVAC applications  Used in Commercial and Industrial Buildings																																																																										
Features	Sensor with passive output  Different pocket and cable lengths for all common HVAC applications  High performance, silicon cables  Professional and practical product design, withstands rough environmental conditions  Easy to use, install and maintain																																																																										
Product Range	<table><tr><th rowspan="2">Model</th><th colspan="2">Sensor Output</th><th colspan="2">Cable Length</th><th colspan="2">Pocket Length</th></tr><tr><th>0-10V</th><th>4-20mA</th><th>1000mm</th><th>2000mm</th><th>50mm</th><th>150mm</th></tr><tr><td>TUU1.EA</td><td>•</td><td></td><td>•</td><td></td><td>•</td><td></td></tr><tr><td>TUU1.ED</td><td></td><td>•</td><td>•</td><td></td><td>•</td><td></td></tr><tr><td>TUU1.FA</td><td>•</td><td></td><td></td><td>•</td><td>•</td><td></td></tr><tr><td>TUU1.FD</td><td></td><td>•</td><td></td><td>•</td><td>•</td><td></td></tr><tr><td>TUU1.GA</td><td>•</td><td></td><td>•</td><td></td><td></td><td>•</td></tr><tr><td>TUU1.GD</td><td></td><td>•</td><td>•</td><td></td><td></td><td>•</td></tr><tr><td>TUU1.HA</td><td>•</td><td></td><td></td><td>•</td><td></td><td>•</td></tr><tr><td>TUU1.HD</td><td></td><td>•</td><td></td><td>•</td><td></td><td>•</td></tr></table>						Model	Sensor Output		Cable Length		Pocket Length		0-10V	4-20mA	1000mm	2000mm	50mm	150mm	TUU1.EA	•		•		•		TUU1.ED		•	•		•		TUU1.FA	•			•	•		TUU1.FD		•		•	•		TUU1.GA	•		•			•	TUU1.GD		•	•			•	TUU1.HA	•			•		•	TUU1.HD		•		•		•
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Sensor Specification	Sensor Specification	Measured Sensor Characteristics Sensor Output (s) Output Load Type TUU1.EA/FA/GA/HA Type TUU1.ED/FD/GD/HD Accuracy Measuring Range (s) Optional Measuring Range (s)	Temperature Active See Product Range, Page 1  Min. load 5kΩ @ AC/DC 24V Max. load 500Ω @ DC 24V ± 1K over full measuring range 0°C...+150°C -40°C...+50°C; 0°C...50°C										
	Electrical Information	Power Supply Type TUU1.EA/FA/GA/HA Type TUU1.ED/FD/GD/HD Frequency Terminal Clamp Power Consumption Type TUU1.EA/FA/GA/HA Type TUU1.ED/FD/GD/HD	AC 15-24V (±10%) or DC 24V (±10%) DC 15-24V (±10%) 50 / 60 Hz at AC 24V Screw terminal, max. 1.5mm²  ≤ 0.45W / AC 24V; ≤ 0.85VA / DC 24V ≤ 20mA / DC 24V										
Technical Information	Mechanical Information	Sensor Pocket Diameter Sensor Pocket Length Cable Length Cable Lead Diameter Cable Diameter Cable Entry Sensing Element Position	Ø6mm 50mm 1000mm Ø0.25mm 4mm M16, Ø6...Ø8mm cables Top of the sensor pocket										
	User Interface	None											
	Color and Materials	Housing Cover Housing Bottom Lock Screws Lock Nuts Cable Gland Gland Rubber Seal Protection Caps Sensor Pocket Cable	White ABS, RAL9001 (Cream White) White ABS, RAL9001 (Cream White) US:AISI 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301 Brass Red ABS, RAL2002 (Vermilion) White TBS, RAL9010 (Pure White) Red ABS, RAL2002 (Vermilion) US:AISI 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301 Red Silicon, RAL 3001 (Signal Red)										
	Environmental Conditions	Operation Temperature Operation Humidity Transport Temperature Transport Humidity Storage Temperature Storage Humidity	-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										
	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 2011/65/EC 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										
	Terminal Connection	<table><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>Out Temp 0...10V</td><td>24V AC/DC</td><td>GND</td></tr></table> TUU1.EA/FA/GA/HA	1	2	3	Out Temp 0...10V	24V AC/DC	GND	<table><tr><td>1</td><td>2</td></tr><tr><td>24V DC</td><td>Out Temp 4 ...20mA /GND</td></tr></table> TUU1.ED/FD/GD/HD	1	2	24V DC	Out Temp 4 ...20mA /GND
	1	2	3										
	Out Temp 0...10V	24V AC/DC	GND										
	1	2											
	24V DC	Out Temp 4 ...20mA /GND											
Accessories	None												
Shipping & Handling	Minimum Order Product Dimension (L x W x H) / ~Weight Transport and Storage dimension (L x W x H) / ~Weight Package Material	1 box with 10 pieces 58mm x 46mm x 1080mm / 120gr. 195mm x 95mm x 65mm / 285gr. Rigid Cardboards Packaging											
Order Notes	Order Code	See Product Range, Page 1, e.g. TUU1.EA											





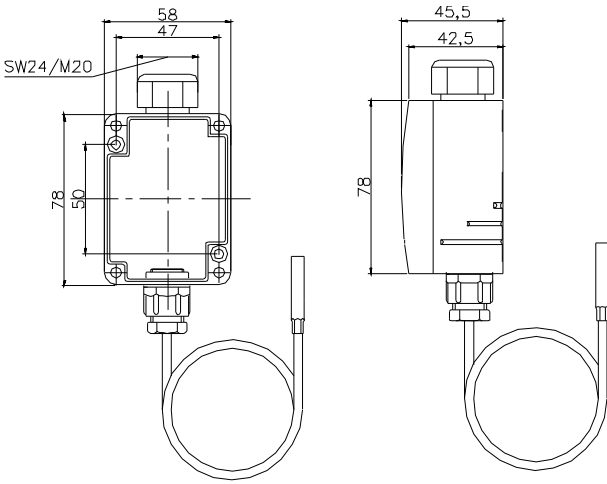
All Information and technical data are subject to alteration

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Advices	<p><b>Security Advice</b></p> <div>  Caution </div> <p>The installation and assembly of electrical equipment may only be performed by a skilled electrician.</p> <p>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.</p>
	<p><b>Mounting Advices</b></p> <div>  Caution </div> <p>The sensor can be used to immerse into an air duct using a mounting flange.</p> <p>When using the sensor in moist rooms or spaces, we recommend to use version IP67/68 sensors.</p>
	<p><b>Installation Notes</b></p> <div>  Caution </div> <p>The product must be installed at a suitable place and within the range of validity of the local electrical installation laws and regulations.</p> <p>Due to the self-heating, the wire current should not exceed 1mA.</p>
	<p><b>Commissioning Notes</b></p> <div>  Caution </div> <p>Sensing devices with transducers should in principle be operated in the middle of the measuring range.</p> <p>The ambient temperature of the transducer electronics should be kept constant.</p>
Dimensional Drawing	<div>  </div> <p><b>TUU1.EA/ED/FA/FD/GA/GD/HA/HD</b></p>
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<div> <div>Thermokon Asia Pacific</div> <div>TUU1- Series (T) V2.0</div> <div>Page 3/3</div> </div>	