

#### TI650en

#### **Technical Information**

## thermokon asia pacific

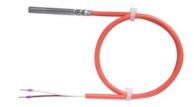
TUU2- Series (T)

### Universal Temperature Sensor with Passive Output

The TUU2- Series (T) is designed to measure temperature for universal use

The sensor can be used for air temperature or water temperature measurements

The sensor is suitable in high temperature environments



The sensor output is passive

	Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System
Use	Universal temperature measurement in air and water applications
	Used in all common HVAC applications
	Used in Commercial and Industrial Buildings
	Sensor with passive output
Features	Different pocket and cable length for all common HVAC applications
	High performance, silicon cables
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Professional and practical product design, withstands rough environmental conditions

Easy to use, install and maintain

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t Range
Produc
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Order Code	Sensor Output	Measuring range	Cable length	Cable rating	Pocket dimensions	IP Rating		
TUU2.AF	PT100							
TUU2.AG	PT1000							
TUU2.AP	NTC10k		ڃ					
TUU2.AQ	NTC10k Pre		1m					
TUU2.AR	NTC20k	50°C		Q	mm			
TUU2.AL	LG-NI1000		50°C	150°C	20°C		+200°	(6x50)
TUU2.BF	PT100	-50150°C		-50°C+200°C	SS304, Ø6x50mm	IP65		
TUU2.BG	PT1000	'		-5(	SS3			
TUU2.BP	NTC10k		E					
TUU2.BQ	NTC10k Pre		2m					
TUU2.BR	NTC20k							
TUU2.BL	LG-NI1000							

other cable lengths or pocket dimensions available

Sensor Characteristics   Passive		Sensor Specification	Measured	Temperature
Sensor LG-Ni1000			Sensor Characteristics	Passive
Sensor LG-N11000	ication		Sensor Output (s)	See Product Range, Page 1
Sensor LG-Ni1000				<1mA
Sensor LG-N11000	ecif		•	
Sensor LG-Ni1000	l Sp		•	+ 0.3K @ 0°C DIN EN 60751 class B
Sensor LG-N11000	ensc			_
Blectrical Information   N/a   Sensor Pocket Diameter   Ø6mm   Sensor Pocket Length   50mm   Cable Length   1m / 2m   Cable Lead Diameter   Ø0.25mm   Cable Lead Diameter   Ø0.25mm   Cable Lead Diameter   A6mm   Cable Diameter   O0.25mm   Cable Diameter   O0.25mm   Cable Diameter   O0.25mm   Cable Diameter   O0.25mm   O0.25	Š			_
Please   Product Standard   Pr				_
Mechanical Information  Sensor Pocket Diameter Sensor Pocket Length Cable Length Cable Lead Diameter Cable Diameter Color and Materials Sensor Pocket Color and Materials Sensor Pocket Cable Diameter Ca				-50°C+150°C
Sensor Pocket Length   1m / 2m   Cable Lead Diameter   20.25mm   Cable Lead Diameter   20.25mm   Cable Diameter   250°C+200°C   Cable Diameter   250°C+200°C   Cable   Cable   Cable   Red Silicon, RAL 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301   Cigral Red)   Cable   Red Silicon, RAL 3001 (Signal Red)   Cable   Red Silicon, RAL 3001 (Signal Red)   Cable   Cable   Red Silicon, RAL 3001 (Signal Red)   Cable   Cabl				
Cable Length   1m / 2m		Mechanical Information		
Cable Lead Diameter   Cable Temperature Rating   -50°C+200°C     Sensing Element Pos   Top of the sensor pocket     User Interface   None   US:AISI 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301     Cable   Red Silicon, RAL 3001 (Signal Red)     Cabl			~	
User Interface None Color and Materials Sensor Pocket Environmental Conditions Operation Humidity Transport Humidity Norms and Directives Product Standard 1 RoHS Compatibility Operation Climatic Condition Product Standard 1 RoHS Compatibility Operation Climatic Condition Operation Climatic Condition Operation Condition Operation Climatic Condition Operation Climatic Condition Operation Condition Operation Climatic Condition Operation Mechanical Condition Operation Climatic Condition Operation Mechanical Condition Operation Mechanic			-	
User Interface None  Color and Materials  Sensor Pocket Color and Materials  Sensor Pocket Color and Materials  Cable  Environmental Conditions  Operation Humidity Transport Humidity Norms and Directives  IP- Rating Safety Class III to EN 60 730  Product Standard 1  RoHS Compatibility Operation Climatic Condition  RoHS Compatibility Operation Climatic Condition  RoHS Compatibility Operation Climatic Condition  Transport to Climatic Condition  Transport Mechanical Condition  Storage Climatic Condition  Fic 60 721-3-2 to class2M2  Transport Mechanical Condition  Storage Material  Accessories  None  Cable  Sensor Pocket Us: AISI 304; EU: EN X 6 CrNi 18 10; GER: W.N. 1.301  Red Silicon, RAL 3001 (Signal Red)  Fed Silicon, Ral 3001 (Signal Red)				
User Interface None Color and Materials Sensor Pocket Cable Environmental Conditions Operation Temperature Operation Humidity Transport Temperature Transport Humidity Transport Humidity Norms and Directives IP- Rating Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 Operation Climatic Condition IEC 60 721-3-2 Transport Mechanical Condition IEC 60 721-3-2 Transport Mechanical Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 IEC 60 721-3-1 to class2M2 III to EN 60 730 Accessories None  Accessories None  Minimum Order Package Material Rigid Cardboards Packaging				
User Interface None Color and Materials Sensor Pocket GER: W. N. 1.301 Cable Red Silicon, RAL 3001 (Signal Red) Environmental Conditions Operation Temperature -25°C+10°°C Operation Humidity 100% r.h., with condensation Transport Temperature -35°C+70°C Transport Humidity < 90% r.h. Storage Tempera -10°C+70°C Storage Humidity < 85% r.h., no condensation IP- Rating IP65 to IEC60529 Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use ROHS Compatibility RoHS 3, Directive 2015/863 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 to class2M2 Storage Climatic 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  Accessories None  Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			•	
Color and Materials  Sensor Pocket  GER: W.N. 1.301  Red Silicon, RAL 3001 (Signal Red)  Poperation Temperature  Operation Humidity  Transport Humidity  Norms and Directives  IP- Rating  Safety Class  III to EN 60 730  Automatic Electric. Controls for household and similar use  RoHS Compatibility  RoHS 3, Directive 2015/863  Operation Climatic Condition  IEC 60 721-3-3  Operation Condition  IEC 60 721-3-2 to class2M2  Transport Mechanical Condition  Storage Climatic Condition  Storage Climatic Condition  Storage Climatic Condition  Storage Climatic Condition  Fig. 60 721-3-1  Storage Mechanical Condition  IEC 60				Top of the sensor pocket
Color and Materials  Cable  Cable  Red Silicon, RAL 3001 (Signal Red)  Operation Temperature  Operation Humidity  Transport Temperature  Transport Humidity  Storage Tempera  Operation Humidity  Norms and Directives  IP- Rating  IP- Rating  Product Standard 1  RoHS Compatibility  Operation Climatic Condition  Operation Mechanical Condition  Operation Mechanical Condition  Operation Mechanical Condition  Operation Mechanical Condition  Transport to Climatic Condition  Storage Climatic Condition  Storage Mechanical Condition  IEC 60 721-3-2 to class2M2  Storage Climatic Condition  IEC 60 721-3-1 to class2M2  Storage Mechanical Condition  IEC 60 721-3-1 to class2M2  Accessories  None  None  Shipping & Handling  Minimum Order  Package Material  Rigid Cardboards Packaging		User Interface	None	LICANCI 204. ELI, ENI V.C. CANI: 40.40.
Environmental Conditions  Operation Temperature Operation Humidity Transport Temperature -35°C+70°C -35°C+71		Color and Materials	Sensor Pocket	
Transport Humidity < 90% r.h. Storage Tempera -10°C+70°C Storage Humidity < 85% r.h., no condensation IP- Rating IP65 to IEC60529 Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 Operation Climatic Condition IEC 60 721-3-3 Operation Mechanical Condition IEC 60 721-3-2 to class2M2 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 Accessories None  Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging	_		Cable	Red Silicon, RAL 3001 (Signal Red)
Transport Humidity < 90% r.h. Storage Tempera -10°C+70°C Storage Humidity < 85% r.h., no condensation IP- Rating IP65 to IEC60529 Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 Operation Climatic Condition IEC 60 721-3-3 Operation Mechanical Condition IEC 60 721-3-2 to class2M2 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 Accessories None  Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging	atio	Environmental Conditions	Operation Temperature	-25°C+100°C
Transport Humidity < 90% r.h.  Storage Tempera -10°C+70°C Storage Humidity < 85% r.h., no condensation  IP- Rating IP65 to IEC60529  Safety Class III to EN 60 730  Automatic Electric. Controls for household and similar use  RoHS Compatibility RoHS 3, Directive 2015/863  Operation Climatic Condition IEC 60 721-3-3  Operation Mechanical Condition IEC 60 721-3-2 to class2M2  Transport Mechanical Condition IEC 60 721-3-2 to class2M2  Storage Climatic Condition IEC 60 721-3-1 to class2M2  Storage Mechanical Condition IEC 60 721-3-1 to class2M2  Accessories None  Shipping & Handling Minimum Order 1 box with 10 pieces  Package Material Rigid Cardboards Packaging	orm		Operation Humidity	100% r.h., with condensation
Norms and Directives  IP- Rating Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 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 Storage Mechanical Condition IEC 60 721-3-1 IEC 60 721-3-1 IEC 60 721-3-1 IEC 60 721-3-1 Recessories None Shipping & Handling Minimum Order Package Material Rigid Cardboards Packaging			Transport Temperature	-35°C+70°C
Norms and Directives  IP- Rating Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 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 60 721-3-1 Storage Climatic Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 IEC 60	nica		Transport Humidity	< 90% r.h.
Norms and Directives  IP- Rating Safety Class III to EN 60 730 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 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 to class2M2 Storage Mechanical Condition IEC 60 721-3-1 to class2M2  Accessories None  Shipping & Handling Minimum Order Package Material Rigid Cardboards Packaging	echi		Storage Tempera	-10°C+70°C
Safety Class Product Standard 1 Automatic Electric. Controls for household and similar use RoHS Compatibility RoHS 3, Directive 2015/863 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 to class2M2 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 Storage Mechanical Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 Rotorage Mechanical Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 Rotorage Mechanical Condition IEC 60 721-3-2 Rotorage Mechanical Condition IEC 60 721-3-1 Rotorage Mechanical Condition IEC 60 721-3-2 Rotorage Mechanical Condition IEC 60 721-3-1 Rotorage Mechanical Condition IEC 60 721-3-1 Rotorage Mechanical Condition IEC 60 721-3-1 Rotorage Mechanical Condition IE	Ĕ		Storage Humidity	< 85% r.h., no condensation
RoHS Compatibility RoHS 3, Directive 2015/863 Operation Climatic Condition Operation Mechanical Condition Fransport to Climatic Condition Fransport Mechanical Condition Fransport Mechani		Norms and Directives	IP- Rating	IP65 to IEC60529
RoHS Compatibility RoHS 3, Directive 2015/863 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 Transport Mechanical Condition IEC 60 721-3-2 to class2M2 Storage Climatic Condition IEC 60 721-3-1 to class2M2 Storage Mechanical Condition IEC 60 721-3-1 Rigid Cardboards Packaging Rigid Cardboards Packaging			Safety Class	III to EN 60 730
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 60 721-3-2 to class2M2 Storage Climatic Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 Storage Mechanical Condition IEC 60 721-3-1 to class2M2  Accessories None Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			Product Standard 1	
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 Storage Mechanical Condition IEC 60 721-3-1 to class2M2  Accessories None Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			RoHS Compatibility	RoHS 3, Directive 2015/863
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  Accessories None Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			Operation Climatic Condition	IEC 60 721-3-3
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  Accessories None Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			Operation 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  Accessories None Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			Transport to Climatic Condition	IEC 60 721-3-2
Storage Mechanical Condition IEC 60 721-3-1 to class2M2  Accessories None Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			Transport Mechanical Condition	IEC 60 721-3-2 to class2M2
Accessories None  Shipping & Handling Minimum Order 1 box with 10 pieces  Package Material Rigid Cardboards Packaging			Storage Climatic Condition	IEC 60 721-3-1
Shipping & Handling Minimum Order 1 box with 10 pieces Package Material Rigid Cardboards Packaging			Storage Mechanical Condition	IEC 60 721-3-1 to class2M2
	S	Accessories	None	
	aneor	Shipping & Handling	Minimum Order	1 box with 10 pieces
	iscella		Package Material	Rigid Cardboards Packaging
	Σ	Order Notes	Order Code	See Product Range, Page 1,e.g. TUU2

# **Security Advice** 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 Advices **Mounting Advices** The device is considered an electronic device for disposal in terms of the EUROPEAN **Disposal Notes** DIRECTIVE 2012/19/EU. The device may not be disposed as domestic garbage. The device most be disposed through channels provided for this purpose. It is mandatory to complying with local currently applying laws and regulations. Connection **Dimensional Drawing** L (cable Inghts) Ø 6mm