
	TI401en	Technical Information	
TOW1- Series (T)	Outdoor Temperature Sensor with Active Output		

The TOW1- Series (T) is designed to measure temperature in outdoor areas,
plant rooms, cold stores, greenhouses, production plants and warehouses.

The sensor operates with low voltage power supply

The Temperature sensor is located in an external sensor pocket for a fast response
of temperature changes

The temperature output is active



USE	Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System
	Temperature measuring in outdoor areas, stores, warehouses, production plants and greenhouses
	Used in all common HVAC applications
	Used in Commercial and Industrial Buildings

Features	Sensor with active output and selectable measuring ranges
	Sensor Output 0...10V and 4...20mA
	Multiple (4) measuring ranges on board available
	Temperature Field calibration potentiometer
	Professional and practical product design, withstands harsh environmental conditions
	Easy to use, install and maintain

Product Range	Order Codes	Power Supply	Active Output	Measuring ranges	IP Rating	Product dimension
	TOW1.BE	AC/DC 24V (±10%)	0...10V* or 4...20mA	-50...50°C* 0...50°C -20...80°C 0...100°C	IP65 to IEC60529	78x58x45mm
* default setting						

Sensor Specification	Sensor Specification	Measured Sensor Characteristics Sensor Output (s) Output Load 0..10V Output 4...20mA Output Accuracy Temperature OFF-set Potentiometer Measuring Range (s) Optional Measuring Range (s)	Temperature Active 0...10V / 4...20mA Min. load 5kΩ @ AC/DC 24V Max. load 700Ω @ DC 24V ± 0.5K over full measuring range ± 3k -50°C...50°C 0°C...+100°C ; -20°C...+80°C ; 0...50°C
Technical Information	Electrical Information	Power Supply Frequency Terminal Clarr Power Consumption 0...10V output 4...20mA output	AC/DC 24V (±10%) 50 / 60 Hz at AC 24V Screw terminal, max. 1.5mm ² ≤ 0.4W / AC 24V; ≤ 0.85VA / DC 24V ≤ 20mA / DC 24V
Technical Information	Mechanical Information	Sensor Pocket Diameter Sensor Pocket Length Cable Entry Sensing Element Pos	6mm 35mm M16, Ø6...Ø8mm cables external, top of the immersion rod
Technical Information	Color and Materials	Housing Cover Housing Bottom Lock Screws Lock Nuts Cable Gland Gland Rubber Seal Protection Caps Immersion Rod	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
Technical Information	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
Technical Information	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
Miscellaneous	Accessories		n.a.
Miscellaneous	Shipping & Handling	Minimum Order Package Material Order Code	1 box with 2 pieces, multiple of 2 pieces Rigid Cardboards Packaging TOW1.BE

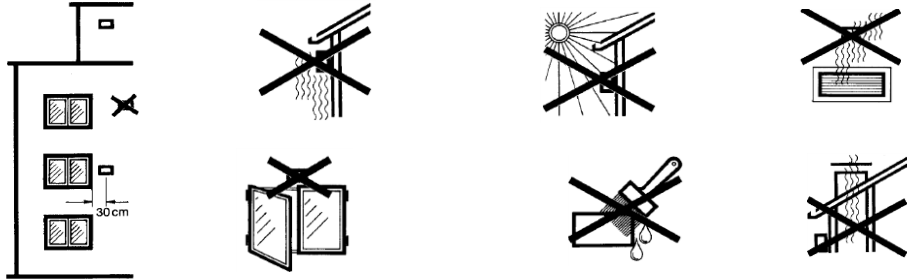
Installation Notes



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



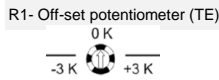
Disposal Notes



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.

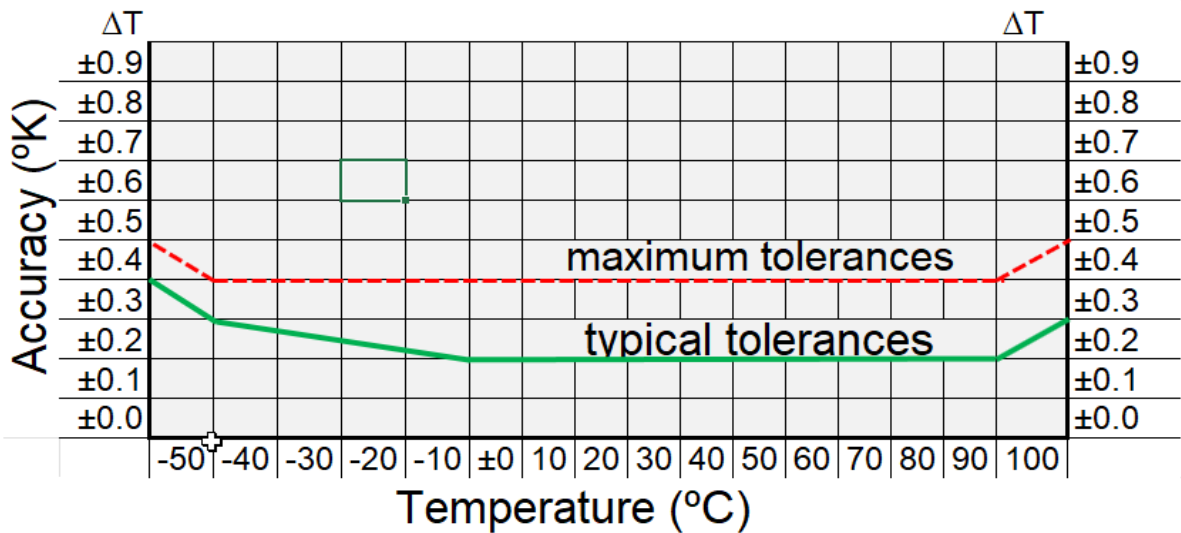
Connections & Settings

Terminals TOW1.BE					
T1	T2	T3	T4	T5	T6
UB+	24V AC/DC	GND	Temperature	not in use	not in use



DIP Settings TOW1.BE									
Temperature Setting (DIP1 & DIP2)						DIP3 / DIP4		DIP 5	
DIP1	DIP2	DIP1	DIP2	DIP1	DIP2	DIP3	DIP4	DIP5	DIP5
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-50...50°C		0...50°C		-20...80°C		0...100°C		not used	4...20mA

Accuracy Curves



Dimensional Drawing

