400e	Product Information	thermokon asia pacific
TOW1- Series (T)	Outdoor Temperature Active Sensor	

The TOW1-Series is designed to measure temperature in outdoor areas, plant rooms, cold stores, greenhouses, production plants and warehouses. The Temperature sensor is sealed 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

Stainless steel sensor pocket

Professional and practical product design, withstands rough environmental conditions

Easy to use, install and maintain

Product Range

Model	Sensor Output	
	0...10V	4...20mA
TOW1.BA	•	
TOW1.BD		•

Sensor Specification

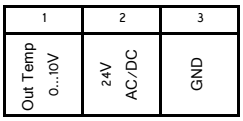
Sensor Specification	Measured	Temperature
	Sensor Characteristics	Active
	Sensor Output (s)	See Product Range, Page 1
	Output Load	
	Type TRW1.BA	Min. load 5kΩ @ AC/DC 24V
	Type TRW1.BD	Max. load 500Ω @ DC 24V
	Accuracy	± 0.5K over full measuring range
	Measuring Range (s)	-40°C...+50°C
	Optional Measuring Range (s)	0°C...+50°C; 0°C...150°C

Technical Information

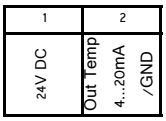
Electrical Information	Power Supply	
	Type TRW1.BA	AC 15-24V (±10%) or DC 24V (±10%)
	Type TRW1.BD	DC 15-24V (±10%)
	Frequency	50 / 60 Hz at AC 24V
	Terminal Clamp	Screw terminal, max. 1.5mm²
	Power Consumption	
	Type TRW1.BA	⩽ 0.45W / AC 24V; ⩽ 0.85VA / DC 24V
	Type TRW1.BD	⩽ 20mA / DC 24V
Mechanical Information	Sensor Pocket Diameter	6mm
	Sensor Pocket Length	35mm
	Cable Entry	M16, Ø6...Ø8mm cables
	Sensing Element Position	external, top of the sensor pocket
User Interface	None	
Color and Materials	Housing Cover	White ABS, RAL9001 (Cream White)
	Housing Bottom	White ABS, RAL9001 (Cream White)
	Lock Screws	Zinc ZLO410, Fast Connectors 90°
	Cable Gland	White PA6, RAL9001 (Cream White)
	Gland Rubber Seal	White TBS, RAL9010 (Pure White)
Environmental Conditior	Operation Temperature	-25°C...+70°C
	Operation Humidity	100% r.h., with condensation
	Transport Temperature	-35°C...+70°C
	Transport Humidity	< 90% r.h.
	Storage Temperature	-10°C...+70°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
	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 60 721-3-4
	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



TOW1.BA



TOW1.BD

Miscellanies

Accessories	Accessory not included in delivery	Sun/rain protection with 2 rawlplugs and 2 screws
Shipping & Handling	Minimum Order	1 box with 2 pieces, multiple of 2 pieces
	Product Dimension (L x W x H) / ~Weight	110mm x 50mm x 45mm / 110gr.
	Transport and Storage dimension (L x W x H) / ~Weight	195mm x 95mm x 65mm / 260gr.
	Package Material	Rigid Cardboards Packaging
Order Notes	Order Code	See Product Range, Page 1, e.g. TOW1.BA

Advices

Security Advice

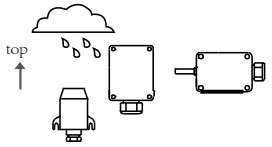
Caution

The installation and assembly of electrical equipment may only be performed by a skilled electrician.
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

Caution

In case of outdoor installation avoid direct rain and sun contact.
Probably use sun respectively rain protection.



Installation Notes

Caution

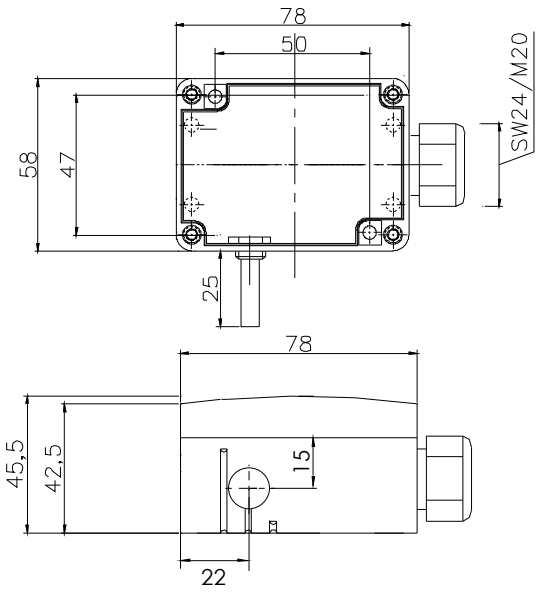
The product must be installed at a suitable place and within the range of validity of the local electrical installation laws and regulations.
The wire resistance of the supply wire has to be considered in 2-wire conductor versions.
Due to the self-heating, the wire current should not exceed 1mA.

Commissioning Notes

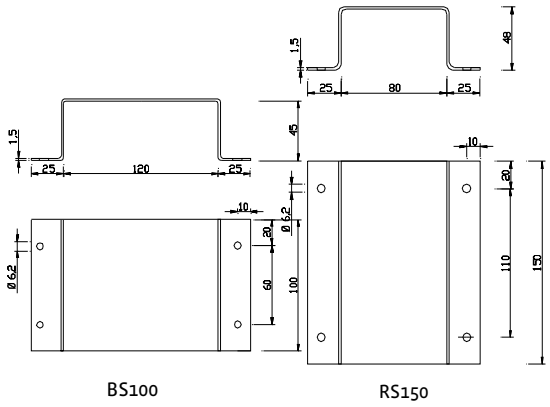
Caution

Sensing devices with transducers should in principle be operated in the middle of the measuring range.
The ambient temperature of the transducer electronics should be kept constant.
The adjustment of the measuring ranges is made by changing the bonding jumpers (see terminal connection diagram on Page 2).
The output value in the new measuring range is available after approx. 2 seconds.

Dimensional Drawing



TOW1.BA/BD



BS100 RS150

Sun / Rain Protection