TI8010en	Technical Information	thermokon asia pacific
TRW9- Series (T)	Room Temperature Sensor with BACnet / Modbus RTU communication	

The TRW9- Series (T) is designed to measure temperature in rooms or areas

The sensor operates with low power supply

BACnet MSTP and MODBUS RTU on board

The sensor output is either BACnet MSTP or Modbus RTU communication

USE

Compatible to all common HVAC DDC and Analog Controls systems, with Building Automation System

Temperature measurement in Rooms and Areas

In Building Automation System where BACnet MSTP or MODBUS RTU communication protocols are used

Used in all common HVAC applications

Used in Commercial and Industrial Buildings

Features

BACnet / MODBUS address setting over BUS protocol

Modern and practical product design

Easy to use, install and maintain

Product Range

Order Codes	Power Supply	Communication system	Temperature Measuring Range	IP Rating
TRW9.AA	AC/DC 24V (±10%)	BACnet MSTP	-40…120°C	IP20 to IEC60529
TRW9.AG		Modbus RTU		

Sensor Specification	Sensor Specification	Measured	Temperature
		Sensor Characteristics	Active
		Outputs	BACnet MSTP or Modbus RTU communication, RS485
		Measuring Range (T)	-40ºC…+120ºC
Technical Information	Electrical Information	Power Supply	AC/DC 24V (±10%)
		Frequency	50 / 60 Hz at AC 24V
		Terminal Clamı	Screw terminal, max. 1.5mm²
		Power Consumption	≤ 1W @ AC 24V / DC 24V
	Mechanical Information	Cable Entry	30x15mm, on the backside of the housing
		Sensing Element Position	Inside the housing, bottom of the housing
	Color and Materials	Housing Cover	White ABS, RAL9001 (Cream White)
		Housing Bottom	White ABS, RAL9001 (Cream White)
	Environmental Conditions	Operation Temperature	-25ºC...+70ºC
		Operation Humidity	<85% r.h., no condensation
		Transport Temperature	-35ºC...+70ºC
		Transport Humidity	< 90% r.h.
		Storage Temperature	-10ºC...+70ºC
		Storage Humidity	< 85% r.h., no condensation
	Norms and Directives	IP- Rating	IP20 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 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 to class2M2
Miscellaneous	Accessories	Accessory not included in delivery	TRA0.A (106mmx106mm backplate)
	Shipping & Handling	Minimum Order	1 box with 1 piece
		Package Material	Rigid Cardboards Packaging
	Order Notes	Order Code	TRW9.AE

Modbus Parameters

Address Number	Register Description	
0…3	Serial Number	actual version
4	Software Version	actual version
6	Modbus Address	Default 254, selectable 1…254
8	Hardware Version	actual version
11	Baud Rate autodetection	0= OFF ; 1= On
15	Baud Rate, (if autodetection is OFF)	0= 9600 ; 1= 19.200 ; 2= 38.400 ; 3= 57.600 ; 4= 115.200
34	Temperature, digital	actual value

BACnet Parameters

Supported BACnet Objects Types

analog-value

device

Supported BACnet Services

who-is

i-am

object-identifier, object-name, object-type, present-value, units, object-list, vendor-id, vendor-name, system-status, confirmed-service, unconfirmed-services

MSTP Objects

analog-value

	BACnet Address	Default 127, selectable 0…127
AV0	Baud rate autodetection	default 0, 0= OFF ; 1= ON
AV1	Baud Rate, (if autodetection is OFF)	0= 9600 ; 1= 19.200 ; 2= 38.400 ; 3= 57.600 ; 4= 115.200
AV3	Protocol	0= Modbus ; 1= BACnet
AV4	Temperature	actual value (-40…120ºC)

Device

	device-identifier
	device-name

The function "Baud Rate autodetection" can only be used during the product is been setup. When the product is working with the BAS, the "Baud Rate autodetection" has to be set to 0= OFF and the actual Baud Rate has to be set.

Advices

Installation Notes

Caution

Observe the following general regulation for engineering and implementation:

All relevant national and heavy power regulation

Other country specific regulations

Country-specific regulations

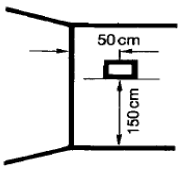
Local electrical supply authority regulation

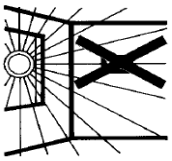
Schematics, cable listings, dispositions, specification and arrangements from the customer or engineering office in charge

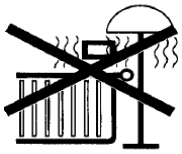
Third party specifications, e.g. general contractors or constructors

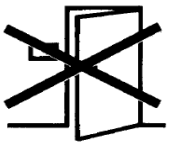
Mounting Advices

Caution









Disposal Notes

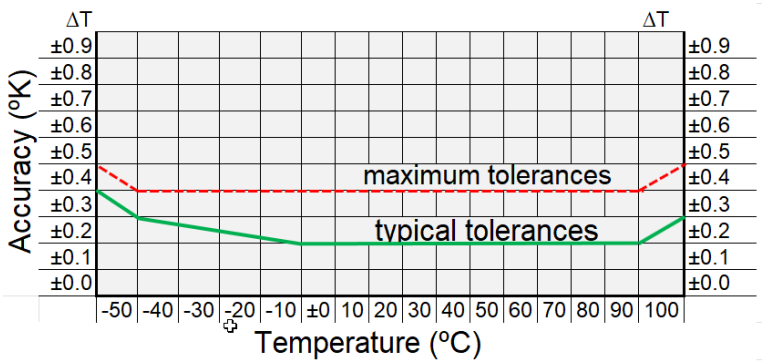
The device is considered an electronic device for disposal in terms of the EUROPEAN DIRECTIVE 2012/19/EU.

The device may not be disposed as domestic garbage.

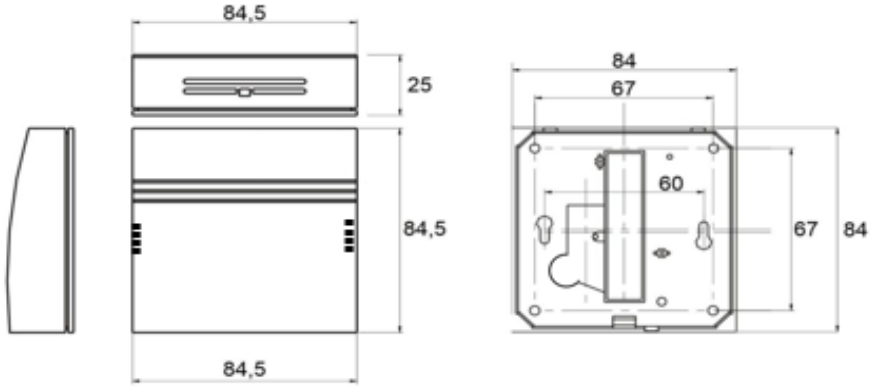
The device must be disposed through channels provided for this purpose.

It is mandatory to comply with local currently applying laws and regulations.

Accuracy Curves



Dimensional Drawing



Connections & Settings

Terminals						
T1		T2	T3	T4	T5	T6
UB+	24V AC/DC	GND	C- RS485	C+ RS485	n.A.	n.A.