

 TI8011en	Technical Information	
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	<table><tr><td>Order Codes</td><td>Power Supply</td><td>Communication system</td><td>Temperature Measuring Range</td><td>IP Rating</td></tr><tr><td>TRW9.FA</td><td rowspan="2">AC/DC 24V (±10%)</td><td>BACnet MSTP</td><td rowspan="2">-40...120°C</td><td rowspan="2">IP20 to IEC60529</td></tr><tr><td>TRW9.FG</td><td>Modbus RTU</td></tr></table>					Order Codes	Power Supply	Communication system	Temperature Measuring Range	IP Rating	TRW9.FA	AC/DC 24V (±10%)	BACnet MSTP	-40...120°C	IP20 to IEC60529	TRW9.FG	Modbus RTU
	Order Codes	Power Supply	Communication system	Temperature Measuring Range	IP Rating												
	TRW9.FA	AC/DC 24V (±10%)	BACnet MSTP	-40...120°C	IP20 to IEC60529												
	TRW9.FG		Modbus RTU														

Sensor Specification	Sensor Specification	Measured	Temperature
		Sensor Characteristics	Active
		Outputs	BACnet MSTP or Modbus RTU communication, RS485
		Measuring Range (T)	-40°C...+120°C
Technical Information	Electrical Information	Power Supply	AC/DC 24V (±10%)
		Frequency	50 / 60 Hz at AC 24V
		Terminal Clamp	Screw terminal, max. 1.5mm ²
		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	-25°C...+70°C
		Operation Humidity	<85% r.h., no 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	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...120°C)	
	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.				
All Information and technical data are subject to alteration				
Thermokon Asia Pacific				
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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 50 cm 150 cm