

 TI1113en	Technical Information	
CRW4- Series (H&T)	Room Humidity and Temperature Sensor with Active Outputs	

The CRW4- Series (H&T) is designed to measure temperature, relative humidity, absolute humidity, enthalpy or dew point in rooms or areas

The sensor operates with low power supply

Multiple active measuring ranges on board

Available with passive sensors

The humidity and temperature sensor outputs are active



Use	Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System
	Relative humidity, absolute humidity, enthalpy or dew point and temperature measurement in Rooms and Areas
	Used in all common HVAC applications
	Used in Commercial and Industrial Buildings

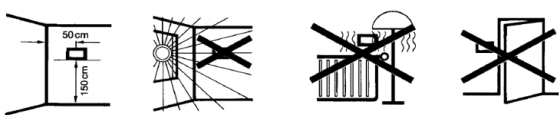
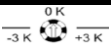
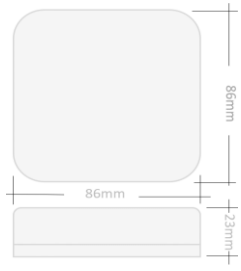
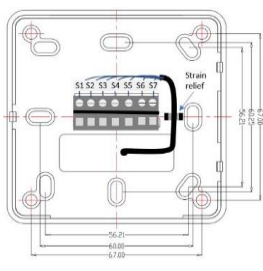
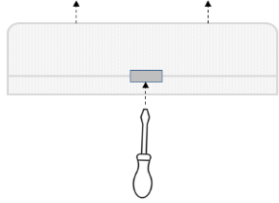
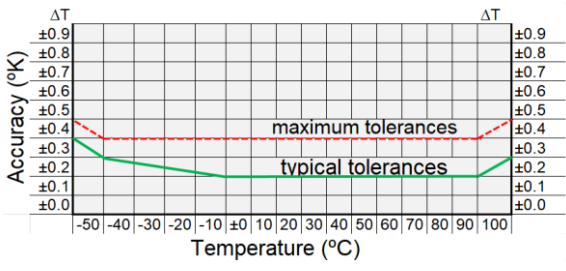
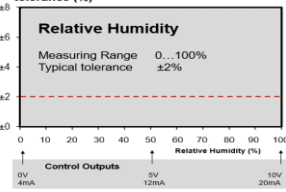
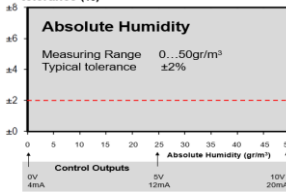
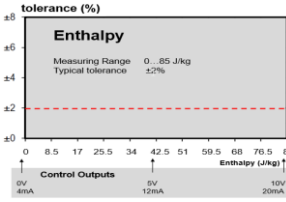
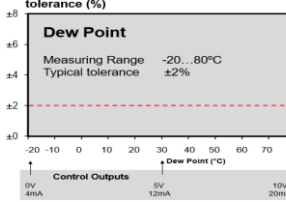
Features	Sensor Outputs are active
	Sensor outputs 0...10V or 4...20mA, available with PT, NTC and NI passive sensors
	Multiple Temperature measuring ranges
	High Humidity accuracy
	Humidity and Temperature Field calibration potentiometer
	Modern and practical product design

Product Range

Order Codes	Temperature Passive Outputs	Accuracy Temperature	Accuracy Humidity	Power Supply	Humidity / Temperature Active Outputs	Temp. Ranges	Measuring Variable	Measuring Units
CRW4.FE	n.A.	± 0.2K between 0°C...+80°C	± 2%, Full Scale	AC/DC 24V (±10%)	0...10V* or 4...20mA	-50...50°C	rel. humidity*	0...100%
CRW4.FJa	PT100	± 0.15K @ 0°C DIN EN 60751, class A				0...50°C*	absolute humidity	0...50gr/m3
CRW4.FKa	PT1000							
CRW4.FMa	NTC10k	± 0.25K @ 25°C				-20...80°C	dew point	-20...80°C
CRW4.FOa	NTC10 Pre							
CRW4.FNa	NTC20k							
CRW4.FLa	NI1000	± 0.4K @ 0°C DIN EN 43760, class B				0...100°C	enthalpy	0...85kJ/Kg
CRW4.FWa	LG-NI1000							

* default setting

Sensor Specification	Measured Sensor Characteristics H/T Outputs Temperature OFF-set Potentiometer (R1) Humidity OFF-set Potentiometer (R2) Output Load 0...10V 4...20mA Measuring Current Accuracy relative humidity absolute humidity enthalpy dew point Temperature, active Temperature PT100/1000 Temperature NTC10k /10k Pre / 20k Temperature NI1000 / LG-NI1000 IP- Rating sensor element Repeatability (H) Long Term Drift (H) Measuring Range (H) Measuring Range (T), active (default) Measuring Ranges (T), active (optional, on board) Measuring Ranges (T), passive	Temperature & Humidity Active 0...10V ; 0...10V or 4...20mA ; 4...20mA ± 3k ± 5% Min. load 10kΩ @ AC/DC 24V Max. load 500Ω @ DC 24V <1mA ± 2% within 0...100% r.h. ± 2% within 0..100% r.h. ± 2% within 0..100% r.h. ± 2% within 0..100% r.h. see temperature chart, page 3 ± 0.15K @ 0°C DIN EN 60751, class A ±0.25K @ 25°C ± 0.4K @ 0°C DIN EN 43760, class B IP67 to IEC60529 ±0.1°C ; ±0.1% r.h. < 0.04° C / year ; < 0.5% r.h. / year 0...100% 0°C...50°C -20°C...80°C ; -50°C...+50°C ; 0°C...+100°C -50°C...+150°C
Technical Information	Electrical Information Power Supply Frequency Terminal Clamp Power Consumption 0...10V output 4...20mA output Mechanical Information Cable Entry Sensing Element Position Color and Materials Housing Cover Housing Bottom Environmental Condition Operation Temperature Operation Humidity Transport Temperature Transport Humidity Storage Temperature Storage Humidity 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	AC/DC 24V (±10%) 50 / 60 Hz at AC 24V Screw terminal, max. 1.5mm² ≤ 0.4W / AC 24V; ≤ 0.85VA / DC 24V ≤ 20mA / DC 24V ~30x15mm, on the backside of the housing Inside the housing, bottom of the housing ABS, White ABS, White -25°C...+70°C <85% r.h., no condensation -35°C...+70°C < 90% r.h. -10°C...+70°C < 85% r.h., no condensation IP20 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 Shipping & Handling Package Material Order Notes Order Code	URA0.B (106mmx106mm backplate) 1 box with 1 piece Rigid Cardboards Packaging e.g. CRW4.FE

Advices	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																											
	Mounting Advices   Under normal environmental conditions we recommend a recalibration interval of 2 year to maintain the indicated accuracy. Refrain from touching the sensitive sensor. Any touch of the same will result in an expiration of the warranty. At high ambient temperatures and high humidity, or when use the sensor in aggressive gases, an early recalibration or a change of the sensor can become necessary. Such a recalibration or a probable sensor change may not come under the general warranty																											
	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 <table><tr><th>T1</th><th>T2</th><th>T3</th><th>T4</th><th>T5</th><th>T6</th></tr><tr><td>UB+</td><td>AC/DC 24V</td><td>GND</td><td>Temperature</td><td>Humidity</td><td>S+ T passive S- T passive</td></tr></table> Temperature Setting (DIP1 & DIP 2) <table><tr><th>DIP1</th><th>DIP2</th></tr><tr><td>-20...80C°</td><td>0...100C°</td></tr><tr><td>-50...50C°</td><td>0...50C°</td></tr></table> Humidity Setting (DIP3 & DIP 4) <table><tr><th>DIP3</th><th>DIP4</th></tr><tr><td>rel. H</td><td>abs. H</td></tr><tr><td>enthalpy</td><td>dew point</td></tr></table> DIP5 <table><tr><th>DIP5</th><th>DIP6</th></tr><tr><td>0...10V</td><td>4...20mA</td></tr></table> R1- Off-set potentiometer (TE)  R2- Off-set potentiometer (HU) 	T1	T2	T3	T4	T5	T6	UB+	AC/DC 24V	GND	Temperature	Humidity	S+ T passive S- T passive	DIP1	DIP2	-20...80C°	0...100C°	-50...50C°	0...50C°	DIP3	DIP4	rel. H	abs. H	enthalpy	dew point	DIP5	DIP6	0...10V
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Dimensional Drawing / Mounting Instruction	  S1 UB+ S2 GND S3 Temperature S4 Humidity S5 n.a. S6 S+ (passive) S7 S- (passive) 																											
Accuracy Curves	 Relative Humidity  Absolute Humidity  Enthalpy  Dew Point 																											
Thermokon Asia Pacific All Information and technical data are subject to alteration CRW4- Series (H&T) V23.1 Page 3/3																												