DS1113en	Data Sheet	GRUNER
CRW4- Series (H&T)	Room Humidity and Temperature Sensor with Active - Passive Outputs	

The CRW4- Series (H&T) is designed to measure humidity and temperature in rooms or areas

The sensor operates with low voltage power supply

In accordance with RESET® and WELL Building Standard™.

Reading / Parameter settings via NFC technology

With Operation LED - optional with ePaper display available

Product Designed in accordance to CE and UL standards

The sensor outputs are active, optional with passive temperature output

Use

Compatible to all common HVAC DDC and Analog Controls systems, with/without BA Systems

Humidity & Temperature measuring in rooms and areas

Used in all common HVAC applications

Used in Commercial and Industrial Buildings

Features

Sensor with active output, optional with passive temperature output

Sensor outputs 0-10V or 4-20mA, optional with passive temperature output

With Operation LED - optional with ePaper display available

Reading /Parameter settings via NFC technology

Modern and practical product design

Firmware updates via USB-C connection

Easy to use, install and maintain

Product Range

Order Codes	General Parameters				Temperature Parameters					Humidity Parameters			
	Power Supply	Display	Active Outputs	IP Rating	Meas. Range		Accuracy active	Passive Outputs	Accuracy Passive	Accur- acy	Measuring Range / Unit		
CRW4G.GA	AC/DC 24V (±10%)	ePaper display 31x60mm	0-10V	IP 20	0º~50ºC (default)	-40ºC~+135ºC via NFC adjustable	± 0.2C between 0ºC~+50ºC	n.a		± 2%, Full Scale	rel. humidity (default)	0~100%	selectable via NFC
CRW4G.FA		none						n.a					
CRW4G.FK								PT1000	± 0.15K @ 0ºC		absolute humidity	0~50gr/m3	
CRW4G.FM								NTC10k	± 0.25K @ 25ºC				
CRW4G.GD		ePaper display 31x60mm	4-20mA					n.a			dew point	20~80°C	
CRW4G.FD		none						n.a					
CRW4G.FQ								PT1000	± 0.15K @ 0ºC		enthanphy	0~85kJ/Kg	
CRW4G.FS								NTC10k	± 0.25K @ 25ºC				

Sensor Specification	Sensor Specification	Measured	Humidity / Temperature
		Sensor Characteristics	Active, optional passive Temperature
		Sensor Output (s)	0-10V or 4-20mA
		Output Load	
		0-10V output	Min. load 5kΩ @ AC/DC 24V
		4-20mA output	Max. load 700Ω @ DC 24V
	Temperature (active)	Accuracy	± 0.2C between 0~50ºC
		Response time	$t_{63\%}$ 2s
		Long Term Drift	<0.03ºC/Y
		Default Measuring Range	0ºC~50ºC
		Optional Measuring Range	Free selectable via NFC -40~+135ºC
	Temperature (passive)	Accuracy PT- Sensors	± 0.15K @ 0ºC DIN EN 60751, class A
		Accuracy NTC- Sensors	±0.25K @ 25ºC
	Humidity	Accuracy	typically ±2% RH
		Repeatability	average 0.15% RH
		Long Term Drift	<0.25 & RH / y
		Measuring Value (default)	Relative Humidity / 0~100%
		Optional Measuring Value	absolute humidity / 0~50gr/m3
			Dew Point / -20~80°C
			Enthalpy / 0~85kJ/Kg
Technical Information	Electrical Information	Power Supply	AC/DC 24V (±10%)
		Frequency	50 / 60 Hz at AC 24V
		Terminal Clamp	Screw terminal, max. 1.5mm²
		Power Consumption	
		0-10V output	≤ 1W
		4-20mA output (2 wire)	≤ 1W
	Mechanical Information	Cable Entry	~50mm x 10mm on the backside
		USB C	Bootloader for software updates
		Display	ePaper 31x60mm
	Colour and Materials	Housing Cover	ABS, white
		Housing Bottom	ABS, white
		Flammability Standard	UL94class HB ; IEC 6070 ; ISO 9770
	Environmental Conditions	Operation Temperature	-25ºC~+70ºC
		Operation Humidity	100% RH, with condensation
		Transport Temperature	-35ºC~+70ºC
		Transport Humidity	< 90% RH
		Storage Temperature	-10ºC~+70ºC
		Storage Humidity	< 85% RH, no condensation
	Norms and Directives	IP- Rating	IP20 to IEC60529
		Safety Class	III to EN 60 730
		Product Standard 1	Automatic EC for household and similar use
		Product Standard 2	2009/EN 60 730-1
		CE Conformities to	2004/108/EG Electromagnetic Compatibility EMV
		CE ECE Interference	2000/EN60730-1 Emitted Interference
		CE ECI 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
Misc.	Shipping & Handling	Minimum Order	1 box with 1 piece
		Packaging	Rigid Cardboards Packaging
	Order Notes	Order Code	e.g. CRW4G.GA

Advices

Installation Notes

Caution

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 regulations

Schematics, cable listings, dispositions, specification and arrangements from the 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.

NFC Setting

All devices marked with the NFC Logo can be parameterized via the Gruner AP NFC APP.

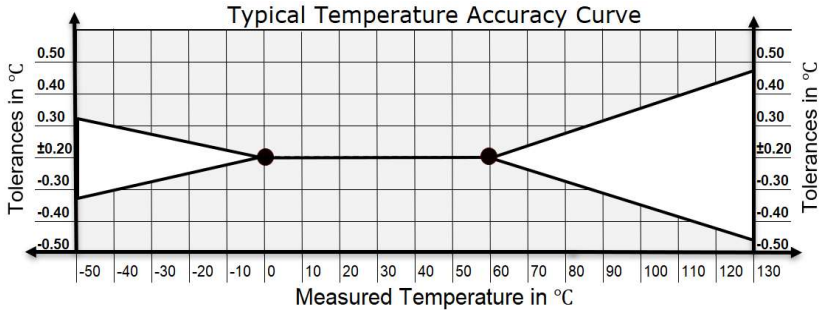
The NFC APP is available on the Gruner AP WEBSITE. Hold your NFC capable Android phone to the NFC Logo.

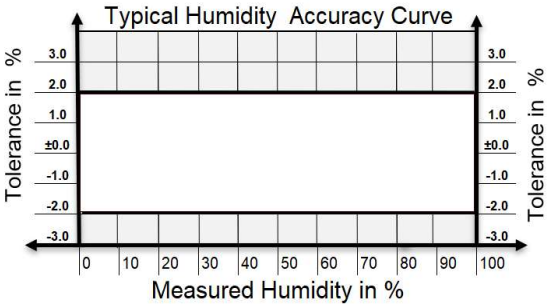
The installed APP will start automatically.

Commisioning Note

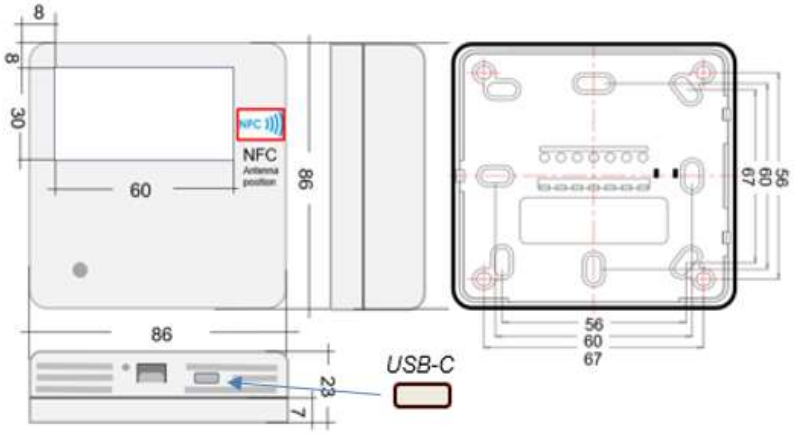
The sensor will reach its specified accurracy after 1h after powered up.

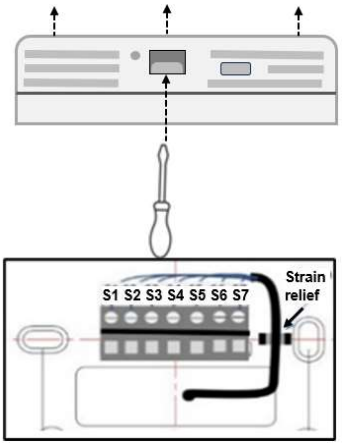
Accuracy Curves





Dimensional Drawing / Mounting





all dimension in "mm" and in round terms

Connections & Settings

Terminal Connections							
S1		S2	S3	S4	S5	S6	S7
UB+	24V AC/DC	GND	n.a	Humidity	Temperature	Temperature Passive (-)	Temperature Passive (+)