

	DS2223en	Data Sheet	
CDI5-Series (VOC&H&T)	Duct Air Quality (VOC), Humidity and Temperature Sensor with Active Outputs		

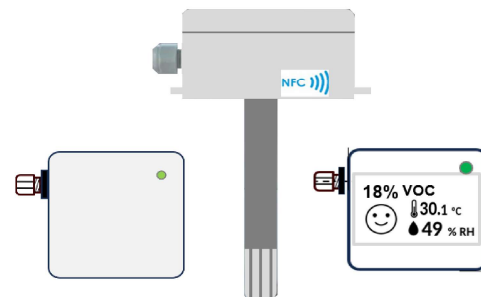
The CDI5-Series (VOC&H&T) is designed to measure air quality (VOC), humidity and temperature in air ducts of heating, ventilation and air conditioning systems

The sensor operates with low voltage power supply

In accordance with RESET® and WELL Building Standard™

With Operation LED, optional with ePaper display available

The sensor outputs are active



Use	Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System
	Used in all common HVAC applications
	Used in Commercial and Industrial Buildings

Features	Sensor outputs 0–10 V or 4–20 mA
	Optional with ePaper display available
	Reading/Parameter settings via NFC technology
	Selectable Humidity Units (rel. Humidity / abs. Humidity / Dew Point / Enthalpy)
	Cover/bottom housing connected with magnets and 2 screws
	Immersion Pockets in Stainless Steel
	Firmware updates via service connector
	Easy to use, install and maintain

Product Range	Order Codes	General Parameters					Temperature Parameters			Humidity Parameters		Air Quality (VOC)						
		Immersion Length	Display	LED	Power Supply	Active Outputs	IP Rating	Measuring Range	Accuracy	Accuracy	Measuring Range / Unit	Parameters						
	CDI5G.RB	150 mm	N/A	LED	AC/DC 24 V (±10 %)	0–10 V	IP65	–20 °C to +80 °C (default) –40 °C to +135 °C via NFC adjustable	±0.2 °C between 0 °C to +50 °C	±2 %, Full scale	rel. humidity (default)	0 to 100 %	Device-to-Device variation: ±15 Index Points (3.3 %) Measuring Range: 0 to 500 Index Points (0 to 100 %) Repeatability: ±5 Index Points (1 %) Response time: t_{93} = 10 s					
	CDI5G.RF	150 mm				4–20 mA					absolute humidity	0 to 50 g/m³						
	CDI5G.SB	150 mm	ePaper 31 mm x 60 mm			0–10 V					dew point	–20 to +80 °C		selectable via NFC				
	CDI5G.SF	150 mm				4–20 mA					enthalpy	0 to 85 kJ/kg						
	selectable via NFC																	

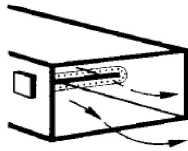
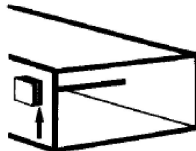
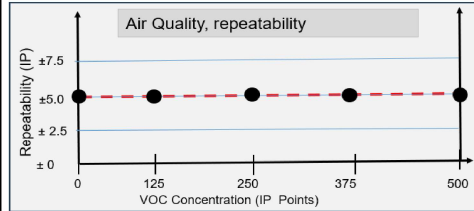
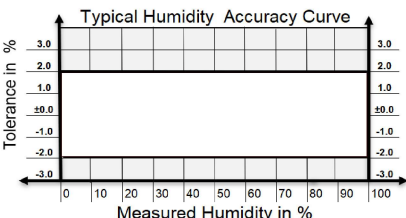
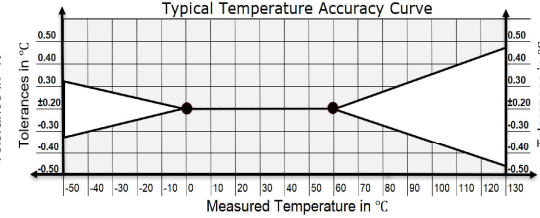
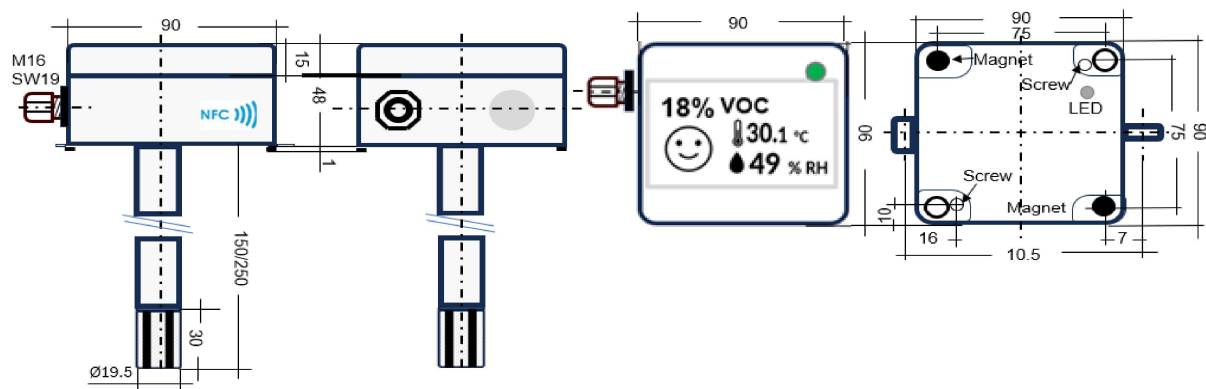
All Information and technical data are subject to alteration

CDI5-Series (VOC&H&T) V26.1

Sensor Specification	Sensor Specification	Measured Sensor Characteristics Sensor Output (s)	Air Quality (VOC) / Humidity / Temperature Active 0–10 V or 4–20 mA
	Output Load	0–10 V output 4–20 mA output	Min. load 5 kΩ @ AC/DC 24 V Max. load 700 Ω @ DC 24 V
	Temperature (active)	Accuracy Response time Long Term Drift Default Measuring Range Optional Measuring Range	±0.2 °C between 0 °C to +50 °C t ₆₃ = 2 s <0.03 °C per year –20 °C to +80 °C Free selectable via NFC –40 °C to +135 °C
	Humidity	Accuracy Repeatability Long Term Drift Measuring Value (default) Optional Measuring Value	typically ±2 % RH average 0.15 % RH <0.25 % RH per year Relative Humidity, 0 to 100 % absolute humidity, 0 to 50 g/m³ Dew Point, –20 °C to +80 °C Enthalpy, 0 to 85 kJ/kg
	Air Quality (VOC)	Device-to-Device variation Repeatability Response Time Measuring Range	±15 Index Points (3.3 %) ±5 Index Points (1 %) t ₆₃ = 10s 0 to 500 Index Points (0 to 100 %)
Technical Information	Electrical Information	Power Supply Frequency Terminal Clamp Power Consumption 0–10 V output 4–20 mA output	AC/DC 24 V (±10 %) 50/60 Hz at AC 24 V Screw terminal, max. 1.5 mm² ≤1 W ≤1 W
	Mechanical Information	Cable Entry PIN Bar Display Immersion Pocket	M16 / SW19 Bootloader for software updates ePaper 31 mm x 60 mm Ø19.5 mm x 150 mm
	Materials and Colours	Housing Cover Housing Bottom Sensor Pipe Flammability Standard	ABS, white / transparent (display) ABS, white ABS, white with SS304 cover UL 94 class HB; IEC 60707; ISO 9770
	Environmental Conditions	Operation Temperature Operation Humidity Transport Temperature Transport Humidity Storage Humidity	–25 °C to +70 °C 100 % RH, with condensation –35 °C to +70 °C <90 % RH <85 % RH, no condensation
	Norms and Directives	IP-Rating REACH Regulation Product Safety Product Standard CE marking in accordance with Directive EMC Emissions, in accordance with EMC Immunity, in accordance with RoHS Compliance, in accordance with Operation Climatic Condition Operation Mechanical Condition Transport to Climatic Condition Transport Mechanical Condition Storage Climatic Condition Storage Mechanical Condition	IP65 to IEC60529 Regulation (EC) No. 1907/2006 Safety class III, in accordance with EN IEC 60730-1 Automatic electrical controls for household and similar use in accordance with EN IEC 60730-1:2022 2014/30/EU Electromagnetic Compatibility (EMC) EN IEC 60730-1:2022 EN IEC 60730-1:2022 Directive 2011/65/EU, as amended by (EU) 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	N/A	
	Shipping & Handling	Minimum Order Packaging	1 box with 1 piece Rigid Cardboards Packaging
	Order Notes	Order Code	See product range, page 1, e.g. CDI5G.RB

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Advices	Installation Notes  Observe the following general regulation for engineering and installation: All relevant national and local electrical installation codes Other country-specific regulations Comply with all local safety regulations, schematics, cable listings, dispositions, specifications, and arrangements from the engineering office in charge Third-party specifications, e.g., general contractors' or constructors' notes																												
	Mounting Advices  																												
	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, https://www.grunerasiapacific.com/ Hold your NFC-capable Android phone to the NFC Logo, the installed APP will start automatically Commisioning Note: The sensor will reach its specified accuracy after 1 hour of being powered up																												
Accuracy Curves	  																												
Dimensional Drawing / Mounting																													
Connections & Settings	<table><tr><th colspan="7">Terminal Connections</th></tr><tr><th>S1</th><th>S2</th><th>S3</th><th>S4</th><th>S5</th><th>S6</th><th>S7</th></tr><tr><td>Temperature</td><td>Humidity</td><td>Air Quality (VOC)</td><td>GND</td><td>UB+</td><td>24 V AC/DC</td><td>N/A</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>N/A</td><td>N/A</td></tr></table>	Terminal Connections							S1	S2	S3	S4	S5	S6	S7	Temperature	Humidity	Air Quality (VOC)	GND	UB+	24 V AC/DC	N/A						N/A	N/A
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