
 DS2220en	<b>Data Sheet</b>	
GDI1-Series (CO <sub>2</sub> )	<b>Duct Air Quality (CO<sub>2</sub>) Sensor with Active Outputs</b>	

The GDI1-Series (CO<sub>2</sub>) is designed to measure air quality (CO<sub>2</sub>) 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



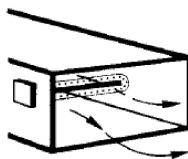

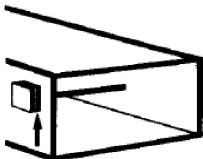


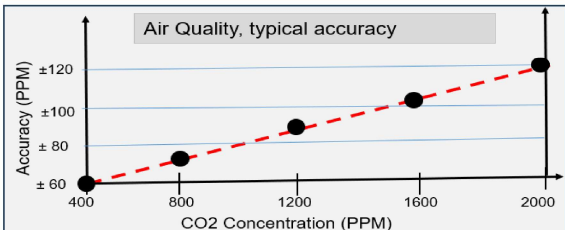
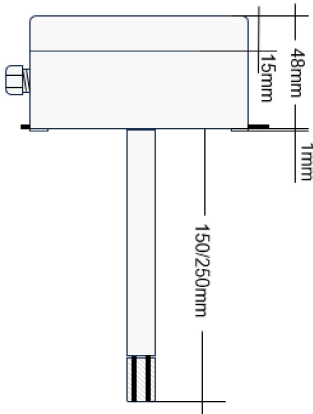
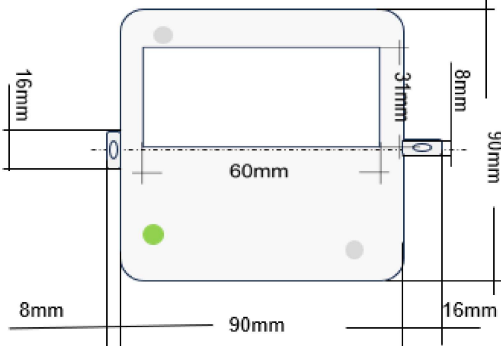
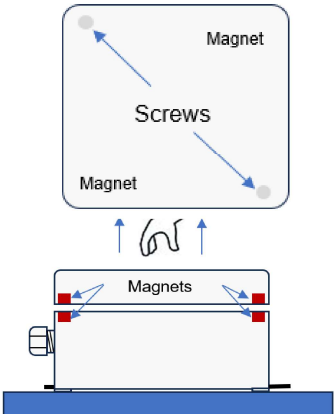
The sensor outputs are active



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																																																											
	Cover/button housing connected with magnets and 2 screws																																																											
	Immersion Pockes in Stainless Steel																																																											
	Firmware updates via service connector																																																											
	Easy to use, install and maintain.																																																											
Product Range	<table><tr><th rowspan="2">Order Codes</th><th colspan="6">General Parameters</th><th>Air Quality (CO<sub>2</sub>)</th></tr><tr><th>Display</th><th>Active Outputs</th><th>Immersion Lengh</th><th>LED</th><th>Power Supply</th><th>IP Rating</th><th>Parameters</th></tr><tr><td>GDI1G.EA</td><td>ePaper 31 mm × 60 mm</td><td rowspan="4">0–10 V</td><td rowspan="2">150 mm</td><td rowspan="8">LED</td><td rowspan="8">AC/DC 24 V (±10 %)</td><td rowspan="8">IP65</td><td rowspan="8">Accuracy ±(50 ppm +3 % of reading) Measuring Range 0 to 2000 ppm Repeatability ± 10 ppm Response time t<sub>63</sub> = 60 s</td></tr><tr><td>GDI1G.CA</td><td>N/A</td></tr><tr><td>GDI1G.VA</td><td>ePaper 31 mm × 60 mm</td><td colspan="5" rowspan="2">250 mm</td></tr><tr><td>GDI1G.UA</td><td>N/A</td></tr><tr><td>GDI1G.ED</td><td>ePaper 31 mm × 60 mm</td><td rowspan="4">4–20 mA</td><td colspan="5" rowspan="2">150 mm</td></tr><tr><td>GDI1G.CD</td><td>N/A</td></tr><tr><td>GDI1G.VD</td><td>ePaper 31 mm × 60 mm</td><td colspan="5" rowspan="2">250 mm</td></tr><tr><td>GDI1G.UD</td><td>N/A</td></tr></table>							Order Codes	General Parameters						Air Quality (CO <sub>2</sub> )	Display	Active Outputs	Immersion Lengh	LED	Power Supply	IP Rating	Parameters	GDI1G.EA	ePaper 31 mm × 60 mm	0–10 V	150 mm	LED	AC/DC 24 V (±10 %)	IP65	Accuracy ±(50 ppm +3 % of reading) Measuring Range 0 to 2000 ppm Repeatability ± 10 ppm Response time t <sub>63</sub> = 60 s	GDI1G.CA	N/A	GDI1G.VA	ePaper 31 mm × 60 mm	250 mm					GDI1G.UA	N/A	GDI1G.ED	ePaper 31 mm × 60 mm	4–20 mA	150 mm					GDI1G.CD	N/A	GDI1G.VD	ePaper 31 mm × 60 mm	250 mm					GDI1G.UD	N/A
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Sensor Specification	<b>Sensor Specification</b>	Measured	Air Quality (CO <sub>2</sub> )
		Sensor Characteristics	Active
Technical Information		Sensor Output (s)	0–10 V or 4–20 mA
		Output Load	
		0–10 V output	Min. load 5 kΩ @ AC/DC 24 V
		4–20 mA output	Max. load 700 Ω @ DC 24 V
	<b>Air Quality (CO<sub>2</sub>)</b>	Accuracy	±(50 ppm +3 % of reading)
		Repeatability	±10 ppm
		Response Time	t <sub>63</sub> = 60 s
		Measuring Rang	0 ppm to 2000 ppm
	<b>Electrical Information</b>	Power Supply	AC/DC 24 V (±10 %)
		Frequency	50/60 Hz at AC 24 V
Miscellaneous		Terminal Clamp	Screw terminal, max. 1.5 mm <sup>2</sup>
		Power Consumption	
		0–10 V output	≤1 W
		4–20 mA output	≤1 W
	<b>Mechanical Information</b>	Service Connector	Bootloader for software updates
		Display	ePaper 31 mm × 60 mm
		Immersion Pocket	Ø19.5 mm × 150 mm/250 mm
	<b>Materials and Colours</b>	Housing Cover	ABS, white
		Housing Bottom	ABS, white
		Sensor Pipe	ABS, white
		Flammability Standard	UL 94 class HB; IEC 60707; ISO 9770
	<b>Environmental Conditions</b>	Operation Temperature	0 °C to +50 °C
		Operation Humidity	<85 % RH, no condensation
		Transport Temperature	–35 °C to +70 °C
		Transport Humidity	<90 % RH
		Storage Humidity	<85 % RH, no condensation
	<b>Norms and Directives</b>	IP-Rating	IP65 to IEC60529
		REACH Regulation	Regulation (EC) No. 1907/2006
		Product Safety	Safety class III, in accord. with EN IEC 60730-1
		Product Standard	Automatic electrical controls for household and similar use in accordance with EN IEC 60730-1:2022
		CE marking in accordance with Directive	2014/30/EU Electromagnetic Compatibility (EMC)
		EMC Emissions, in accordance with	EN IEC 60730-1:2022
		EMC Immunity, in accordance with	EN IEC 60730-1:2022
		RoHS Compliance, in accordance with	Directive 2011/65/EU, as amended by (EU) 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
Accessories	<b>Accessories</b>	N/A	
	<b>Shipping &amp; Handling</b>	Minimum Order	1 box with 1 piece
		Packaging	Rigid cardboard packaging
Order Notes	<b>Order Notes</b>	Order Code	See product range, e.g. GDI1G.CA

All Information and technical data are subject to alteration

Advices	<div>Installation Notes</div> <div></div> <div>Observe the following general regulation for engineering and installation:</div> <div><div>All relevant national and local electrical installation codes</div><div>Other country-specific regulations</div><div>Comply with all local safety regulations, schematics, cable listings, dispositions, specifications, and arrangements from the engineering office in charge</div><div>Third-party specifications, e.g., general contractors' or constructors' notes</div></div>																					
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	<div>Disposal Notes</div> <div></div> <div><div>The device is considered an electronic device for disposal in terms of the European Directive 2012/19/EU</div><div>The device may not be disposed as domestic garbage</div><div>The device must be disposed through channels provided for this purpose</div><div>It is mandatory to comply with local currently applying laws and regulations</div></div>																					
	<div>NFC Setting</div> <div></div> <div><div>All devices marked with the NFC Logo can be parameterized via the Gruner AP NFC APP</div><div>The NFC APP is available on the Gruner AP Website, <a href="https://www.grunerasiapacific.com/">https://www.grunerasiapacific.com/</a></div><div>Hold your NFC-capable Android phone to the NFC Logo, the installed APP will start automatically</div><div><b>Commisioning Note:</b> The sensor will reach its specified accuracy after 1 hour of being powered up</div></div>																					
Accuracy Curves																						
Dimensional Drawing / Mounting	  																					
Connections & Settings	<div>Terminal Connections</div> <table><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>N/A</td><td>N/A</td><td>Air Quality (CO<sub>2</sub>)</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></td><td></td></tr></table>	S1	S2	S3	S4	S5	S6	S7	N/A	N/A	Air Quality (CO <sub>2</sub> )	GND	UB+	24 V AC/DC	N/A							
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