

CO<sub>2</sub> Measuring instruments

# CO<sub>2</sub> DISPLAY/CL11/CP11



CO<sub>2</sub> display



CP11



CL11

## Benefits

- Measures and logs CO<sub>2</sub>, relative humidity and temperature
- Rotronic HYGROMER® IN-1 humidity sensor
- Up to 40,000 data point memory

## Applications

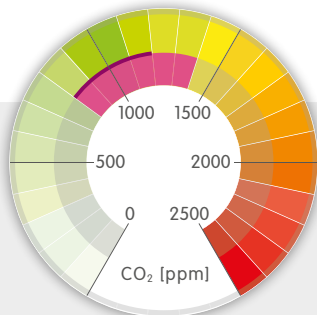
- Indoor air quality: classrooms, kindergartens, meeting rooms, open-plan offices, shopping centers, fitness studios



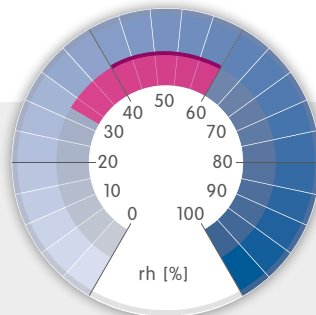
## General Information

Order code	CO <sub>2</sub> Display	CL11	CP11
Sensors / Calibration	<ul style="list-style-type: none"> <li>• HYGROMER® IN-1 humidity sensor</li> <li>• Calibration of humidity possible at 35/80 %RH</li> <li>• NDIR sensor with automatic calibration (ABC)</li> <li>• Manual calibration of CO<sub>2</sub> at 400 ppm</li> </ul>		
Display	<ul style="list-style-type: none"> <li>• Large, easy-to-read display of measured values</li> <li>• CO<sub>2</sub> indicator for quick recognition of air quality (GOOD/NORMAL/POOR)</li> <li>• REC LED to indicate data recording is in progress</li> <li>• Display of date and time</li> </ul>	Large display with backlight	
Control panel	Large buttons for easy operation of the measuring instrument		
Connections	<ul style="list-style-type: none"> <li>• Port for USB stick for data downloads</li> <li>• 12 VDC power supply</li> </ul>	<ul style="list-style-type: none"> <li>• Mini USB port for connection to a PC</li> <li>• 5 VDC power supply, for connection of the optionally available AC adapter</li> </ul>	

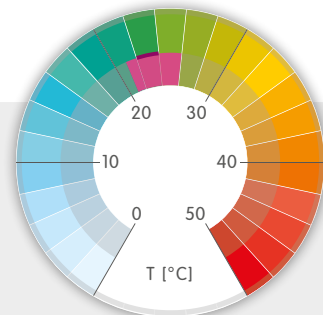
## Guidelines for a healthy indoor climate



Recommendation: 800 - 1200 ppm  
Optimum: 800 ppm  
Maximum: 1400 ppm






Recommendation: 40 - 60 %  
Winter: 30 %  
Summer: 60 %



Recommendation: 22 - 24 °C  
Winter: 21 °C  
Summer: 26 °C

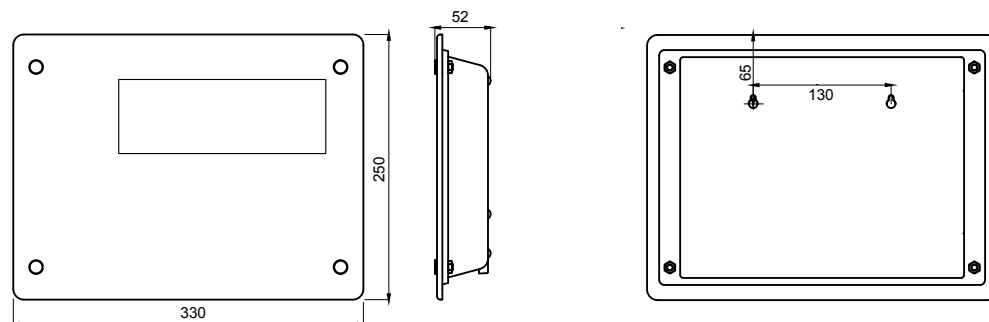
## Technical Information

			
	CO <sub>2</sub> Display	CL11	CP11
<b>General Specifications</b>			
Type	Wall or benchtop display unit	Benchtop display unit	Handheld device
Parameters	CO <sub>2</sub> , relative humidity and temperature		CO <sub>2</sub> , relative humidity, temperature, dew point & wet bulb temperature
Application range	0...50 °C / 0...95 %rh, non-condensing	0...50 °C / 0...100 %rh, non-condensing	
Clock	Real time clock with 4 min. battery backup	Real time clock with 2 min. battery backup	Real time clock
Alarm / Indicator	Adjustable for CO <sub>2</sub> measurement (visual)	Adjustable for CO <sub>2</sub> measurement (visual & audible)	Adjustable for CO <sub>2</sub> measurement (audible)
<b>Instrument-Specific Data</b>			
Current consumption	700 mA	50 mA	40 mA
Warm-up time	<1 min.		
Memory capacity	<ul style="list-style-type: none"> <li>• 19,500 values with time stamp</li> <li>• Automatic recording (%rh/°C/ppm)</li> </ul>	<ul style="list-style-type: none"> <li>• 40,000 values with time stamp</li> <li>• Automatic recording (%rh/°C/ppm)</li> </ul>	<ul style="list-style-type: none"> <li>• 18,000 values with time stamp</li> <li>• Automatic recording (%rh/°C/ppm)</li> <li>• 99 single values with time stamp</li> <li>• Manual recording (%rh/°C/DP/WBT/ppm)</li> </ul>
<b>CO<sub>2</sub> Measurement</b>			
Measurement principle	Infrared (NDIR) with automatic calibration (ABC)		
Measuring range	0...9999 ppm		
Accuracy at 23 °C ±5 K	±30 ppm ±5 % of the measured value @ 0...5000 ppm		
Resolution	1 ppm		
Adjustment point	400 ppm		
Pressure dependence	+1.6 % reading per kPa		
Null drift	<10 ppm/year		
Maintenance	No maintenance (standard indoor applications)		
<b>Humidity Measurement</b>			
Humidity sensor	ROTRONIC HYGROMER® IN-1		
Measuring range	0...100 %rh		
Accuracy at 23 °C ±5 K	±2 %rh (10...90 %rh), others ±5 %rh		
Resolution	0.1 %rh		
Adjustment points	35, 80 %rh		
Response time 63	<30 s, without filter		
Long-term stability	<1.5 %rh/year		
<b>Temperature Measurement</b>			
Sensor	NTC thermistor		
Measuring range	-20...60 °C		
Accuracy at 23 °C ±5 K	±0.3 K		
Resolution	0.1 °C		
Response time	4 s		
<b>Software</b>			
HW4 (SW21)	Available as download at <a href="http://www.rotronic.com">www.rotronic.com</a>		
<b>Conformities / Housing</b>			
CE / EMC compatibility	EMC Directive 2014/30/EU, EN 61326-1:2012		
Housing material	ABS		
Dimensions	330 x 250 x 50 mm	157 x 120 x 45 mm	76.7 x 41.8 x 233.9 mm
Weight	1400 g	200 g	290 g

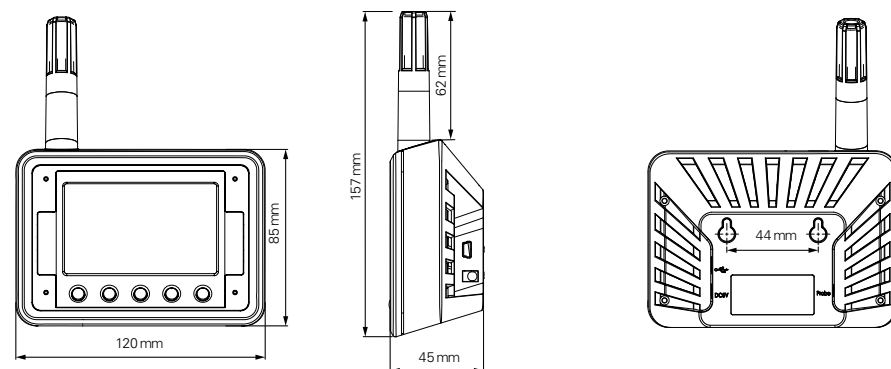


## Technical Information

### Dimensions CO<sub>2</sub> Display



### Dimensions CL11



### Dimensions CP11

