

CP11

PORTABLE INDOOR AIR MONITORING

- Measures and logs CO₂, relative humidity and temperature
- Dew Point and Wet Bulb calculations
- High Accuracy Hygromer® IN-1 humidity sensor
- 18,000 data point memory for CO₂, humidity and temperature values
- Maximum, minimum and average value display
- Adjustable audible CO₂ alarm
- Display with backlight
- Adjustable auto power off function
- Mini USB interface





BE PRECISE: THE MAIN ADVANTAGES AT A GLANCE

The CP11 handheld instrument is the latest development of an economical multimeter that simultaneously measures and records CO₂, humidity and temperature. It also calculates the dew point and wet bulb temperature. Equipped with the field-tested ROTRONIC HYGROMER® IN-1 humidity sensor, this instrument offers unbeatable value for money. The CP11 includes the ROTRONIC SW2.1 software which can be used to program, download data and save logged files.

Features

- Calculates dew point and wet bulb temperature
- Automatic or manual data logging
- Easy field calibration by simple connection to a known reference
- Auto power OFF function

Connections

- Mini USB port for connection to a PC
- 5 VDC power supply, for connection of the optionally available AC adapter

Large display

With backlight

Controls

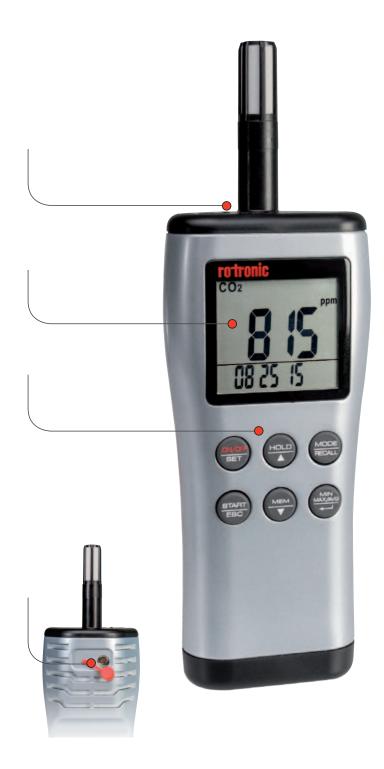
• Large buttons for easy operation of the measuring instrument

Sensors / Calibration

- HYGROMER® IN-1 humidity sensor
- Calibration of humidity possible at 35/80 %RH
- Calibration of CO₂ possible at 0 and 400 ppm

CO₂ calibration

• Opening for a simple CO₂ calibration



APPLICATIONS



Indoor air quality



Monitoring in underground garages (safety)



Leak monitoring in filling plants (safety)

PRINCIPLES

The CP11 handheld instrument evaluates the quality of air with a combined measurement of CO₂, humidity and temperature. A high concentration of carbon dioxide can develop quickly when closed areas with deficient ventilation are filled with people. Carbon dioxide (CO₂) is a colorless and odorless gas that exists in the earth's atmosphere and which is dangerous in high concentrations. The proportion of CO₂ in natural ambient air is about 0.04 % or 400 ppm. When humans and animals exhale this gas, it mixes quickly with the ambient air. A high CO₂ content becomes apparent in humans through rapid fatigue and loss of concentration. In order to initiate suitable countermeasures such as an increase in the supply of fresh air, it is important to measure not only parameters such as relative humidity and temperature, but also the CO₂ content.

Guidelines

350 - 450 ppm	400 - 1,200 ppm	>1,000 ppm	5,000 ppm (0.5 %vol)	38,000 ppm (3.8 %vol)	>100,000 ppm (10%vol)
Fresh air outdoors	Room air	Fatigue and loss of concentration become apparent.	Maximum permissible value at the workplace during an 8-hour workday	Breathing air (direct exhalation)	Nausea, vomiting, loss of consciousness and death

TECHNICAL INFORMATION

60.9

Dimensions

Suitable accessories

Art. no. Description
AC1214 AC adapter 5 VDC

ER-15 Humidity calibration device
EA35-SCS Humidity standard 35 %RH
EA80-SCS Humidity standard 80 %RH

CO₂ CALIBRATOR CO₂ calibrator

General			
Type	Handheld device		
Parameters	CO ₂ , relative humidity and temperature		
Range of application	050 °C / 0100 %RH, non-condensing		
Power supply	4 x AA batteries / optional AC adapter AC1214		
IP protection	IP30		
Clock	Real time clock		
Alarm	Adjustable for CO2 measurement		
Technical information / Functions			
Battery life	50 h		
Current consumption	40 mA (typical)		
Warm-up time	<1 min.		
Calculations	Dew point, wet bulb temperature		
Measured value memory	18,000 values with time stamp, automatic recording (%RH / °C / ppm) 99 single values with time stamp, manual recording (%RH / °C / DP / Tw / ppm)		
CO ₂ measurement			
Measurement principle	Non dispersive infrared (NDIR) with automatic baseline correction (ABC)		
Measurement range	05000 ppm		
Accuracy at 23 °C ±5 K	±30 ppm ±5 % of the measured value		
Response time	<10 sec @ 30 cc/min. flow, <3 min diffusion time		
Adjustment points	0, 400 ppm		
Pressure dependence	+1.6 % reading per kPa		
Null drift	<10 ppm/year		
Maintenance	No maintenance (standard indoor application)		
Humidity measurement			
Humidity sensor	ROTRONIC HYGROMER® IN-1		
Measurement range	0.199.95 %RH		
Accuracy at 23 °C ±5 K	<2.5 %RH (1090 %RH)		
Adjustment points	35, 80 %RH		
Response time t63	<30 s, without filter		
Long-term stability	<1.5 %RH / year		
Temperature measurement			
Sensor	Thermistor		
Measurement range	-2060 °C		
Accuracy at 23 °C ±5 K	±0.3 °K		
Response time	4 s		
Software			
Supplied with the instrument or available as download	SW2.1 (settings, data download, display of measured values)		
HW4	Compatible with optionally available HW4 software		
Conformities / Housing	65 6 1000/100/15		
CE / EMC compatibility	CE conformant 2004/108/EC		
Housing material	ABS		
Dimensions	76.7 x 41.8 x 233.9 mm		
Weight	290 g		

