Technical Data Sheet

COLTRI COMPRESSORS

CO SAFEGUARD

Contact

COLTRI
1ST STAGE PRESSURE
2ND STAGE PRESSURE
3RD STAGE PRESSURE
FILLING PRESSURE
START
STOP
CONDENSATE DRAIN
LOW OIL LEVEL
WRONG ROTATION
COLTRI COMPRESSORS
CABIN TEMPERATURE
HOUR METER
EMERGENCY STOP
FILLING PRESSURE SWITCH
ppm CARBON MONOXIDE CONTROL
330 BAR [4700 PSI]
CONDENSATE DRAIN VALVES
VÁLVULAS DE DRENAJE DE CONDENSADOS
OIL LEVEL
MAX
MIN
WARNING
ATENCIÓN
OIL DRAIN
DRENAJE ACEITE

CO SafeGuard - Safe personal Carbon monoxide analyzer

Carbon monoxide (CO) is a colourless and odourless toxic gas, that could be yielded from engine exhalation or from bad maintained compressor filters. If breathed it bonds with blood haemoglobin affecting the oxygen transport to the body tissues.

Carbon Monoxide poisoning is extremely dangerous, could be only treated with immediate medical cares and could even lead to death. Carbon monoxide (CO) can be produced within a compressor as a result of breakdown of the lubricating oil caused by pyrolysis (chemical decomposition by heat). Pyrolysis can occur when the system is hot, but not necessarily overheating and the resulting short term high levels of CO would not necessarily be identified during periodic sampling. To minimise this hazard should be considered to easily put CO SAFEGUARD online for monitoring for CO content.

Before diving, CO SAFEGUARD is able to analyze the carbon monoxide content in every breathable gas mix, including air. It can be connected to the gas compressor for continuous reading too.

CO SAFEGUARD can be also used for safety reason in checking carbon monoxide content into any environment (in diffusion mode). It alerts the operators in case of dangerous concentration.

CO SAFEGUARD assures safe diving also with air. It is really easy to use and allow the user to personally check if gas mix or air is carbon monoxide free. Really essential for diving centre for checking the compressor air inlet, and for divers during abroad dive trips.

CO SAFEGUARD is a full digital measurement instrument with two visible and audible alarms if carbon monoxide value is over the set values. It is based on a state-of-theart carbon monoxide electrochemical sensor with long term stability and virtually calibration-free. It is possible to replace and calibrate the carbon monoxide sensor without any factory assistance. The instrument is able to read 5 ppm (parts per million), in compliancy with the EN 12021 norm.

1 Display
2 On/off button
3 Configuration buttons
4 Fixing screws
5 Electronic board

Main features

Carbon monoxide analysis into the gas mix

1 ppm (parts per million) resolution

Sensor and analyzer autosetting

Adjustable calibration span value (optional)

Calibration with certified span gas

Calibration of zero with 0,0% Nitrogen sample gas (optional)

Two custom audible and visible alarms

Adjustable full scale measurement range from 50 to 300 ppm

Open Collector output

Actual environmental temperatur

Numeric display

Simple sensor replacement

Carbon monoxide sensor specifications

Operating Principle: 2-electrode electrochemical

Measurement Range: 0-100 ppm

Expected Operating Life*: >2 years in normal use from date of manufacture

Temperature Range* Continuous: -10°C to +50°C Intermittent: -20°C to +50°C

Pressure Range*: 1 atm +10%

Humidity Range* (non-condensing): Continuous: 15 - 90% Intermittent: 0 - 99%

Response Time: (T5 90) <50 seconds over complete temperature range

Baseline Offset (clean air): <-2 to 4 ppm equivalent

Zero Shift* (-10°C to +50°C): <+10 ppm

Long Term Output Drift: <5% per annum

Repeatability: <+5%

Linearity Linearity: <+5%

Orientation: Any

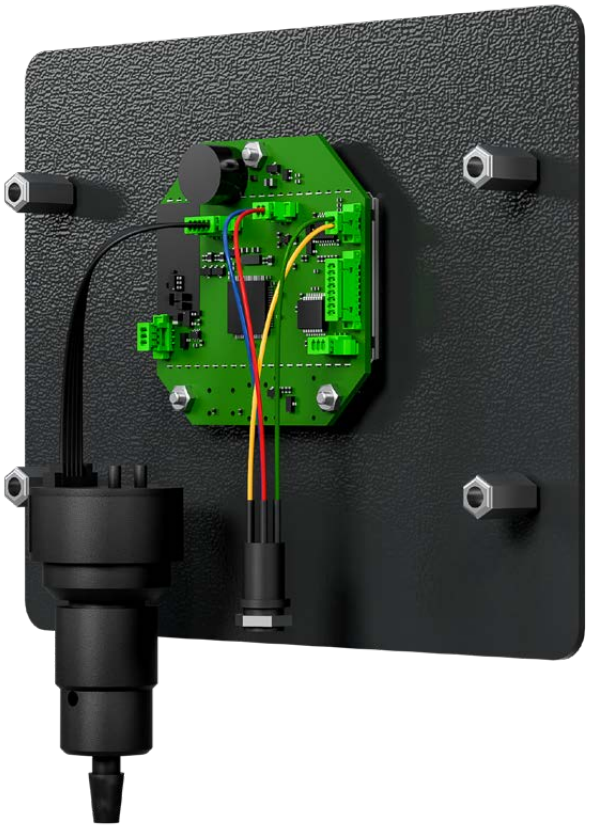
All measurements were taken at 20°C and 505 rH at 1 atmosphere pressure unless otherwise indicated.
The performance data detailed in this document refer to new sensors

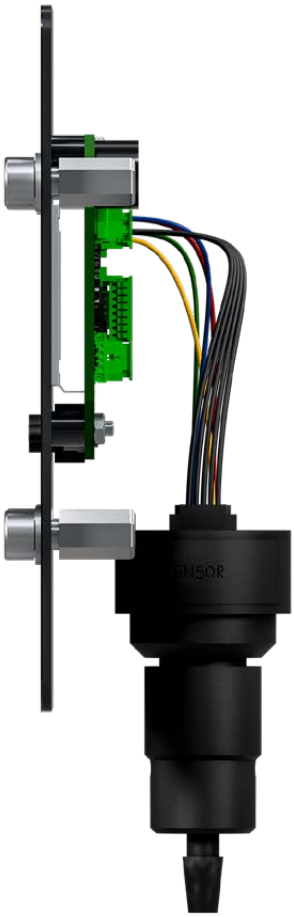
With the exception of items marked * the parameters have been verified under the UL component recognition programme

Cross sensitivity sensor table

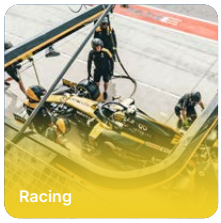
Gas	Concentration used	Exposure time (minutes)	Reading (ppm CO)
Carbon Monoxide	100	5	100
Hydrogen Sulphide	25	5	0
Sulfur Dioxide	50	600	<0.5
Nitrogen Dioxide	50	900	-1.0
Nitric Oxide	50	5	8
Chlorine	2	5	0
Hydrogen	100	5	20
Carbon Dioxide	5000	5	0
Ammonia	100	5	0
Ethanol	2000	30	5
Iso-Propanol	200	120	0
Acetone	1000	5	0
Acetylene	40	5	80

COLTRI
COMPRESSORS
88.8
ON/OFF
PROG
CALIBRATION
ppm CARBON MONOXIDE CONTROL





Application fields



Aerotecnica Coltri S.p.A.

Via dei Colli Storici, 177
25015 Desenzano del Garda - Brescia - Italy

Tel. +39 030 9910301
+39 030 9910297

info@coltri.com

DT-TDS-COSAFEGUARD-25-V1

QUALITY SYSTEM CERTIFICATION DNV ISO 9001

ENVIRONMENTAL SYSTEM CERTIFICATION DNV ISO 14001

Printed on paper from
sustainably managed forests

Visit our showroom in Virtual Reality

coltri.com

coltri.com/showroom

COLTRI® COMPRESSORS