

& Safe Solutions

GENERAL:

The combination of Avaco Systems & Safe Solutions is a service package that includes skilled expert services, design assistance, high-quality equipment deliveries and after-sales marketing consultations.

The **DGT – ec2** digital gas transmitter is a new and innovative device for different controls and alarms. The DGT-ec2 detector is designed for detecting oxygen, hydrogen and toxic gases. The DGT-ec2 transmitter will be customised at the factory according to the customers detection needs.

The electro chemical sensor element will be chosen according to the measured gases and measuring requirements in order to find the best solutions for each application.

DGT-ec2-ex belongs to Equipment Group II and Equipment Category 3. The sensor can be installed in Zone 2 areas → II 3G Ex ec IIC T4 Gc.

THE RISKS MUST BE RECOGNISED:

In handling, stowing and transporting toxic gases or oxygen there are always a risk of health and accidents. High-risk periods can appear also outside of the normal working time, when the places are unoccupied, control rounds are arranged periodically or control actions outside of the working time are neglected.

USAGE:

Together with AVACO controllers or other existing control systems the DGT-ec2 units form a reliable and efficient system for gas detection with comprehensive alarm and control functions.

CALIBRATION AND PARAMETERS:

The settings of the parameters and the calibration of the sensor is wireless done without opening the detector lid. Non-intrusive parameter setting and calibration is done by using the IR Communicator (IRC). The last calibration date, the calibrating person and the serial number of the transmitter can be read via IR link. The above mentioned data can be printed out, serving when needed as a calibrating report for e.g. authorities

CALIBRATION:

The detectors are delivered factory calibrated according to the measuring range. After installation it is recommended to calibrate the detectors at least once per year.

The calibration and maintenance services shall be carried out by authorized maintenance personnel.

It is recommended to recalibrate the detectors every year and operational tests (ON / OFF-test) every 4 – 6 months.

DGT-ec2 / DGT-ec2-ex digital gas transmitter



Enclosure dimensions: 89 mm x 89 mm x 69 mm.
The enclosure base can be turned up side down for the wires. Installation height depending of the controlled gas.



Applications:

- Cold storages
- Refrigerating stores
- Forklift garages
- Production areas
- Ice skating rinks
- Battery recharge points
- Factory trawlers
- Painting shops etc.
- Car Parks
- Vessels, Cruisers

Technical data:

GASES:

Gas		Measurement range	Typical sensor replace frequency	Operating temperature range	Response time T90
NH ₃	Ammonia	0 – 200 ppm	24 months	-20 ...+40°C	< 60 s
NH ₃	Ammonia	0 – 1000 ppm	24 months	-20 ...+40°C	< 90 s
O ₂	Oxygen	0 – 25 %	24 months	-20 ...+55°C	< 15 s
CO	Carbon Monoxide	0 – 1000 ppm	24 months	-30 ...+50°C	< 40 s
H ₂ S	Hydrogen Sulphide	0 – 50 ppm	24 months	-30 ...+50°C	< 30 s
SO ₂	Sulphur dioksidi	0 – 20 ppm	24 months	-30 ...+50°C	< 30 s
NO	Nitric oxide	0 – 100 ppm	24 months	-20 ...+50°C	< 15 s
NO ₂	Nitrogen dioxidei	0 – 20 ppm	24 months	20 ...+50°C	< 40 s
H ₂	Vety	0 – 1000 ppm	24 months	-20 ...+50°C	< 50 s
H ₂	Vety	0 –10000 ppm	24 months	-20 ...+50°C	< 110 s
O ₃	Ozone	0 – 1 ppm	24 months	-20 ...+40°C	< 60 s
Cl ₂	Chlorine	0 – 5 ppm	24 months	-20 ...+50°C	< 45 s
HCl	Hydrogen Chloride	0 – 20 ppm	24 months	-20 ...+50°C	< 120 s

CALIBRATION:

The detectors are delivered factory calibrated to the measuring range.
 After installation it is recommended to calibrate the detector at least once per year.
 It is also recommended to do functional tests to the detector 4-6 times a year.
 According to the ATEX directive only

ENVIRONMENTAL:

Operating humidity: 15...90 % RH non-condensing (Momentary 0...99% RH for Oxygen)

Operating air pressure: Normal air pressure +/- 10 %

ELECTRICAL:

OUTPUT SIGNAL: 4 - 20 mA linear response I

OPERATING VOLTAGE: 16...36 VDC, regulated

Cable requirements:

Safe zone: 2-wire connection e.g. Jamak 2 x (2+1) x 0,5 mm² (or equal)

Ex zone: cable must be in accordance with 60079-14 standard

0,9 W (max)

Power consumption:

ENCLOSURE:

installation Possibilities: wall, ceiling and pipe assembly

Material:

Cast Aluminium silicate, epoxy painted beige/grey, tone RAL7032

Degree protection:

IP54 (IP66 with SS protection Enclosure)

Dimensions:

89 mm x 89 mm x 69 mm. Weight 450 g

Cable penetration:

STR16, for cables with diameters 6 – 12 mm, body polyamide, gasket CR

Gasket: CMP SOLO LSF thermoplastic elastomer

EX MARKING:

II 3 G Ex ec IIC T4Gc



DGT gas detectors

Sales, marketing, consulting



Kaivokatu 22, 21100 Naantali, Finland
 tel. +358 - 2 - 4353 790

www.sensing.fi sensing@sensing.fi