

DGT – ec - ex

Digital gas transmitter for EX / Atex areas

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-ec-ex is suitable for use in hazardous areas for the measurement and monitoring of toxic gases, oxygen, nitrogen and hydrogen.

The detector can be used to measure a wide range of gases. The DGT-ec-ex 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.

The detector is easy to install and connect to existing automation solutions. It is also compatible with other systems. A barrier or galvanic isolator is used in connecting the detector. The DGT-ec-ex detector is designed for detecting in EX / Atex areas and is certified for use in Zones 0, 1 and 2.

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 Scan-20 or Scan-200 controllers or other existing control systems the DGT-ec-ex units form a reliable and efficient system for gas detection with comprehensive alarm and control functions.

The standard linear 4-20 mA output signal of the DGT-ec-ex enables the unit to be easily connected to existing control systems and equipment if desired.

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



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:

- Process Industry
- Food Industry
- Pharmaceutical Industry
- Hospitals
- Laboratories
- Compressor Rooms
- Water Treatment Plants

Technical data:

SENSOR SPECIFIC DATA:

GAS	MEASURING RANGE	EXPECTED SENSOR LIFE	OPERATING TEMPERATURE	RESPONSE TIME (T ₉₀)
O ₂ Oxygen	0 – 25 %	1,5 years	-20 ...+55°C	< 15 s
CO Carbon monoxide	0 – 1000 ppm	2 years	-30...+50°C	< 40 s
Cl ₂ Chlorine	0 – 5 ppm	2 years	-20...+50°C	< 45 s
O ₃ Ozone	0 – 1 ppm	2 years	-20...+40°C	< 60 s
SO ₂ Sulphur Dioxide	0 – 20 ppm	2 years	-30 ...+50°C	< 30 s
H ₂ S Hydrogen sulphide	0 – 50 ppm	2 years	-30 ...+50°C	< 30 s
HCl Hydrogen Chloride	0 – 50 ppm	2 years	-30 ...+50°C	< 120 s
NO ₂ Nitrogen Dioxide	0 – 20 ppm	2 years	-20 ...+50°C	< 40 s
NO Nitric Oxide	0 – 100 ppm	2 years	-20 ...+50°C	< 15 s
H ₂ Hydrogen	0 – 1000 ppm	2 years	-20 ...+50°C	< 50 s
H ₂ Hydrogen	0 –10000 ppm	2 years	-20 ...+50°C	< 110 s
NH ₃ Ammonia	0 – 200 ppm	2 years	-20 ...+40°C	< 60 s
NH ₃ Ammonia	0 – 1000 ppm	2 years	-20 ...+40°C	< 95 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
Power consumption: 0,9 W (max)

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

CERTIFICATE:

EC-TYPE EXAMINATION CERTIFICATE:
Equipment or Protective Systems Intended for use in Potentially explosives atmospheres
Directive 2014/34/EU, Annex II
Reference: VTT 09 ATEX 041X (Notified Body Number 0537)

Reference:



EX MARKING:

II 1 G Ex ia IIC T4



DGT gas detectors

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