AVACO SYSTEMS
& Safe Solutions

DGT–i2
digital gas transmitter

Food industry
Cold stores, beverage storage
Ice rinks, ski tubes...

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-i2** digital gas transmitter is a new and innovative device and designed for detecting carbon dioxide and hydro-carbons in different adaptations.
The use of NDIR sensor enables the detector to work reliable in very demanding environment. The long-life infrared (NDIR) sensor will manage in difficult circumstances and it tolerates most of the weak acids, solvents, bases and corrosive gases. The DGT-i2 transmitters will be customized at the factory according to the customers detection needs.
The **DGT-i2** is suitable e.g. for industrial use, cold stores, greenhouses, breweries etc.

DGT-i2-ex belongs to Equipment Group II and Equipment Category 3. The detector can be installed in Zone 2 areas.
Atex marking: II 3 G Ex ec IIC T4 Gc

Enclosure dimensions: 89 mm x 89 mm x 69 mm.
Length of sensor shield 40 mm.

The enclosure base can be turned up side down for the wires. Installation depending of the controlled gas.

The risks must be recognized:

The bases of CO_2 measuring are air quality and leak control (high concentration) in industrial use.
The CO_2 gas is colourless and almost odourless. In high concentrations CO_2 can displace oxygen and cause risks for choke.

Usage:

Together with Avaco controllers or other existing control system the DGT-i2 units form a reliable and efficient system for gas detection with comprehensive alarm and control functions.
Operating voltage 24 VDC and output signal 4-20 mA (lin.) to control system.
Typical measuring range for CO_2 is 0…3 % (0-30000 ppm) and for HC is 0-100 % LEL.

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.

Applications:

- Schools
- Hotels
- Libraries
- Engine rooms
- Painting shops
- Organic solvent stores
- Green houses
- Breweries
- Process industry

DGT-i2

Technical data:

digital gas sensor / transmitter

$C\epsilon$

Principle and gases:

Sensor Type:	NDIR infrared sensor (Non Dispersive InfraRed)
Gases and Solvents:	alcohols such as methanol, ethanol and (iso-) propanol
	alkanes such as methane, propane, butane, pentane, hexane, heptane, octane, cyclo-hexane and cyclo-pentane
	other gases such as carbon dioxide,
Other target gases	ask further information
Measurement Range:	carbon dioxide: 0 … 5%, vol. CO2
	combustible gases: 0 … 100% LEL
Resolution:	carbon dioxide: <0,01% vol. CO2
	combustible gases: <0,1% LEL
T90 Response Time:	<60sec
Sensor life time:	Typical Sensor Replace Frequency is 5 years
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.

Environmental

Operating Temperature Range:	-20°C - +50°C
Operating Humidity:	non-condensing 0…95%RH
Operating Air Pressure:	normal air pressure ±10%

Electrical

Output Signal:	4-20mA linear response
	a signal light indicating the measuring/sensor fault/gas alarm
	a relay output 24VDC/250mA in the DGTi2r and DGTi2r-ex-models
Operating Voltage:	24VDC ±20%, regulated
Cable Requirements:	four-wire connection, suggested type JAMAK 2 x (2+1) x 0,5mm2 or equal
	EX Areas: Cabling according to the EN 60079-14 standards
Power Consumption:	3.0W (max)

Enclosure

Installation Possibilities:	wall, ceiling and pipe assembly
Material:	cast aluminium silicate
Surface Treatment:	epoxy painted beige/grey tone RAL7032
Ingress Protection Code:	IP54
Dimensions:	89mm x 89mm x 69mm
Weight:	450g
Mounting:	isolating/mounting plate with 2-4 screws and/or enclosure with 2 screws
Cable Penetration:	STR16, for cables with diameters 6 - 12mm, body polyamide, gasket CR

Approvals

DGTi2-ex belongs to Equipment Group II and Equipment Category 3.
The detector can be installed in Zone 2 areas.

Ex Marking: II 3 G Ex ec IIC T4 Gc