

DGT-k2 DGT-k2-ex digital gas transmitter

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-k2** and **DGT-k2-ex** serial digital gas transmitter is a new and innovative device with catalytic sensor for different controls and alarms.

The DGT-k2 detector is designed for detecting combustible gases and organic vapours.



DGT-k2-ex belongs to Equipment Group II and equipment Category 3.
The sensor can be installed in Zone 2 areas.
Atex marking: II 3G Ex ec IIC T4 Gc

Usage:

Together with Scan serial controllers or other existing control systems the DGT-k2 units form a reliable and efficient system for gas detection with comprehensive alarm and control functions.

The standard linear signal output of the DGT-k2 enables the unit to be easily connected to existing control systems and equipment if desired.

The DGT-k2 gas detector is equipped with indication lights.

DGT-k2r / **DGT-k2r-ex** transmitters can be outfitted with a relay output, buzzer and indication lights (green / red). With these options, the transmitter can operate also as a stand alone unit.

Installation:

The delivery of the equipment includes instructions for the installation and the connection.

The cabling shall be done according to the diagrams with the delivery.

Calibration:

The transmitters are calibrated to the measuring range at the factory to the needs of controlling.

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



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.



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:

PRINCIPLE AND GASES:

Sensor type: Catalytic (pellistor)
 Typical range 0 - 100% LEL
 Measuring Range:
 Target gas: Alkanes: e.g. methane, propane, butane, pentane, hexane, heptanes, octane, cyclo-hexane,
 Alcohols: e.g. methanol, ethanol, propanol, isopropanol
 Aromatic hydrocarbons: e.g. toluene, xylene
 Other gases: e.g. ammonia, acetone, ethyl acetate, carbon monoxide MEK, hydrogen

COMBUSTIBLE GAS / VAPOUR → GAS LIST			RELATIVE SENSITIVITY (% L.E.L.)	VAPOUR DENSITY (AIR = 1)	
	SCHEME	L.E.L. (% v/v)		INSTALLATION	
METHANE	CH₄	5,0 %	100	0,55	UP / CEILING
ACETONE	C ₃ H ₆ OH	2,6	35	2,01	DOWN
PROPANE	C ₃ H ₈	2,10	55	1,52	DOWN
n - BUTANE	C ₄ H ₁₀	1,8	50	2,01	DOWN
n - PENTANE	C ₅ H ₁₂	1,4	40	2,5	DOWN
n - HEXANE	C ₆ H ₁₄	1,2	30	2,98	DOWN
n - HEPTANE	C ₇ H ₁₆	1,05	35	3,46	DOWN
n - OCTANE	C ₈ H ₁₈	0,95	30	3,9	DOWN
METHANOL	CH ₃ OH	5,5	70	1,1	DOWN
ETHANOL	C ₂ H ₆ O	3,3	40	1,59	DOWN
TOLUENE	C ₇ H ₈	1,2	35	3,18	DOWN
ETHYLACETATE	C ₄ H ₈ O ₂	2,2	30	3,04	DOWN
HYDROGEN	H ₂	4,0	80	0,07	UP / CEILING
CARBON MONOXIDE	CO	12,50	70	0,97	BREATHING LEV.

(If you need to detect other gases, please contact us ask for further information)

T90 Response time: < 20 seconds (typical)
 Sensor life time: 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: -400 °C ... +65 °C
 Operating humidity: 0...95 % RH non-condensing
 Operating pressure: Operating air pressure – Normal air pressure +/- 10 %

ELECTRICAL:

Output signal: DGT-k2 4 - 20 mA linear response
 DGT-k2r 4 - 20 mA linear response + relay output 24V / 1A
 Operating voltage: 24 V DC, +/- 20 %, regulated
 Cable requirements: Safe zone: 4-wire connection e.g. Jampak 2 x (2+1) x 0,5 mm² (or equal)
 Ex zone: cable must be in accordance with 60079-14 standard
 Power consumption: 4 W (max)

ENCLOSURE:

Installation Possibilities: wall-, ceiling, duct- and pipe assembly
 Material: Cast Aluminium Silicate, epoxy painted (beige or grey RAL 7032)
 Degree protection: IP54(IP56 with SS protection enclosure)
 Dimensions: 89 mm x 89 mm x 69 mm / 620g
 Mounting: Isolating / mounting plate with 2-4 screws and / or enclosure with 2 screws
 Cable penetration: STR16, for cables with diameters 6-12 mm, body polyamide, Gasket CR

APPROVALS:

Ex-marking: DGT-k2-ex and DGT-k2r-ex: II 3G Ex ec IIC T4 Gc



DGT gas detectors

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