

# AVACO SYSTEMS

**& 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-k2** 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** 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.

## DGT-k2 digital gas transmitter



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)  
 Measuring Range: Typical range 0 - 100% LEL  
 Target gas: Alkanes: e.g. methane, propane, butane, pentane, hexane, heptane, 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	
<b>METHANE</b>	<b>CH<sub>4</sub></b>	<b>5,0 %</b>	<b>100</b>	<b>0,55</b>	<b>UP / CEILING</b>
ACETONE	C <sub>3</sub> H <sub>6</sub> OH	2,6	35	2,01	DOWN
PROPANE	C <sub>3</sub> H <sub>8</sub>	2,10	55	1,52	DOWN
n - BUTANE	C <sub>4</sub> H <sub>10</sub>	1,8	50	2,01	DOWN
n - PENTANE	C <sub>5</sub> H <sub>12</sub>	1,4	40	2,5	DOWN
n - HEXANE	C <sub>6</sub> H <sub>14</sub>	1,2	30	2,98	DOWN
n - HEPTANE	C <sub>7</sub> H <sub>16</sub>	1,05	35	3,46	DOWN
n - OCTANE	C <sub>8</sub> H <sub>18</sub>	0,95	30	3,9	DOWN
METHANOL	CH <sub>3</sub> OH	5,5	70	1,1	DOWN
ETHANOL	C <sub>2</sub> H <sub>6</sub> O	3,3	40	1,59	DOWN
TOLUENE	C <sub>7</sub> H <sub>8</sub>	1,2	35	3,18	DOWN
ETHYLACETATE	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	2,2	30	3,04	DOWN
HYDROGEN	H <sub>2</sub>	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: -40 °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 mm<sup>2</sup> (or equal)  
 DGT-k2-ex for 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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