

DESCRIPTION

Digital RS-485 communicating, addressable toxic and combustible gas sensor for direct connection to the DGC6-Series Digital Gas Controller.

Compliant with Safety Integrity Level 2 (SIL 2) and rigorous international standard EN 50545-1 for parking garages and tunnels, DT6-Series sensors utilize advanced self-diagnostics and flexible ventilation control functions to ensure maximum human safety without compromising energy efficiency.

Each DT6 may be configured with one or two integrated SC2 sensor modules with X-Change sensor technology. An additional DR6 remote sensor module may “piggyback” onto the DT6 providing the capability to monitor up to three gases at one location.

Advanced, microprocessor-based X-Change sensor modules meet or exceed the EN 50545-1 self-diagnostic standards including notifying the controller when calibration is due. Although field calibration is possible, X-Change technology allows fast and cost-effective sensor module swaps minimizing field service time, eliminating system downtime and ensuring peak system performance for many years.

PolyGard®2 DT6



APPLICATION

DT6 transmitters in combination with DGC6 Digital Gas Controllers provide scalable solutions for monitoring and controlling toxic and/or combustible gas levels. DT6-CO (single gas) and DT6-CO-NO2 (dual gas) transmitters are economical electrochemical sensors ideally suited to parking garage, vehicle maintenance shops, package sorting and distribution facilities and tunnel applications. Methane monitoring is an economical addition with the DR6-COMB digital remote module.

FEATURES

- Sensor node for 1, 2, or 3 gas sensor modules (3rd sensor with DR6 remote module)
- X-Change toxic and combustible gas sensor modules for reliable operation and easy maintenance
- RS-485 serial communications to DGC6-Series Digital Gas Controllers
- Digital measurement processing with temperature compensation
- Internal diagnostics including integrated hardware watchdog
- High-impact NEMA 4X (IP65) enclosure
- Hardware & software conforms to SIL 2 standard



- UL 2075 Listed
- EMC Directive 2014/30/EU
- CE
- EN 50271
- EN 61010-1:2010
- ANSI/UL 61010-1
- CAN/CSA-C22.2 No. 61010-1
- City of Los Angeles Approved

SPECIFICATIONS

Electrical	
Power supply	16-29 VDC, polarity protected
Power consumption	24 VDC
- base	6 mA
- sensors	See SC2 datasheet
- horn & status LED	5 mA, max.
Output for local bus	5 VDC, 250 mA max. Overload, short-circuit and polarity protected
Output signal for serial communication	Digital, RS-485, proprietary DGC6 protocol, 19200 baud
Sensors	SC2 Series
- performance	See SC2 datasheet for specific gases
- coverage	See SC2 datasheet for specific gases
- storage time	6 months (for sensor elements)
Environmental	
Permissible ambient	See SC2 datasheet for specific gases
Serial interface	
- local bus	plug connector / 19200 Baud
- field bus	RS-485 / 19200 Baud
- tool bus	2-wire / 19200 Baud
Physical	
Enclosure "A", standard	
- material	Polycarbonate, UL 94-HB, fire retardant
- conforms to	UL 50
- color	Light gray
- protection	NEMA 4X (IP65)
- installation	Wall (surface) mounted, or single gang electrical box; mounted vertically for single gas sensor and horizontally for dual gas sensor
Dimensions (H x W x D)	
- base unit	5.12 x 3.70 x 2.25 in. (130 x 94 x 57 mm)
Cable entry, knock out	1 hole (long side) for 1/2 in. conduit, closed w/screwed "plug"
Wire connection	
- field bus	Screw-type removable terminal; 24 AWG (0.25 mm ²), min. 14 AWG (2.5 mm ²), max.
- local bus (SC2)	3-pin removable connector
Cable lengths local bus for Remote Sensor Board	16.4 ft (5 m), max.
Weight	0.7 lb (0.3 kg)
Certified to	UL 2075 Listed, NRTL performance tested for models DT6-E1110-E-02, DT6-E1110-E-E1130-B-02, DT6-E1110-E-E1130-B-32

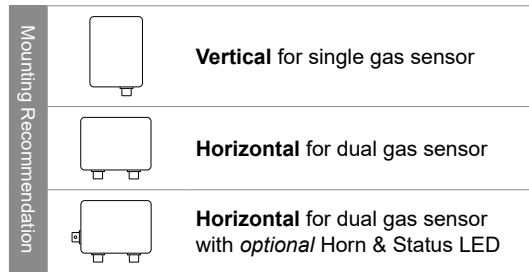
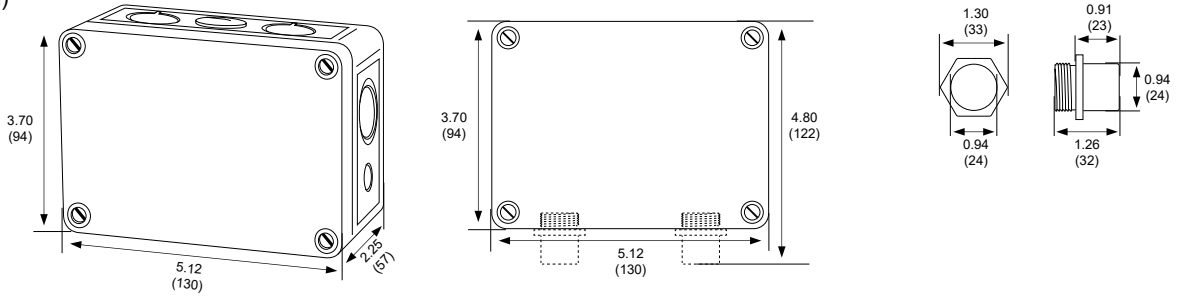
Conforms to	EMC Directive 2014/30/EU CE EN 50271, EN 61010-1:2010 ANSI/UL 61010-1 CAN/CSA-C22.2 No. 61010-1 City of Los Angeles
Warranty	Two years material and workmanship, 12 months normal exposure for sensor element

OPTIONS & ACCESSORIES

Horn & Status LED	Configurable to local thresholds set at this unit
- acoustic pressure	> 85 dB (A) (dist. 0.1 m / 0.3 ft)
- frequency	2300 Hz
- protection class	NEMA 4X (IP65)
Status LED	
- color / mode	Red = Alarm
- protection class	NEMA 4X (IP65)
Duct Mounting Kit	PG2-DUCTKIT
- flow rate	Min. 3.1 mph (5000 m/h), max. 12.4 mph (20,000 m/h)
- air duct diameter	Min. 3.94 in. (0.1 m), max. 39.37 in. (1.0 m)
- length of sampling tube	9.84 in. (250 mm), adaptable
- hose length	2 x 39.37 in. (1000 mm)
Calibration Kits	
- carbon monoxide	CALKIT-PG2-CO Sensor calibration adapter w/ tube and cup, 500 mL/min. regulator, 17L 200 ppm carbon monoxide, 17L 99.99% nitrogen, carrying case
- combustible gases	CALKIT-PG2-COMB Sensor calibration adapter w/ tube and cup, 150 mL/min. regulator, 17L 2.5% methane, 17L 99.99% nitrogen, carrying case
- nitrogen dioxide	CALKIT-PG2-NO2 Sensor calibration adapter w/ tube and cup, 500 mL/min. regulator (stainless steel), 70L 10 ppm nitrogen dioxide, 70L 99.99% nitrogen, carrying case
- carbon monoxide & nitrogen dioxide	CALKIT-PG2-CO-NO2 Sensor calibration adapter w/ tube and cup, 500 mL/min. regulator (for CO), 500 mL/ min. regulator (stainless steel, for NO2), 17L 200 ppm carbon monoxide, 70L 99.99% nitrogen, 70L 10 ppm nitrogen dioxide, and (2) carrying cases

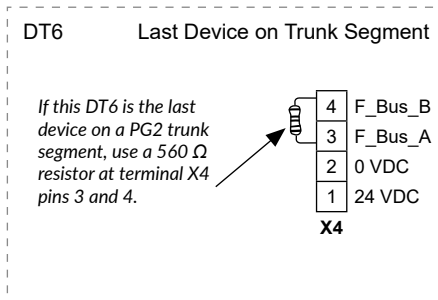
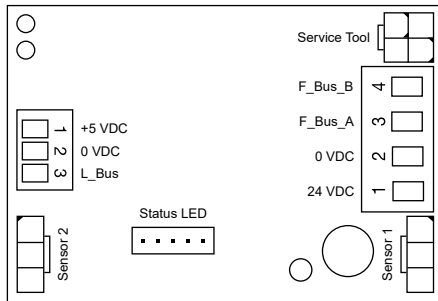
DIMENSIONS

inches (mm)

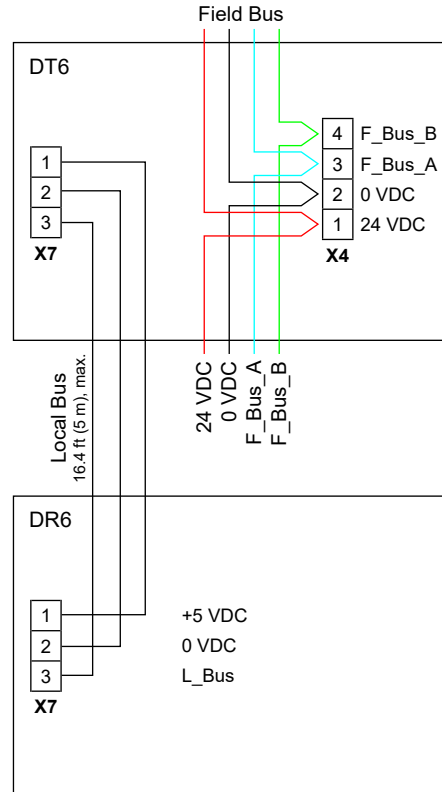


WIRING CONFIGURATION

DT6 Sensor Board



DT6 with piggybacked DR6 remote transmitter



ORDERING INFORMATION	
PART NUMBER	DESCRIPTION
BUNDLED SENSORS AND CONTROLS	
DT6-E1110-E-02	DT6, DGC6 Protocol, (1) 0-250 ppm CO sensor
DT6-E1110-E-E1130-B-02	DT6, DGC6 Protocol, (1) 0-250 ppm CO sensor, (1) 0-20 ppm NO ₂ sensor
DT6-E1110-E-E1130-B-32	DT6, DGC6 Protocol, (1) 0-250 ppm CO sensor, (1) 0-20 ppm NO ₂ sensor, Horn & status LED
SENSOR PLATFORM	
DT6-02	DT6, DGC6 Protocol, up to (3) sensor inputs capable; includes "A" enclosure; sensor cartridges ordered separately
□□□-3□	<u>OPTION:</u> Horn & status LED

SC2 Sensor Cartridges available separately.
See SC2 datasheet for specifications.

The DT6 accepts up to (2) SC2 Sensor Cartridges simultaneously.

In a 2-sensor configuration, both sensor modules (a) must have the same mounting height requirements and (b) sensor-1 and sensor-2 module cannot be identical part numbers.

A 3-sensor configuration is possible with a remote DR6. The DR6's chosen sensor module cannot be an identical part number to ones that already exists on the connected DT6 transmitter.

Gas Sensor & Range				
#	TOXIC GASES AND OXYGEN			Mounting Height (ft)
E1110-E	Carbon Monoxide	CO	0-250 ppm	5-6
E1110-F	Carbon Monoxide	CO	0-300 ppm	5-6
E1130-A	Nitrogen Dioxide	NO ₂	0-10 ppm	5-6
E1130-B	Nitrogen Dioxide	NO ₂	0-20 ppm	5-6
E1130-C	Nitrogen Dioxide	NO ₂	0-30 ppm	5-6
E1130-D	Nitrogen Dioxide	NO ₂	0-500 ppm	5-6
E1125-A	Ammonia	NH ₃	0-100 ppm	Ceiling
E1125-B	Ammonia	NH ₃	0-300 ppm	Ceiling
E1125-C	Ammonia	NH ₃	0-500 ppm	Ceiling
E1125-D	Ammonia	NH ₃	0-1000 ppm	Ceiling
E1193-C	Chlorine	Cl ₂	0-10 ppm	Floor
E1189-C	Ethylene	C ₂ H ₄	0-200 ppm	5-6
E1185-B	Formaldehyde	CH ₂ O	0-10 ppm	Floor
E1183-C	Hydrogen Cyanide	HCN	0-100 ppm	Ceiling
E1197-A	Hydrogen Sulfide	H ₂ S	0-50 ppm	Floor
E1195-A	Oxygen	O ₂	0-25 Vol%	5-6
E1190-A	Ozone	O ₃	0-5 ppm	Floor
E1196-B	Sulfur Dioxide	SO ₂	0-20 ppm	Floor
#	INFRARED SENSORS <i>(Incompatible with DR6 module)</i>			Mounting Height (ft)
I1164-B	Carbon Dioxide	CO ₂	0-5 Vol%	5-6
I1164-C	Carbon Dioxide	CO ₂	0-2 Vol%	5-6
#	COMBUSTIBLE GASES			Mounting Height (ft)
P3485-A	Acetone	C ₃ H ₆ O	0-100% LEL	Floor
P3408-A	Ammonia	NH ₃	0-100% LEL	Ceiling
P3460-A	Butane	C ₄ H ₁₀	0-100% LEL	Floor
P3472-A	Cyclopentane	C ₅ H ₁₀	0-100% LEL	Floor
P3427-A	Ethyl Acetate	C ₄ H ₈ O ₂	0-100% LEL	Floor
P3425-A	Ethyl Alcohol	C ₂ H ₅ OH	0-100% LEL	Floor
P3410-A	Ethylene	C ₂ H ₄	0-100% LEL	Ceiling
P3496-A	Gasoline Vapors	-	0-100% LEL	-
P3491-A	Heptane	C ₇ H ₁₆	0-100% LEL	Floor
P3435-A	Hexane	C ₆ H ₁₄	0-100% LEL	Floor
P3440-A	Hydrogen	H ₂	0-100% LEL	Ceiling
P3476-A	Isopentane	C ₅ H ₁₂	0-100% LEL	Floor
P3482-A	Isopropyl Alcohol	C ₃ H ₈ O	0-100% LEL	Floor
P3402-A	LPG	-	0-100% LEL	-
P3400-A	Methane	CH ₄	0-100% LEL	Ceiling
P3450-A	Methanol	CH ₃ OH	0-100% LEL	Floor
P3458-A	Methyl Ethyl Ketone	C ₄ H ₈ O	0-100% LEL	Floor
P3475-A	Pentane	C ₅ H ₁₂	0-100% LEL	Floor
P3480-A	Propane	C ₃ H ₈	0-100% LEL	Floor
P3480-C	Propane	C ₃ H ₈	0-5000 ppm	Floor
P3484-A	Propyl Alcohol	C ₃ H ₈ O	0-100% LEL	Floor
P3490-A	Toluene	C ₇ H ₈	0-100% LEL	Floor

ACCESSORIES	
PG2-DUCTKIT	(1) Duct mounting kit for SC2 / AT6 sensor
CALKIT-PG2-CO	Carbon monoxide calibration kit for SC2 / AT6 sensors
CALKIT-PG2-COMB	Combustible calibration kit for SC2 / AT6 sensors
CALKIT-PG2-NO2	Nitrogen dioxide calibration kit for SC2 / AT6 sensors
CALKIT-PG2-CO-NO2	CO & NO ₂ calibration kit for SC2 / AT6 sensors