

DST-W Digital Transmitter



The rugged, reliable DST digital transmitter offers a variety of sensor types to detect a wide range of gases, including solid state and electrochemical.

The standard enclosure is a rugged polycarbonate and an optional watertight polycarbonate enclosure is available to suit different applications.

DST transmitters output scaled linear signals on an RS485 communication bus, and feature a thermal resetting fuse, an LED indicator for power, alarm and fault, RoHS compliant circuit boards, and an internal "on line" LED.

Automated calibration and other maintenance procedures are simple and are easily performed in the field.

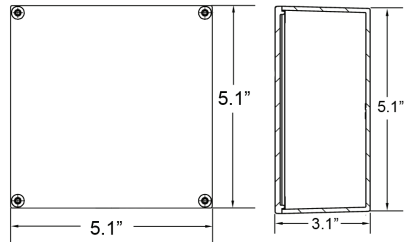
KEY FEATURES

- » RS485 digital output signal
- » Wide variety of sensors for all applications
- » RoHS compliant circuit boards
- » Configured for 4 wire multi-drop wiring
- » Thermal resetting fuse
- » LED indicator for power & alarm status
- » Power requirement 24 VDC nominal
- » Simple calibration procedure

APPLICATIONS

- » Parking Garages
- » Repair Shops
- » Ice Cleaning Machine Rooms
- » Pools
- » Manufacturing plants
- » ... and many more

TECHNICAL DRAWING



SAMPLE ENGINEERING SPECIFICATIONS

Carbon Monoxide & Nitrogen Dioxide Transmitters for Parking Garages
Provide digital transmitters with continuous, linear, signal capable of being connected to a PDC controller on a RS485 communication bus. The transmitters shall be a CETCI model DST-ECO for Carbon Monoxide and a model DST-END for Nitrogen Dioxide. The transmitters shall provide a digital signal representing the Nitrogen Dioxide detection range of 0 - 10 ppm and the Carbon Monoxide detection range of 0 - 200 ppm. All transmitters shall incorporate accurate electrochemical sensors and automatic resetting thermal fuse for fault protection. The transmitters shall be installed 4 - 6 ft from the floor (breathing zone) and each unit shall be capable of monitoring an area of approximately 5,000 - 7,500 ft².

The transmitter circuit shall be housed in a wall mount, rugged, break resistant, corrosion resistant, PVC junction box with a secured, hinged door. The PVC junction box shall have conduit entry ports on the top, bottom, right side and rear. The circuit shall operate from 24 VDC input voltage supplied from the controller. Wiring shall be 2 conductors for low voltage power, and a two wire shielded twisted pair for the communication bus. Wiring shall be shielded or in conduit.

An optional watertight Polycarbonate enclosure shall be available. System operation shall be as follows: Upon detection of 0.7 ppm NO₂ or 25 ppm CO, the controller shall activate exhaust fans. Upon detection of 1.5 ppm NO₂ or 100 ppm CO, the controller shall activate audible and visual alarms.

The contractor shall provide all required wiring, conduit and interconnection required for a successful installation.

More specification samples are available at www.critical-environment.com.

TECHNICAL SPECIFICATIONS

GAS TYPE

Ammonia (NH ₃)	EAM
Carbon Monoxide (CO)	ECO
Combustible Gases (solid state)	SCB
Chlorine (Cl ₂)	ECL
Ethylene Oxide (ETO)	EET
Hydrogen (H ₂)	EH2
Hydrogen Sulphide (H ₂ S)	EHS
Methane (CH ₄)	SCB
Nitrogen Dioxide (NO ₂)	END
Nitric Oxide (NO)	ENO
Oxygen (O ₂)	002
Ozone (O ₃)	E03
Propane (C ₃ H ₈)	SCB
Sulphur Dioxide (SO ₂)	ESO

MECHANICAL

Enclosure	Water / dust tight polycarbonate
Weight	340 g (12 oz)
Size	5.1" x 5.1" x 3.1" (129 mm x 129 mm x 77 mm)

ELECTRICAL

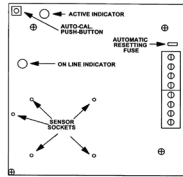
Power Requirement	24 VDC supplied by PDC controller
Current Draw	80 - 120 mA
Outputs	Scaled linear digital signal RS485 communication bus
Wiring	Daisy chain configuration only. Power: 14 gauge stranded, 2-conductor Signal: shielded twisted pair, 18 gauge, low capacitance. Network bridge every 1,000 feet or less.
Fuse	Automatic resetting thermal

ENVIRONMENTAL (sensor dependant)

Operating Temperature	-20°C to 40°C (-4°F to 104°F)
Humidity	15 - 95% RH non-condensing



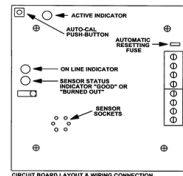
WIRING



Electrochemical

CIRCUIT BOARD LAYOUT & WIRING CONNECTION IDENTIFICATION

CIRCUIT BOARD DRAWING SHOWN IS ACTUAL SIZE



Solid State

CIRCUIT BOARD LAYOUT & WIRING CONNECTION IDENTIFICATION

CIRCUIT BOARD DRAWING SHOWN IS ACTUAL SIZE

PRODUCT CODES

Ammonia (NH ₃), 0 - 500 ppm	DST-EAM-W
Combustible gases (solid state), 0 - 50% LEL	DST-SCB-W
Carbon monoxide (CO), 0 - 200 ppm	DST-ECO-W
Chlorine (Cl ₂), 0 - 5 ppm	DST-ECL-W
Ethylene oxide (ETO), 0 - 20 ppm	DST-EET-W
Hydrogen (H ₂), 0 - 2,000 ppm	DST-EH2-W
Hydrogen sulphide (H ₂ S), 0 - 50 ppm	DST-EHS-W
Methane (CH ₄), 0 - 50% LEL	DST-SCB-W
Nitrogen dioxide (NO ₂), 0 - 10 ppm	DST-END-W
Nitric oxide (NO), 0 - 100 ppm	DST-ENO-W
Oxygen (O ₂), 0 - 25% volume	DST-002-W
Ozone (O ₃), 0 - 2 ppm	DST-E03-W
Propane (C ₃ H ₈), 0 - 50% LEL	DST-SCB-W
Sulphur dioxide (SO ₂), 0 - 20 ppm	DST-ESO-W

OPTIONS (to be added to the end of the product code)

Splash guard	S
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ACCESSORIES

Calibration kit, 15 L or 17 L cylinders, 0.5 LPM flow regulator	CET-8000-CK1
Calibration kit, 34 L, 58 L, 75 L, or 103 L cylinders, 0.5 LPM flow regulator	CET-7150-CK1
Metal protective guard, small, 16 gauge, galvanized metal guards for transmitters	SCS-8000-RSG