

# TX-100

CO, NH<sub>3</sub>, Cl<sub>2</sub>, H<sub>2</sub>S, H<sub>2</sub>, HCl, O<sub>3</sub>,  
and other Gases  
2 wire 4-20mA Gas Transmitters

Low maintenance 4-20 mA  
Gas Transmitter



## Features :

The rugged, Low maintenance TX 100 Series Transmitters integral with sensor for, CO, Cl<sub>2</sub> and other toxic gases. Provide a 4-20 mA signal that is compatible with any 4-20 mA control system (DCS, PLC, Synergy ST-100 and ST-116 controllers, etc).

- Low maintenance. Accurate & reliable performance. Eliminate false Alarm.
- Rugged, durable, Die-cast IP65 transmitter with sensor
- Easy wiring connection during installation and decommissioning
- 2 years operational life
- Sensor and circuitry integrity
- LED Indication (option)
- Swiss sensor technology for CO, NH<sub>3</sub>, Cl<sub>2</sub>, H<sub>2</sub>S, H<sub>2</sub>, HCl, O<sub>3</sub>, formaldehyde, ETO etc.
- Wide supply voltage range : 12 to 36 VDC for industry standard compatibility

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CO, NH<sub>3</sub>, Cl<sub>2</sub>, H<sub>2</sub>S, H<sub>2</sub>, HCl, O<sub>3</sub>, formaldehyde, ETO.  
4-20 mA 2-Wire Gas Transmitter

The TX-100 Transmitter is shipped factory tested and calibrated, ready for immediate installation.

Gas Detection equipment is only as good as its sensor. Electrochemical sensor based on Swiss Technology provides,

- Reliable protection • Accurate performance • Long life

Advanced micro electronic technology delivers superior performance, eliminating false alarms and providing a linear output for direct compatibility with existing control systems.

In the event of power outages, the TX-100 automatically gets back into the system loop, ensuring system integrity.

With a faster response time, the TX-100 provides reliable early hazard warnings at an affordable price.

## Quick reference of Gases in common applications

<p><b>OXYGEN</b> <span style="float:right">O<sub>2</sub></span></p> <p>Colourless, odorless and tasteless gas. Life threatening when atmosphere is deficient. Supports combustion.</p> <ul style="list-style-type: none"> <li>• Confined Spaces</li> <li>• Cargo Holds and storage Tanks</li> <li>• Underground Vaults - Utilities/Telecom</li> </ul> <p align="right">19.5% deficiency 23.5% enrichment</p>	<p><b>HYDROGEN CYANIDE</b> <span style="float:right">HCN</span></p> <p>Colourless, toxic gas with a bitter almond odor at 1 ppm.</p> <ul style="list-style-type: none"> <li>• Manufacture of Nylon, Dyes, Fumigants and Rubber</li> <li>• Production of Acrylic Plastics</li> <li>• Gold Plating</li> <li>• Precious Metal Mining Recovery</li> </ul> <p align="right">STEL : 4.7 ppm TWA : 10 ppm IDLH : 50 ppm LEL : 5.6% of vol.</p>
<p><b>AMMONIA</b> <span style="float:right">NH<sub>3</sub></span></p> <p>Colourless toxic gas with a highly pungent odor.</p> <ul style="list-style-type: none"> <li>• Fertilizer Plants</li> <li>• Refrigeration Facilities and Cold Storage</li> <li>• Production of Explosives</li> <li>• Chemical and Pharmaceutical Industries</li> </ul> <p align="right">STEL : 50 ppm TWA : 25 ppm IDLH : 300 ppm LEL : 15% of vol.</p>	<p><b>HYDROGEN SULFIDE</b> <span style="float:right">H<sub>2</sub>S</span></p> <p>Colourless, toxic gas with a rotten egg odor.</p> <ul style="list-style-type: none"> <li>• Oilfields and Refineries</li> <li>• Water Treatments Plants and Sewer Maintenance</li> <li>• Pulp and Paper Mills and Tanneries</li> <li>• Pesticide Plants, Steel Plants</li> </ul> <p align="right">STEL : 15 ppm TWA : 10 ppm IDLH : 100 ppm LEL : 4.3% of vol.</p>
<p><b>CARBON MONOXIDE</b> <span style="float:right">CO</span></p> <p>Colourless, odorless, toxic gas absorbed by the blood, displacing oxygen.</p> <ul style="list-style-type: none"> <li>• Parking Garages, Engine Test Facilities</li> <li>• Steel Mills</li> <li>• Coal Plants</li> <li>• Power Station (Boiler house)</li> </ul> <p align="right">STEL : 200 ppm TWA : 35 ppm TWA : 30 ppm* IDLH : 1,200 ppm* LEL : 12.5% of vol.</p>	<p><b>NITRIC OXIDE</b> <span style="float:right">NO</span></p> <p>Colourless, toxic gas with a pungent odor.</p> <ul style="list-style-type: none"> <li>• Fertilizer Plants</li> <li>• Food and Fabric Bleaching</li> <li>• Agriculture-Silos (Organic decomposition)</li> <li>• Diesel Emissions - garages</li> </ul> <p align="right">TWA : 25 ppm IDLH : 100 ppm</p>
<p><b>CHLORINE</b> <span style="float:right">Cl<sub>2</sub></span></p> <p>Greenish-yellow, toxic gas with an irritating odor</p> <ul style="list-style-type: none"> <li>• Pulp and Paper Mills</li> <li>• Water Treatment and Chlorination Plants</li> <li>• Caustic Soda Plants</li> <li>• Swimming Pools, Nuclear Reactors</li> </ul> <p align="right">STEL : 1 ppm TWA : 0.5 ppm IDLH : 10 ppm</p>	<p><b>NITROGEN DIOXIDE</b> <span style="float:right">NO<sub>2</sub></span></p> <p>Reddish-brown, toxic gas with a pungent odor.</p> <ul style="list-style-type: none"> <li>• Boilers and Furnaces</li> <li>• Diesel Emissions - Garages</li> <li>• Manufacture of Explosives, Rocket Propellants and Dyes</li> <li>• Semiconductor Plant</li> </ul> <p align="right">STEL : 5 ppm TWA : 3 ppm IDLH : 20 ppm</p>
<p><b>CHLORINE DIOXIDE</b> <span style="float:right">ClO<sub>2</sub></span></p> <p>Yellowish-red toxic gas. More reactive and severe than chlorine.</p> <ul style="list-style-type: none"> <li>• Pulp and Paper Mills</li> <li>• Chemical Processing</li> </ul> <p align="right">STEL : 0.3 ppm TWA : 0.1 ppm</p>	<p><b>SULFUR DIOXIDE</b> <span style="float:right">SO<sub>2</sub></span></p> <p>Colourless, toxic gas with strong suffocating odor and an acidic taste.</p> <ul style="list-style-type: none"> <li>• Pulp and Paper Mills</li> <li>• Waste and Water Treatment Plants</li> <li>• Coal Fired Generation Stations</li> <li>• Refining of Light Lubricants and Kerosene</li> </ul> <p align="right">STEL : 5 ppm TWA : 2 ppm IDLH : 100 ppm</p>
<p><b>HYDROGEN</b> <span style="float:right">H<sub>2</sub></span></p> <p>Colourless, odorless, tasteless, explosive gas.</p> <ul style="list-style-type: none"> <li>• Refining and Treatment of Metal</li> <li>• Underground Vaults / Transformers</li> <li>• Battery Charging Stations, Hydrogen Plants</li> <li>• Caustic Soda Plants, Semiconductor Plants</li> </ul> <p align="right">LEL : 4% vol.</p>	<p><b>STEL and TWA :</b></p> <p>STEL (short term exposure limit) represents the average gas concentration a worker has been exposed to over a 15 minute period. If this amount exceeds the stated limit, the worker must remove himself/herself from the hazard for at least 1 hour before re-entry. STEL values may only be exceeded 4 times during a normal work shift.</p> <p>TWA (time weighted average) it means the average amount of gas a worker has been exposed to over a given period of time. The period is usually an 8 hour normal work day. If the predetermined value is exceeded, a worker may not re-enter the space for the balance of the work day.</p>
<p><b>HYDROGEN CHLORIDE</b> <span style="float:right">HCl</span></p> <p>Colourless, toxic gas with a sharp, irritating odor and acidic taste.</p> <ul style="list-style-type: none"> <li>• Manufacture of Rubber, Dyes and Fertilizers</li> <li>• Pharmaceutical and Chemical Plants</li> <li>• Aluminum Finishing Plants</li> <li>• Pickling of Metals</li> </ul> <p align="right">STEL : 5 ppm TWA : 1 ppm</p>	

## TX-100 4-20 mA Transmitter

4-20 mA transmitter w/sensor.  
field-replaceable sensor screen

TX-100 Cl<sub>2</sub> 2-wire Chlorine (0-20 ppm) Monitor  
TX-100 CO 2-wire CO (0-1000 PPM) Monitor

### Accessories and Options

TX-FIL Sensor screen replacements (kit of 5)

Compatible with all 4-20 mA Controllers and the following Synergy Controllers :

ST-100 Single Channel Controller  
ST-116 Multi Channel Ac/Dc Controller



1. Low-maintenance, 4-20 mA transmitter with sensor
2. Rugged, Die-cast enclosure with predrilled mounting only the sensor is exposed
3. LED indicator (Option)
4. Sensor
5. Replaceable 2nd sensor screen

### Specifications

Transmitter w/sensor : 4-20 mA gas transmitter with advanced microcircuitry  
Supply Voltage : 12VDC (min.) to 36VDC (max.)  
Current Drawn : 50mA max  
EMI/RFI : Complies with EMC Directive  
Transmission Range : 1,000 feet / 305 m with 22 AWG / 0.64mm cable  
Sensors :

Gases Monitored	Sensor Type	Measuring Range	Temperature Range	Cable
CO :	Electrochemical	0-1000 PPM	-20 to + 50°C	2-wire
Cl <sub>2</sub> :	Electrochemical	0-20 PPM	-20 to + 50°C	2-wire

\* Other Sensor & range are available

Humidity : 5 to 95% non-condensing  
Operating Temperature : -20 to + 50°C  
Calibration : Factory calibrated. Field calibration with Zero & Span pot potentiometer  
Visual Indication : Red light emitting diode (LED) Option 3 wire system

Status Advise	Advise Signals :	LED Indicator	Current Output*
	Normal Operation :	ON	4-20 mA

\* Current Output : Signal to control system (DDC, PLC, etc.)

Physical : Rugged Die-cast Aluminium enclosure  
Size : 112 Lx65 Wx55D mm  
Weight : 400 gms

Connector : 2-pin connection  
Twisted shielded 1 or 2 pair cable

Operating Life : 2 years  
Warranty : 1 year including sensors

Due to ongoing research and product improvement, specifications are subject to change without notice

### Applications

Chemical Plant



Pharmaceutical Plant



Paper Plant



Steel Plant



Fertilizer Plant

