

iTrans™

Fixed-Point Monitors



Next generation iTrans™ fixed-point gas monitors employ an intelligent electronics platform to provide **1 or 2 points of detection** from a single head for maximum flexibility, superior performance and **lower installation costs**. The three or four wire system is capable of accommodating more than 200 transmitters in an RS485 bus configuration. Able to monitor any combination of gases for a specific environment, iTrans™ utilizes our industry-proven “smart” sensor technology and safety features including **automatic sensor recognition**, **access code security**, and **zero and cal fault protection** – all enclosed within an **explosion-proof aluminum or stainless steel housing**.

The microprocessor-controlled transmitters are capable of independent operation or multi-point system configuration and can transmit a **4-20mA signal or ModBus RTU digital output** to any control device or PLC. With **optional on-board relays**, the monitor has the added ability of stand-alone operation, activating alarms, horns, or fans and can also shut down a system without the need to wire back to a central control panel.

iTrans also offers a **relay deactivation feature** to prevent accidental alarm activation during calibrations. The units also feature **simple non-intrusive calibration**, ultra-bright **LED display**, **programmable alarms** and on-board **sensor life indicators**.

SPECIFICATIONS

ENCLOSURES:	Cast aluminum, poly-bonded coating or 316 stainless steel. Both are explosion-proof, NEMA 4X, IP66 rated	INPUT VOLTAGE:	12-28 VDC operating range (24 VDC typical)
SENSORS:	Combustible Gases: Catalytic bead and/or Non-Dispersive Infrared (NDIR) Oxygen / Toxic Gases: Electrochemical diffusion	DISPLAY:	Dual-channel split-screen LED display (4 digit, 7-segment arrangement per channel) provides simultaneous display of one or two gases.
MEASURING RANGES:	Combustible gases: 0-100% LEL in 1% increments Oxygen: 0-30% by volume in 0.1% increments Ammonia: 0-200 ppm in 1 ppm increments Carbon Monoxide: 0-999 ppm in 1 ppm increments Hydrogen Sulfide: 0-500 ppm in 1 ppm increments Sulfur Dioxide: 0.2-99.9 ppm in 0.1 ppm increments Hydrogen Cyanide: 0.2-30 ppm in 0.1 ppm increments Hydrogen Chloride: 0.2-30 ppm in 0.1 ppm incr. Phosphine: 0-1 ppm in 0.01 ppm increments Nitrogen Dioxide: 0.2-99.9 ppm in 0.1 ppm increments Nitric Oxide: 0-999 ppm in 1 ppm increments Chlorine: 0.2-99.9 ppm in 0.1 ppm increments Chlorine Dioxide: 0.02-2 ppm in 0.01 ppm incr. Hydrogen: 0-999 ppm in 1 ppm increments	SIGNAL OUTPUT:	4-20 mA, linear (analog) and ModBus RTU (digital) RS485 digital communication with ModBus RTU software protocol system at 9600 baud. Three or four wire system capable of accommodating over 200 devices in bus configuration. Address selection through on-board 8-position dipswitch.
INPUT CURRENT (max):	Toxic Gas / Oxygen: 150 mA @ 24 VDC (single gas) Combustible gases (Catalytic): 175 mA @ 24 VDC, 0.6 A peak (single gas) Combustible gases (Infrared): 150 mA @ 24 VDC, 0.6 A peak (single gas) Combined catalytic/infrared: 280 mA @ 24 VDC (two gas)	ALARM RELAYS:	3 alarm relays: Two user-programmable relays, SPST, N.O.; plus one fault relay, SPST, N.C.
		CONTACT CAPACITY:	5 Amps @ 30 VDC
		TEMPERATURE RANGE:	-4°F to +122°F (-20°C to +50°C), typical
		HUMIDITY RANGE:	15-90% RH (non-condensing), typical
		APPROVALS: (Sensor-specific)	Consult factory for current approval status CSA: Class I, Div. 1, 2, Groups B, C, D; AEx d IIB NRTL/c: Class I, Div. 1, 2, Groups B, C, D; AEx d IIB CENELEC (ATEX): EEx d IIB + H2 T5 Australia: Ex d IIB + H2 T6 China: GB 3836.1-Ex d IIC T4; LEL version GB15322-94 Fire protection

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iTrans™ offers a wide variety of sensor configurations and relay options for maximum flexibility and affordability. Use the following guide to select the options that best fit your monitoring needs and applications. Industrial Scientific recommends that a fixed system application survey be completed to help provide the most accurate assessment of your equipment requirements.

iTrans™ Base Part Number: 7814635-ABCDEFGF

Dual reading LED display, magnetic calibration tool, and calibration cup are standard items with all iTrans monitors.

Ordering example: An iTrans™ with an on-board LEL (4-20 mA scale 0-100) and remote mount H₂S (4-20 mA scale 0-500) with optional relays would have a part number of **7814635-1C21241**

iTrans™ Part Number / Ordering Matrix	
A – Sensor 1 configuration	E – Sensor 2 configuration
B – Gas sensor 1	F – Gas sensor 2
C – 4-20 mA output scale for sensor 1	G – 4-20 mA output scale for sensor 2
D – Optional on-board relays	

A – Sensor 1 Configuration
1 – Explosion-proof / On-Board
2 – Explosion-proof / Remote
3 – Non-hazardous remote / Duct mount
4 – Explosion-proof / On-Board with Splash Guard
5 – Explosion-proof / Remote with Splash Guard
6 – XP 316 Stainless Steel / On-Board
7 – XP 316 Stainless Steel / Remote
B – Gas Sensor 1
1 – Carbon Monoxide (CO)
2 – Nitric Oxide (NO)
3 – Ammonia (NH ₃)
4 – Hydrogen Sulfide (H ₂ S)
5 – Sulfur Dioxide (SO ₂)
6 – Nitrogen Dioxide (NO ₂)
7 – Chlorine (Cl ₂)
8 – Chlorine Dioxide (ClO ₂)
9 – Hydrogen Cyanide (HCN)
A – Oxygen (O ₂)
B – LEL Infrared (<i>factory methane calibration</i>)
C – LEL Catalytic plug-in (<i>factory pentane calibration</i>)
D – Carbon Monoxide - Hydrogen Null (CO - H ₂)
F – Hydrogen Chloride (HCl)
G – LEL Infrared Propane
K – Phosphine (PH ₃)
L – Hydrogen (H ₂)
C – 4-20 mA Output Scale for Sensor 1
0 – 0-999
1 – 0-500
2 – 0-100
3 – 0-50
4 – 0-30
5 – 0-10
6 – 0-2
7 – 0-1
8 – 0-20
9 – 0-200
D – Optional On-Board Relays
0 – No Relay Modules
1 – With On-Board Relays

E – Sensor 2 Configuration
0 – No sensor
1 – Explosion-proof / On-Board
2 – Explosion-proof / Remote
3 – Non-hazardous remote / Duct mount
4 – Explosion-proof / On-Board with Splash Guard
5 – Explosion-proof / Remote with Splash Guard
6 – Stainless Steel Dual On-Board (currently not available)
7 – XP 316 Stainless Steel / Remote
F – Gas Sensor 2
1 – Carbon Monoxide (CO)
2 – Nitric Oxide (NO)
3 – Ammonia (NH ₃)
4 – Hydrogen Sulfide (H ₂ S)
5 – Sulfur Dioxide (SO ₂)
6 – Nitrogen Dioxide (NO ₂)
7 – Chlorine (Cl ₂)
8 – Chlorine Dioxide (ClO ₂)
9 – Hydrogen Cyanide (HCN)
A – Oxygen (O ₂)
B – LEL Infrared (<i>factory methane calibration</i>)
C – LEL Catalytic plug-in (<i>factory pentane calibration</i>)
D – Carbon Monoxide – Hydrogen Null (CO - H ₂)
F – Hydrogen Chloride (HCl)
G – LEL Infrared Propane
K – Phosphine (PH ₃)
L – Hydrogen (H ₂)
G – 4-20 mA Output Scale for Sensor 2
0 – 0-999
1 – 0-500
2 – 0-100
3 – 0-50
4 – 0-30
5 – 0-10
6 – 0-2
7 – 0-1
8 – 0-20
9 – 0-200

Consult factory for availability, additional gases, ranges and certification information. Subject to change without notice.

REV1007



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