iTrans™
Fixed-Point Monitors

The iTrans fixed-point gas monitor employs an intelligent electronics platform to provide one or two points of detection from a single head for maximum flexibility, superior performance and lower installation costs.

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. 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.

SPECIFICATIONS

ENCLOSURES: Cast aluminum, poly-bonded coating or 316 stainless steel. Both are explosion-proof, NEMA 7X, IP66 rated

SENSORS: **Combustible Gases:** Catalytic bead and/or Non-Dispersive Infrared (NDIR)
Oxygen / Toxic Gases: Electrochemical diffusion

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

INPUT CURRENT (max):
Toxic Gas / Oxygen: 150 mA at 24 VDC (single gas)
Combustible gases (Catalytic): 175 mA at 24 VDC, 0.6 A peak (single gas)
Combustible gases (Infrared): 150 mA at 24 VDC, 0.6 A peak (single gas)
Combined catalytic/infrared: 280 mA at 24 VDC (two gas)

INPUT VOLTAGE: 12-28 VDC operating range (24 VDC typical)

DISPLAY: Dual-channel split-screen LED display (4 digit, 7-segment arrangement per channel) provides simultaneous display of one or two gases.

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.

ALARM RELAYS: **3 alarm relays**: Two user-programmable relays, SPST, N.O.; plus one fault relay, SPST, N.C.

CONTACT CAPACITY: 5 Amps at 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
NRTL/c and CSA – Class I, Div. 1, 2, Groups B, C, D; AEx d IIB + H2
ATEX – Ex d IIB + H2 T5 (sensor-specific)
IEC – Ex d IIB + H2 T5 (sensor-specific)
China – GB 3836. 1-Ex d IIC T4; LEL version GB15322-94 Fire protection

REV1009

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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-ABCDEFG (sensor options listed below)**
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 H_2S (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_2S)
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 *(factory methane calibration)*
C – LEL Catalytic plug-in *(factory pentane calibration)*
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 (required only for dual sensor version)
1 – Carbon Monoxide (CO)
2 – Nitric Oxide (NO)
3 – Ammonia (NH_3)
4 – Hydrogen Sulfide (H_2S)
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 *(factory methane calibration)*
C – LEL Catalytic plug-in *(factory pentane calibration)*
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
(required only for dual sensor version)
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

**Remote sensor maximum distance = 200m*

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

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