



### Description

The Model Ultra IR800 Infrared (IR) Point Detector is a microprocessor-based combustible gas detector that continuously monitors combustible gases in lower explosive limit (LEL) range. Ultra IR800 is housed in an explosion-proof enclosure complete with status display, which consists of three high-brightness nixie tubes and four status indicators for gas concentration readings and status conditions. This IR point detector provides various output interfaces which includes 4-20mA current output, three sets of Normally Open Contact for Warning/Alarm/Fault status, two sets of communication interfaces for RS485 and HART interfaces.

### Benefits

- Fully automatic calibration
- Fault, gas check, calibration, and alarm event logging
- Provides complete status and control capability in the control room
- Industry standard outputs for remote alarm and fault indication
- Provides local alarm capability
- Simplifies operation and maintenance
- Reduces downtime by providing an estimate of IR source life

### Infrared Point Detector for Combustible Gas Detection



### Features

- Compatible with Automatic Remote Gas Calibrator
- Event logging
- HART and Modbus communications
- 4-20 mA analog current output
- Warning, Alarm & Fault Relays
- Calibration, Calibration Check, and Setup Modes

# MODEL Ultra IR800

## System Specifications

<b>Sensor Type :</b>	Continuous diffusion, NDIR
<b>Sensor Life :</b>	5 years typical
<b>Measuring Ranges :</b>	0-100% LEL
<b>Accuracy :</b>	±2% LEL from 0- 50% LEL; ±5% LEL from 50-100% LEL
<b>Response Time :</b>	T <sub>90</sub> <5 s with 100% LEL methane applied
<b>Zero Drift :</b>	Less than 2% of full scale per year
<b>Modes :</b>	Calibration, gas check, setup
<b>Gas Setting:</b>	Methane
<b>Display Type :</b>	LED Displays
<b>Electrical Classification :</b>	
ATEX	II 2G Ex db IIC T6 Gb ( Tamb = -40°C to +70°C ) II 2G Ex db IIC T5 Gb ( Tamb = -40°C to +85°C ) II 2D Ex tb IIIC T100°C Db IP66
SIL 2 Certified	
<b>Warranty :</b>	Two years

## Environmental Specifications

<b>Operating Temperature</b>	
<b>Range :</b>	-40°F to 158°F (-40°C to 70°C)
<b>Storage Temperature</b>	
<b>Range :</b>	-58°F to 185°F (-50°C to 85°C)
<b>Operating Humidity</b>	
<b>Range :</b>	5% to 100% RH, non-condensing

## Mechanical Specifications

<b>Mounting Holes :</b>	3.86 inches (98 mm) (center to center)
<b>Housing :</b>	Marine aluminum 316 Stainless Steel (optional)
<b>Cable Entries :</b>	Two entries 3/4 ins NPT, others optional

## Electrical Specifications

<b>Input Power :</b>	24 VDC nominal, 18 to 36 VDC 6.5W max
<b>Analog Output :</b>	0-20 mA (650 Ohms max. load)
	0 mA ① Malfunction
	1.5 mA ② Gas Check/Calibrate
	1.5 mA ② Setup mode
	4 mA ± .05 mA Zero reading
	4-20 mA 0-100% LEL
	20-22 mA Over-range
<b>RS-485 Output :</b>	Dual redundant Modbus RTU,
<b>(Optional)</b>	suitable for linking up to 128 units or up to 247 units with repeaters
<b>Baud Rate :</b>	2400, 4800, 9600, or 19200 bps
<b>HART:</b>	HART7 HART Device Description Language
<b>(Optional)</b>	available. AMSAware
<b>Relay Ratings :</b>	0.3 A @ 250 VAC / 2 A @ 30 VDC res. max.
<b>(Optional)</b>	(3x) SPDT - Warning, Alarm & Fault
<b>Status Indicators:</b>	Three-digit LED display with gas concentration,FLT,RUN,Warn and Alarm LED's,calibration prompts, faultcodes, and setup options
<b>Faults Monitored :</b>	Calibration error, sensor error, low DC supply, EEPROM, setup error, gas check time exceeded, switch error, internal error
<b>I/O Protection:</b>	over-voltage, Miswiring, EMI / RFI Immunity,
<b>Cable Requirements:</b>	Three-wire shielded cable. Max. distance between Ultra IR800 and power source @ 24 VDC nominal (20-Ohm loop): 14 AWG - 2303 ft (702 m) Max. distance for analog output (650 Ohms max): 14 AWG - 9000 ft (2740 m)
<b>Standard Configuration :</b>	Ultra IR800-1-1-1-1-1

① Under HART, current values can be either 3.5 mA or 1.25 mA, depending on user selection.  
② Under HART, current value can be either 3.5 mA or 1.5 mA, depending on user selection.  
Specifications subject to change without notice.

## Gasensor Technology Pte.Ltd

Add : 71 Ubi Crescent # 04-01 Excalibur Centre Singapore 408571  
Tel : (+65) 67446268 Fax : (+65) 67446269  
E-mail : sales@gasensor.com  
Web : www.gasensor.com