



## FACTSHEET:

# ULTRA IR800 INFRARED GAS DETECTOR



## WHAT IS IT?

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.

## WHY DO YOU NEED IT?

### Ease of Use

- One person adjustment-free calibration
- Multiple gas type support

### Highly Reliable

- Event logging
- Real time fault diagnosis

### Multiple Outputs

- 4-20mA analog output
- Warning, Alarm and Fault Relay
- Redundant modbus and HART



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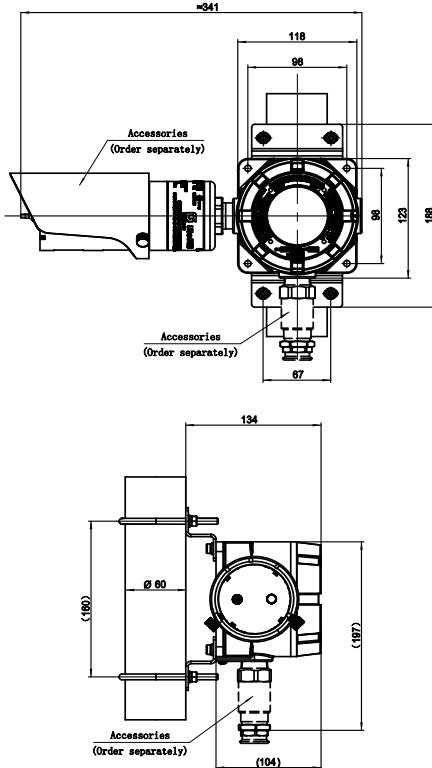


**DELTA FIRE AUSTRALASIA PTY LTD** / PO Box 2149, Mansfield Queensland 4122 Australia

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### ULTRA IR800 INFRARED GAS DETECTOR OUTLINE & MOUNTING DIMENSIONS



### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range	- 40°C to + 70°C
Storage Temperature Range	- 50°C to + 85°C
Operating Humidity Range	5% to 100% RH, non-condensing

### OTHER SPECIFICATIONS

Classification	ATEX : II 2G Ex db IIC T6 Gb, II 2G Ex db IIC T5 Gb, II 2D Ex tb IIIC T100 °C Db IP66 (Ta = -40 °C to + 70 °C) IECEx: Ex db IIC T6 Gb, Ex db IIC T5 Gb, Ex tb IIIC T100 °C Db IP66 (Ta = -40 °C to + 70 °C) SIL 2 Certified
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1. AO value can be either 3.5mA for HART mode or 1.25mA for HART Compatible mode
  2. AO value can be either 3.5mA for HART mode or 1.5-4mA adjustable for HART Compatible mode
- Specifications subject to change without notice.

### ELECTRICAL SPECIFICATIONS

Input Power	24VDC nominal, 20-36VDC, 6.5W max
Analog Output	0-22mA (500 Ω max. load) 0mA, Fault <sup>1</sup> 1.5-4mA adjustable for Gas Check, Calibration, Setup <sup>2</sup>
	4-20mA Detection range 21.5mA Over-range 2mA ± 0.2mA Optical path fault
RS-485 Output	Dual redundant Modbus RTU, (Optional) suitable for linking up to 128 units or up to 247 units with repeaters
Baud Rate	2400, 4800, 9600, or 19200BPS
HART	HART7, HART Device Descriptor Language available (Optional) AMS Aware
Relay Ratings	0.3A @ 250 VAC / 2A @ 30 VDC res. max (Optional) Warning, Alarm, Fault
Status Indicators	Digital Display with 4 LED indicators for Warning, Alarm, Fault, Run
Cable Requirement	Three wire shielded cable Max. distance between Ultra IR800 and power source @ 24VDC nominal: 14AWG - 1400m Max. distance for analog output (500 Ohms max): 14AWG - 2700m

### PRODUCT SPECIFICATIONS

Sensor Type	Continuous diffusion, Nondispersive infrared (NDIR)
Sensor Life	5 years typical
Measuring Ranges	0 ~ 100% LEL
Accuracy	±2% LEL (≤ 50%LEL), ±5% LEL (> 50%LEL)
Response Time	T90 <5 s with 100% LEL methane applied
Zero Drift	< 2% of full scale per year
Operating Mode	Calibration, gas check, setup
Gas Setting	Methane
Warranty	Two years

### MECHANICAL SPECIFICATION

Housing	Aluminum alloy or 316 Stainless steel
Cable Entry	3/4" NPT
Weight:	4Kg (Aluminum) / 6.8Kg (Stainless steel)

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### ORDERING INFORMATION: ULTRA IR800 INFRARED GAS DETECTOR

	A	B	C	D	E
Customized CFG:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standard CFG:	ULTRA IR800	-1	-1	-1	-1
<b>A: Gas Setting</b>					
1 std*	Methane (CH4)				
2	Ethane (C2H6)				
3	Propane (C3H8)				
4	Butane (C4H10)				
5	Pentane (C5H12)				
6	Hexane (C6H14)				
7	Ethene (C2H4)				
8	Carbon Dioxide (CO2)				
9	Benzene (C6H6)				
10	Ethylene (C2H4)				
11	Acetylene (C2H2 - Consult Factory)				
12-99	Other				
<b>B: Measuring Range</b>					
1 std*	0 ~ 100% LEL				
2	0 ~ 1000ppm (Display up to 999) Discontinued				
3	0 ~ 2000ppm (Display in FS)				
4	0 ~ 2500ppm (Display in 10^1) Discontinued				
5	0 ~ 5000ppm (Display in FS)				
6	0 ~ 10000ppm (Display in FS)				
7	0 ~ 20000ppm (Display in FS)				
8	0 ~ 25000ppm (Display in 10^2) Discontinued				
9	0 ~ 50000ppm (Display in %VOL)				
10	0 ~ 100000ppm (Display in 10^3) Discontinued				
11-99	Other				
<b>C: Output</b>					
1	4-20mA				
2	4-20mA + Hart				
3	4-20mA + Modbus				
4	4-20mA + Modbus +Hart				
5	4-20mA + Relay				
6	4-20mA + Relay + Hart				
7	4-20mA + Relay + Modbus				
8	4-20mA + Relay + Modbus + Hart				
9	4-20mA				
10	4-20mA + Hart				
11	4-20mA + Modbus				
12	4-20mA + Modbus +Hart				
13	4-20mA + Relay				
14	4-20mA + Relay + Hart				
15	4-20mA + Relay + Modbus				
16	4-20mA + Relay + Modbus + Hart				
17-99	Other				



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<b>D: Display Type</b>	<b>Description</b>
1 std*	AL With Display
2	SST With Display
3	AL Without Display
4	SST Without Display
5-99	Other

<b>E: Approvals</b>	<b>Description</b>
1 std*	ATEX + IECEx
2-99	Other



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