

CHARACTERISTIC

FEATURES

TECHNICAL DATA

SENSORS

IRMA is an optical sensor for single gas detection, a successor to madIR-D - the best selling OEM solution in madur's portfolio.

Improved construction is followed by new options and features such as implementation of MODBUS protocol and two strong "open-drain" type outputs that allows to steer external loads like pumps, valves, relays, etc.

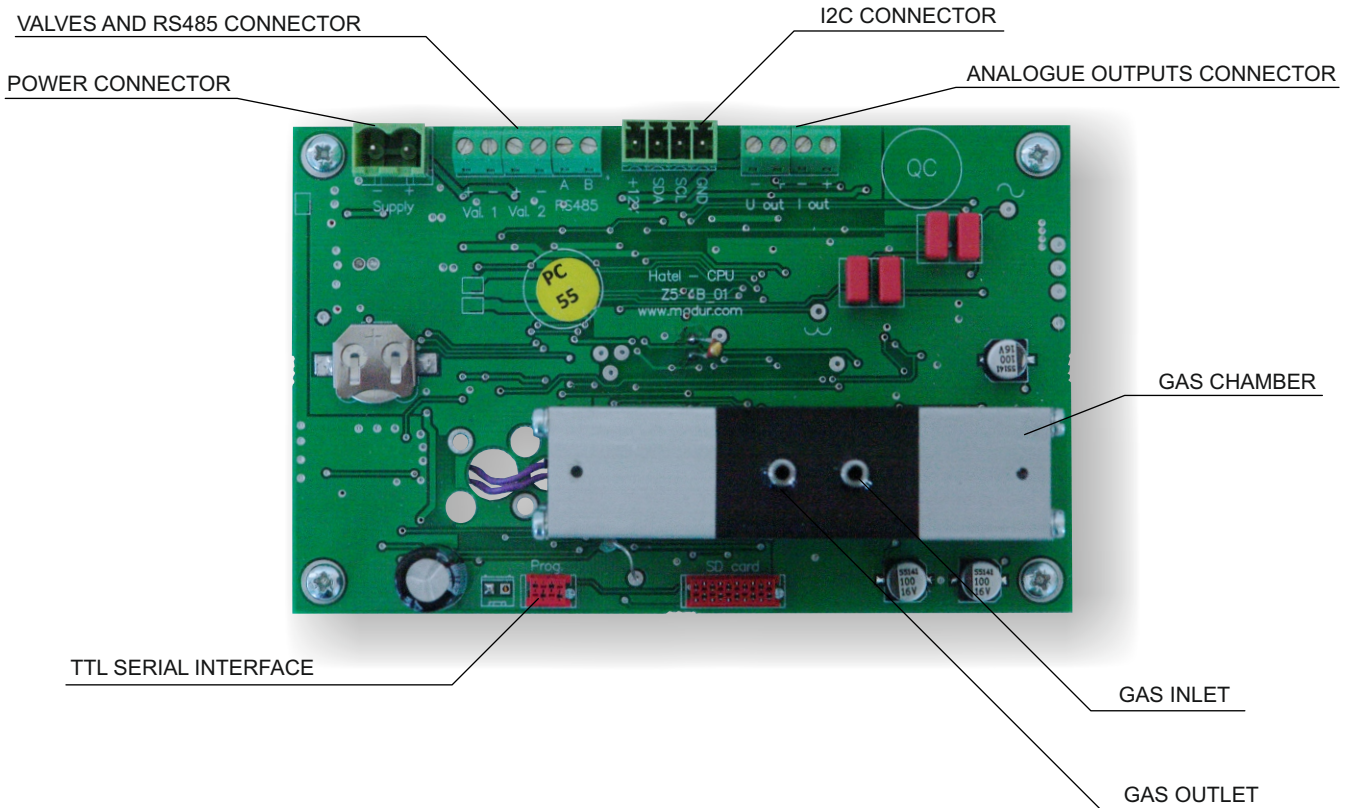
IRMA is ready to detect more gases than its predecessor, expanding the list of SF₆, SO₂, CF₄, C₄F₈.

It can be equipped with LED display (visible from long distances).

Thanks to its modular construction it can be easily adapted to various OEM applications.

- Available for gases: CO, CO₂, CH₄, N₂O, SO₂, SF₆, CHF₃, CF₄, C₄F₈
- Current analogue output (0/4÷20mA) and voltage analogue output (0÷5/10V)
- MODBUS protocol ready
- Optional diaphragm pump
- Optional solenoid valve for automatic ventilation and zeroing
- Optional LED display
- Optional aluminium chassis for sensor and its equipment
- Two strong “open-drain” type outputs that allows to steer external loads like pumps, valves, relays, etc.
- PC program to adjust the analyser's settings and to view the results

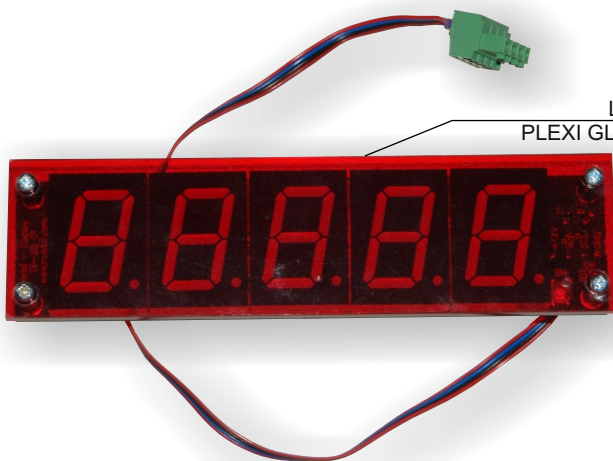
IRMA SENSOR



IRMA SENSOR

Dimensions (W * H * D)	70 mm * 123 ÷ 224mm * 40 mm
Weight (depends on sensor)	60 g ÷ 300 g
Storing temperature	0°C ÷ 60°C
Operating conditions	T: 10°C ÷ 50°C; RH: 5%÷90% (non condensing)
Power supply	14 V DC ÷ 40 V DC
Communication interface with PC computer	MODBUS 485 / RS485
Display (optional)	LED connected via I2C bus
Gas pump (optional)	Membrane 12VDC 1.5l/min (90l/h) - with automatic flow control
Solenoid valve (optional)	3-way 12VDC
Current analogue outputs	1 output 0 mA ÷ 20 mA or 4 mA ÷ 20 mA
Voltage analogue outputs	1 output 0 V ÷ 5 V or 0 V ÷ 10 V
Open drain	2 relay outputs

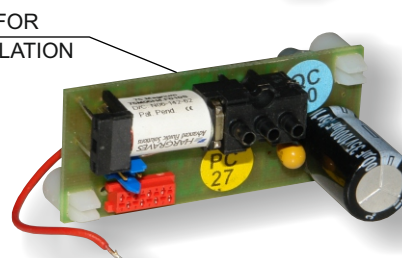
ACCESSORIES



LED DISPLAY WITH
PLEXI GLASS PROTECTION



DIAPHRAGM
GAS PUMP



SOLENOID VALVE FOR
AUTOMATIC VENTILATION

Method	Range Resolution	Accuracy	Time (T90)
CO - CARBON MONOXIDE			
NDIR	10% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	25% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	50% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	100% 0,1%	± 0,5% abs. or 5% rel.	45 sec
CO₂ - CARBON DIOXIDE			
NDIR	1% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	5% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	10% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	50% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	100% 0,1%	± 0,5% abs. or 5% rel.	45 sec
CH₄ - METHANE			
NDIR	1% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	5% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	10% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	25% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	100% 0,1%	± 0,5% abs. or 5% rel.	45 sec
N₂O - NITROUS OXIDE			
NDIR	2000 ppm 0,1 ppm	± 5 ppm abs. or 5% rel.	45 sec
SO₂ - SULPHUR DIOXIDE			
NDIR	10% 0,01%	± 0,05% abs. or 5% rel.	45 sec
SF₆ - SULFUR HEXAFLUORIDE			
NDIR	1% 0,001%	± 0,005% abs. or 5% rel.	45 sec
NDIR	10% 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	100% 0,1%	± 0,05% abs. or 5% rel.	45 sec
CHF₃ - FLUOROFORM (R23 COOLING AGENT)			
NDIR	2,5% 0,01%	± 0,05% abs. or 5% rel.	45 sec
CF₄ - TETRAFLUOROMETHANE			
NDIR	1% 0,01%	± 0,05% abs. or 5% rel.	45 sec
C₄F₈ - OCTAFLUOROCYCLOBUTANE (RC318 COOLING AGENT)			
NDIR	1% 0,01%	± 0,05% abs. or 5% rel.	45 sec