E Instruments Group Srl

ECOline Environmental Technology

SENMA

CHARACTERISTIC | FEATURES | TECHNICAL DATA | SENSORS

SENMA is a flow gas sensor which serves as detector for single gas component. It is highly adaptable to specific needs. Depending on analyzed gas it uses NDIR (Non-Dispersive Infra-red), electrochemical, thermal conductivity or photoionization measurement technology.

Each sensor is prepared for detection of particular gas and calibrated for required range.

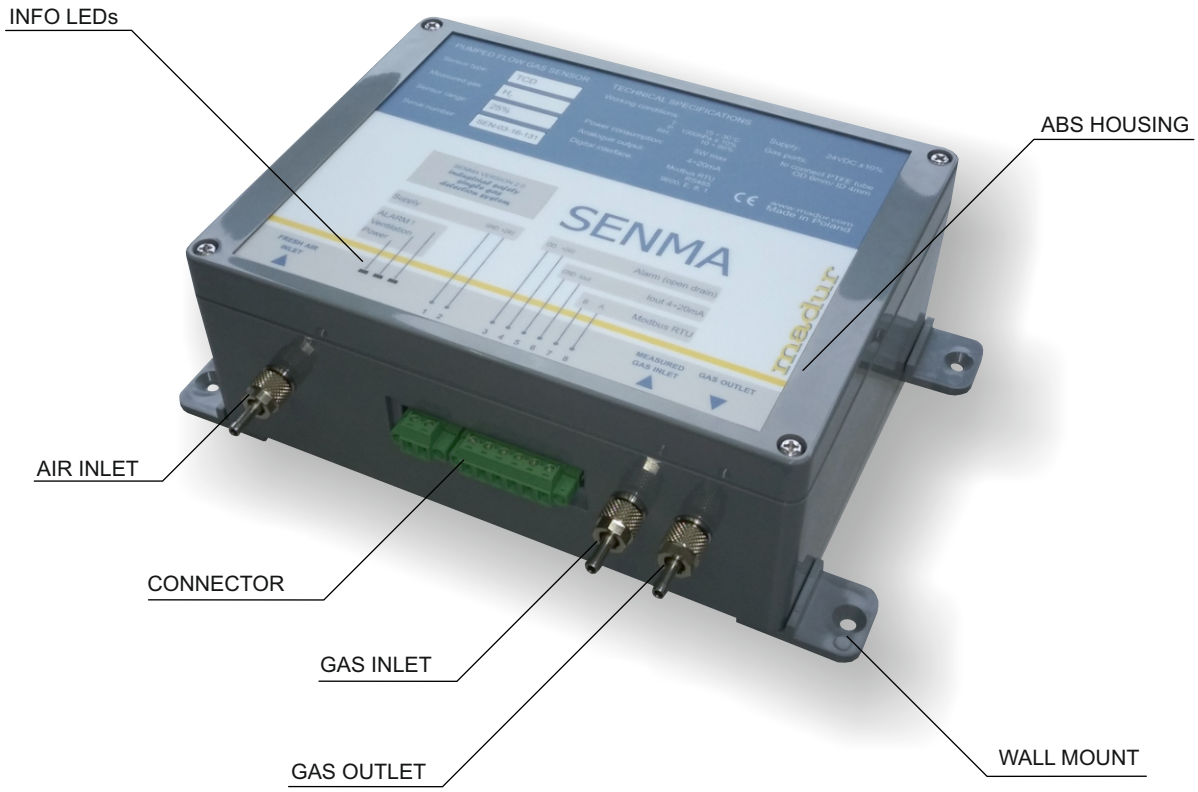
Gas sample gets to the sensor through the membrane pump, which is installed inside the device (note, Senma is not a diffusion sensor), then the gas is being analyzed.

When concentration of detected gas exceeds specified level, SENMA sets off any connected alarm with help of the relay output or performs other, indicated action.

SENMA

- Wide choice of electrochemical, NDIR, TCD and VOC sensors
- Available for various ranges and resolutions
- ABS housing
- Integrated membrane pump
- Solenoid valve for automatic ventilation and zeroing
- PC program to adjust the analyser's settings and to view the results
- Communication with PC via MODBUS 485 / RS485
- Analogue output (0/4÷20mA)
- Alarm (open drain) relay output
- Optional display (4,5 digits)

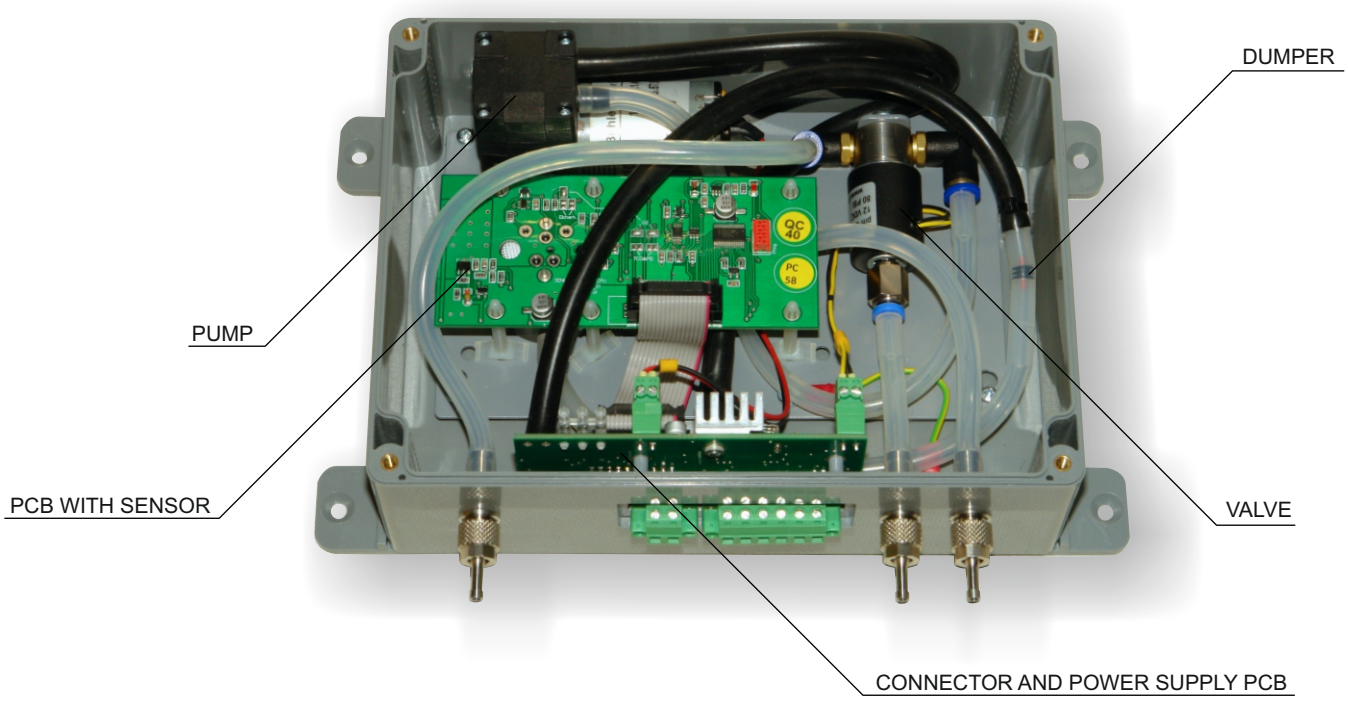
SENMA DETECTOR



SENMA

SENMA DETECTOR

Dimensions (W * H * D)	240 mm * 175 mm * 70 mm
Weight (depends on inside equipment)	1,1kg ÷ 1,2kg
Casing material	ABS
Operating conditions	T: 10°C ÷ 50°C; RH: 5%÷90% (non condensing)
Storing temperature	0°C ÷ 55°C
Power consumption	10W
Protection grade	IP52
Gas pump	Membrane | 12VDC |1.5l/min (90l/h) - with automatic flow control
Solenoid valve	3-way | 12VDC
Current analogue outputs	1 output 0 mA ÷ 20 mA or 4 mA ÷20 mA
Alarm (open drain)	1 relay output
Communication interface with PC computer	MODBUS 485 / RS485
Gas inlets/outlets	INOX | for PTFE 4x6mm hose



SENMA

Method	Range | Resolution	Accuracy	Time (T90)
O_2 - OXYGEN			
Electrochemical	20,95% | 0,01%	± 0,01% abs. or 5% rel.	45 sec
CO - CARBON MONOXIDE			
Electrochemical	4 000 ppm | 1 ppm	± 5 ppm 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	50% | 0,01%	± 0,05% abs. or 5% rel.	45 sec
NDIR	100% | 0,1%	± 0,5% abs. or 5% rel.	45 sec
CO_2 - 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
CH_4- 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
H_2S - HYDROGEN SULPHIDE			
Electrochemical	200 ppm | 0,02 ppm	± 0,2 ppm abs. or 5% rel.	45 sec
NO - NITRIC OXIDE			
Electrochemical	500 ppm | 0,2 ppm	± 1 ppm abs. or 5% rel.	45 sec
NO_2 - NITROGEN DIOXIDE			
Electrochemical	50 ppm | 0,1 ppm	± 0,2 ppm abs. or 5% rel.	45 sec
N_2O - NITROUS OXIDE			
NDIR	2000 ppm | 0,1 ppm	± 5 ppm abs. or 5% rel.	45 sec
SO_2 - SULPHUR DIOXIDE			
Electrochemical	200 ppm | 0,1 ppm	± 1 ppm abs. or 5% rel.	45 sec
H_2 - HYDROGEN			
Electrochemical	2 000 ppm | 1 ppm	± 5 ppm abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	10% | 0,1%	± 0,05% abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	25% | 0,1%	± 0,05% abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	50% | 0,1%	± 0,05% abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	100% | 0,1%	± 0,5% abs. or 5% rel.	45 sec

SENMA

Method	Range | Resolution	Accuracy	Time (T90)
CL_2 - CHLORINE			
Electrochemical	10 ppm | 0,02 ppm	± 0,2 ppm abs. or 5% rel.	45 sec
HCL - HYDROGEN CHLORIDE			
Electrochemical	100 ppm | 0,1 ppm	± 1 ppm abs. or 5% rel.	45 sec
NH_3 - AMMONIA			
Electrochemical	200 ppm | 0,5 ppm	± 2,5 ppm abs. or 5% rel.	45 sec
SiH_4 - SILANE			
Electrochemical	50 ppm | 0,2 ppm	± 2 ppm abs. or 5% rel.	45 sec
BCL_3 - BORON TRICHLORIDE			
Electrochemical	10 ppm | 0,1 ppm	± 1 ppm abs. or 5% rel.	45 sec
SiH_2CL_2 - DICHLOROSILANE			
Electrochemical	50 ppm | 0,1 ppm	± 1 ppm abs. or 5% rel.	45 sec
BF_3 - BORON TRIFLUORIDE			
Electrochemical	10 ppm | 0,1 ppm	± 1 ppm abs. or 5% rel.	45 sec
HF_3 - HYDROGEN FLUORIDE			
Electrochemical	10 ppm | 0,1 ppm	± 1 ppm abs. or 5% rel.	45 sec
SF_6 - 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%	± 0,5% abs. or 5% rel.	45 sec
CHF_3 - FLUOROFORM (R23 COOLING AGENT)			
NDIR	2,5% | 0,01%	± 0,05% abs. or 5% rel.	45 sec
CF_4 - TETRAFLUOROMETHANE			
NDIR	1% | 0,01%	± 0,05% abs. or 5% rel.	45 sec
C_4F_8 - OCTAFLUOROCYCLOBUTANE (RC318 COOLING AGENT)			
NDIR	1% | 0,01%	± 0,05% abs. or 5% rel.	45 sec
He - HELIUM			
TCD - Thermal conductivity detector	10% | 0,1%	± 0,05% abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	25% | 0,1%	± 0,05% abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	50% | 0,1%	± 0,05% abs. or 5% rel.	45 sec
TCD - Thermal conductivity detector	100% | 0,1%	± 0,5% abs. or 5% rel.	45 sec
VOC - VOLATILE ORGANIC COMPOUNDS			
PID - Photoionization Detector	100 ppm | 1 ppm	± 5 ppm abs. or 5% rel.	45 sec
PID - Photoionization Detector	1000 ppm | 1 ppm	± 5 ppm abs. or 5% rel.	45 sec