WGD Series

WIRELESS GAS DETECTOR + CENTRAL UNIT

OVERVIEW:

WGD series detector is a complete stand alone system with integrated lithium-ion battery. It works on GSM / GPRS system, it can also interface with Oxygen, Methane, Combustible & Toxic Gas sensors. Features Highlighted for the device (WGD Series) such as battery and solar powered, cloud connectivity, SMS and Email alert/notification, cloud base data storage.

FEATURES:

- 1+ year battery life (1 Transmission/Day)
- Internal lithium battery or Solar panel option
- Suitable for using in remote & hazards locations
- 2G GSM/GPRS Global Transmission
- Redundancy system with auto service provider or network switching in case if network failure
- Transmits Gas reading, Battery status, & alert status to 2 wireless central units and 10-users
- Low, High Configurable Alarms with SMS and Email alerts
- Wireless remote central unit for relay operations and data collection over MODBUS
- User programmable sensor locations
- Continuous gas monitoring with no sleep mode
- Graphical LCD with backlight
- Display sensor reading, Alarm status and battery level

- Password protected Display function menu
- User Friendly Multifunctional keypad & GLCD display for easy Man Machine Interface
- Password Protected Display Function Menu
- Front LED indicators:
  - Device status
  - Alarm status
  - Communication
  - network status

APPLICATIONS:

- Refineries & Petrochemical plants including offshore drilling & plant shutdowns
- Waste water Treatment plants
- Tank Farms
- Leak detection & alerts
- Emergency response to off-site leak detection
- Leak detection in Gas Pipelines
- Process or Emission gas analysis
- Sewage plant
- Coal Mines
- Fire & security panels
- Heat treatment plant
- Access control
Technical Specifications for Wireless Gas Detector Series

**POWER**
- Normal Mode: Up to 10mW during detection (WGD2MSB)
- Up to 288mW during detection (WGD2MSP)
- During Data transmission: Up to 300mW (WGD2MSB)
- Up to 2W (WGD2MSP)
- Power Supply: i) 7.4V Rechargeable, Li-ion battery
  ii) 6-24V DC Input
  iii) Solar System

**NETWORK**
- Modem: 2G GSM/GPRS (Optional 3G/LTE) Global Transmission
  Dual SIM card
- Antenna: Up to 3.0 dBi
  Internal / External (in low network area)

**ALERTS AND DATA CONNECTIVITY**
- Modes: SMS/MQTT/TCP-IP*
- Alarms: 2 settable alarms, sensor fault, open, over.
- Healthy Alerts: Daily Multiple SMS notification of device status
- Details: Battery status, sensor fault and alarm status

**USER INTERFACE**
- LCD display: 128 x 64 pixel Graphical display
- Keys: 3 keys (SHIFT key, SET Key, INC/dec key)
- LED's: 4 LED Indications (Healthy LED, Alert LED, Communication LED, Network LED)

**ENVIRONMENTAL SPECIFICATIONS**
- Temperature Range: -10°C to 50°C
- Relative Humidity: 10% to 90% RH, Non-Condensing

**SENSOR**
- Sensor Technology: NDIR technology -Sensor Life-8 Years
- Response time: <30 Secs

<table>
<thead>
<tr>
<th>SR. NO</th>
<th>GASES</th>
<th>RANGE</th>
<th>UNIT</th>
<th>RES</th>
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</thead>
<tbody>
<tr>
<td>N4</td>
<td>Methane (CH4)</td>
<td>100</td>
<td>%LEL</td>
<td>1</td>
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</tbody>
</table>

**HOUSING FOR DETECTOR**
- Protection class: IP-66 for GAS Gr. IIC CMRI Approved
- Cabinet Material: Cast Aluminium, LM-6
- Dimension: 247mm (W) x 213mm (H) x 120mm(D) - FLG
  666mm (W) x 366mm (L) x 25mm(D) - SOLAR
- Mounting: Wall Mounting / Stand Mounting / Pipe Mounting
- Weight: Approx 4.9 kg - FLG

**WGD2MSB-FLP**
- Battery operated
- Protection Class- IP-66 for Gas Gr. IIC CMRI Tested

**WGD2MSS-FLP (Solar)**
- Solar panel with battery
- Pole mounted

**Note:** *Marked points available only on request/ under development / in externally powered/Solar Devices.*
Comprehensive Solution for Wireless Gas Detection & Control

- **Up to 32 configurable nodes**
- Any channel can be used in comparison with setpoints
- Alarm actions may include:
  - Alarm status on display
  - Relay activations
  - Buzzer activation
  - LED indication

**WGD2MSB-FLP**
- Battery operated
- Protection Class- IP-66 for Gas Gr. IIC CMRI Tested

**ETHERNET/RS-485/RS-232**
- MODBUS RTU
- MODBUS TCP-IP
- MODBUS Over TCP-IP

**CONTROL ROOM**

**SMS Alerts**

**Safe SMS Format**
- ST: OK
- GC: 0 %LEL
- BT: 100%
- TM: 18:19
- DT: 14 FEB 19
- UID: 919191
- LOC: MUM-ANDI
- RSSI: 055

**Alarm SMS Format**
- ST: AL-2-HIGH
- GC: 49 %LEL
- AL2: 30 %LEL
- BT: 100%
- TM: 18:27
- DT: 14 FEB 19
- UID: 919191
- LOC: MUM-ANDI
- RSSI: 053
**Solar Setup:**

**THE SOLAR MODULE:**
- The Solar panel used in this system is 30W~50W, 12V~18V, 2A~3A.
- The charge controller protects over charge & over-discharge of battery so battery doesn't damage.
- The battery charges from the solar module via charge controller. This charged battery can be used at night or in bad weather conditions. This battery is of 7.4V 20Ah.
- Wireless gas detector module can be operate on both solar panel (in day) & then with charged Li-ion battery (in night).

**CONTROL ROOM**
- PC
- PLC
- SCADA
- ANY MODBUS MASTER

**Central Unit**
- Up to 32 configurable nodes
- Any channel can be used in comparison with setpoints
- Alarm actions may include:
  - Alarm status on display
  - Relay activations
  - Buzzer activation
  - LED Indication

**NOTE:** Above application may change as per indoor & outdoor requirements.