



### **OVERVIEW :**

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

### **WGD4MSB-FLP (Flameproof)**

Suitable for use in Hazardous Locations

Protection Class- IP66 & IP68 Enclosures for Gas Group IIC PESO approved



CIMFR Tested & PESO  
Approved Enclosure

ATEX, IECEx and for USA &  
Canada as an apparatus  
approved Antenna arrangement

### **FEATURES:**

- Provides a fast & reliable response by using Electrochemical or NDIR Technology
- Optimized for detection of smallest leakage of gas with Continuous gas leakage monitoring
- Works on Internal Lithium battery with Approximate 6+ months battery life  
\*(1 Transmission/ Day)
- 4G GSM Connectivity with Dual SIM card slots for Redundancy with Auto SIM switching in case of network failure
- Transmits Sensor Status, Gas Leak Information, Battery percentage, Date & Time, UID number, Location & RSSI
- Daily Status & Fault status SMS notification available (Fixed and Settable Specific time)
- Transmits Gas leak information, Battery status & alert status to 2 wireless central units (SIG) in encrypted format and SMS alerts to 5 mobile users
- User programmable sensor locations
- User Friendly Magnetic Wand & L.C.D. display for Man Machine Interface, programming and calibration
- Password Protected Function Menu
- Two configurable alarms with Low, High Logic for SMS alerts.
- L.E.D. Indications like Alarm, Healthy, Programming mode, Calibration Mode, Key Press, Data Transmission Indication
- Network Failsafe logging (15,000 Records)
- Wireless remote central unit for relay operations, data collection over MODBUS RTU/MODBUS TCP-IP and MQTT cloud connectivity.
- Suitable for using in remote & hazards locations
- GMT Supported Settable Timezone
- Settable country code for SIM card numbers supported.

### **APPLICATIONS:**

- Refineries & Petrochemical plants including offshore drilling & plant shutdowns.
- Automotive Industrial/Paints Shops
- Chemical Processing Plant
- Acid Alkalis & Dyes mfg. Plants
- Bullet Yards / Storage Yard
- Waste water Treatment plants
- Leak detection in Gas Pipelines
- Process or Emission gas analysis
- Coal Mines
- Gas Metering Skid
- Gas Cylinder Bank
- Sewage Plants
- Fertilizers Plants
- Chlorination Plant
- Oil & Gas Industries
- Gas Pipeline Project
- Pulp & Paper Plants
- Gas Metering Station
- Burner / Furnace Areas
- Cold Storage
- Stack Monitoring
- Ambient Monitoring
- Heat Treatment Plants
- Chemical Storage Area
- Control Atmosphere
- Power & Industrial Plants

**Note :** \* Battery life varies according to the transmission / day & alerts.



## Technical Specifications

### POWER

|                          |   |
|--------------------------|---|
| Normal Mode              | : Up to 10mW during detection (WGD4MSB) |
| During Data transmission | : Up to 300mW (WGD4MSB)                 |
| Power Supply             | : 7.4V Rechargeable, Li-ion battery     |

### USER INTERFACE

|             |  |
|-------------|--|
| LCD display | : 128 x 64 pixel Graphical display                     |
| Keys        | : 3 keys (SHIFT key, SET Key, INCR key)                |
| Settings    | : Use of Magnetic wand without opening enclosure cover |
| LED's       | : L.E.D. Indications for device status/ Alarm status   |

### ENVIRONMENTAL SPECIFICATIONS

|                   |                                  |
|-------------------|----------------------------------|
| Operating Temp.   | : -15°C to +45°C                 |
| Storage Temp.     | : -10°C to +50°C                 |
| Relative Humidity | : 10% to 90% RH, Non- Condensing |

### SENSOR

|                   |                                     |
|-------------------|-------------------------------------|
| Sensor Technology | : Electrochemical / NDIR technology |
| Response time     | : < 30 Secs                         |

### NETWORK

|         |   |
|---------|---|
| Modem   | : 4G GSM Connectivity   |
|         | : Dual SIM card slots for Redundancy with Auto SIM switching in case of network failure |
| Antenna | : Heavy Duty with UV resistant ABS material Omni directional Antenna.                   |

### 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    |

### FLAMEPROOF HOUSING

|                  |   |
|------------------|---|
| Protection class | : IP66 & IP68 for GAS Gr. IIC PESO approved enclosure |
| Cabinet Material | : Cast Aluminium, LM-6                                |
| Dimension        | : 247mm (W) x 213mm (H) x 120mm(D) - FLP              |
| Mounting         | : Wall Mounting                                       |
| Weight           | : Approx 4.9 kg - FLP                                 |

### Approval & Compliance for Flameproof Enclosure :

#### Ex db IIC T6 Gb IP 66

|                           |                    |                  |
|---------------------------|--------------------|------------------|
| • CIMFR CERTIFICATE NO. : | IN/CIMFR/TR19/4071 | Dt. : 13/12/2019 |
| • PESO CERTIFICATE NO. :  | P538850/6          | Dt. : 16/06/2022 |

#### IP 68 Enclosure

|                           |                     |                  |
|---------------------------|---------------------|------------------|
| • CIMFR CERTIFICATE NO. : | IN/CIMFR/TR21/S/977 | Dt. : 06/07/2021 |
|---------------------------|---------------------|------------------|

#### • Standard Compliance :

|                   |                            |                            |
|-------------------|----------------------------|----------------------------|
| • IS/IEC 60079-1  | : 2014 Ex d IIC T6 Gb      | (Flameproof Protection)    |
| • IS/IEC 60079-31 | : 2013 Ex ta IIIC T85°C Da | (Dust Ignition Protection) |
| • IS/IEC 60079-11 | : 2011 Ex ia IIC T6 Ga     | (Intrinsically Safe)       |
| • IS/IEC 60529    | : 2001 IP66 AND IP68       | (Ingress Protection)       |

### Approval & Compliance for Sensor Holder SenSmart

#### Model No. SM-FLP-IIC

#### Ex db IIC T6 Gb Ex tb IIIC T85°C Db IP 66

|                           |                      |                  |
|---------------------------|----------------------|------------------|
| • CIMFR CERTIFICATE NO. : | IN/CIMFR/TR21/P/2085 | Dt. : 06/10/2021 |
| • PESO CERTIFICATE NO. :  | P538850/5            | Dt. : 16/06/2022 |

### Approval & Certification for Antenna Arrangement

#### ATEX certification

nr. T V CY 18 ATEX  
0206158 X



Ex I M2 (M1) Ex db mb [ia Ma] I Mb  
II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb  
II 2 (1) D Ex mb tb [ia Da] IIIC T80°C...T100°C Db

Standard Ref. EN 60079-0, EN 60079-1, EN 60079-11, EN 60079-18, EN 60079-31

#### IECEx certification

nr. IECEx MSC 19.0001X

Ex db mb [ia Ma] I Mb  
Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb  
Ex mb tb [ia Da] IIIC T80°C...T100°C Db

Standard Ref. IEC 60079-0, IEC 60079-1, IEC 60079-11, IEC 60079-18, IEC 60079-31

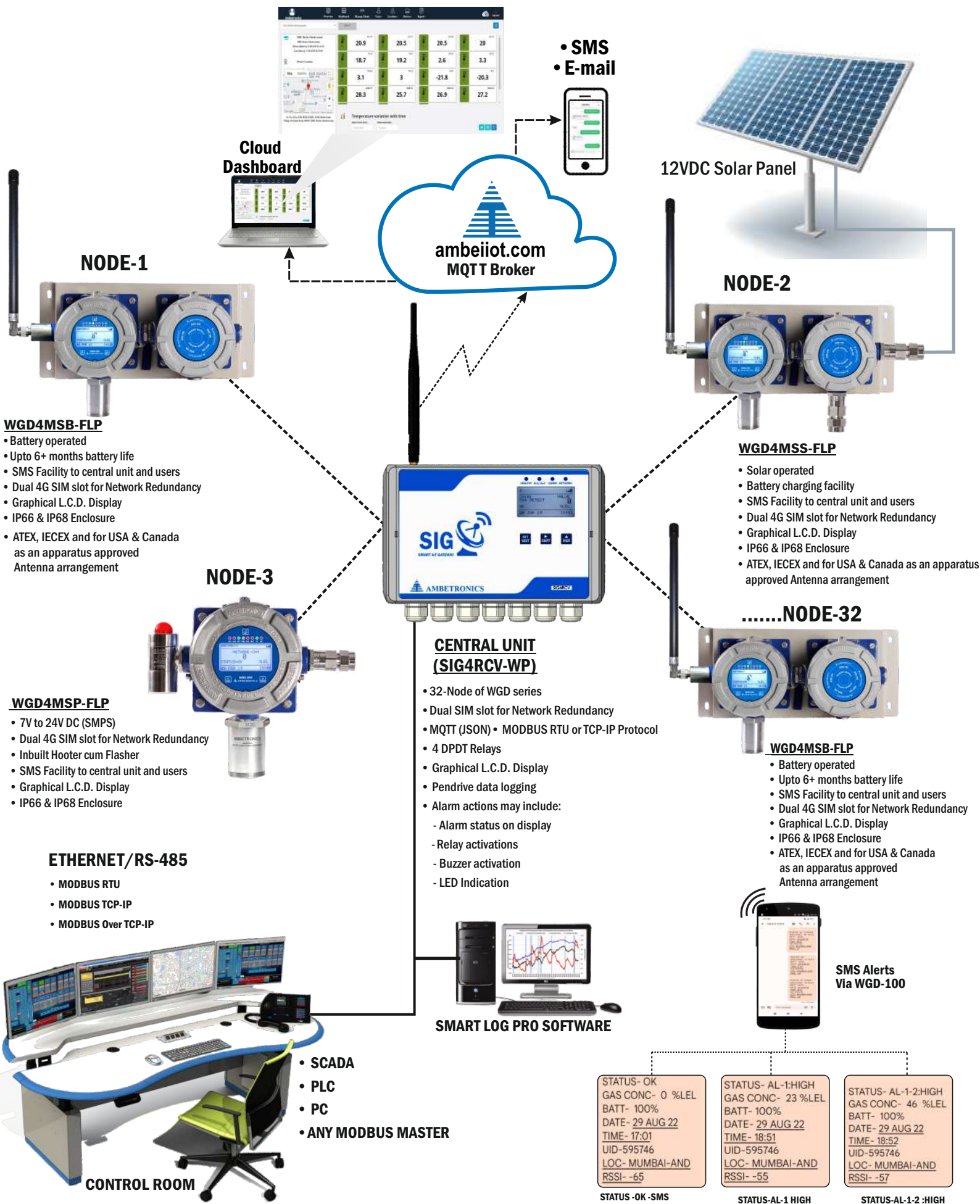
#### USA & Canada certification

cQPSus LR-1504-3

Class I, Division 1, GROUP ABCD; Class II, Division 1, GROUP EFG  
[Ex ia Ga] IIC; [Ex ia Da] IIIC  
Class I, Zone 1, AEx db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb  
Zone 21, AEx mb tb [ia Da] IIIC T80°C...100°C Db  
Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb  
Ex mb tb [ia Da] IIIC T80°C...T100°C Db

Standard Ref. CAN/CSA C22.2 No. 60079-0 UL 60079-0  
CAN/CSA C22.2 No. 60079-1 UL 60079-1  
CAN/CSA C22.2 No. 60079-11 UL 60079-11  
CAN/CSA C22.2 No. 60079-18 UL 60079-18  
CAN/CSA C22.2 No. 60079-31 UL 60079-31  
CAN/CSA C22.2 No. 60950-1 UL 60950-1  
CAN/CSA C22.2 No. 25-17 UL 1203  
CAN/CSA C22.2 No. 30-M1986  
CAN/CSA C22.2 No. 157 UL 913 UL 508  
CAN/CSA C22.2 No. 94.2-15 UL 50E NEMA 250-2014

# Comprehensive Solution for Wireless Gas Detection & Control





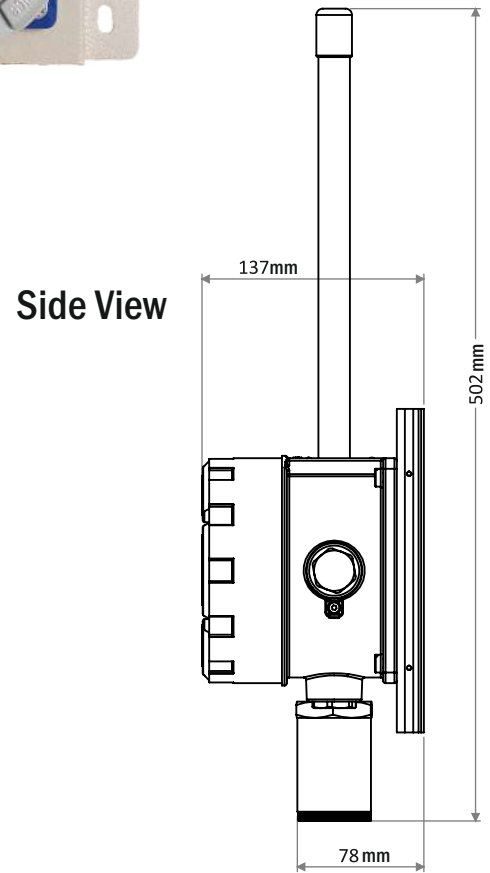
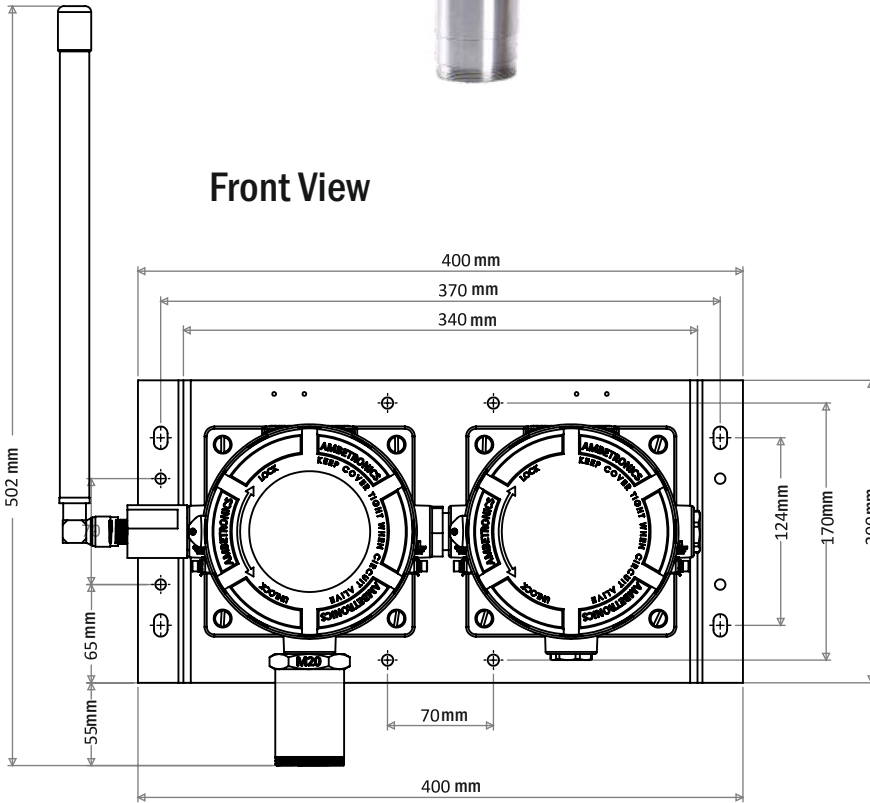
# Dimension Details

## WGD4MSB-FLP

Battery operated

Protection Class- IP66 & IP68 for

Gas Gr. IIC PESO approved enclosure



Note: \*Marked points available only on request/ under development / in externally powered / Solar Devices.

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

Manufactured by :



## AMBETRONICS ENGINEERS PVT. LTD.

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Version :WGD -100-FLP-R6-22-07-2023

Specifications subject to change without any prior notice