Wireless Mesh Manager 3G Series

Data you want, when you want it…

GSS's Wireless Mesh Manager 3G (WMM3G) is a battery powered, wireless mesh sensor network manager with 3G network connectivity. Wireless mesh sensor networks can now be deployed anywhere, regardless of the central monitoring location. WMM3G delivers alerts via SMS and uploads data files via FTP or other file sharing services. A year of unattended operation was a key requirement during the design and development of WMM3G, making it perhaps of the most energy efficient device in its class.

Features

- Automatic creation and maintenance of sensor mesh networks ranging in size from one to one hundred sensors operating in bi-directional mode.
- Large capacity, removable storage for recording sensor data in excess of 5 years. Data culling at scheduled intervals is available.
- Scheduled and automatic data upload to FTP servers and file-sharing systems.
- Formatting and delivery of SMS alerts to preconfigured cell phones.
- GSS TAV Console Offline Mode allows all sensor configuration settings to be changed and uploaded to an FTP server.
- A user initiated FTP download will apply bulk configuration changes.
- Ad-hoc remote configuration via SMS allows setting of sensor and 3G parameters.
- Supports quick, in-situ configuration via USB cable connection and GSS application running on a Windows PC. This permits automatic sensor detection and saves configuration settings locally as well as to an FTP server.
- Firmware upgrades can be performed remotely and in-situ with minimal operational impact.
- Operates for a year under normal operating conditions on four lithium primary D cell batteries.
- Antenna connectors allow alternate antennas and cable extenders for better communication reception.
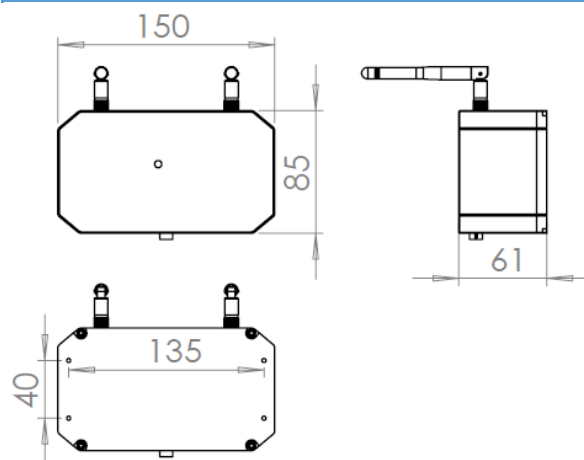
Applications

WMM3G is ideal for installation in remote locations where data from multiple sensors needs collection and delivery to internet based servers.

- Rock-fall barrier monitoring
- Slope monitoring
- Tree monitoring
- Remote blast monitoring
- Pipeline monitoring
- Bridge monitoring
- Tunnel monitoring

Dimensions

Wireless Mesh Manager 3G Series

General Specifications			
Part Numbers	WMM3G-01/03		
Mesh Network Communication			
Standards	2.4 GHz 6LoWPAN and 802.15.4e standards		
Range	300m line of sight with external, elevated antenna		
Reliability	> 99.999%		
Upload Rate	~3.2Kb/s		
Security	Secure Mesh with 128-bit AES Encryption. NIST Certified Security		
Time Stamping	Highly Accurate Time Stamping to 1millisecond/node		
Supported Sensors	GSS Tilt, Vibration, Impact, 4-20ma devices and repeaters		
Regulatory Compliance	ROHS, CE	Korea: CRM LT9 Eterna Japan: 208-130008	IC: 5853A Eterna2 FCC ID: SJC Eterna2
3G Network Communication			
Features	Penta-band module supporting GSM/GPRS/EDGE/UMTS/HSPA/HSUPA		
Frequency Bands	800/850/900/1900/2100MHz@UMTS 850/900/1800/1900MHz@GSM		
HSUPA	Release 7 (category 6). Max. 5.76Mbps		
HSDPA	Release 7 (category 8). Max. 7.2Mbps		
EDGE	Multi-slot Class 33. Max. 296Kbps (DL)/Max 236.8kbps (UL)		
GPRS	Multi-slot Class 33. Max. 107Kbps (DL)/Max. 85.6Kbps (UL)		
UMTS	Release 99/7. Max. 384Kbps (DL)/Max. 384Kbps (UL)		
GSM	Release 99/4.		
SMS	Point-to-point MO and MT, SMS Cell Broadcast, Text and PDU Mode		
Output Power	Class 3 (24dBm +1.7/-3.7dB) for UMTS bands Class E2 (27dBm±3dB) for GSM850 and EGSM900 Class E2 (26dBm±3dB) for DCS1800 and PCS1900 Class 4 (33dBm ±2dB) for GSM 850/900 Class 1 (30dBm ±2dB) for GSM 1800/1900		
Certificates	Anatel, CE, DOC, FCC, GCF, ICASA, IFETEL, PTRCB, RCM		
Power Consumption			
Monitoring (3G Idle)	1.3ma (monitoring) and up to 400ma when FTP/SMS processing		
Est Battery Life (4 x Lithium D cells)	1 year		
Environment			
Operating Temperature	-40 °C TO +85 °C		
Mechanical Shock Limit	20,000g		
MTBF	1.1 Million Hours (Telcordia Method I, GF/30C) 0.4 Million Hours (Telcordia Method I, GM/35C)		
Dimensions	L 150mm x W 85mm x H 61mm (not including antenna)		
Mounting Flange	L170mm x W 90mm x H 4mm		
Weight	~1Kg without flange, 1.2Kg with flange (includes batteries and antenna)		
Integration			
External Connectors	1 x MicroUSB connector for Management interface 1 x 4-pin Hirose connector for Solar Panel connector		
Software	GSS TAV Console Application (Windows XP,7,8 and 10)		
Options			
Mounts	Various mounting options are available		