

TULIP-IVT COMMUNICATION & CONTROL GATEWAY



Benefits

- Comprehensive multiple generator control and monitoring (i.e., remote start/stop, fuel, block heater, battery, alarms)
- Historical data analysis
- Improved Operational Efficiency
- Integration with third party servers/clouds
- Reducing Operating Expenses
- Critical Resource Prioritization
- Integration with other network elements (HVAC, ATS, energy meters, etc.)

Corporate Portfolio

Services:

- Telecom Consulting
- Managed Services
- Staffing & Recruitment
- Telecom Opex Management

Product Lines:

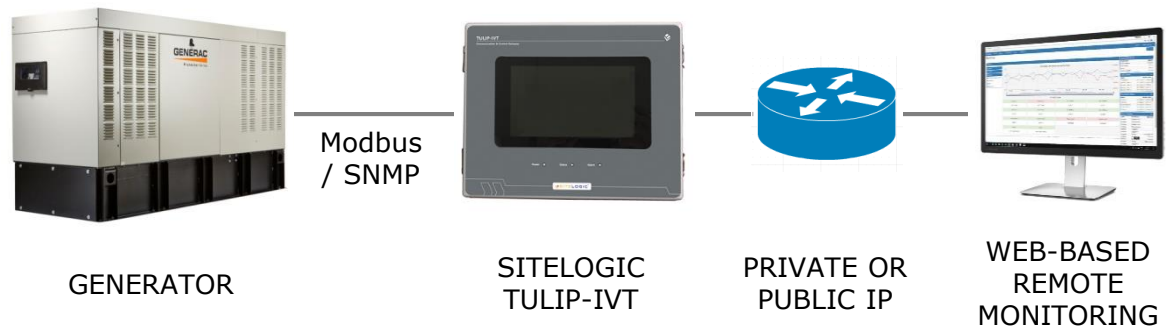
- SiteLogic™
- OpexLogic™
- ExpenseLogic™

Key Clients

- Bell Canada
- Comcast
- China Mobile
- Hydro One
- Mobilink
- Rogers
- Telus
- Verizon

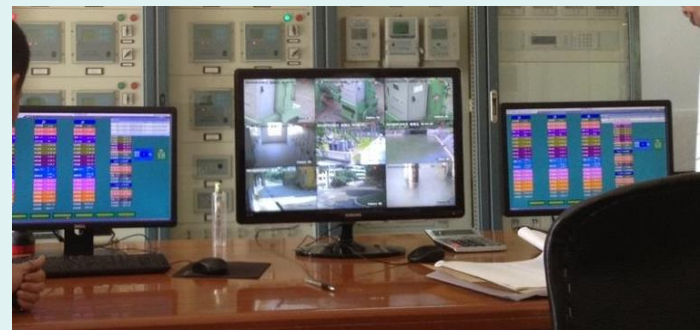
GENERATOR MONITORING

Intelligent Monitoring & Control



VALUE PROPOSITION

- Ongoing performance, monitoring and management
- Remote start/stop; fewer site visits
- Load and efficiency testing
- Prolonged equipment lifetime (reduce overuse and misuse)
- Algorithmic controls
- Telemetry supports intelligent, informed actions
- Generator Health Check Report, comprehensive report with trending and historic voltage production and includes logic for 'health' decisions - can be manually triggered or scheduled to run automatically



Intelligent Generator Monitoring

For Generators with IP or Modbus Interface



Touch Display
LCD/RGB 7"
800 x 480 pixels

10 Finger Capacitive Touch

Dimensions
120 x 276 x 225 mm
(H x W x D)

Weight
600gm

TECHNICAL SPECIFICATIONS

TULIP-IVT COMMUNICATION & CONTROL GATEWAY

HARDWARE

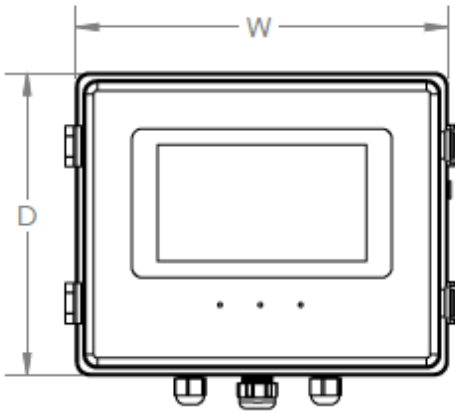
FEATURE	SPECIFICATIONS
CPU	ARM Cortex-A7™ Quad-core
Storage	2GB industrial grade
Network	1xEthernet RJ45 10/100M (Optional 4 Ports), WiFi
Power	AC Input: 100-240 (15W Max); DC Input: 18 to 72VDC
USB	3 x USB serial ports for Modbus / Serial connections
Sensor Ports	(Optional) 3 x RJ45 sensor ports, temp, humidity, airflow sensors
Alarm Ports	2 x RJ45 for 5 input alarms
Peripherals	I/O for UART, I2C, SPI, ADC, PWM, CAN, I2S, SPDIF
LEDs	Power, Status, Alarm
Alarm Reset	SPST Push switch
Buzzer	Passive Piezoelectric Buzzer; sound level up to 87db

SOFTWARE FEATURES

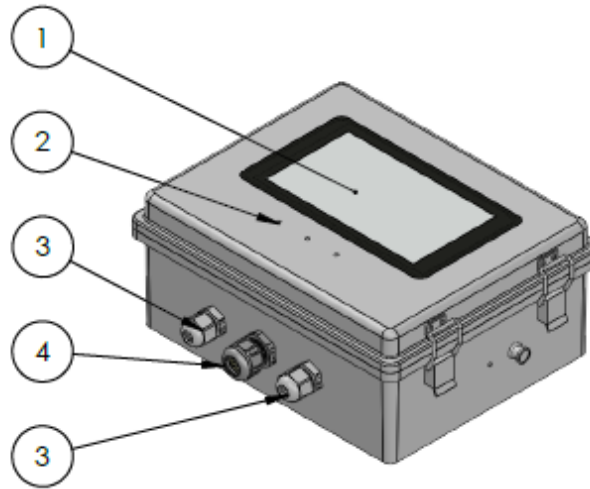
- Modbus TCP/RTU communication with 3rd party controllers i.e. Generators, Energy Meters, HVAC, ATS, DC Plant etc.
- Linux operating system
- IPv4 and IPv6 capable
- SNMP version 1, 2 device management
- Alarms configuration & reporting
- Analog/Digital sensors data collection
- Data aggregation over wired/wireless WiFi network
- Performance parameters summary on graph and over SNMP.
- Remote bulk data collection over http
- GUI interface for configuration
- Remote software upgrade
- Auto configuration backup over FTP
- Local data storage up to 3 years
- Real time & Historical Alarms logging
- CSV log file export for Alarms & parameters
- Real time active graphs for user defined intervals
- System clock with configurable NTP server
- Multi level user access
- User and Admin authorization levels for read only and read write access

DIMENSIONS

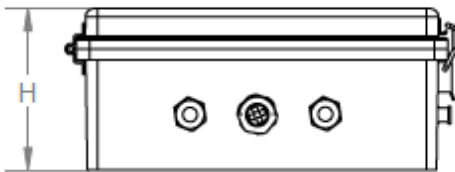
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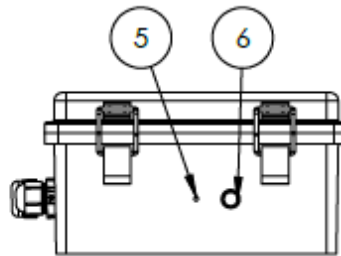
Top View



Isometric View



Front View



Side View

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REFERENCE NOTES

ITEM	DESCRIPTION
1	LCD and Touch Screen
2	LED Indicators
3	2 x PG11
4	Sensor Ports PG16
5	Buzzer
6	Reset Switch

PHYSICAL DIMENSIONS

H	120
W	276
D	225

PROPRIETARY AND CONFIDENTIAL

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