

# TULIP-IVT-OD 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:

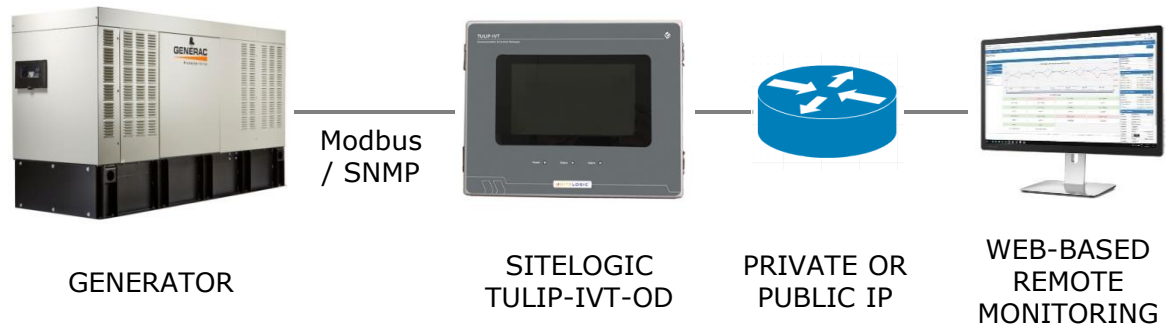
- SiteLogic™
- OpexLogic™
- ExpenseLogic™

## Key Clients

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

# GENERATOR MONITORING

## Intelligent Monitoring & Control



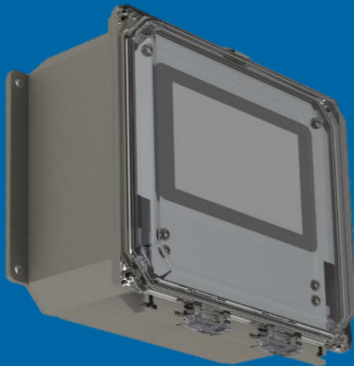
## VALUE PROPOSITION

- 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**  
130 x 266 x 220 mm  
(H x W x D)

**Weight**  
600gm

**OUTDOOR RATED**

## TECHNICAL SPECIFICATIONS

### TULIP-IVT-OD COMMUNICATION & CONTROL GATEWAY

#### HARDWARE

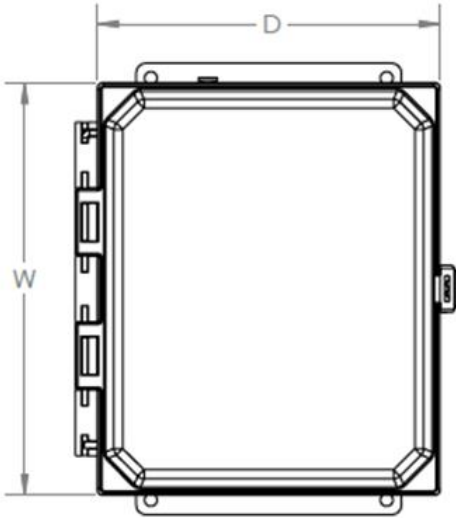
ITEM	SPECIFICATIONS
<b>CPU</b>	ARM Cortex-A7™ Quad-core
<b>Storage</b>	2GB industrial grade
<b>Network</b>	1xEthernet RJ45 10/100M (Optional 4 Ports), WiFi
<b>Power</b>	AC Input: 100-240 (15W Max); DC Input: 18 to 72VDC
<b>USB</b>	3 x USB serial ports for Modbus / Serial connections
<b>Sensor Ports</b>	(Optional) 3 x RJ45 sensor ports, temp, humidity, airflow sensors
<b>Alarm Ports</b>	2xRJ45 for 5 input alarms
<b>Peripherals</b>	I/O for UART, I2C, SPI, ADC, PWM, CAN, I2S, SPDIF
<b>LEDs</b>	Power, Status, Alarm
<b>Alarm Reset</b>	SPST Push switch
<b>Buzzer</b>	Passive Piezoelectric Buzzer; sound level up to 87db

#### SOFTWARE FEATURES

- Modbus TCP/RTU communication with 3<sup>rd</sup> 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

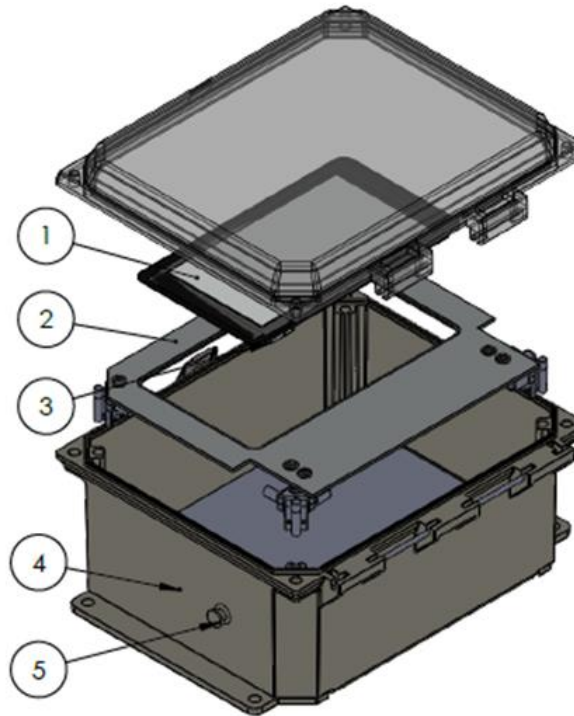
### TULIP-IVT-OD COMMUNICATION & CONTROL GATEWAY



Top View



Side View



Expanded Isometric View

## Contact Us

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#### REFERENCE NOTES

ITEM	DESCRIPTION
1	Touch Screen
2	Controller
3	Swing Panel
4	Buzzer
5	Reset Switch

#### PHYSICAL DIMENSIONS (mm)

H	130
W	266
D	220

#### PROPRIETARY AND CONFIDENTIAL

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