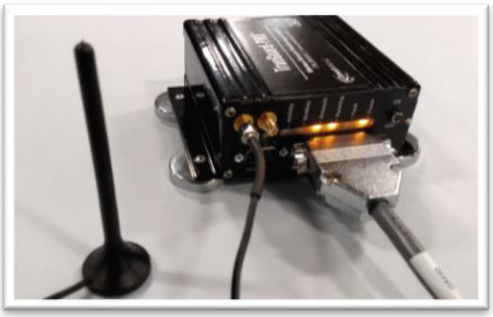
1. The TrueGuard-PRO™ can access equipment operating conditions through two means: (1) The I/O Cable contains color-coded wires which may be connected to the equipment alarm points. These points are typically user relays or the drivers that control such relays. (2) The RS485 serial data wires may be connected to equipment controls that provide Modbus RTU slave functionality. The monitor operates as a Modbus master, and polls the equipment for status conditions. Either or both of these methods may be used, independently or together.
2. Place the antenna on the roof of the generator and route the antenna cable through the louvers down into the area of the generator control. The antenna used for transmitting must be installed to provide a separation distance of at least 20 cm from all persons and must not transmit simultaneously with any other antenna transmitters. BE SURE to provide a drip loop lower than the monitor to keep water from running down the antenna cable into the monitor connection. If the roof is aluminum (non-magnetic), simply mount the antenna near the roof line on the steel side walls or bond to roof.
3. Attach the monitor, via its magnetic feet, on top of the controller or other appropriate location. Horizontal surfaces are best, but the unit may be mounted vertically or even upside down if necessary. *Note: If mounted vertically, install the monitor with the cables down to prevent water from entering the enclosure.*
4. Route the I/O cable and connect the appropriate wires according to the I/O descriptions. Make the power connections at this time.
5. Connect the I/O cable to the monitoring module, and tighten the connector screws. If the unit is utilizing a Modbus connection, then connect the serial data cable to the appropriate termination points at this time.
6. Attach the antenna cable to the front of the monitor, and tighten thumb tight.
7. Turn on the monitor and confirm that the LEDs light up and observe the LED indications in accordance with the description below. If not, check for power on the terminal strip. If, after 5 minutes, the only LED lit is the Power LED, check the antenna mount and cable connection.
8. Allow 15 minutes for the monitor to log into the network and then call OmniMetrix at 770-209-0012 to confirm installation. Access to machine data is through the OmniView® web interface at www.omnimetrix.net. Contact OmniMetrix for login instructions and web training.

25 pin cable

TrueGuard-PRO



TrueGuard-PRO with antenna and 25 pin cable connected

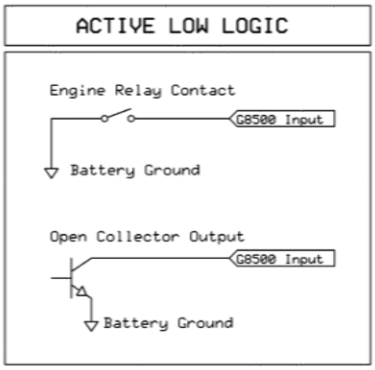
The TrueGuard-PRO I/O Cable contains the following wires:

Power Connections: (9-30 VDC, 10A Fuse Minimum or direct connect to battery)
Power Input, 9-30 VDC, DB25 Pin 1, Red Wire
Power Input, 9-30 VDC, DB25 Pin 14, White - Red Wire (NOT USED)
Power Ground, DB25 Pin 2, Black Wire
Power Ground, DB25 Pin 15, White - Black Wire (NOT USED)
Power Output, DB25 Pin 13, White – Red - Black Wire (special order, contact OMN before use)
Alarm Inputs: (Low for Input Voltage < 2.0V, High for Input Voltage > 3.0V)
Input 1, DB25 Pin 4, Orange Wire
Input 2, DB25 Pin 17, Blue Wire
Input 3, DB25 Pin 5, Violet Wire
Input 4, DB25 Pin 18, Gray Wire
Input 5, DB25 Pin 6, Pink Wire
Input 6, DB25 Pin 19, Tan Wire
Input 7, DB25 Pin 7, Yellow Wire
Input 8, DB25 Pin 20, Brown Wire
Relay Outputs: (Normally Open, Opto Relays, Limit to 300 mA Max)
Relay 1, Contact A, DB25 Pin 8, White - Yellow Wire
Relay 1, Contact B, DB25 Pin 21, White - Brown Wire
Relay 2, Contact A, DB25 Pin 9, Red-Yellow Wire
Relay 2, Contact B, DB25 Pin 22, Red-Black Wire
Analog Inputs: (0 – 5 VDC or 4-20 mA Full Scale Range)
Analog Input 1: 0-50 VDC, DB25 Pin 10, White-Blue Wire
Analog Input: 4-20 mA, DB25 Pin 12, White-Violet Wire, (optional 0-5 VDC – jumper dependent)
Analog Ground, DB25 Pin 24, White - Green Wire (internal ground, connection optional)
Analog Ground, DB25 Pin 25, Red - Green Wire (internal ground, connection optional)
Caterpillar Alarm Data Input: (Connect to CAT Alarm Module Terminal 2)
CAT ALM Input, DB25 Pin 11, White-Gray
Data Connections: (RS485 Modbus RTU, 9600 8/N/1)
RS485 Data +, DB25 Pin 3, White Wire
RS485 Data - , DB25 Pin 16, Green Wire

The G8500 Serial Data Cable contains the following wires:

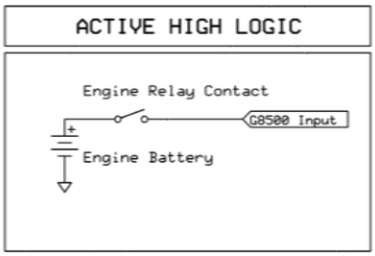
Power Connections: (9-30 VDC, 10A Fuse Minimum or direct connect to battery)
Power Input, 9-30 VDC, DB9 Pin 9, Red Wire
Power Ground, DB9 Pin 5, Black Wire
Data Connections: (RS485 Modbus RTU, 9600 8/N/1)
Data +, DB9 Pin 4, White Wire
Data - , DB9 Pin 6, Green Wire

Note:
After installing the unit, clip off any unused fork terminals and tie back the unused wires to prevent them from contacting one another or other equipment. In any kind of equipment installation, the cables are the most likely failure point. Tie down the cable and individual wire runs to minimize vibration damage.



With ACTIVE LOW Logic, the controller output connects to the DC Power Ground when ACTIVE and floats otherwise.

The controller output may sometimes be a Normally Open Relay or in some cases an Open Collector Transistor.



With ACTIVE HIGH Logic, the controller output connects to the DC Power Source when ACTIVE and floats otherwise.

TrueGuard-PRO LED Functions:

Power Up:

All LEDs will flash indicating code start up. During the cellular network login process, the LEDs all start ON in a bar graph fashion. The 'bar' will diminish from right to left until all are OFF. It will then rebuild the bar from left to right. Once the unit succeeds in connecting to the wireless network, a zigzag display of a single LED lights will cycle back and forth indicating the successful login. The changing LED conditions indicate that the login process in under way. This process may repeat, including pauses along the way. If you see the unit repeatedly performing the first few steps without ever achieving the final zigzag, contact OmniMetrix for guidance.

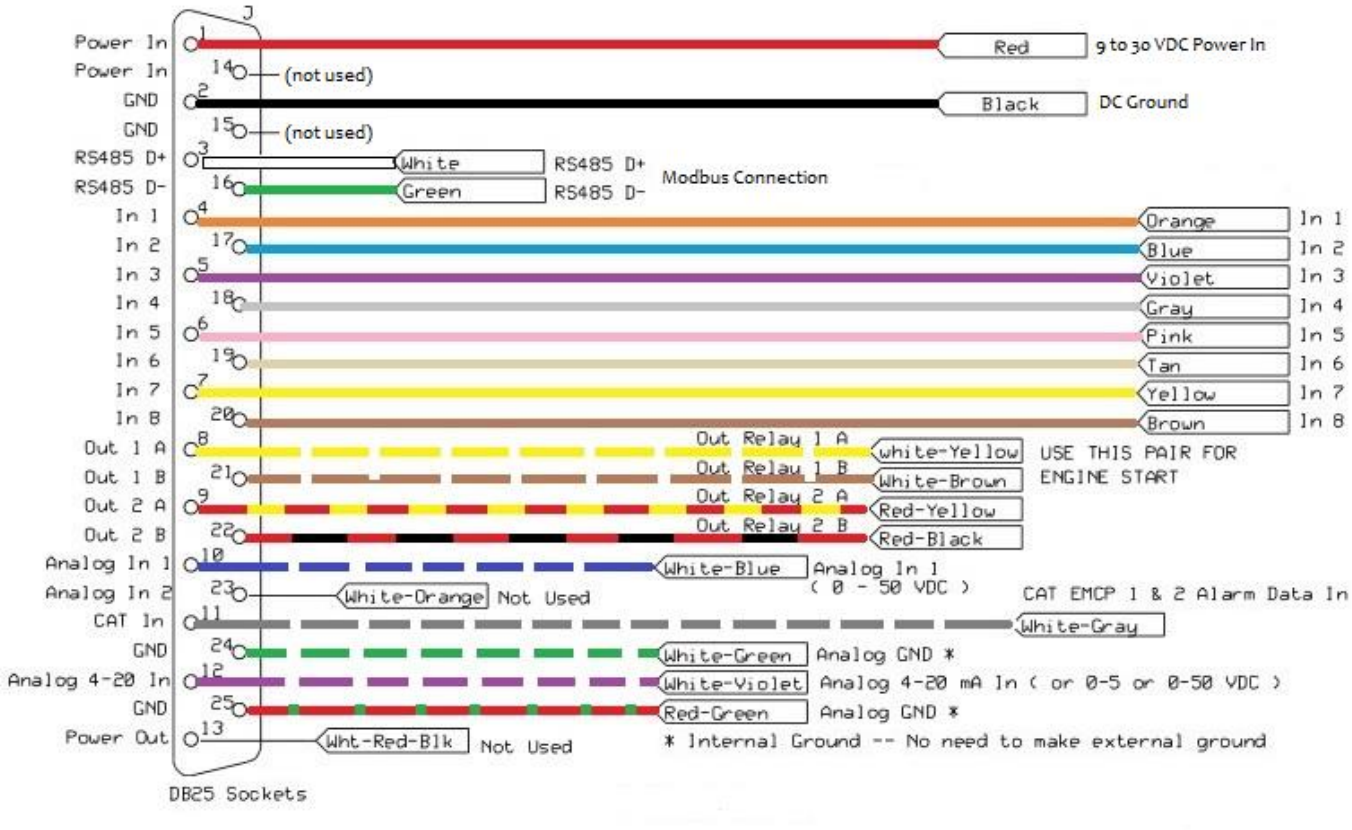
Run Time:

LED 1 (Activity) blinks on a regular basis to show the unit is operating.
LED 2 (Modbus) blinks whenever a successful Modbus network exchange occurs.
LED 3 (Network) is illuminated when the unit is connected to the OmniMetrix server.
LED 4 (Running) is illuminated when the Running condition is detected.
LED 5 (Fault) is illuminated when an analog fault condition occurs, including Modbus faults.
LED 6 (Power) is illuminated when the input voltage to the unit is above 12 VDC. If the Power LED is blinking, it is an indication that the unit is running on internal battery or unusually low supply voltage. If you are sure that you have provided external power, it may be that the internal fuse has opened.

Color	Alarm Input	Alarm ID	Active State	Resting State
Orange	Alarm Input 1	32	Engine Running	Engine Stopped
Blue	Alarm Input 2	33	Common Alarm	Common Alarm Cleared
Violet	Alarm Input 3	34	Low Fuel	Fuel Level Normal
Gray	Alarm Input 4	35	Low Coolant Temp	Coolant Temp Normal
Pink	Alarm Input 5	36	Not In Auto	In Auto
Tan	Alarm Input 6	37	Low Oil Pressure	Oil Pressure Normal
Yellow	Alarm Input 7	38	Over Crank	Over Crank Cleared
Brown	Alarm Input 8	39	Over Speed	Over Speed Cleared

Hard Wire Installation

Basic OmniMetrix wiring guidelines



Connection Details:
Unit is powered by generator battery circuit.
Remote start and transfer are handled by Out Relay 1 & 2.
Basic alarms connected to Alarm Inputs 1 – 8.
If fuel level is needed, Analog 1 or Analog 4 – 20 are used.

If you have any questions, please call OmniMetrix Tech Support at 770-209-0012 or email at techsupport@omnimetrix.net.