

SPECIFICATIONS

Interface Connections

Deutsch 12 Pin Connector	
Pin#	Function
1	9-30VDC
2	CAN High (+)
3	Ground
4	Port 1 RS485- or RS232 RV (switch selectable)
5	Port 2 RS485- or RS232 RV (switch selectable)
6	External WAKE or RESET or digital input (selectable)
7	Analog input
8	Port 2 RS485+ or RS232TX (switch selectable)
9	Port 1 RS485+ or RS232TX (switch selectable)
10	Ground
11	CAN Low (-)
12	Ground
Antenna	Function
SMA	GPS antenna connection (1575 MHz)
SMA-RP	GSM/GPRS antenna connection (1900MHz – reverse polarity)

Pluggable 3.81mm Connector	
Pin#	Function
1	User input 3 (contact closure to ground)
2	User input 4 (contact closure to ground)
3	Analog input
4	External WAKE or RESET or digital input (selectable)
5	Ground
6	Port 2 RS485+ or RS232 TX (switch selectable)
7	Port 2 RS485- or RS232 RV (switch selectable)
8	Ground
9	Port 1 RS485+ or RS232 TX (switch selectable)
10	Port 1 RS485- or RS232 RV (switch selectable)
11	Ground
12	CAN High (+)
13	CAN Low (-)
14	Ground
15	9-30VDC
16	Ground
Antenna	Function
SMA	GPS antenna connection (1575 MHz)
SMA-RP	GSM/GPRS antenna connection (1900MHz – reverse polarity)



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Physical Characteristics

Electrical

Sleep Mode: 12VDC @ 20mA

Monitoring Mode: 12VDC @ 120mA

GPRS Transmit mode: 12VDC @ 800ma peak

Temperature

Industrial temperature range: -40 to +70C

NEMA 4X enclosure

5.5"H x 5"W x 1.3"D, with mounting holes

Messenger Board Specifications

- 3.25" x 3.95"
 - GSM/GPS board piggy-backs on top of Messenger board
 - 4 mounting holes
- CAN controller
 - Supports protocol version 2.0 part A and B/Active
 - Bit rates up to 1.25M bit/second
 - 32 independent PGN message objects
- Port 1 – RS232 or RS485 – Modbus RTU Slave
- Port 2 – RS232 or RS485 – Modbus RTU Master or Special
- Battery Backed up Real-Time Clock, event log, data log, and more – 10-year life
- GSM-GPRS with SIM card holder embedded on Messenger
- Certified with FCC, PTCRB and ATT for GSM/GPRS end-user applications
- Extreme low power mode when engine is not running or other user-specified mechanism
- 32-bit processor

- FLASH memory for application – downloadable via serial port or via GSM connection
 - 512K
- Low-low power SRAM
 - 512K
 - battery backed up
- DIP switches to select:
 - Serial port function
 - Modbus Slave, Debug, None
 - Serial port interface
 - RS232 or RS485 per port
 - Modbus Slave ID
 - 126-133
 - Port 2 baud rate
 - 4800-38400
- Event logger accessible via serial port or via GSM connection
- 8 LEDs on-board indicate:
 - GSM status
 - GPS status
 - CAN status
 - Serial port status
 - Power
 - 2 available for user-specified conditions
- General purpose inputs
 - 1 digital/1analog on 12-pin Deutsch connector
 - 3 digital/1analog on 16-pin pluggable connector
 - Digital inputs are contact closures to ground
 - Analog input is 10-bit, 0-3VDC or 0-20ma or resistive input for fuel sender
- Receive SMS messages for reconfiguration or on-demand reporting

Some Conditions Monitored

Electronic Controller:

- GPS Coordinates (location)
- 1 – General purpose on/off input
- 1 – Analog input
- Standard values read via CANbus
 - Engine hours
 - RPM
 - Battery Voltage
 - Oil Pressure
 - Fuel Level
 - Oil Level
 - Oil Temperature
 - Coolant Level
 - Coolant Temperature
- All fault conditions reported by PGN 65226 (DM1 - Diagnostic Message)
- All fault conditions reported by PGN 60416 (TPCM used to report multiple diagnostic messages in a single CAN message)
- Optional values read via CANbus
 - Up to 8 User-specified PGN/FMI analog values
 - Up to 32 User-specified PGN/FMI on/off values