

- ▶ Communicates to Cloud via Function Block / Structured Text
- ▶ Modbus Master/Slave, Modbus TCP over Wi-Fi
- ▶ SAE J1939 / NMEA 2000 via CAN
- ▶ Cellular^{1,2}, Wi-Fi and GPS Options
- ▶ 2 RS232 Serial Ports
- ▶ 1 CAN Ports - Isolated NMEA Compliant
- ▶ 1 Digital Input - 9-32VDC
- ▶ 1 Digital Output - Sourcing 9-32VDC, 2 Amps
- ▶ 2 Analog Inputs (0-5VDC/0-10VDC/0-20mADC)
- ▶ Battery & Input Voltage Monitoring
- ▶ Real Time Clock
- ▶ Micro Size SD Card Support
- ▶ 1 Programmable LED Indicator
- ▶ 9-32VDC Powered
- ▶ -40° to +80° C Operating Temperature Range



HEC-Gateway

Overview:

The HEC-Gateway is a limited I/O VersaCloud M2M enabled interface device that operates as a communications gateway between virtually any type of equipment and the VersaCloud M2M Cloud. The HEC-Gateway provides communications to equipment using a variety of communications ports and buses including Wi-Fi (Modbus TCP), Serial Ports (RS232) using Modbus Master/Slave or custom drivers, and CAN ports (SAE J1939, NMEA 2000, OptiCAN). The HEC-Gateway also supports GPS using the HEC-P5-GPS receiver, allowing for mapping location. The HEC-Gateway provides limited I/O including one digital input, 1 sourcing digital output and 2 configurable analog inputs.

HEC-Gateway communicates to the VersaCloud M2M Cloud via Cellular^{1,2}, or Wi-Fi² (model dependent) providing the ability to monitor equipment and process remotely, control equipment and adjust process parameters remotely and to collect operational and status information for data analysis and reporting.

HEC-Gateway Programming

The HEC-Gateway is based on the P-Series PLC on a Chip™. The PLC on a Chip™ provides powerful functionality with ease of programming. Divelbiss EZ Ladder Toolkit is a Ladder Diagram Development Platform that allows for programming in ladder diagram (LD), function block (FB) and structured text (ST). EZ Ladder software parallels the IEC-61131 standard and provides an easy to use interface.

After a ladder diagram program is developed, it can be downloaded to the HEC-Gateway via the programming port (serial) or Wi-Fi. The program is stored on non-volatile FLASH memory and is automatically executed on power up.

HEC-Gateway Communication Ports

The HEC-Gateway is designed to communicate with equipment and devices using a variety of communication ports and buses.

Programming Port

The HEC-Gateway has one programming serial port (RS232). This port is used to configure and program the HEC-Gateway and requires the HEC-910 programming break-out cable. Common to all models.

Serial Ports

The HEC-Gateway has two RS232 serial ports. Each supports Modbus Master and Slave. Other communications are possible using custom drivers with Structured Text. Common to all models.

CAN Ports

The HEC-Gateway has one Isolated and NMEA Compliant CAN port with multiple jumper configurations for power sourcing options. The CAN port supports SAE J1939, NMEA 2000 and Divelbiss OptiCAN. Common to all models.

Wi-Fi

The HEC-Gateway supports Wi-Fi (model dependent). Wi-Fi supports communications using Modbus TCP and VersaCloud connectivity. Wi-Fi can also serve as an optional programming port for the HEC-Gateway. Model Dependent.

Cellular

The HEC-Gateway (model dependent) supports VersaCloud cellular^{1,2} data communications to VersaCloud cloud and portals. Data sent and received is based on the HEC-Gateway programming. Model dependent.

GPS

The HEC-Gateway supports an external GPS receiver (HEC-P5-GPS, sold separately) and can be used to receive current GPS data. Common to all models (uses one serial port).

HEC-Gateway I/O

The HEC-Gateway includes minimal on-board analog and digital I/O (common to all models).

Digital Input

The HEC-Gateway has one 9-32VDC Digital Input that can function as a standard on/off digital input or as a high speed counter input (up to 100KHz). On-Board debounce circuitry is software controlled. The input can be configured as NPN or PNP.

Digital Output

The HEC-Gateway has one sourcing Digital Output that can drive up to 2 Amp loads. The output voltage is sourced from the HEC-Gateway's input voltage.

Analog Inputs

The HEC-Gateway has two field wired analog inputs that may be individually configured for 0-5VDC, 0-10VDC or 0-20mADC. Additionally, the input voltage and battery voltage may be monitored using internal analog inputs.

Ordering Information:

Model	Description
HEC-GW-C-W	HEC-Gateway with Wi-Fi Connectivity and Cellular ^{1,2} Data Modem
HEC-GW-C-X	HEC-Gateway with Cellular ^{1,2} Data Modem
HEC-GW-X-W	HEC-Gateway with Wi-Fi Connectivity
HEC-GW-X-X	HEC-Gateway common features but no Wi-Fi Connectivity or Cellular ^{1,2} Data Modem

HEC-Gateway Specifications / Features	
	All Models
Processor / Memory / Programming	
Processor / Memory / EEPROM	P-Series PLC on a Chip™ - 32K RAM, 512K Flash / 3500 Bytes EEPROM / 512K Battery Backed S-RAM
Retentive Memory (FRAM)	480 Bytes
Micro SD Card	Yes, Update Programs / Kernels, Data-logging
Programming	Ladder Diagram / Structured Text / Function Block
User Interface	
LED Indicators	Qty 1 Programmable, Power x 1 / Status x 1
Communications	
Serial Ports / Serial Networking	2 Serial Ports - RS232 (Modbus Master / Slave), 1 Programming Port
CAN Ports / CAN Networks Supported	1 CAN Port (1 NMEA Compliant, Isolated), SAE J1939, NMEA 2000, OptiCAN
GPS Option	Compatible with HEC-P5-GPS Receiver (uses one serial port).
Wi-Fi Connectivity	Model Dependent, Modbus TCP, VersaCloud M2M Communications, Programming Port
Cellular Data Modem	Model Dependent, VersaCloud M2M Communications
Analog / Digital I/O	
Digital Input	Qty 1, 9-32VDC, NPN or PNP Operation, On/Off or High Speed Counter up to 100KHz
Digital Output	Qty 1, Sourcing (same as input voltage), 2 Amps
Field Wired Analog Inputs	Qty 2, Individually configurable 0-5VDC, 0-10VDC or 0-20mADC, 12 Bit
Internal Analog Inputs	Qty 2, Voltage Monitors for Battery and Input Power
Other	
Input Power	9-32VDC
Real Time Clock	Month, Day, Year, Day of Week, Hour, Minute, Second
Dimensions	5.24"L x 4.63" W x 1.43"H (Excludes antennas)
Operating Temperature	-40°C to +80°C

1: Cellular data provided by VersaCloud by Divelbiss

2: VersaCloud features require VersaCloud M2M Package with Cloud Portal. Additional charges apply to connected devices.