Connected and electrified powertrain technology

www.vantage-power.com

Edge for VPVision

On-Board Telemetry Hardware

Product Data Sheet v1.0

Q1 2018

Edge for VPVision

Introduction

Edge for VPVision is an on-board, rugged hardware unit that provides vehicle/machine side connectivity to the VPVision online platform. Based on a Linux operating system and expandable with numerous inputs and outputs the Edge box provides maximum flexibility to cope with the most challenging applications. With an IP67 enclosure industrial grade protection can be guaranteed allowing it to be deployed in harsh environments.

Built on industry standard architecture a robust set of, reusable software libraries allows the software functionality to be easily modified for new applications. This unit is ideally suited for data processing and condition monitoring of industrial machinery, heavy-duty vehicles, trains connected cars and other mobile applications.

About VPVision

VPVision is an advanced cloud based telemetry system for heavy-duty vehicles and industrial machinery with the primary objectives of:

- Reducing component failure and warranty support costs;
- Improving fleet up-time through predictive analytics;
- Monitoring and ensuring compliance.

These objectives are achieved through a core set of features which include:

- Dashboard with location and summary statistics
- Real time live monitoring of critical values
- Fault code management with automatically generated fault reports
- Servicing: issue, track and manage service bulletins
- Issue training material and link to service bulletins
- Warranty status tracking
- Integrated spare parts shop
- Performance data monitoring and reporting
- Full back end control for users & organisational management

Technical Data

Processor System	
Computational Unit	ARM Cortex A8, 32 bit, 800 MHz
Nonvolatile memory	1 GB NAND Flash, expandable with 32 GB on SD card
Volatile memory	512 MB RAM DDR3

Power Supply	
Input Range	7-48 V
Option	Integrated rechargeable li-ion battery: 2.6 Ah
Power requirement	63 mA Run, 14 mA Standby, 0.2 mA Off Mode @ 24 V

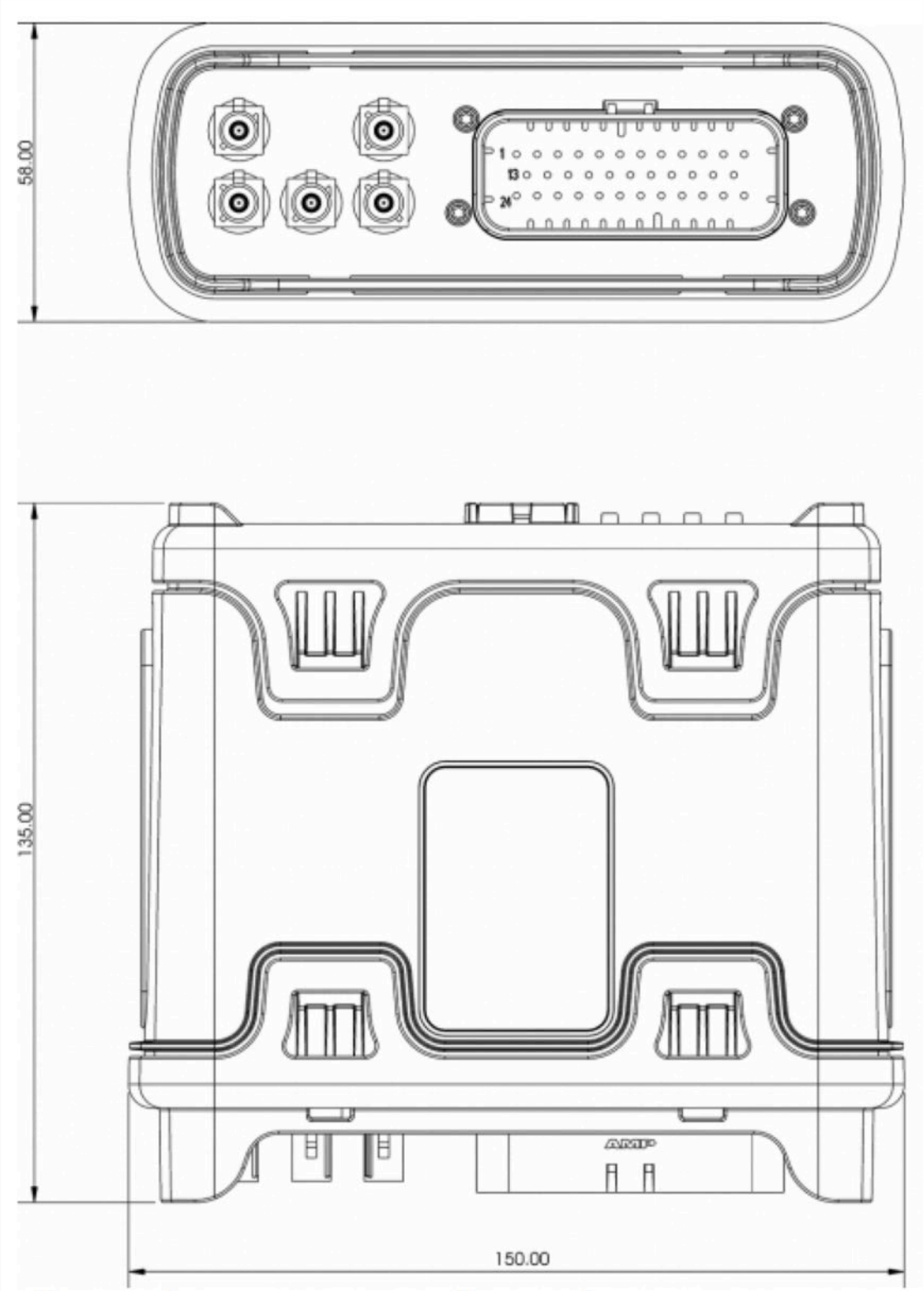
Environmental Specifications and Conformity	
Temperature Range	-40 to + 85 ºC
Ingress Protection	IP67
Conformity	CE, E, R & TTE, ROHS Directive

Interfaces and Serial Communications	
CAN	4x CAN supporting CAN2.0B, up to 1 Mbit/s
K-line Bus	2x
RS232	3x
RS485	1x
Ethernet	1x Ethernet up to 1,000 Mbps
GPS	1x GPS, GNSS
IMU	9-Axis Accelerometer
Remote Connectivity	GSM/GPRS & *UMTS/HSPA & LTE*
WiFi	802.11 b/g/n
Bluetooth	Bluetooth 4.2
USB	1x USB Host 2.0

Inputs and Outputs	
Digital I/O	10x configurable inputs/outputs, 50V max inputs (logic low <1.5V,high >3V)
Analogue Inputs	4x 10 bit resolution, 1% accuracy

Operating System and Development Environment	
Operating System	Debian 8 Linux
Programmable	C/C++, Shell scripting, Java and Lua

Dimensions



All dimensions in mm

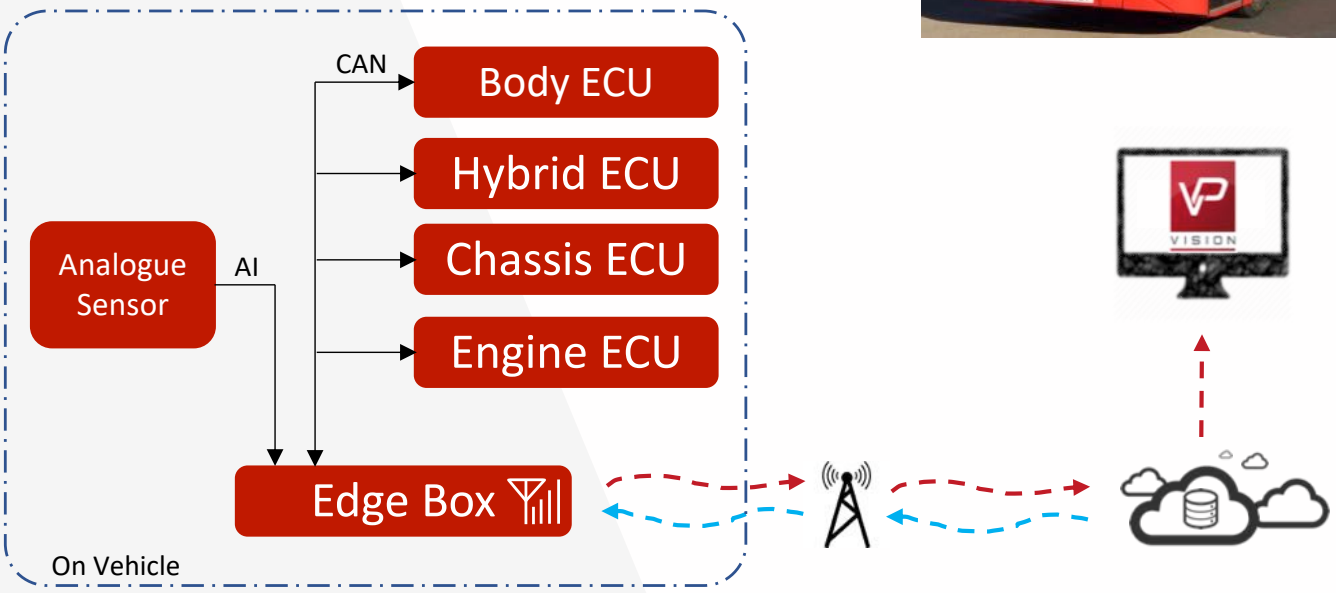
Typical Applications

The Edge box can be used in various configurations but is best connected via a serial interface to the existing vehicle or machinery data interfaces. Usually this is via one or multiple CAN buses to capture relevant and useful system information.

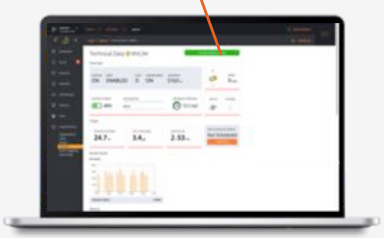
The below shows a typical application for connecting a hybrid double-decker bus to VPVision.

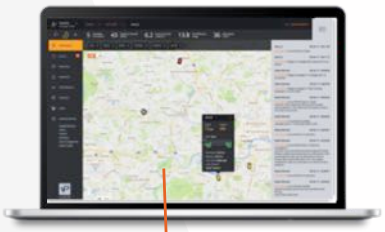
VPVision Connectivity for Alexander Dennis E400H Hybrid Bus

Modern city transit buses can be fitted with fuel and emission saving hybrid systems. These are often more complex than conventional diesel transmissions and require more in-depth data systems to monitor component and system health. VP has developed the Edge box to connect the Alexander Dennis E400H bus to the VPVision web platform. This allows fleet operators to monitor vehicles, manage vehicle faults, report on vehicle statistics, analyse performance and provide training – all via a user friendly web interface.



Real time live monitoring of critical values





Dashboard with location and summary stats

Fault code management with automatically generated fault reports