VECOM USA

VCU   VEHICLE COMMUNICATION UNIT

Features
- Bi-directional data transmission between Wayside System and Vehicle Equipment
- Buy America compliant
- Data transmission speed 50x faster than VETAG
- Data messages contain 13 bytes instead of the VETAG 19 bits
- Increased reliability (CRC 16 & parity check)
- Various Control Head Interfaces available

Benefits
- Downwards compatible with the VETAG System which enables a phased or gradual upgrade of the vehicle fleet

Introduction

The Vehicle Communication Unit (VCU) is the latest VECOM Vehicle Equipment to be used when Bi-directional data transmission between wayside system and vehicle equipment is required. This Bi-directional data transmission can be used for Public Transport vehicles and fleet management system applications such as:
- Switch point control
- Priority at intersections
- Automatic vehicle tracking systems
- Exchange of short data messages at high vehicle speeds
- Exchange of large quantities of data with stationary vehicles
- Passenger information systems at vehicle stops

Basic Functionality

The Vehicle Communication Unit (VCU) is the control unit of the VECOM Vehicle system. The VCU controls the transponder, the communication through the serial channel and the parallel inputs and outputs. The functions of the serial channel and the parallel inputs depend on the loaded software. The protocol of the serial channel is based on ISO 1745.
Besides the serial channel, there are two optional interfaces available: Lon-Works and Ethernet. When the VECOM Vehicle system receives an identification code from a VECOM Wayside Station, it responds by transmitting the identification code of the Vehicle. The identification code which is transmitted to the VECOM Wayside Station consists of:
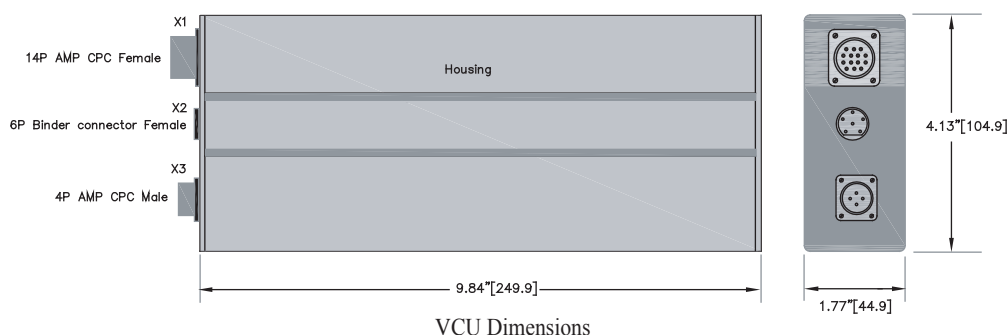- Run number   (0…999)
- Car number   (0…99999)
- Staff number (0…999999)
- Customer application messages

The VCU Software

The VCU application software (Program loader VCU) is used for downloading software upgrades and configuring and storing parameters in FEPROM (example: the Car number)

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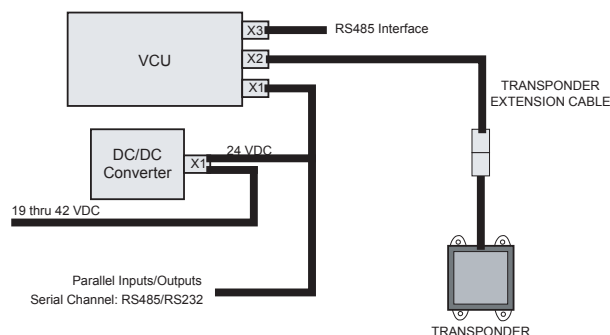
Example of complete VECOM Vehicle system configuration

VCU Dimensions

Specifications

VCU Interfaces	Serial Interfaces	Standard RS232/RS485
	Parallel Interfaces	6 Digital Inputs, 1 Digital Output
	Transponder Interface	6 signal wires
	Optional Interfaces	Lon-Works and Ethernet
Power Requirements	Power Consumption	110 VAC 50 mA
	Input Voltage	85 - 140 VAC, 47 - 63 Hz
Environment	Temperature	-13 ~ +158 °F (-25 ~ +70 °C), Operating
	Humidity	-95% @ 104 °F (+40 °C) (non condensing), Operating
	Vibration Resistance	1 Grms, IEC 60068-2-64, Random, 5 ~ 500 Hz, 1 Oct/min, 1 hr/axis, Operating
	Shock Resistance	20 G, IEC 60068-2-27, half sine, 11 ms, Operating
Physical Characteristics	Construction	Aluminum housing
	Mounting	On TS35 Mounting Rails
	Dimensions (WxHxD)	9.84" x 4.13" x 1.77" (249.9 x 104.9 x 44.9mm)
	Weight	2.0 lb (0.9 kg)

Ordering Information

Part Number	Description
6950 0000 5140	Vehicle Communication Unit (VCU)