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**Veethree**  
Instruments



## VeeCAN 320 Color Display

*The Next  
Generation*

Veethree has supplemented the CANvu™ CAN bus display range with a new, fully sunlight viewable 3.5" color display with added input and output features. The VeeCAN 320 is the next generation of compact, highly flexible, rugged CAN bus displays from Veethree.

Using the powerful Freescale iMX 286 (running at 454 MHz) processor, programmers can quickly put together a project using our proprietary SDK (software developers kit) and proven Veethree component based library. Application software can be quickly tested on the PC with the built-in on-screen PC simulator.

The VeeCAN 320 now offers seven analog inputs, three digital inputs, four outputs, two CAN connections and USB to allow multiple functionality and increased I/O capabilities.

The high brightness QVGA (320 x 240 pixels) color display is fully sunlight viewable and the unit is highly sealed. Electrically and environmentally rugged, the new VeeCAN display is ready to meet the challenge of providing tough, flexible instrumentation for harsh environments.

Veethree's highly experienced and dedicated team of software engineers are available to design specifications for custom software projects. We undertake the work, test the code and deliver a fully functioning end product in a short lead-time. Contact us today to review your requirements.

### HIGHLIGHTS

- QVGA Graphical high resolution 320 x 240 color TFT LCD. With an enhanced LED variable backlight ensures total sunlight viewing. Max brightness of 750 NIT (cd/m2).
- Fully sealed to IP67 using molded in (2) Deutsch 12-pin connectors and one USB port.
- CANbus (2), USB, RS232, Analog and Digital IO.
- Open Software Developers Kit (SDK) that provides a huge library of functions that allows programmers full control over all the display hardware.
- Modern contemporary design can be branded for individual customers.
- VEM (Veethree Engine Monitoring) units come fully loaded to monitor key engine functions including the new TIER 4 information.
- Visible using polarized sunglasses.



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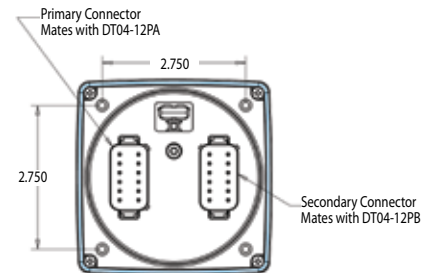
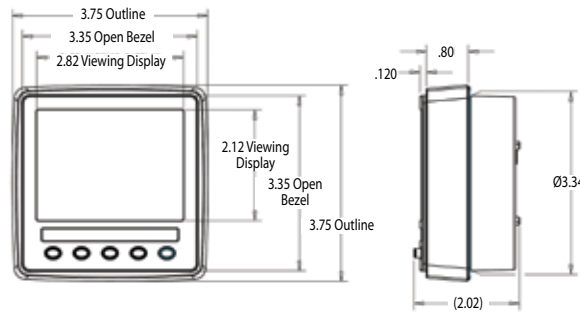
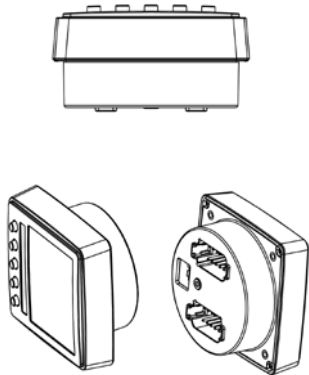
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## HIGHLIGHTS

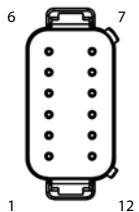
- Internal buzzer.
- Potential for multiple accessed screens via user defined tactile soft keys.
- Front-mounting kit supplied as standard.
- Can be supplied with various standard or custom harnesses.
- Can act as part of a control system, not just a display and/or data logger.

PART #	DESCRIPTION
69227	VeeCAN 320 750 NIT
69228	VeeCAN 320 750 NIT VEM
69230	POWER HARNESS
69229	BACK MOUNT BRACKET
69231	VeeCAN 320 SDK

HARDWARE	
Micro Controller Unit	Processor is Freescale iMX 286, running at 454 MHz
FLASH Memory	128 MB
ELECTRICAL	
Display	a-Si TFT LCD 3.5"
Resolution	320 (H) x 240 (V) QVGA
Active Area	70.08mm (H) x 52.56mm (V)
Viewing Angle	130/110 degrees from 6 O'clock
Number Of Colors	64K
Contrast Ratio	300 : 1 ratio
Brightness	750 NIT (cd/m <sup>2</sup> ) Full sunlight readable
Power Requirements	10V to 32V DC
Sounder	Internal Buzzer
Connection	(2) 12 Pin Deutsch DT04-12P Moulded in Receptacle
Communications	RS232, (2) CAN Bus 2.0B, USB2.0
ENVIRONMENTAL	
Operating Temperature	-20 to +70 Degrees Celsius
Storage Temperature	-30 to +80 Degrees Celsius
Degree of Protection	IP 67
MECHANICAL	
Case Material	ABS
Case Color	Anthracite Grey
Dimensions	95mm (W) x 95mm (H) x 23mm forward and 23mm rear (D)

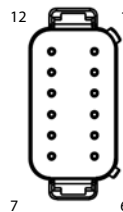


### CONNECTOR PIN OUT



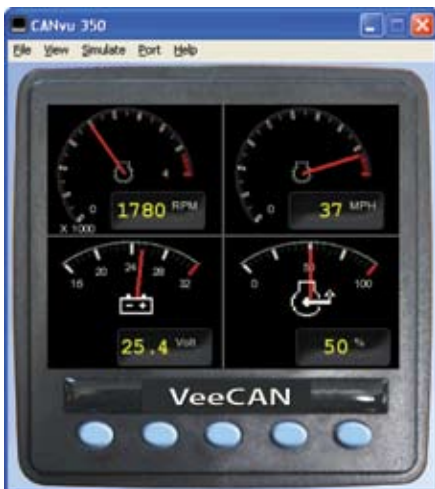
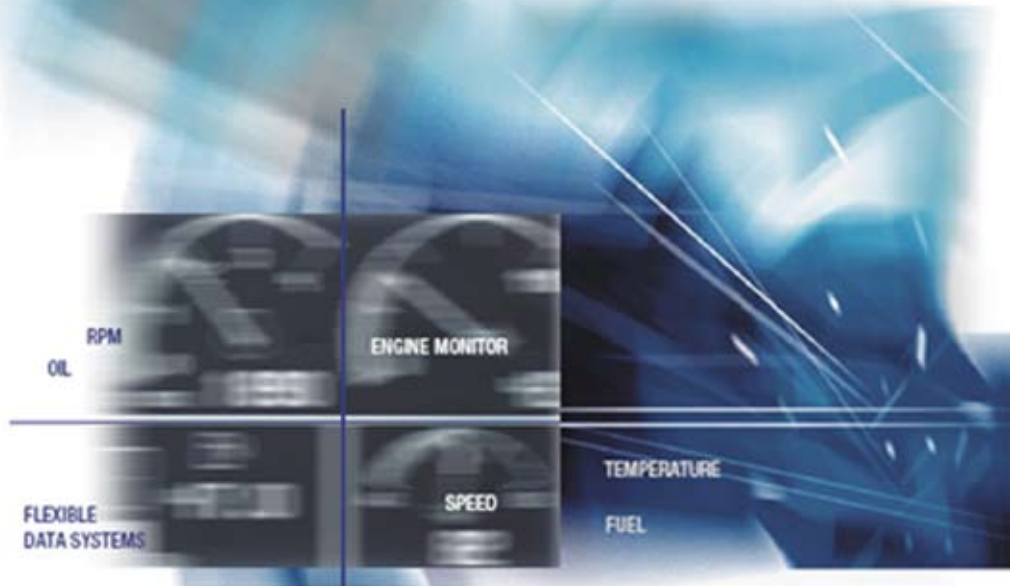
PRIMARY CONNECTOR		
1	GND	GROUND
2	PWR	GROUND & POWER (10-30V DC). SUPPLY SHOULD BE PROTECTED BY 500mA - RATED CIRCUIT BREAKER/FUSE.
3	RLA1	RELAY/SOLENOID OUTPUT1
4	RLA2	RELAY/SOLENOID OUTPUT2
5	CAN2 (+)	ISOLATED CAN SUPPLY (+)
6	CAN2 (-)	ISOLATED CAN SUPPLY (-)
7	CAN2H	ISOLATED CAN DATA H
8	CAN2L	ISOLATED CAN DATA L
9	RLA3	RELAY/SOLENOID OUTPUT 3
10	RLA4	RELAY/SOLENOID OUTPUT 4
11	CAN1L	PRIMARY CAN DATA L
12	CAN1H	PRIMARY CAN DATA H

### CONNECTOR PIN OUT



SECONDARY CONNECTOR		
1	AN1	SENSOR 1 ANALOG INPUT
2	AN2	SENSOR 2 ANALOG INPUT
3	AN3	SENSOR 3 ANALOG INPUT
4	AN4	SENSOR 4 ANALOG INPUT
5	AN5	SENSOR 5 ANALOG INPUT
6	AN6	SENSOR 6 ANALOG INPUT
7	AN7	SENSOR 7 ANALOG INPUT
8	DIG1	DIGITAL INPUT/FLOW SENSOR 1
9	DIG2	DIGITAL INPUT/FLOW SENSOR 2
10	TACH	TACHOMETER INPUT
11	RS232TX	RS232 RECEIVE
12	RS232RC	RS232 TRANSMIT

# VeeCAN Veethree Engine Monitor



The Veethree Engine Monitor (VEM) software displays transmitted J1939 engine and transmission data and active alarms (from DM1), where supported.

VEM application software runs on the VeeCAN robust industrial graphical displays. The VEM offers user selectable icon based display layouts, including a comprehensive multi language text based fault warning and acknowledgement system.

## KEY FEATURES

- Supports many J1939 parameters
- Multi, Quad and Uni Screens are user configurable
- Optional PIN user lock out
- Screens can be “locked” to prevent changes
- Optional Service Interval Timer Alarm
- Full J1939 DM1 message center
- Supports and displays TIER 4 engine information
- 7 analog, 3 digital and 4 outputs

## HIGHLIGHTS

- Plug-and-go solution for the display of J1939 transmitted engine and transmission data.
- Compatible with most diesel engines and transmissions.
- Large sunlight readable graphical display, 320 x 240 pixels.
- Adjustable backlight.
- ISO and SAE standard icons are used for the parameters.
- Menu and text based alarm systems in multiple languages.
- Soft-function tactile and audible push-keys.
- Flexible display options, multi-window screens, with analog gauge, digital text and color bars.
- Data is available in several formats and measurement units.
- Engine and transmission fault data is handled by a user warning and acknowledgement system.
- Automatic last screen store and a keyboard lock.

## HIGHLIGHTS

- A number of Engineering screens are available (such as Comms and Message Database Viewers).
- Alarm data and engine source filtering are user selectable. If supported by the ECU engine configuration data can be viewed
- Electrical connection to data and power lines via a sealed Deutsch 12-way connector.
- All VeeCAN Displays use a robust, polycarbonate case that can be front mounted or on certain modules rear (flush) mounted into a panel aperture.
- VeeCAN displays offer proven high levels of electrical, environmental and mechanical performance in tough applications.
- VEM software can be fully customized to meet exact requirements (from adding custom logos to additional parameters and screen formats).

### The Standard VEM software configures the analog and digital inputs to be:

- Analog 1 fuel 33-240 ohms
- Analog 2 150 PSI oil pressure 33-240 ohms
- Analog 3 280F water temp, Stewart Warner match
- Analog 4 10-32 VDC battery voltage
- Analog 5 fuel 10-180 ohms
- Analog 6 150 PSI oil pressure 10-180 ohms
- Analog 7 280F water temp, VDO match
- Digital 1 fuel flow in
- Digital 2 fuel flow out

Displayed Data If Received From the Engine and Transmission		FAULTS (Suspect Parameter Number) Available With Relevant Message Such As Too High/Low
ELECTRICAL	MISCELLANEOUS	
Electrical Potential Battery Potential Switched Net Battery Current Alternator Potential Alternator Current	Torque Converter Lock-Up Engaged Current Gear Selected Gear CANTX Disable	Engine coolant pressure Accelerator Pedal Position Engine Load Fuel pressure Fuel level Water in fuel Engine Oil level Engine Oil filter differential pressure Engine Oil pressure Boost Pressure Intake manifold temperature Air inlet pressure Barometric pressure Engine coolant Temperature Coolant level Transmission oil pressure Crankcase pressure Battery voltage - switched Battery voltage - actual Exhaust temperature Fuel temperature Engine oil temperature Transmission oil temperature Fuel rate Engine speed Total Engine hours Total Fuel used Auxiliary Temperature #1 Navigation Based Vehicle speed Engine speed sensor Timing Sensor ECU 8V DC Supply 5 Volt DC Supply Engine Fuel metering Diesel Exhaust Fluid
FUEL	PERCENTAGE	
Fuel Rate Instantaneous Fuel Economy Trip Fuel Economy Trip Fuel Trip Fuel Rate Total Fuel Used Fuel Leakage 1 Fuel Leakage 2	Fuel Level (inc. Diesel Exhaust Fluid) Acceleration Position Throttle Position Engine Oil Level Coolant Level Estimated % Fan Speed Actual Engine % Torque Torque Use at RPM	
PRESSURE	SPEED	
Fuel Delivery Pressure Barometric Pressure Auxiliary Pressure 1 Boost Pressure Air Inlet Pressure Air Filter 1 Differential Pressure Injector Metering Rail 1 Pressure Injector Metering Rail 2 Pressure Coolant Pressure Engine Oil Pressure Transmission Oil Pressure Clutch Pressure Air Start Pressure Injection Control Pressure	Input Shaft Speed Output Shaft Speed Engine Speed Turbo 1 Speed Engine Desired Operating Speed Navigation Wheel based Vehicle Speed	
TEMPERATURE	TIME	
Engine Coolant Temp Engine Intercooler Temp Engine Coolant Temp Engine Intercooler Temp Engine Oil Temperature 1 Transmission Oil Temperature Turbo Oil Temperature Fuel Temperature Intake Manifold 1 Temp Air Inlet Temp Exhaust Gas Temp Auxiliary Temp 1 Engine ECU Temp Exhaust Gas Port 1 Temp Exhaust Gas Port 2 Temp Turbo 1 Compressor Inlet Temp	Total Engine Hours Trip Engine Hours Service Hours	

## Typical VEM Display Screens



Quad Screen, analog readout



Quad Screen, digital



Uni-screen



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