Energized Innovation

Sarasota Chicago India

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 IP 66 (front) and IP67 (back) 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.

ASSEMBLED IN THE U.S.A.

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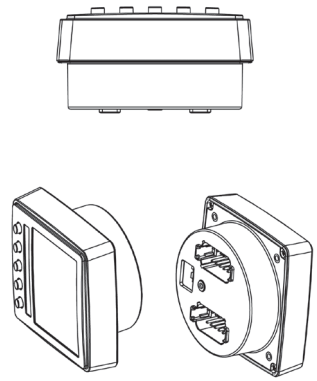
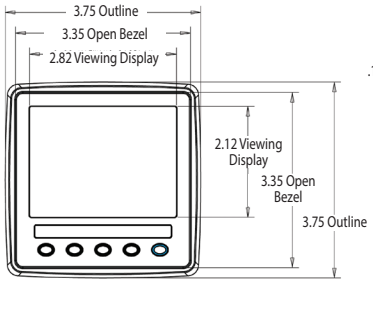
HIGHLIGHTS

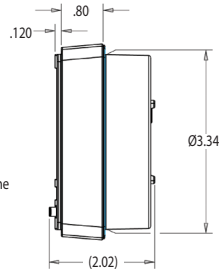
- Internal buzzer.
- Potential for multiple accessed screens via user defined tactile soft keys.
- Front-mounting kit supplied as standard.
- Can be supplied with various standard or custom harnesses.
- Can act as part of a control system, not just a display and/or data logger.

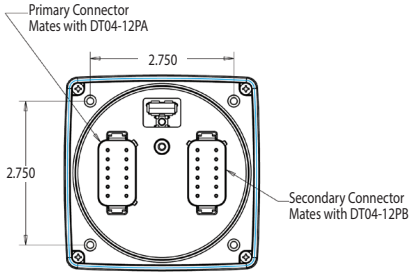
PART #	DESCRIPTION
69227	VeeCAN 320 750 NIT
69228	VeeCAN 320 750 NIT VEM
69230	POWER HARNESS
69229	BACK MOUNT BRACKET
69231	VeeCAN 320 SDK

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/m2) 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	-40 to +70 Degrees Celsius
Storage Temperature	-40 to +80 Degrees Celsius
Degree of Protection	IP 66 (front) and IP 67 (back)
MECHANICAL	
Case Material	ABS
Case Color	Anthracite Grey
Dimensions	95mm (W) x 95mm (H) x 23mm forward and 23mm rear (D)

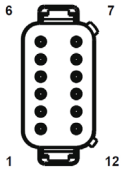






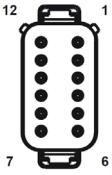


CONNECTOR PIN OUT



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 DM1message 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.

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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

ELECTRICAL	MISCELLANEOUS
Electrical Potential	Torque Convertor Lock-Up Engaged
Battery Potential Switched	Current Gear
Net Battery Current	Selected Gear
Alternator Potential	CANTX Disable
Alternator Current	

FUEL	PERCENTAGE
Fuel Rate	Fuel Level (inc. Diesel Exhaust Fluid)
Instantaneous Fuel Economy	Acceleration Position
Trip Fuel Economy	Throttle Position
Trip Fuel	Engine Oil Level
Trip Fuel Rate	Coolant Level
Total Fuel Used	Estimated % Fan Speed
Fuel Leakage 1	Actual Engine % Torque
Fuel Leakage 2	Torque Use at RPM

PRESSURE	SPEED
Fuel Delivery Pressure	Input Shaft Speed
Barometric Pressure	Output Shaft Speed
Auxiliary Pressure 1	Engine Speed
Boost Pressure	Turbo 1 Speed
Air Inlet Pressure	Engine Desired Operating Speed
Air Filter 1 Differential Pressure	Navigation Wheel based Vehicle Speed
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	

TEMPERATURE	TIME
Engine Coolant Temp	Total Engine Hours
Engine Intercooler Temp	Trip Engine Hours
Engine Coolant Temp	Service Hours
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	

FAULTS (Suspect Parameter Number) Available With Relevant Message Such As Too High/Low

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

Typical VEM Display Screens

Quad Screen, analog readout

Quad Screen, digital

Uni-screen

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