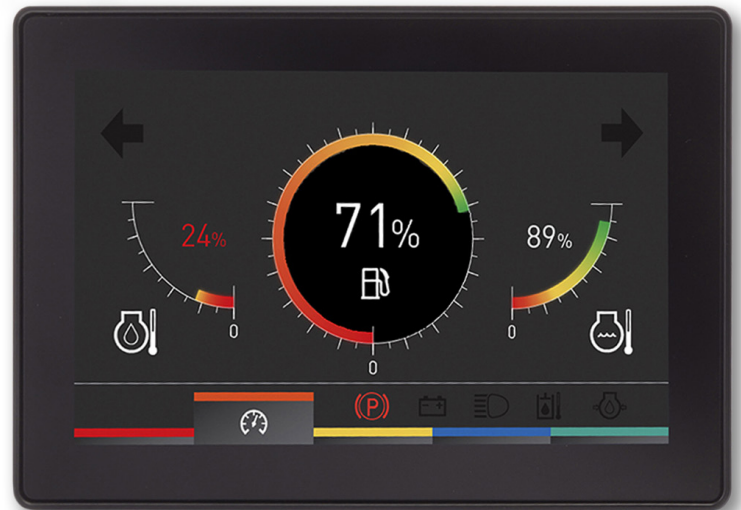




3D101 10.1-INCH DISPLAY

Versatile CAN-based Display for Off-Highway Vehicles

- Ideal for gauges, diagnostics, cameras, guidance and other vehicle functions
- Sealed to IP67
- VESA MIS-D standard mount
- Four video inputs: capable of displaying three simultaneous cameras
- Easy application creation and integration with VUI Builder (J1939) and Linux Qt (J1939 and CANopen)
- Scratch resistant/anti-glare cover glass
- Optically bonded display for superior mechanical and sunlight readability
- Wide viewing angle
- 1000 NITS backlight intensity
- WXGA resolution (1280 × 800)
- 16-bit color TFT, LED backlight
- Optional touchscreen
- 3-second boot time (VUI Builder)



Processor and Memory

- 800 MHZ i.MX6 dual core processor
- 512 MB DDR3
- 4GB e.MMC
- Linux operating system
- Real time clock with 10-year battery backup

Interfaces

- 1 USB host port
- 3 CAN bus ports
- 10/100 ethernet port

Input/Output

- 4 NTSC/PAL video inputs
- 1 RS-232 ports
- 4 I/O ports (200 mA max)
- Input voltage: 9 VDC to 32 VDC

Mating Connector

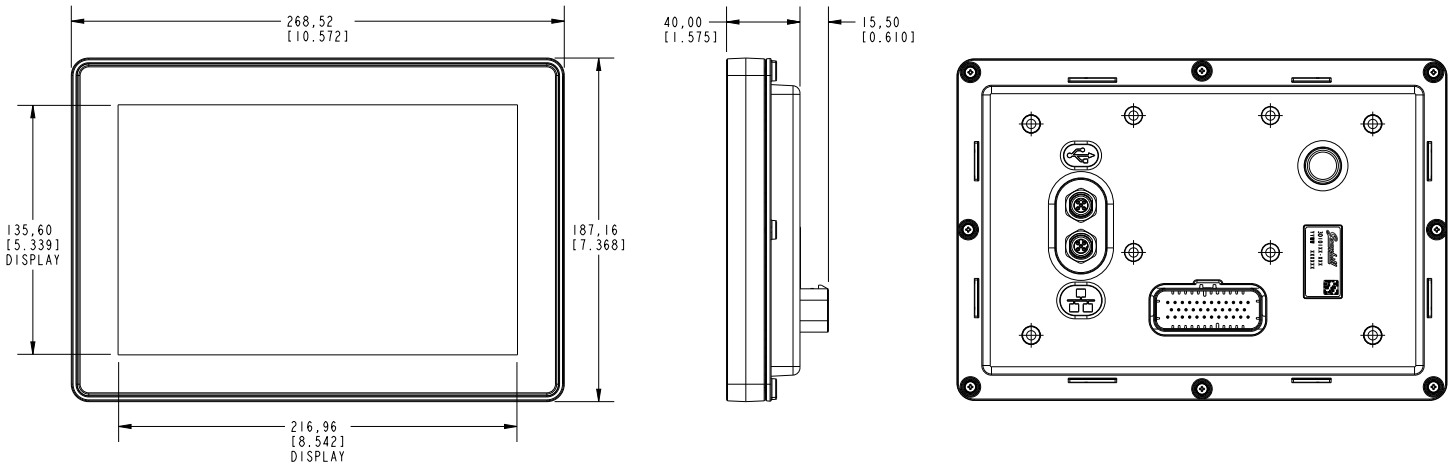
- AMP 776164-1 mating connector with AMP 770520-1 or AMP 770854-1 contacts
- USB M12-5 PIN - Code A
- Ethernet M12-4 AN - Code D

YOUR EXPERTS IN CAB CONTROLS

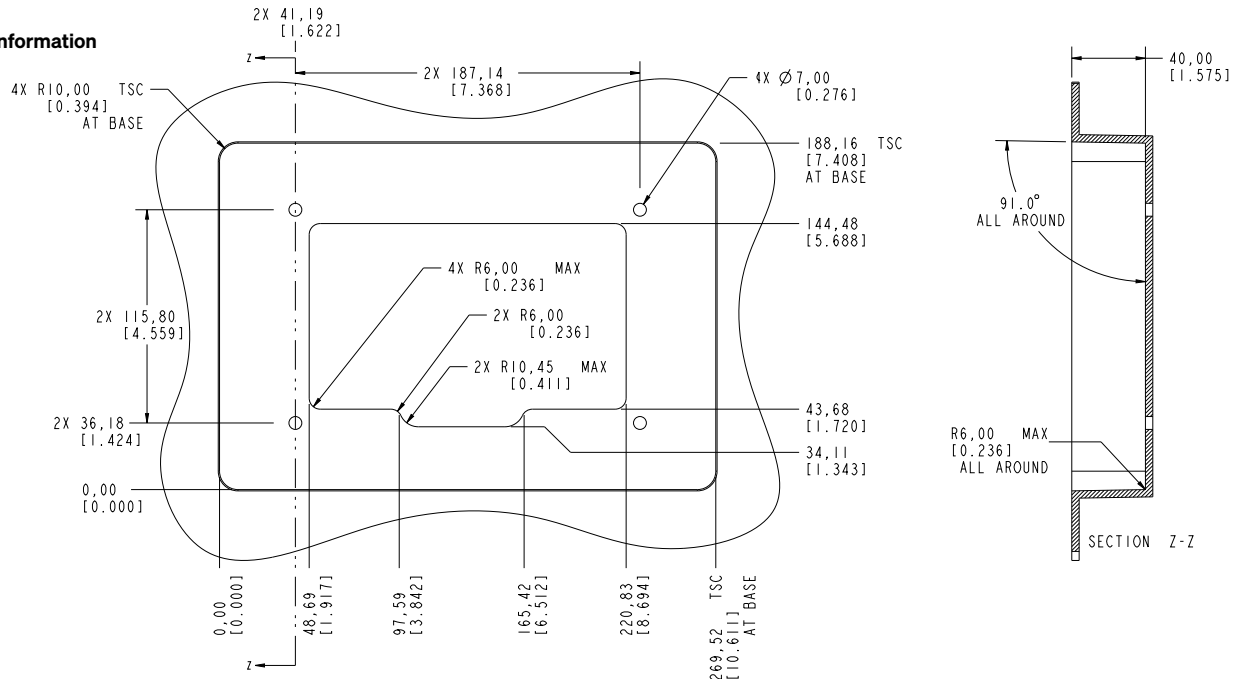
Grayhill specializes in the design, development, and production of human interface controls, including:

- Cab user interface design
- Customized control panels
- CAN bus interface devices

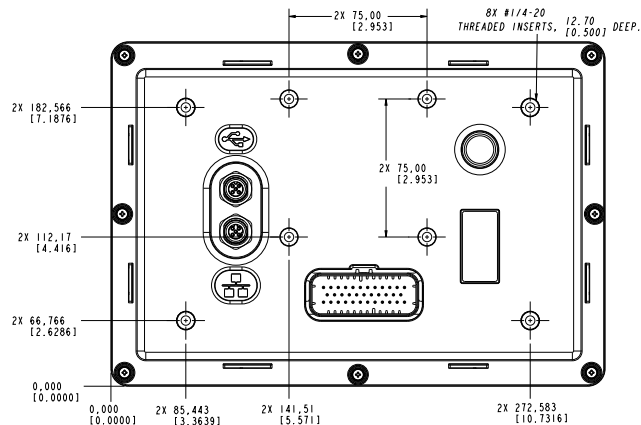
DIMENSIONS in millimeters [and inches]



Mounting Information

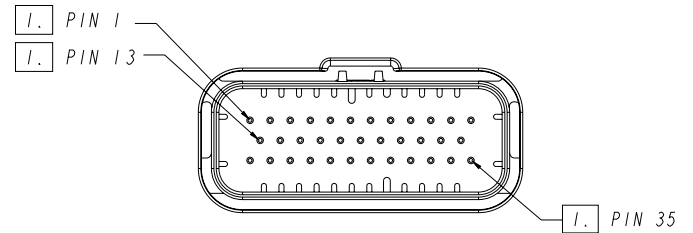


Threaded Inserts



PINOUTS

Pin	Function	Pin	Function	Pin	Function
1	VIDEO1 +	13	VIDEO2 +	24	VIDEO3 +
2	VIDEO1 -	14	VIDEO2 -	25	VIDEO3 -
3	CAN1 HI	15	NC	26	NC
4	CAN1 SH	16	NC	27	NC
5	CAN1 LO	17	CAN3 SH	28	CAN3 HI
6	CAN2 HI	18	CAN2 SH	29	CAN3 LO
7	CAN2 LO	19	VIDEO4 +	30	RS232 RX
8	RS232 GND	20	VIDEO4 -	31	RS232 TX
9	DIGITAL I/O4	21	DIGITAL I/O2	32	DIGITAL I/O3
10	DIGITAL I/O1	22	NC	33	NC
11	NC	23	VIN SWITCHED	34	NC
12	VIN RETURN			35	VIN POSITIVE



DEVELOPMENT KIT

A development kit is offered to provide the hardware and software required to set up a programmer's workstation for the use with the chosen development environment.

Inside the Kit:

- 3D101 10.1-inch CAN Bus Display
- Development stand
- Interface PCB
- Interface cables



Back View

ASK US ABOUT OUR COMPLETE CAN BUS UI PACKAGE



SPECIFICATIONS

Electrical Performance Specifications

Maximum Load	ANSI/ASAE EP455 Sec 5.1.1	T(min) = -40 °C, T(max) = +65 °C
Over-Voltage	ANSI/ASAE EP455 Sec 5.10.2	Level 1, extended to 36 V
Reverse Polarity	ANSI/ASAE EP455 Sec 5.10.3	Extended to -36 V
Short-Circuit Protection	ANSI/ASAE EP455 Sec 5.10.4	Extended to 36 V
Starting Profile	ISO 16750-2 Sec. 4.6.3	12 V, Code C / 24 V Code E
Battery-Less Operation	ANSI/ASAE EP455 Sec 5.11.3	Level 1
Load Dump	ISO 7637-2 Pulse 5a	Us = 174 V, Ri = 2 Ohms, Td = 350 mS
Switching Spikes	ISO 7637-2 Pulse 3a and 3b	Pulse 3a: Us = -200 V Pulse 3b: Us = 200 V, 3000 reps
Wire Harness Inductance	ISO 7637-2 Pulse 2a	Us = 50 V, t1 = 5 s, 60 reps
Motor Shutdown Transients	ISO 7637-2 Pulse 2b	Us = 20V, t1 = 5s, Ri < .05 Ohms, 60 reps
Wire Harness Inductance Switching	ISO 7637-3 Pulse a and b	Pulse a: -80 V Pulse b: 80 V, Class A, 6 min
Inductive Load Switching	ANSI/ASAE EP455 Sec 5.11.4	Level 1
Mutual Coupling (Power)	ANSI/ASAE EP455 Sec 5.11.6.1	Level 2
Mutual Coupling (Signal/Input)	ANSI/ASAE EP455 Sec 5.11.6.2	
Alternator Field Decay	ANSI/ASAE EP455 Sec 5.11.2	
ESD	ANSI/ASAE EP455 Sec 5.12	Level 2
Radiated Immunity	ANSI/ASAE EP455 Sec 5.16	Level 1
Broadband Radiated Emissions	ISO 14982 Sec 6.4	
Narrowband Radiated Emissions	ISO 14982 Sec 6.5	
Conducted Emissions	SAE J1113-41	Class 3

Mechanical Performance Specifications

Vibration, Random	ANSI/ASEA EP455 5.15.1	2 hr each axis @ 52.4 m/s ² RMS overall acceleration and spectral power density of 2 m ² /s ³ from 50 Hz to 2000 Hz
Vibration, Sinusoidal	ANSI/ASEA EP455 5.15.2	A logarithmic sweep from 10 Hz to 2000 Hz to 10 Hz over a period of 20 min for 4 hrs in each of 3 orthogonal axes with amplitude 1.5 mm from 10 Hz to 40 Hz and a constant acceleration of 35 m/s ² RMS from 40 Hz to 2 KHz
Shock/Crash Safety	ANSI/ASEA EP455 5.14	11 ms half sine pulse of 490 m/s ² in 3 perpendicular axes
Drop	ANSI/ASEA EP455 5.14.2 Level 1	Drop component 400 mm onto a hard-wood benchtop on all practical edges
Weight		1400 grams typical

Environmental Specifications

Operating Temperature	ANSI/ASAE EP455 5.1.1 Level 2	-30 °C to +65 °C
Storage Temperature	ANSI/ASAE EP455 5.1.2 Level 2	-40 °C to +85 °C
Thermal Shock	ANSI/ASAE EP455 5.1.3	-40 °C to 70 °C at a rate of 4 °C/min (1 hr at extremes)
Altitude (Barometric Pressure)	ANSI/ASAE EP455 5.2	101.3 kPa to 18.6 kPa
Sand and Dust	ANSI/ASAE EP455 5.3	24 hrs with 0.88 g/m ³
Solar Radiation	ANSI/ASAE EP455 5.4	43-75 W/m ² UV radiation (280-400 nm wavelength) 300 hr
Ingress Protection/Rain	ANSI/ASAE EP455 5.6 Level 2	375 kPa and 8.3 L/min for 10 min @ 15 °C water temp
Humidity	ANSI/ASAE EP455 5.13	96% humidity at 35 °C for 240 hrs
Salt Fog	ANSI/ASAE EP455 5.9	5% aqueous solution of NaCl @ 35 °C and a pH between 6.5 and 7.2 for 48 hrs
Chemical Resistance	ISO 16750-5 EP 455 (5.8.2)	
Thermal Cycling	ISO 16750-4	-40 °C to 85 °C 2 hrs at extremes change rate = 1 °C/min (8 hrs) repeat for 30 cycles

VERSATILE DISPLAY. ORDER INFORMATION.

ITEM	RS232	USB 2.0	CAN1	CAN2	CAN3	VIDEO1	VIDEO2	VIDEO3	VIDEO4	RTC	TOUCH	ETHERNET	DIG IO	BUZZER
3D101XX-200	X	X	X									X	0	
3D101VX-200	X	X	X	X	X	X	X	X	X	X		X	4	X
3D101VT-200	X	X	X	X	X	X	X	X	X	X	X	X	4	X
3D101DEV-200	Development Kit: 3D35XK-101D display with 3DXX1314-1 Power/CAN cable													

Specifications are subject to change.