

## Versatile CAN-Based Display

The Series 3D50 5-inch  
Touchscreen Display for  
off-highway vehicles.



- Intuitive touch technology to select objects and swipe through screens.
- Advanced sensor technology recognizes bare and gloved fingers, even when the display surface is wet.
- Easy application creation and integration with VUI Builder to create custom screens.
- Scratch resistant/anti-glare cover glass is optically bonded to LCD display for superior mechanical and visual performance.
- Bright, backlit display provides high contrast text and full color graphics for excellent sunlight readability.
- Convenient flush mounting provides modern look and feel, to seamlessly blend with vehicle cab design.
- Armrest, A-post, and dashboard mounting.
- Rugged design for extreme environments.



Functions as an engine  
monitor or input device.

## Versatile Display. Many Features.

### Flexible.

Series 3D50 is available with or without a projected capacitance touch screen. This advanced touchscreen works even when **wet** or when the user is **wearing gloves**.

### Bright.

This 5.0-inch backlit WVGA LCD (800x480) is very bright (700 nits) providing good daylight readability. It has software controlled LED backlighting and 16 bit color.

### Powerful.

The powerful embedded computer can monitor and display many events and camera images simultaneously:

- 800MHz
- 512MB RAM
- 4GB storage
- USB 2.0

### Useful.

Ideal for agriculture and construction vehicle applications, including virtual gauges, diagnostic menus, engine monitor, operator input, fault indicators and service reminders.

### Easy to Program.

Our VUI Builder pc-based configuration tool makes application programming fast and easy. Drag and drop graphics, bitmaps, text with the click of a mouse.

### Adaptable.

Designed for integration into off-highway vehicles. It functions in 12V/24V operation, boots in 3 seconds and is sealed against the ingress of liquids and dust.

### Rugged.

The protective cover lens is scratch resistant glass, not plastic. Optical bonding of the cover glass improves impact resistance.

### Adjustable.

There are many system interface options:

- Up to two CAN-bus ports
- Up to two NTSC/PAL camera input ports
- Up to four digital inputs
- Up to four digital outputs
- One USB 2.0 port
- Touchscreen

### Readable.

Optically bonding the display, touch sensor and cover glass reduces reflections. An anti-glare coating further improves readability in bright sunlight.





# Versatile Display. All the Specifications.

Display: 5"/127 mm color transmissive TFT LCD

Resolution: WVGA, 800 x 480 pixels, 16 bit color

Aspect ratio: 16:9

Orientation: Landscape or Portrait

Backlighting: LED, 700 cd/m<sup>2</sup> or nits

Microprocessor: Freescale™ i.MX6, 800 MHz

Flash Memory: 4GB eMMC

RAM: 512 MB DDR3

USB: 2.0 host (high speed)

Real Time Clock: Internal non-rechargeable battery backup

CAN: (2) CAN 2.0 B J1939 protocol

RS232: full duplex

Video Input: 2 NTSC/PAL

Inputs: (4) 0-32 VDC discrete digital; 10Hz LPF

Outputs: (4) digital 200 mA switched high side

## POWER SPECIFICATIONS

Operating Voltage 8VDC to 32VDC reverse polarity and load dump

Power Consumption 5 Watts (typical) with full back light

Standby Current <1ma

## ENVIRONMENTAL SPECIFICATIONS

Operating temperature ANSI/ASAE EP455 5.1.1 -30°C to +65°C

Storage Temperature ANSI/ASAE EP455 5.1.2 -40°C to +85°C

Thermal Shock ANSI/ASAE EP455 5.1.3 -40°C to 65°C at a rate of 4°C/min (1 hour at extremes)

Altitude (Barometric Pressure) ANSI/ASAE EP455 5.2 101.3kPa to 18.6kPa

Sand and Dust SAE J1455

Solar Radiation ISO 4892-2 Method B

Wash Down ANSI/ASAE EP455 5.6 Level 2

Humidity ANSI/ASAE EP455 5.13 96% humidity at 35°C for 240 hours

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 hours

Chemical resistance ISO 16750-5 EP 455 5.8.2

Ingress Protection IP67 front and rear with mating connector installed

## ELECTRICAL PERFORMANCE SPECIFICATIONS

Maximum load ANSI/ASAE EP455 5.1.1 T(min) = -40C; T(max) = +65C

Jump start voltage EP455 5.10.2 36V for 5 minutes; -36V for 5 minutes

Short circuit protection EP455 5.10.4 36V

Reverse polarity protection EP455 5.10.3 -36V

Starting profile ISO 16750-2:2006-08-01 Code C for 12V, Code E for 24V

Battery-less operation ANSI/ASAE EP455 5.11.3 Level 1

Load dump ISO 7637-2:2004 Test Pulse 5a Level 4

Switching spikes ISO 7637-2:2004 Level 4

Alternator field decay ANSI/ASAE EP455 5.11.2

## MECHANICAL PERFORMANCE

Vibration, Random ANSI/ASAE EP455 5.15.1 2h each axis 50Hz to 2000Hz

Vibration, Sinusoidal ANSI/ASAE EP455 5.15.2 A logarithmic sweep from 10Hz to 2000Hz to 10Hz over a period of 20 minutes for 4 hours in each axis

Shock ANSI/ASAE EP455 5.14 11ms half sine pulse of 490 m/s<sup>2</sup> in 3 axis

Drop ANSI/ASAE EP455 5.14.2 Level 1 400 mm onto a hardwood benchtop on all practical edges.

## CE COMPLIANCE

EMC EN 13309:2010 ESA

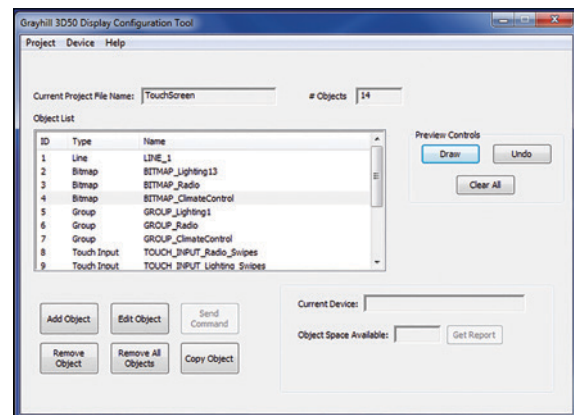
## ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS

ESD ANSI/ASAE EP455 5.12 Level 1 (Handling), Level 2 (Powered)

Radiated Immunity EP455 5.16 Level 1

Conducted emissions CISPR25 Level 3

Radiated emissions ISO14982



VUI Builder Software Tool

Easily create custom graphic icons, text boxes and active gauge elements that monitor J1939 CAN-bus parameters with VUI Builder.

- Use VUI Builder to develop graphic objects.
- Add and edit actions (such as touch and swipe).
- Store graphic objects in on-board flash memory.
- Recall objects at run time via J1939 commands.
- Controlled via J1939 PGNs.
- Native coding not required.

