

Programmed with Eaton Pro-FX® Control Software
32-bit Processor, 4.3" WVQA Sunlight Viewable Display

The high performance VFX40m display is designed to provide an operator interface for on and off-highway mobile applications. This HMI features a powerful processor, bright sunlight viewable optically bonded LCD assembly, configurable CAN channels and flexible I/O to meet the needs of a variety of demanding applications.



Technical Data

| | |
|-----------------------------|--|
| Dimensions | 7.69" x 4.00" x 2.34" |
| Weight | .44 kg |
| Case Material | ABS/Polycarbonate blend cases |
| Storage Temperature Range | -40°C to +85°C |
| Operating Temperature Range | -40°C to +85°C |
| IP Rating - Front | IP66, IP67 |
| IP Rating - Back | IP66, IP67 |
| Power Supply | |
| Supply Voltage | 6-32 VDC |
| Peak Supply Voltage | 32 VDC |
| Max Power Consumption | 10 W |
| Max Sleep Current | 400 mA |
| Ignition Pin (K15) | Ignition pin will put the unit in 'sleep' mode when it is powered off. |



Powering Business Worldwide

Technical Data

CPU

| | |
|------------------|-------------------|
| CPU Type | Freescale i.MX357 |
| Frequency | 532 MHz |
| Bit Width | 32 bits |
| Operating System | Linux |

Memory

| | |
|-------------------------------------|---|
| RAM | 128 MB DDR2 |
| Data Memory (RAM retain) | 1 MB |
| Flash (ROM program & data combined) | 256 MB (cannot be used to store captures on models with video inputs) |

Standards

| | |
|--------------------|---|
| Vibration | 7.86 G RMS (5-2000 Hz) SAE J1455 Section 4.9.4.1 |
| Shock | 50g - SAE J1455 Section 4.10.4 |
| Radiated Immunity | SAE J1113-21 (150 V/m), SAE J1113-26 (15 kV/m), EN61000-4-3 (10 V/m) |
| Radiated Emission | SAE J1113-41 (Class 4), EN50121-3-2, EN60945, EN61000-6-3 |
| Conducted Immunity | SAE J1113-2 (3.0 Vp-p), SAE J1113-4 (200 mA), SAE J1113-11 (Level 4), SAE J1113-12 (Level 4), EN61000-4-4, EN61000-4-5, EN60945 Sec 10.3 (3 V/10 V RMS), EN50121-3-2 (10 V RMS) |

Certifications

CE Mark

Graphical Interface

| | |
|------------------------|---|
| Display Type | Bonded, color transmissive TFT LCD; |
| LCD Size | 4.3" |
| Resolution | 480 x 272, WQVGA |
| Color Format Supported | 16-bit color |
| Aspect Ratio | 16:9 |
| Orientation | Landscape |
| Display Backlight | LED, 500-650 cd/m2 (30,000 hr lifetime) |
| Sunlight Viewability | Direct sunlight |

Video Interface (Optional feature- not included on all models)

| | |
|------------|------------|
| Video Type | 2 NTSC/PAL |
|------------|------------|

Boot-up

| | |
|--|--|
| Boot-up Screen | Customizable |
| Boot (first powered-on): | TYP. ~ 9 sec. to logo, 17 sec. to first screen |
| Wake (display backlights set to zero): | TYP. ~1 sec. |

Technical Data

Communications

CAN Interface 1

| | |
|-------------------|---|
| CAN Specification | 2.0A, 2.0B |
| Baud Rates | Configurable 125 kb/s, 250 kb/s, 500 kb/s, 1 Mb/s |
| Protocols | J1939 and CANopen master |

CAN Interface 2

| | |
|-------------------|---|
| CAN Specification | 2.0A, 2.0B |
| Baud Rates | Configurable 125 kb/s, 250 kb/s, 500 kb/s, 1 Mb/s |
| Protocols | J1939 and CANopen master |

USB Interface

| | |
|-------------------|--|
| USB Specification | USB 2.0 (Note: 3.0 devices are compatible), used for programming |
| Baud Rate | Supports USB full speed at 6 Mbit/s |

Note: USB interface is not protected against battery level faults.

Real Time Clock

| | |
|------------------------|---|
| Estimated Battery Life | Minimum 300 day time/date retention between charges |
| Rechargeable | Yes, Li-Ion (non-replaceable) |

Keypads

| | |
|-------------------|------------------|
| Number of Buttons | 8 |
| Button Style | Tactile feedback |
| Button Backlight | Yes |

Input

| | |
|------------------|------------------------------------|
| Resolution | 10 bits |
| Accuracy | +/- 1% FS |
| Measuring Ranges | Digital, 0-5 V, 4-20 mA, Resistive |
| Scan Rate | 10 Hz (100 ms) |

Digital Input (must be switched to ground)

| | |
|------------------|--------------|
| Type | High Side in |
| Input Impedance | 100 kOhm |
| Switch-on Level | 4.01 V |
| Switch-off Level | 1.04 V |

Voltage Input - 0 - 5V

| | |
|-----------------|---------|
| Input Impedance | 10 kOhm |
|-----------------|---------|

Current Input - 0 - 24 mA

| | |
|-----------------|---------|
| Input Impedance | 200 Ohm |
|-----------------|---------|

Resistive (0-5V)

| | |
|--------------------|---------|
| Pull-up Resistance | 400 Ohm |
|--------------------|---------|

Technical Data

Outputs

Digital Output – 500 mA

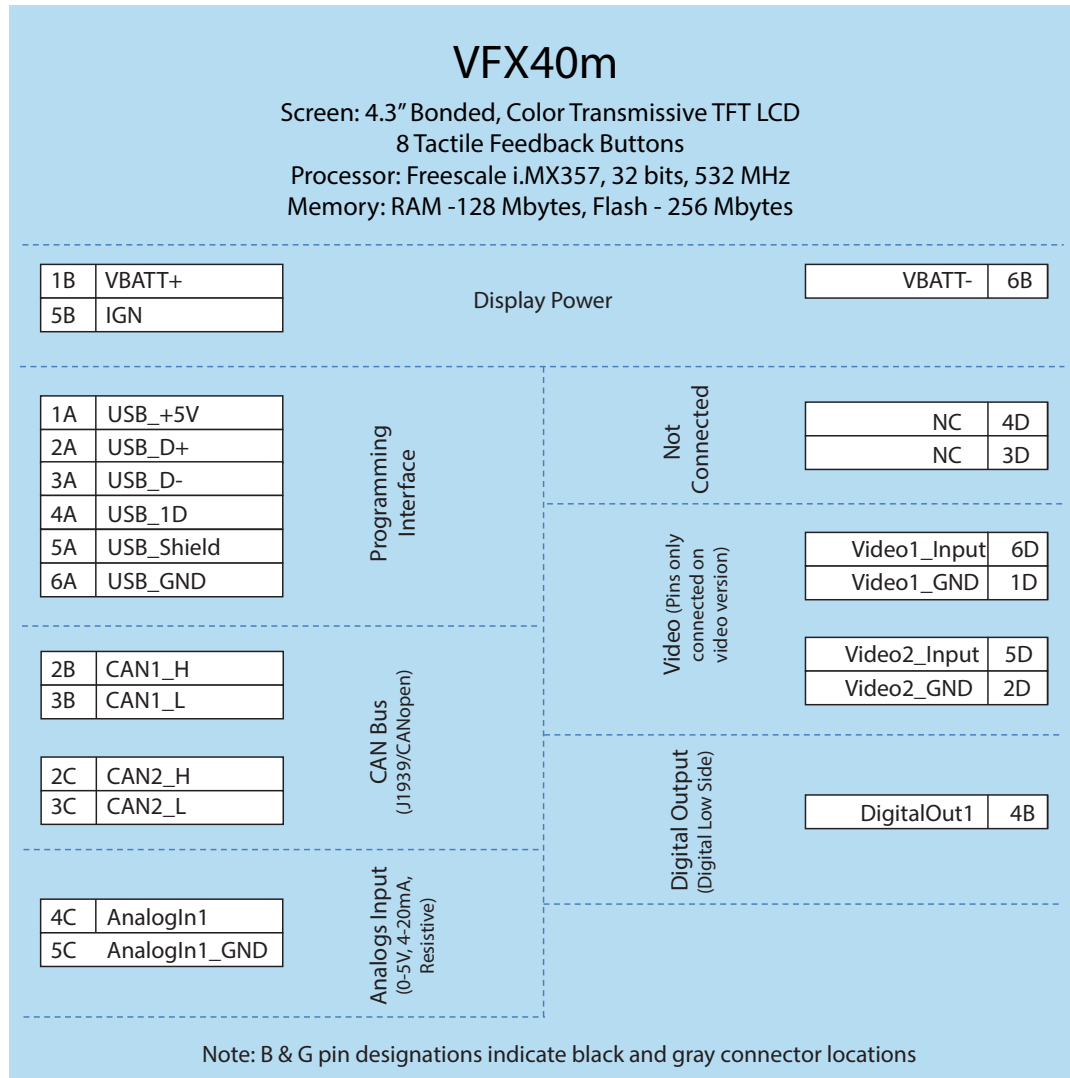
| | |
|-------------|-------------------------------|
| Type | Low Side |
| Amperage | 500 mA Max |
| Diagnostics | Open/Short circuit protection |

Connections

Connector – 4 x 6 pin

| | |
|-----------------|---------------|
| Manufacturer | Deutsch |
| Model | DT04-6P |
| Contact Surface | Nickel plated |

Block Diagram



Connector Pins

Plug A

| Type | Deutsch |
|------|------------|
| Pin | Function |
| 1 | USB 5V |
| 2 | USB D+ |
| 3 | USB D- |
| 4 | USB 1D |
| 5 | USB Shield |
| 6 | USB Ground |

Plug B

| Type | Deutsch |
|------|---------------------------|
| Pin | Function |
| 1 | Battery |
| 2 | CAN1 H |
| 3 | CAN1 L |
| 4 | Open-Drain Battery Output |
| 5 | Ignition Input |
| 6 | Ground |

* Not connected on VFX40m

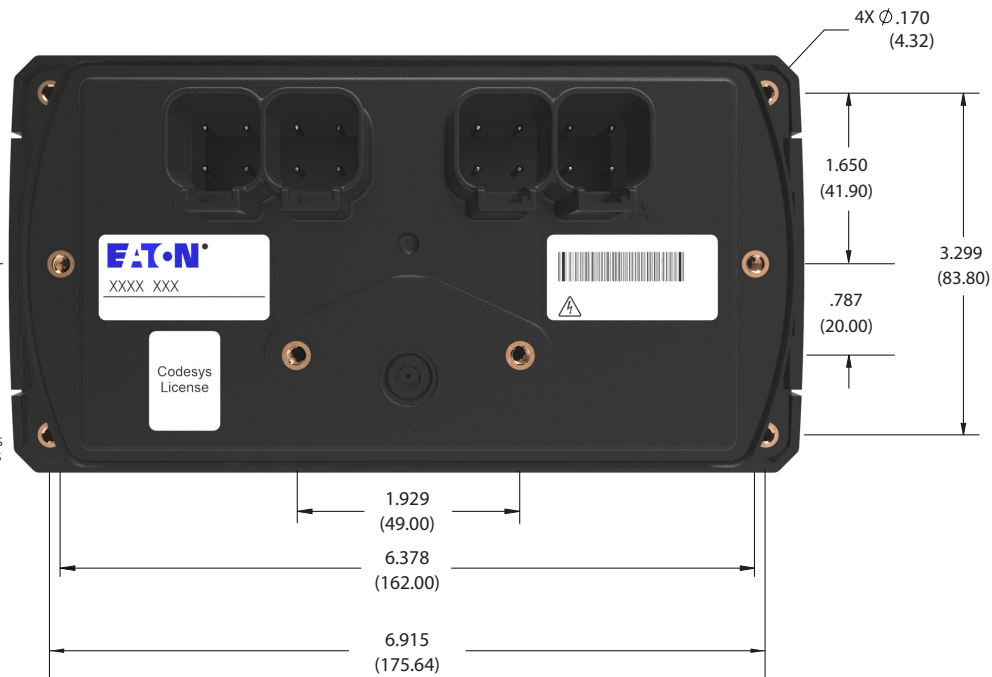
Plug C

| Type | Deutsch |
|------|---------------------|
| Pin | Function |
| 1 | Not Connected |
| 2 | CAN2 H |
| 3 | CAN2 L |
| 4 | Analog Input Ground |
| 5 | Analog Input |
| 6 | Not Connected |

Plug D

| Type | Deutsch |
|------|-----------------|
| Pin | Function |
| 1 | Video Ground 1* |
| 2 | Video Ground 2* |
| 3 | Not Connected |
| 4 | Not Connected |
| 5 | Video Input 2* |
| 6 | Video Input 1* |

Mounting

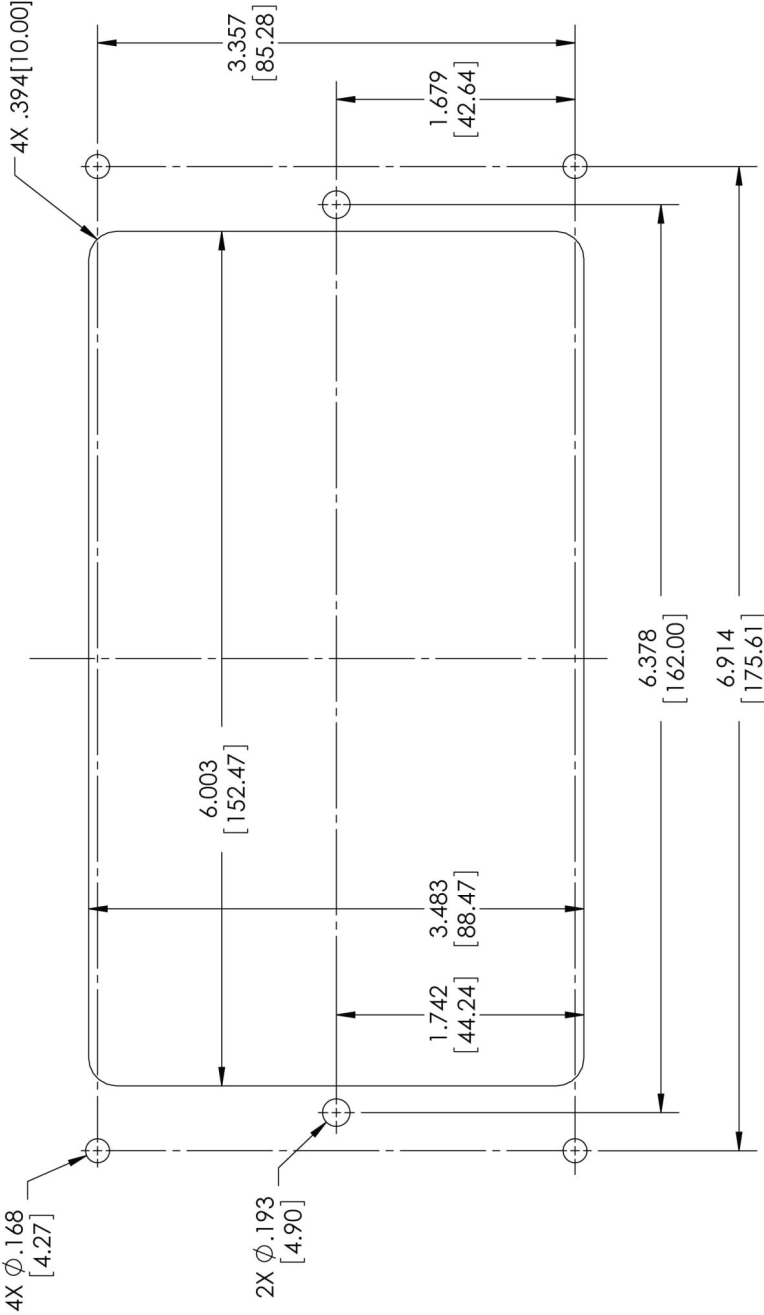


8-32 X .25" DEEP BRASS INSERTS
8-PLACES

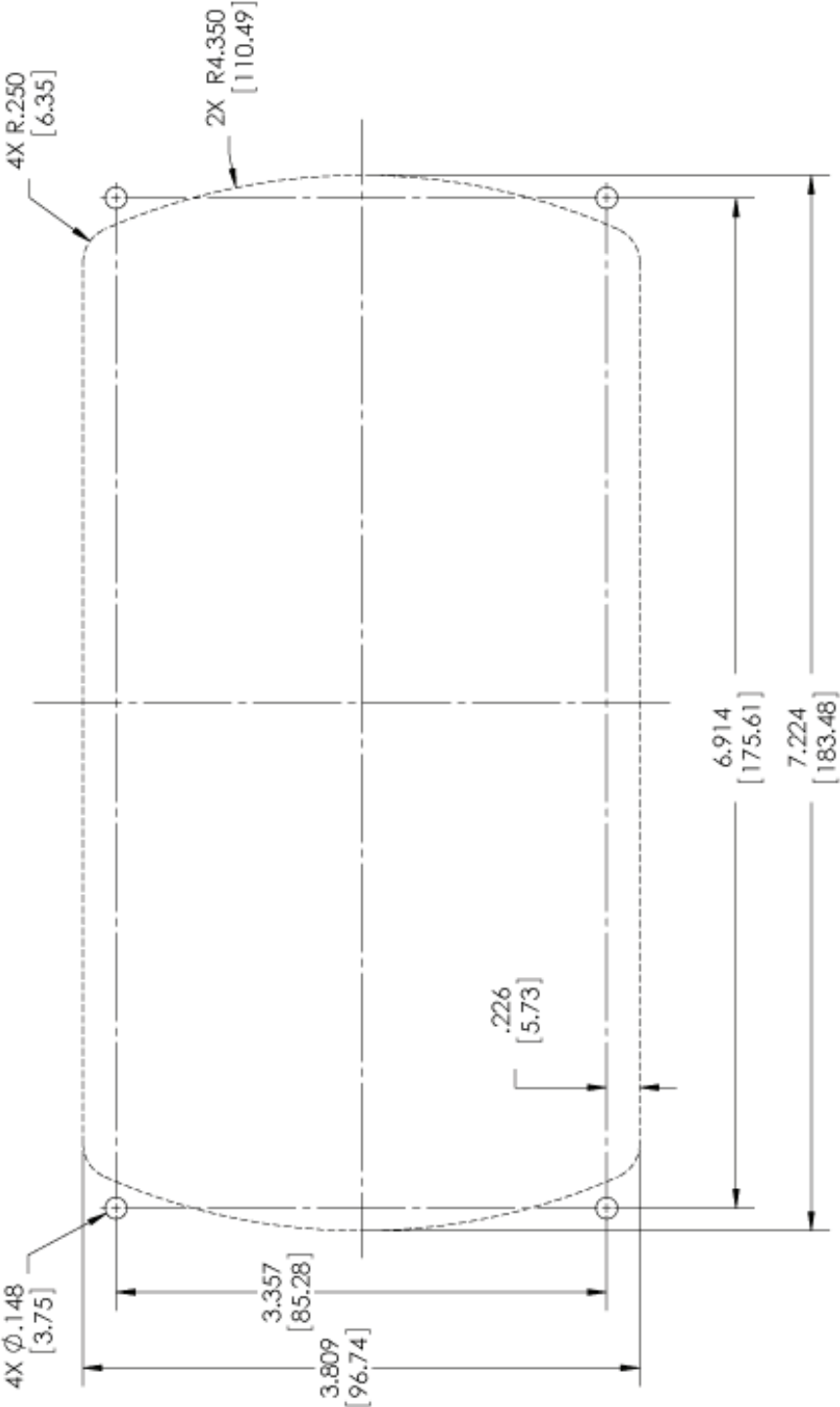
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Cut-outs



Cut-outs



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