



## CANlink 715/716: Ultra Widescreen Displays

# High-Performance. High-Tech.

Designed for rugged mobile applications, HED's newest lineup of digital displays are highly configurable with inputs, outputs, PCAP touchscreens, USB, video inputs, Ethernet, and wireless communication and offer programming options such as Crank, Qt, or BSP. Horizontal and vertical options offer unique design alternatives.

### Performance

Consistent speed for programming and digital video streaming. Superior performance delivered through standard features like NVMe drive, NPU, and the horsepower of the newest quad iMX processor.

### Technology

Multi-video display capability with 1920x720 resolution enhances safe vehicle operation and provides a superior operator interface with PCAP touchscreen for navigation and control.

### Connectivity

Stay connected with Automotive Ethernet ensuring consistency and speed for programming, digital video streaming and wireless communication options.



IP67 sealed



Touchscreen with gloves & in rain



Ultra-wide viewing angles



Shock & Vibration Resistant



Sunlight readable



-40C to +60/65C

# CANlink 715 / 716 Display | Specifications

COMPUTING CORE	
Overview	i.MX8M Plus Quad Core Processor running at 1.6 GHz with advanced graphics GPU and NPU up to 2.3 TOPS for AI and Edge computing
CPU	4x Cortex A53 @ 1.6 GHz
NPU	Neural Processing Unit (NPU) up to 2.3 TOPS
GPU	<b>3D Graphics:</b> Vivante GC7000UL high performance graphics processing unit <b>2D Graphics:</b> Vivante GC520L high performance 2D raster graphics core
Flash	32GB, enhanced mode 3D TLC NAND eMMC pseudoSLC
RAM	2GB 32-bit LPDDR4
DISPLAY	
Type	IPS TFT with >85° viewing angles in all directions
Cover Lens	Hardened Glass with AR coating
Optical Bonding	Optically bonded for enhanced sunlight readability
Size & Resolution	Ultrawide 12.3" & 15.0", 1920 x 720, 8:3 aspect ratio
Color Depth	24-bit, 16.7 million
Contrast Ratio	1000:1
Brightness	1000 nit (typ)
Dimming	Standard in 0.1% increments 0-100%
Ambient Light Sensor	Standard, available for automatic dimming
HMI	
Touch Screen	Optional Projected Capacitive (PCAP) with 2-point multi-touch for gestures. Calibrated for use with heavy gloves and wet environments.
Status LED	RGB LED on front of display
Audio	Audio Line Out/Audio Line In (req. external amplifier)
Real Time Clock	Yes- with internal battery (15 year life- typical)
ELECTRICAL	
Operating Voltage	8-32VDC
Key Switch	Standard for Start/Shutdown, Suspend/Resume
Inputs	5x software configurable to switch to Battery/Ground and Analog 0-5.5V
Outputs	2x software configurable to 2A Sourcing Digital or PWM
Conducted Transient Immunity	ISO 7637-2, Pulse 1, 2a, 2b, 3a, 3b
Starting Profile	ISO 16750-2, Section 4.6.3
Load Dump	ISO 16750-2, Section 4.6.4, 40V clamped
MECHANICAL	
Housing Material	PC-ABS Plastic with Aluminum Heatsink (back cover)
Installation	Panel mounted (see dimensional drawings)
Connectors	1x 18-pin Deutsch DT for Power, CAN, I/O 1x USB-C for USB-C 3.0 Interface 1x HDMI (optional) 4x M12 for USB-A, Audio Line In/Out, 2-Wire Ethernet, 8-Wire Ethernet
Dimensions (mm)	12" CL-715: 352.2 x 150.7 x 63.8 15" CL-716: 408.7 x 185.8 x 69.7
Weight (g)	12" CL-715: 5.02 lbs 15" CL-716: 3.37 lbs

INTERFACES	
CAN	4x CAN-FD ports
USB	2x USB, 1x USB-C 3.0 (sealable), 1x USB-A 2.0 (M12)
Ethernet	2x Gigabit Ethernet ports with auto-negotiate: 1x 1000Base-T1 (2-wire) 1x 1000Base-T (8-wire)
Wi-Fi	Wi-Fi 802.11a/b/g/n/ac, dual-band 2.4/5 GHz (other M.2 2230 compatible options available- consult factory)
HDMI	Optional 1x (sealable)
OPERATING SYSTEM	
System	Custom Linux system with Yocto 4.0+ (Long term support)
Kernel	5.15+ (Long Term Support)
BSP	Customer applications are created inside of an OCI compliant container (ex: Docker/Podman). Example containers are provided to help customers start their projects.
Computing & Graphics APIs	Support for advanced UX and computing tasks possible: OpenGL ES, Vulkan, OpenCL, OpenVG
Bootup Time	Cold boot ~8-10 seconds
ENVIRONMENTAL SPECIFICATIONS	
IP Class	IP67
EMC Conformity	FCC Part 15 (b) and ISSED Canada. 2014/30/EU – CE Mark Radiated Emissions: ISO 13766-1, EN 13309, ISO 14982 Conducted Emissions: CISPR 25, Section 6.3 (Voltage Method) Radiated Immunity: ISO 11452-2 Conducted Immunity: ISO 11452-4 (BCI method), 20-200MHz at 100mA ESD: ISO 10605, IEC 61000-4-2
Vibrations	IEC 60068-2-64 Random Vibration Test VII Test: Random Vibe, Freq. Range: 10-2000Hz, Level: 57.9m/s <sup>2</sup> per Figure 11 / Table 12 Duration/axis: 8hrs (32Hrs total exposure)
Shock	IEC 60068-2-27 Mechanical Shock Level: 500 m/s <sup>2</sup> - 6ms, Shape: Half-sinusoidal # Pulses: 100 per direction/axis (600 total shock pulses) Level: 500 m/s <sup>2</sup> - 11ms, Shape: Half-sinusoidal # Pulses: 6,000 per direction/axis (18,000 total shock pulses)
Temperature Range	Operating: -40C to +60C Storage: -40C to +85C
SOFTWARE FRAMEWORK & TOOLS	
Development Environment	Virtual machine or Native Linux
Programming	Supported languages include C++, C, QML, JavaScript, Python, HTML5
GCC Compiler	Containers allows any GCC Compiler to be used that supports ARMv8
UI Frameworks	Supports Qt6 and Qt5 (Containers allows any version of Qt to be implemented). Qt Commercial is optional, enables closing access to the system. Support for Web frameworks.
Windowing	Wayland with Sway
CAN Networking	Configurable for J1939 and CANopen networks
Digital Video	Digital IP Camera support



# CANlink 715 / 716 Display | Pinouts

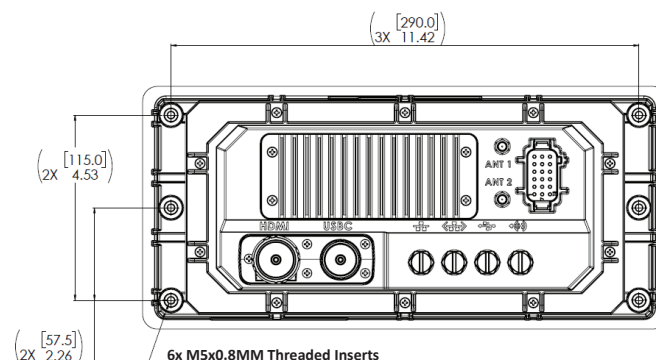
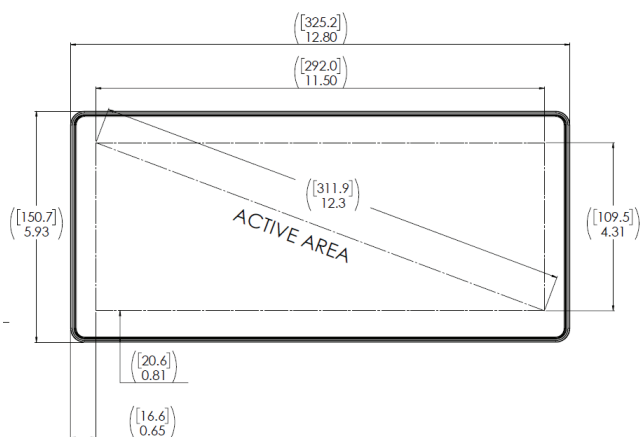
CONNECTOR A - 18 PIN DEUTSCH	
Pin 1	CAN1-H
Pin 2	CAN1-L
Pin 3	CAN2-H
Pin 4	CAN2-L
Pin 5	Battery (-)
Pin 6	Unswitched Battery (+) / Input Battery Voltage
Pin 7	CAN3-H
Pin 8	CAN3-L
Pin 9	CAN4-H
Pin 10	CAN4-L
Pin 11	Input STB Wake-up (Key Switch)
Pin 12	Input STB/STG/VTD (0-5V)
Pin 13	Output DOUT/PWM (+)(2A)
Pin 14	Output DOUT/PWM (+)(2A)
Pin 15	Input STB/STG/VTD (0-5V)
Pin 16	Input STB/STG/VTD (0-5V)
Pin 17	Input STB/STG/VTD (0-5V)
Pin 18	Input STB/STG/VTD (0-5V)
MATING CONNECTOR - DEUTSCH	
DEUTSCH	DT16-18SA-K004
Socket	(16-18) AWG-0462-201-16141 (14-16) AWG-0462-209-16141
Sealing Plug	Non-locking: 114017 Locking: 0413-217-1605
Note: Unused pins required to be sealed to maintain module sealing	

WIRE ETHERNET CONNECTOR: M12 (D-Key)	
Pin 1	TRD(+)
Pin 2	TRD(-)
Pin 3	not used
Pin 4	not used
WIRE ETHERNET CONNECTOR: M12 (A-Key)	
Pin 1	TRD(+)_D0
Pin 2	TRD(-)_D0
Pin 3	TRD(+)_D1
Pin 4	TRD(-)_D1
Pin 5	TRD(+)_D2
Pin 6	TRD(-)_D2
Pin 7	TRD(+)_D3
Pin 8	TRD(-)_D3
USB-A CONNECTOR: M12 (A-Key)	
Pin 1	USB (Power)
Pin 2	USB (DM)
Pin 3	USB (DP)
Pin 4	USB (Ground)
AUDIO CONNECTOR: M12 (B-Key)	
Pin 1	Audio Line Out Left
Pin 2	Audio Line Out Right
Pin 3	Mic Input
Pin 4	Ground
MATING CONNECTOR - M12	
RAMCO M12 4 & 8 pin Female (for USB, Video) or generic	



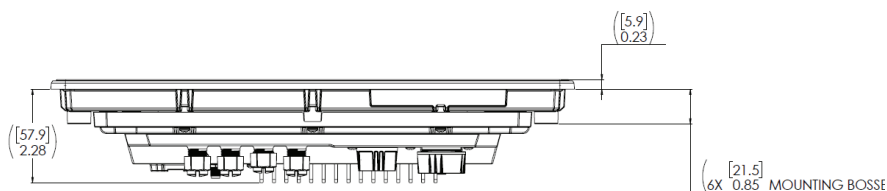
# CANlink 715 / 716 Display | Dimensions

## CL-715 Dimensions + Mounting Details



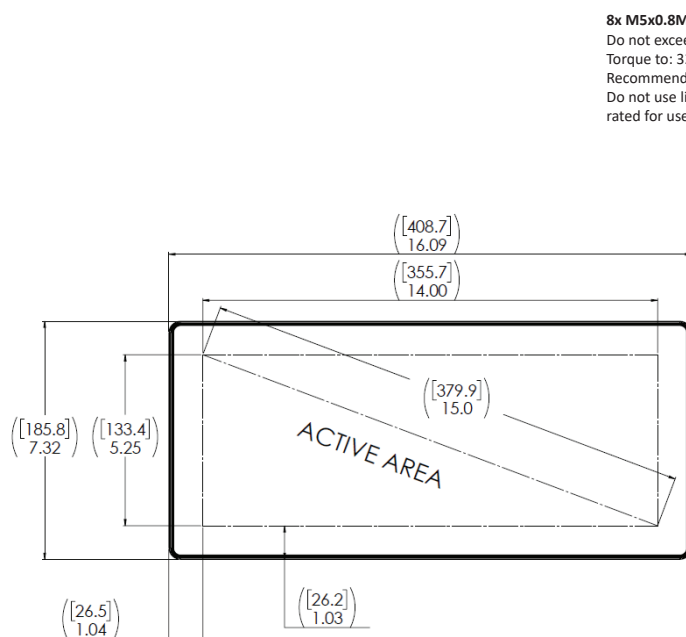
### 6x M5x0.8MM Threaded Inserts

Do not exceed 0.397 inch (10mm) of thread engagement.  
Torque to: 32 +/- 2 in-lbs (3.62 0.23+/- Nm).  
Recommend using thread locking patch.  
Do not use liquid thread locker unless rated for use with plastic.



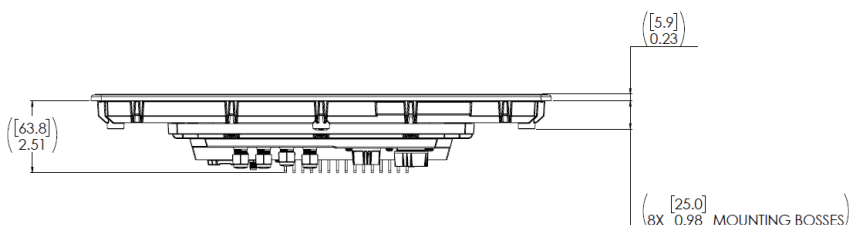
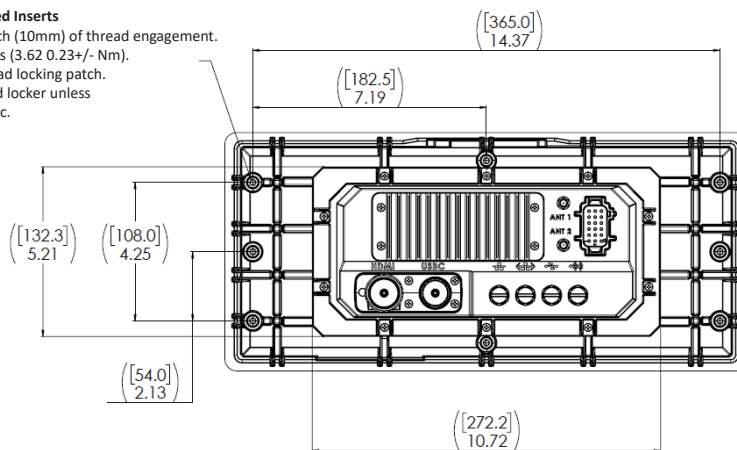
NOTES:  
1. ALL [XX] ARE IN MM'S ALL OTHER DIMENSIONS ARE IN INCHES.

## CL-716 Dimensions + Mounting Details



### 8x M5x0.8MM Threaded Inserts

Do not exceed 0.397 inch (10mm) of thread engagement.  
Torque to: 32 +/- 2 in-lbs (3.62 0.23+/- Nm).  
Recommend using thread locking patch.  
Do not use liquid thread locker unless rated for use with plastic.



NOTES:  
1. ALL [XX] ARE IN MM'S ALL OTHER DIMENSIONS ARE IN INCHES.

