CANlink 715 / 716 Linux Displays

Designed for rugged applications, HED's newest lineup of 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 other through the use of Yocto containers.

IP67 sealed

Touchscreen with gloves & in rain

Ultra-wide viewing angles

Shock & Vibration Resistant

Sunlight readable

-40C to +60/65C

High-Performance

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

Modern 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.

Enabled Connectivity

Stay connected with Automotive Ethernet ensuring consistency and speed for programming and digital video streaming and optional Wi-Fi + Bluetooth.

HED specializes in the design, manufacture, and application of innovative controls and telematics systems for on- and off-highway OEMs. We provide a complete line of controllers, displays, keypads, and telematics solutions.

Intelligent Vehicle Controls

CL 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	**3D Graphics:** Vivante GC7000UL high performance graphics processing unit **2D Graphics:** 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 (requires external amplifier)

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	ABS Plastic with Aluminum Heatsink (on 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)
Bluetooth	Bluetooth 5.0 (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 ISED 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/s2 per Figure 11 / Table 12 Duration/axis: 8hrs (32Hrs total exposure)
Shock	IEC 60068-2-27 Mechanical Shock Level: 500 m/s2- 6ms, Shape: Half-sinusoidal # Pulses: 100 per direction/axis (600 total shock pulses) Level: 500 m/s2- 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

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