DG-HMI10-00

Rugged Railway HMI

- **EN50155 qualified**
- **Rugged and low power**
- **5,7" VGA Touchscreen Display**
- **Based on Intel® Atom™**
- **Built-in GPS**
- **WiFi, EDGE/3G, Gbit Ethernet**
- **Wide power supply range**

FEATURES

Rugged and compact – The DG-HMI10-00 is very powerful, and integrated. Featuring an extended temperature range and rugged circular connectors, it is the ideal platform for hash environments and is purpose-built for railway applications.

Certified to Perform – Designed to the transportation market, the DG-HMI10-00 is EN50155 compliant and supports features such as a wide input range isolated power supply.

Connected – With a wide choices of wireless and wired communication interfaces, it is simple to integrate this platform in any rolling stock system.
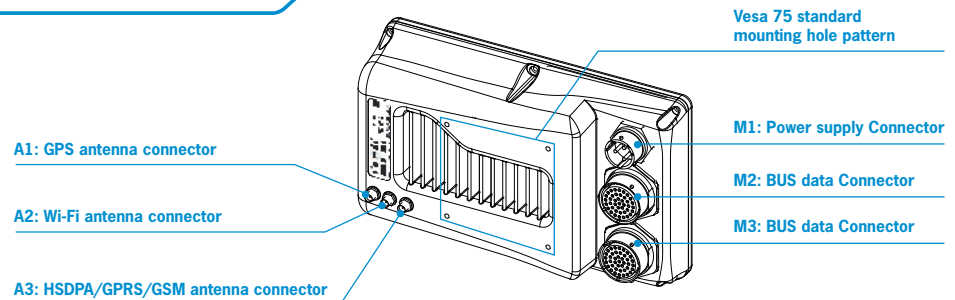
Low Power and fanless – Design with high efficiency in mind, the DG-HMI10-00 delivers exceptional performances and low power consumption.

The DG-HMI10-00 is a rugged fully integrated HMI computer platform targeting demanding vehicle installations such as those in rail networks and rolling stock, buses, vessels etc. Thanks to the smart design and the high integration, the system is very compact and withstands the mechanical and temperature stresses commonly encountered in harsh environmental conditions while providing an versatile configuration of communication and I/O interfaces.

The DG-HMI10-00 provides the computational power of the Intel Atom CPU, the connectivity through WiFi and EDGE/3G cellular networks, Gbit Ethernet, 5,7" touchscreen panel, a high performance GPS and plenty of transportation specifc features: odometer, optoinsolated I/O, serial ports, USBs and a wide input range galvanically isolated power supply.

Being low power, fanless, compact and EN50155 certifed, the DG-HMI10-00 is ideal for use in railway, automotive and similar applications. Compliant with IP65 ingress protection standards, sealed rugged MIL-grade connectors make the DG-HMI10-00 suitable for easy maintainance/removal ensuring long-term reliability in harsh environments.

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Mechanical Drawing

A1: GPS antenna connector

A2: Wi-Fi antenna connector

A3: HSDPA/GPRS/GSM antenna connector

Vesa 75 standard mounting hole pattern

M1: Power supply Connector

M2: BUS data Connector

M3: BUS data Connector

System Architecture

CPU MODULE	Intel ATOM 1.1 GHz, RAM 512 MB soldered on board
MASS STORAGE	2 GB fash disk SSD soldered on board (Expandable with 8GB in no-WiFi configuration) 1 Removable microSDHC for data storage (4GB card)
DISPLAY	5,7" LCD type transmissive color TFT; VGA 640X480 with resistive, touch screen, backlighted Colors: 262K; Brightness: 280 cd/m²; Contrast ratio: 350:1, Viewing angle: +/-70°; Antiglare surface
WIRELESS	**A1:** GPS 50 channels Galileo ready **A2:** Wi-Fi 802.11 a/b/g/n (Optional) **A3:** HSUPA/HSDPA/UMTS/GPRS data modem
INTERFACE	**M1:** Power IN +24VDC (+, - and earth chassis) Key Input **M2:** 1 x USB 2.0 port (maintenance) 5 x Optoinsulated Digital Output 10 x Optoinsulated Digital Input 1 x Optoinsulated Digital Input Odometer Audio Ports: • 1x Stereo Microphone Input • 1x Stereo Headphones Output • 1x Speakers Output **M3:** 2 x Gigabit Ethernet ports 1x Optoisolated RS232 serial port 1x Optoisolated RS485 serial port 1x USB 2.0
MAINTENANCE INTERFACE	1x Maintenance RS232 serial port 2x Maintenance USB ports: • 1x USB for keyboard • 1x USB for mouse • (Keyboard and mouse can also be connected to the Maintenance USB 2.0 port using a USB HUB) 1x VGA output (optional) 1x Reset pushbutton
HARDWARE MONITOR	Temperature and voltage monitoring
COOLING	Integrated passive heat-sink
ENCLOUSURE	Alluminum alloy
POWER SUPPLY	10.5 ÷ 36 VDC
POWER CONSUMPTION	19 W
OS SUPPORT	Wind River Linux 3.0
DIMENSIONS (L x W x H)	230 x 140 x 61,7 mm
WEIGHT	1,5 Kg
OPERATING TEMPERATURE	-25°C ÷ 55°C EN50155 Class T1 (70°C for 10 min)
STORAGE TEMPERATURE	-30°C ÷ 80°C
HUMIDITY	95% relative humidity at +25°C non condensing
ENVIRONMENTAL	IP65
COMPLIANCE	EN 50155 (Railway applications) EN 61373 (Vibrations & Shocks) EN 60950 (Safety) EN 61000 (Burst Immunity test) EN 60068 (Temperature test) DIN-5510-2 (German Fire and Smoke) and ISO-11170 (Italian Fire and Smoke) Load Dump (for 24V In): ISO 7637-2 (2004-06)
PERIPHERALS & ACCESSORIES	Cable set with standard connectors for an easy peripherals and I/O connection
MOUNTING	Vesa 75 standard mounting holes