

iNDUSTREAL

COMPLEX IN MOTION

DATASHEET

iNDUSTREAL.HMI

HUMAN-MACHINE INTERFACE



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Introduction

The iNDUSTREAL.HMI is an industrial-grade Human-Machine Interface built for modern automation systems and demanding real-time applications. Powered by the **NXP i.MX8 Plus** processor with an integrated **Neural Processing Unit (NPU)**, it offers powerful edge-compute capabilities for data visualization, control, and AI-assisted operation.

Featuring a 10" or 12" high-definition anti-glare capacitive multitouch display, the IndustREAL.HMI delivers exceptional clarity and responsiveness—even in bright industrial environments.

Designed for seamless integration, it supports **dual opto-isolated CAN-FD interfaces** and **dual RS-485 buses**, both with **software-selectable termination**, as well as **Gigabit Ethernet, USB 3.1, HDMI 1.4**, and an **optional LTE modem** for remote connectivity.

Its **wide input voltage range with reverse polarity protection** and **passive cooling design** ensure reliable operation in harsh conditions. The system comes with a full **Linux BSP** and SDK, providing developers with the flexibility to implement custom control panels, visualization dashboards, or embedded applications.



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APPLICATION EXAMPLES

- **Industrial Automation:** Machine control panels, production dashboards
- **Robotics:** Edge AI controller and visualization interface
- **Commercial Systems:** Smart terminals, industrial kiosks, and diagnostics units

DISPLAY

- **Size options:** 10.1" or 12.1"
- **Type:** Anti-glare capacitive multitouch
- **Resolution:** High-definition (HD/Full HD, model dependent)
- **Brightness:** High-brightness industrial panel for daylight readability

COMPUTE UNIT

- **Processor:** NXP i.MX8 Plus (Quad-core ARM Cortex-A53 + NPU)
- **AI Acceleration:** Integrated Neural Processing Unit (NPU)
- **Cooling:** Passive (fanless) thermal design
- **Operating System:** Linux BSP provided

COMMUNICATION INTERFACES

- **2× Opto-Isolated CAN-FD** (software-selectable termination)
- **2× RS-485 Buses** (software-selectable termination)
- **1× Gigabit Ethernet**
- **1× HDMI 1.4 Output**
- **1× USB 3.1**
- **WiFi and Bluetooth 5.1**
- **Optional LTE Modem**

POWER CHARACTERISTICS

- **Wide input voltage range (exact values TBD)**
- **Reverse polarity protection**
- **Low power consumption design (TBD consumption)**

SOFTWARE SUPPORT

The IndustREAL.HMI comes with a **Linux BSP** and software development kit.

It includes reference applications and examples for:

- GUI Reference
- CAN-FD and RS-485 communication, Ethernet example
- Ethernet and LTE connectivity
- AI model deployment (via i.MX8 Plus NPU)
- Application of IndustREAL device, like Servo, I/O Card.

GitHub URL:

here.

Videos:

here.

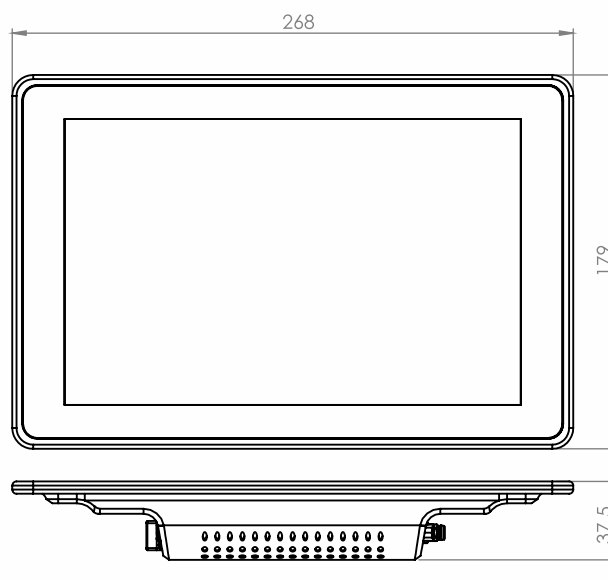
MECHANICAL

- **Mounting:** Panel mount / VESA compatible
- **Cooling:** Passive cooling
- **Housing:** Industrial-grade aluminum enclosure
- Industrial temperature range.
- IP rating

WEIGHT

- 10" Model: TBD
- 12" Model: TBD

PHYSICAL DIMENSIONS



ORDER CODE: HM.MX.2G8.12.LTEC4

Code	Meaning	Code	Meaning	Code	Meaning
2G8	2 GB DDR RAM, 8 GB eMMC	10	10" display		none
4G16	4 GB DDR RAM, 16 GB eMMC	12	12" display	LTEC4	LTE Cat 4. modem