seeed studio

INDUSTRIAL PRODUCT DATASHEET

reTerminal DM Series & Optional Accessories

A cost-effective, all-in-one rugged HMI/PLC/gateway with Raspberry Pi CM4 and hybrid connectivity for distributed hub devices across industries.

SKU	UPDATED
E23010420	2026-01-28 04:56:48



Overview



The reTerminal DM Series is a rugged, open-source device master powered by Raspberry Pi CM4, combining HMI, PLC, Panel PC, and gateway functions with a cost-effective design. It features hybrid connectivity including 4G LTE, LoRaWAN®, Wi-Fi, BLE, RS485/RS232, CAN bus, Gigabit Ethernet, USB, and HDMI, along with low-code Node-RED integration for applications in energy management, building management, MedTech, construction, transportation, agriculture, retail, logistics, and water management.

Key Features

- Rugged design for harsh working environment: IP65 front panel, -10~50°C operating temperature
- Open-source design in software and hardware: Powered by Raspberry Pi CM4, easy for customization or derivatives with the PCIe extensions design (flexible for NVME SSD, Dual 1000M Ethernet, Dual USB 3.0, COM Port RS485/232, and more customizations)
- Cost-effective Device Master: HMI, PLC, Panel PC and gateway all-in-one. Perfect for the distributed hub devices
- Low code programming for event-driven applications: Natively integrated Node-RED for flow-based editing and one-click deployment, compatible with all software runs on Raspberry Pi
- Hybrid connectivity: Support 4G LTE, LoRaWAN®, Wi-Fi, BLE, RS485/RS232, CAN bus, 1000M Ethernet, USB, HDMI
- Product Warranty: Two-year warranty

Note:

1. Product Lifetime: at least until 2034 (Based on Raspberry Pi)

2. All products are independent modules and are packaged **separately by default**. For **assembly requirements**, please contact **edge@seeed.cc**

Product Gallery









Specification

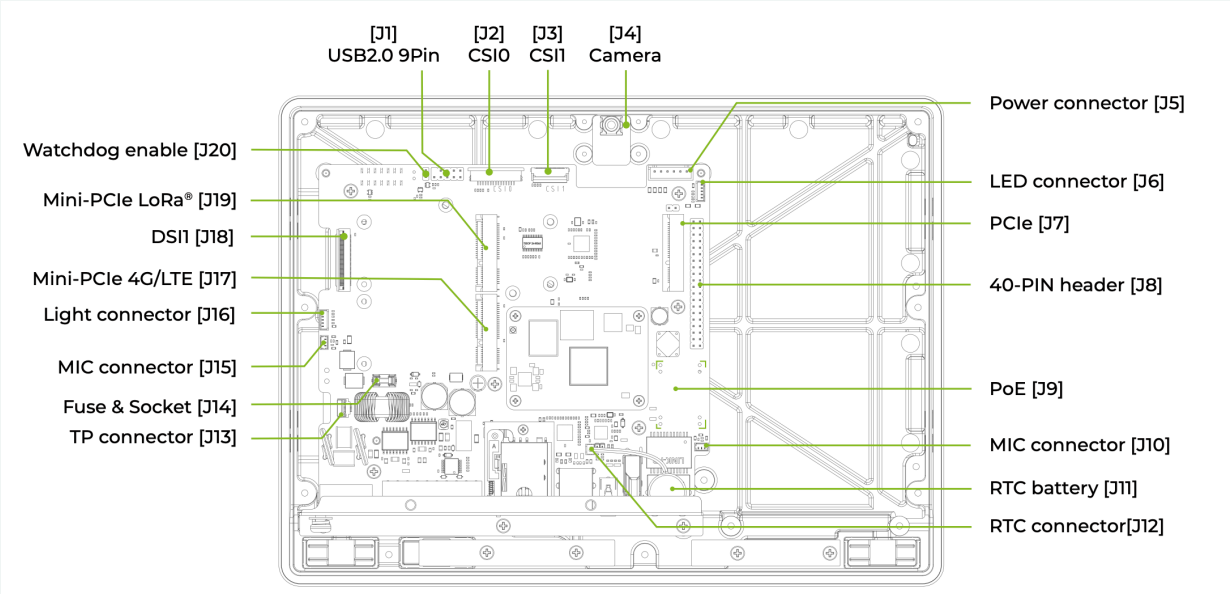
Basic	
CPU	CM4 Quad-core Cortex-A72@ 1.5GHz
Memory	4GB/8GB
Storage	32GB eMMC M.2 NVMe SSD Slot 2280-M Key (optional)
OS Support	Raspbian SenseCraft Edge OS
Display	
Size	10.1''
Max. Resolution	1280 x 800
Max. Colors	16.7M (8-bit)
Luminance (nit)	400
Viewing Angle (H/V°)	170/170
Backlight Life (hrs)	30000
Touch Type	10-point Capacitive
Pencil Hardness	7H

Video&Audio	
Video	HDMI2.0
Audio	2 x Microphone Buzzer 3.5mm Audio Jack
Camera	CSI (optional)
Interfaces	
Ethernet	1 x 10/100/1000 Mbps 2 x 10/100/1000 Mbps (optional)
USB	2 x USB-A 2.0 Host
RS485	1 x RS485 > Terminal Block 1 xRS485 > DB9 (optional)
RS232	1 x RS232 > Terminal Block 1 x RS232 > DB9 (optional)
CAN	1 x CAN-BUS > Terminal Block
DI	4 x DI > Terminal Block
DO	4 x DO > Terminal Block
40pin GPIO	Inside
Wireless Communication	
Wi-Fi	On-chip Wi-Fi
BLE	On-chip BLE
LoRa®	Mini-PCIe for LoRaWAN® (optional)
Cellular	Mini-PCIe for 4G (optional)
Power	
Input	2-pin Terminal Block
PoE	12.95W PoE (optional)
Power Range	12~24V DC
Power Consumption	6W Typ. 9W Max.
Power Switch	NO
Reboot Switch	YES
Environment	
Ingress Protection	IP65 Front Panel
Operating Temperature	-10~50 °C
Storage Temperature	-20~70 °C
Humidity (Operating)	10~95% RH
Mechanical	
Dimension (W x H x D)	259.4 x 191 x 42.2 mm
Enclosure	Die-cast Aluminum Alloy
Mounting	Panel, VESA, DIN-rail
Weight (Net)	1.8Kg
Vibration Resistance	5 Grms random vibration (5 ~ 500Hz) during operation, IEC60068-2-64
Shock Resistance	Operating 50 G peak(11ms duration), IEC 60068-2-27
Certification	
CE, FCC, UCKA, RoHS, TELEC, REACH	
EMC	
ESD	EN61000-4-2, Level 3
EFT	EN61000-4-4, Level 2
Surge	EN61000-4-5, Level 2
Others	

RTC	High Accuracy RTC (with a CR2032 battery)
Hardware WatchDog	1~255s
Security	ATECC608A
Warranty	2 Years
Heat Dissipation	Fanless

Hardware Overview





Applications

- **Energy Management:** Monitor grids, monitor and maintain solar panels.
- **Building Management:** Central control panel for BAS, individual room control panels.
- **MedTech:** Medical device control panel, patient monitoring station.
- **Construction:** BIM, Monitor sites, control heavy machinery.
- **Transportation:** Monitor vehicle health, control ticketing systems (buses, trains).
- **Agriculture:** Control irrigation systems, monitor greenhouse conditions.
- **Retail:** Display digital signage, control self-checkout kiosks.
- **Logistics:** Track inventory movement, manage warehouse operations.
- **Water Management:** Monitor water treatment plants, control water distribution.

Part List

reTerminal DM (Camera & PoE)	x 1
20-pin Terminal Block Connector(Male)	x 1
2-pin Power Female Jack to Screw Terminal Adapter	x 1
Screw Pack	x 1
Fuse	x 1
User Guide	x 1
Wi-Fi/BLE feeder cable(installed)	x 1
Wi-Fi/BLE Antenna	x 1

Resource Links

- https://www.seeedstudio.com/reTerminal-DM-LTE-Cat-4-EC25-Bundle-p-5675.html
- reTerminal DM Datasheet
- reTerminal DM User Manual
- PoE Datasheet
- reTerminal DM Azure IoT Edge
- Seeed's Raspberry Pi-based Success Cases
- reTerminal DM EMC Test Report
- reterminal DM Vibration and Shock Test Report
- reTerminal DM CE Certificate
- reTerminal DM FCC Certificate
- reTerminal DM Structural Design File.stp
- reTerminal DM Schematic Design & PCB Design & Gerber Files

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