

M110 Series

INDUSTRIAL IOT
CELLULAR MODEM



INDUSTRIAL IOT M1, & LTE CAT 1 CELLULAR MODEM IN A COMPACT FORM FACTOR



LANTRONIX
Connectivity Services

Lantronix Mobility Solutions M110 modems are engineered to enable seamless connectivity for a wide array of M2M and IoT applications. These devices facilitate internet access through a serial port for PLCs, meters, vending machines, and more. The M110 modem transforms how data is transported from industrial devices to data control servers, empowering businesses with real-time data monitoring, management, and control capabilities, thereby enhancing operational efficiency and decision-making processes.

Compact Design

Lantronix M110 series modems are a smart modem supporting serial RS-232 and USB communication on a small form factor for fast and seamless integration with industrial equipment such as electricity meters, programmable logic controllers, lifts and vending machines.

Multiple Cellular Network Support in 4G LTE-M1 & Cat 1

The M110 modem supports cutting-edge LTE standards including LTE M1, Cat 1, and Cat-1BIS. This compatibility ensures that devices connected to carrier networks are not only more cost-effective but also benefit from enhanced power efficiency.

Low Power Consumption for Remote IoT Application

Deploying IoT devices in remote locations demands minimal power usage, especially when electricity is sporadic and devices must operate on battery or solar power for extended periods. The M110 modem is exceptionally suited for such environments. It boasts an ultra-low power consumption of just 21 mA in idle mode. This efficiency enables devices to achieve up to a month of autonomy, waking only when communication is initiated. It is an ideal solution for ensuring continuous, reliable operation without a constant power supply.

Intelligent Modem Running mPack Software

The M110 modems are designed for seamless retrofit integration, offering an automatic TCP dial-up function for easy communication with serial devices. With flexible options like dial-up, permanent TCP/UDP client/server, and on-demand client modes, they simplify deployment and enhance connectivity, making them a versatile choice for diverse applications.

Optional RS485 with SNAP CAP™

The M110 series swiftly upgrades its RS-232 port, using a 9-pin sub-D connector, to an isolated RS-485 port on a 5-pin, 3.5 mm pitch COMBICON connector, supporting half or full-duplex modes (user-selectable). Featuring an integrated transformer, it supports cabling lengths up to 1.5 km.



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Perfect For:



Smart Metering



Oil & Gas Monitoring



Industrial Automation



POS & Kiosk

M110 Series Highlights

- Available in LTE-M1, Cat-1 and Cat-1BIS
- Two versatile I/Os
- Compact design (60 x 66 x 21.7 mm)
- mPack software suite with SDK.
- Low power consumption in idle mode
- Compatible with Lantronix Connectivity Services

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Hardware

Cellular

- Dual mode LTE-M1/ NB-IoT M113; via an SMA antenna connector
- LTE Cat 1bis M114; via an SMA antenna connector

I/Os

- Two 2-way versatile I/Os, i.e. user-configurable, each one independently from the other, as either (i) analogue input or (ii) digital output; via the lower row of the same header
- ANALOGUE INPUT: 0 V dc ~ 48 V dc range; 12-bit resolution
- DIGITAL OUTPUT: open collector; 200 mA max.; 50 V dc max

Serial Communication

- RS232 Full implementation; via a 9-pin sub-D header
- USB 2.0 via a Type-C header

SIM Factory Option

- In lieu of, for dual SIM operation, in addition of the mini-SIM tray

Physical Description

- Brushed aluminum alloy
- Size: (mm) 60 x 66 x 21.7 without connectors
- Weight: Approx. 95 grams
- Operating Status LEDs: Two as Power/ Cellular Signal
- Reset Button: Short / Long press for Reset / Reset to factory settings

Temperature & Humidity Ranges

- Operating: -30 °C ~ +70 °C; class A
- Storage: -40 °C ~ +85 °C; class B

MCU

- STMicroelectronics' STM32 family
- 32-bit ARM Cortex™-M4 architecture; running at 168 MHz
- SPI Flash Memory: 2 MB

Power-off Timekeeping

- RTC with an approx. 100-day data retention period; courtesy of a 15 mWh lithium manganese battery (not functional below -20 °C)

Power Consumption (W)

- All figures worst-case (70 °C, 32 V, all subsystems fired on, etc.)
- Idle: 1.1 (M113), 0.15 (M114B)
- Standby: 2.63 (M113), 0.36 (M114B)
- Communication (Tx max.): 6.18 (M113), 0.65 (M114B)

Power

- 8 V dc ~ 32 V dc with SLOW START; via the upper row of a dual row, 4-pin, Micro-Fit™ 3.0 header

Software Suite

MPack Software Suite

- Connectivity: Dial-up, TCP / UDP permanent client / server or on-demand client with two TCP / UDP sockets for failover, Network connectivity watchdog
- Miscellaneous Features: Support for concatenated SMS, TCP
- DOTA: via user's HTTP server
- Percepixon client integration: remote configuration, console, telemetry, and tunneling support.

Connectivity Services

- Compatible with Lantronix Connectivity Services <https://shop.lantronix.com/>

Device Management Services

- Lantronix Percepixon™ platform available for M114bis

Warranty

- 1 year limited

Certifications

- M113 CE, UKCA, FCC, PTCRB, Verizon Wireless, AT&T, RCM
- M114BIS CE, UKCA, RCM

Essential Accessories

Power Cords

- KDC42 or KDC44 (the latter with two more stripped wires for I/Os)

USB Cords

- KUCA1, 0.8 metre-long, Type-C plug ↔ Type-A plug

Remote, Adhesive, Antennas

- A31M0 or A31H0

Din Rail Clip

- BR350, 3½ U

Product SKUs

Part Number	Description
M113F00FS	Worldwide - LTE-M1 / NB-IoT Band 12, 28, 13, 20, 26, 8, 3, 4, 25, 1 - RS-232 & USB Ports - 2 I/Os - MPack
M113F002S	Worldwide - LTE-M1 / NB-IoT Band 12, 28, 13, 20, 26, 8, 3, 4, 25, 1 - 2G FB, RS-232 & USB Ports - 2 I/Os - Mpack
M114B00FS	EMEA / LATAM / India – LTE Cat-1 bis Band 1, 2, 3, 4, 5, 7, 8, 20, 28, 66, 38, 40, 41- 2G FB, RS-232 & USB Ports - 2 I/Os - MPack

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