

# M110 Series

INDUSTRIAL IOT  
CELLULAR MODEM



## INDUSTRIAL LTE-M1 AND CAT 1 BIS CELLULAR MODEM IN A COMPACT FORM FACTOR

Lantronix 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 to enhance operational efficiency and decision-making processes.

### Compact Design

Lantronix M110 smart modems support 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 Bis

The M110 modem supports cutting-edge, power-efficient LTE standards ideal for IoT device connectivity including LTE M1 and Cat 1 bis.

### 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 PPP dial up, generic AT commands and Lantronix mPACK commands, each over either RS232 or USB, 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.



### Perfect For:



Smart Metering



Oil & Gas Monitoring



Industrial Automation



POS & Kiosk

### M110 Series Highlights

- Available in LTE-M1 Cat 1 bis
- Two versatile I/Os
- Compact design (60 x 66 x 21.7 mm)
- mPack software suite with SDK
- Low power consumption in idle mode
- Perception device management for M114b

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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

- 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

### Device Management Services

- Lantronix PercepXion™ platform available for M114bis for remote configuration, console, telemetry and tunnel support

### Warranty

- Two year limited

### Certifications

- M113 CE, UKCA, FCC, PTCRB, IC, UL/CB, Verizon, AT&T, RCM
- M114BIS CE, UKCA, UL/CB, 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