M110 Series

Intelligent Industrial Modem

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

LANTRONIX Connectivity Services

Lantronix Mobility Solutions M110 modems are designed to provide connectivity across a broad range of M2M and IoT applications. They allow Internet connectivity via serial port to PLCs, Meters, Vending Machines. The Lantronix M110 enables transporting data from any industrial device to data control servers, allowing businesses to benefit from real-time data monitoring, management and control.

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
M110 is available on LTE standards such as LTE Cat 1 and M1 for IoT applications, allowing devices that operate on carrier networks to be less expensive and more power-efficient.

Low Power Consumption for Remote IoT Application
Deploying IoT devices in remote access requires low power consumption in an environment when electricity is not always on and the device needs to run for a month on battery or solar panel. M110 can achieve as low as 21 mA in idle mode, giving a month of autonomy when the device simply wakes up when communication is triggered.

Intelligent Modem Running mPack Software
M110 modems have been specially designed to be easily deployed in your retrofit solution. Its auto TCP dial-up function allows initiating any communication of a serial device with or without dial-up capability. Device options like dial-up, TCP/UDP permanent client/server or on-demand client with two TCP are all available.

Optional RS485 with SNAP CAP™
Snappily converts M110 series' RS-232 port on a 9-pin sub-D connector into an isolated *, half or full-duplex (user-selectable via a slide switch) RS-485 port on a 5-pin, 3.5 mm pitch, COMBICON connector. * i.e with integrated transformer, thus allowing for 1.5 km-long cabling.

Perfect For:

Smart Metering

Oil & Gas Monitoring

Industrial Automation

POS & Kiosk

M110 Series Highlights

- Available in LTE-M1, LTE Cat 1
- Two versatile I/Os
- Compact Design (60 x 66 x 21.7 mm)
- mPack Software Suite
- Low power consumption in idle mode
- Compatible with Lantronix Connectivity Services

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Hardware

Cellular

One- or two-antenna models
- 2G M111; 3G M115; dual mode LTE-M1 / NB-IoT M113; via an SMA antenna connector
- LTE Cat 1 M114; via two SMA antenna connectors (main and diversity)

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.
- Factory Option - 3-Way I/Os: Third possible configuration as (iii) analogue input suited to current loop sensors (aka 4 mA ~ 20 mA sensors)*

Serial Communication

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

MFF SIM(s)*

- In lieu or, 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' STM32F446
- 32-bit ARM Cortex™-M4 architecture; running at 168 MHz
- Built-in 256 KB Flash memory and 128 KB RAM
- 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: 0.96 (M111); 1.10 (M113); 1.10 (M114)
- Standby: 2.31 (M111); 2.63 (M113); 2.63 (M114)
- Communication (Tx max.): 5.54 (M111); 6.18 (M113); 6.18 (M114)

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, Configurable text and recipient(s) upon Last Gasp
- DOTA: via user's HTTP server

Last Gasp

- Factory Options: Allows for sending at least five 30-character SMS at one-second intervals; courtesy of two industrial-grade super caps*

Connectivity Services

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

Warranty

- 1 year limited

Certifications

- **M113** ISED, FCC, PTCRB, Verizon Wireless, AT&T, Wireless, RCM,
- **M114** CE, FCC, RCM, NCC

Essential Accessories

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

USB Cords
- KUCA1, 0.8 meter-long, Type-C plug ↔ Type-A plug

Remote, Adhesive, Antennas
All IP67-rated, except for ACC-A31 (IP33) and ACC-A31H (N/A)
- A31M0 or A31H0, LTE: M111, M115, M112, M113
- A32M0 or A32H0, '2-in-1' LTE + LTE: M114

Din Rail Clip
- BR350, 3½ U

Product SKUs

Part Number	Description
M113F00FS	M113M1/NB1 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	M113M1/NB1 2GFB 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

Factory Options - Subject to MOQ and other considerations

Learn More at lantronix.com/m110-series-modems

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