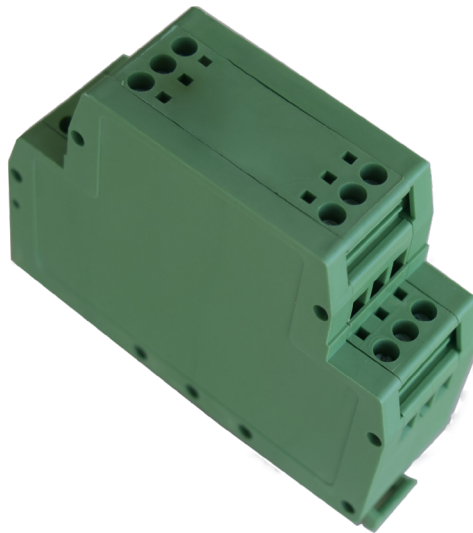


v. 1.0.0
DATASHEET

METERING MODEM



Born to be smart

Specially developed for industrial usage, Urbana Metering Modem is a robust modem that provides simple and seamless integration of telemetry and data control. Urbana Metering Modem features a compact form factor and is available with different interfaces to allow the flexible and easy integration into existing application infrastructures. Built to withstand harsh and demanding environmental conditions, meets specifications IEC60068 for environmental testing and EN60529 for IP code protection, and extended temperatures of -30°C to

+85°C. Urbana Metering Modem is a Plug&Play solution for integrating any meter into Urbana IoT Platform.

Ultimate technology for network connectivity

The device deploys LoRa® radio technology for last mile communication.

It operates under LoRaWAN® 1.0.3 standard with coverage radius up to 5 Km for indoor scenarios and up to 15 Km for outdoor. LoRa® technology provides the best performances for radio communication in terms of reliability, scalability and obstacles penetration with

low power consumption.

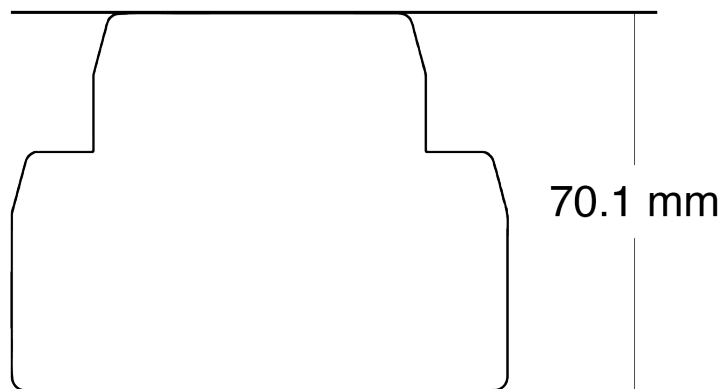
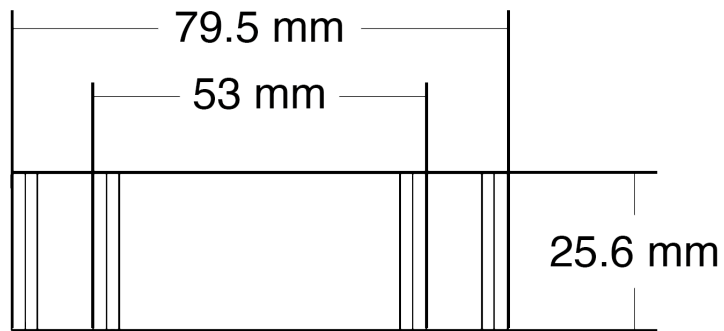
Competitive advantage

With enhanced features for robust and compact wireless capability, Urbana Metering Modem delivers rapid time to market and ease of integration for remote and automation applications at the lowest cost.

Real-time optimization through Urbana IoT Platform

Optimised for industrial usage to suit field applications and extended lifetime requirements with multiple interface options to provide seamless connectivity for different applications.

DEVICE DIMENSION



TECHNICAL SPECIFICATION

MECHANICAL

Housing:	Solid Case
Material:	Plastic
Dimension:	70,1 x 79,5 x 25,6 mm
Mounting:	DIN Rail

ELECTRICAL

Input Voltage:	85 ~ 305 VAC 47 ~ 63 Hz
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ENVIROMENTAL

Operating Temperature:	- 30°C ~ + 85°C
Storage Temperature:	- 40°C ~ + 100°C
Operating Relative Humidity (max):	90% (non condensing)
IP Rating:	IP20
Certification:	CE, RoHS

INPUT / OUTPUT

1 x Modbus RTU over RS-485 (non-insulated)
2 x Pulse Reed contacts

RS485 INTERFACE

Baud Rate:	1200, 2400, 4800, 9600, 19200, 38400, 57600
Parity:	NONE, EVEN, ODD
Stop Bits:	1, 1.5, 2

INTERFACES AND PROTOCOLS

Radio interface:	LoRa®
Protocol:	LoRaWAN®, Modbus RTU

FUNCTION AND MONITORING PARAMETERS

Water Usage

Gas Usage

Energy Parameters (coupled with a Modbus Energy Meter):

The availability of the register depends on the connected external energy meter

Mono-phase Registers

- Voltage
- Current
- Power Factor
- Frequency
- Active Power
- Total Active Energy

Three-phase Registers

- Voltage L1, Voltage L2, Voltage L3
- Voltage L12, Voltage L23, Voltage L31
- Current L1, Current L2, Current L3
- Frequency
- Power Factor L1, Power Factor L2, Power Factor L3
- Total Power Factor
- Active Power L1, Active Power L2, Active Power L3

- Total Active Power
- Reactive Power L1, Reactive Power L2, Reactive Power L3
- Total Reactive Power
- Apparent Power L1, Apparent Power L2, Apparent Power L3
- Total Apparent Power
- Active Energy Imp L1, Active Energy Imp L2, Active Energy Imp L3
- Total Active Energy Imp
- Active Energy Exp L1, Active Energy Exp L2, Active Energy Exp L3
- Total Active Energy Exp
- Reactive Energy Imp L1, Reactive Energy Imp L2, Reactive Energy Imp L3
- Total Reactive Energy Imp
- Reactive Energy Exp L1, Reactive Energy Exp L2, Reactive Energy Exp L3
- Total Reactive Energy Exp

CONFIGURATION

Plug&Play using Urbana IoT Platform

Urbana Device Toolkit:

Pulse Inputs, RS485 and Modbus
Registers are configurable via application

LORA® INTERFACE

Frequency:	LoRaWAN®1.0.3 Regional Parameters
Modulation:	LoRa®
Stack:	LoRaWAN® 1.0.3
Sensitivity:	-135.5 dBm (SF 12; SB 125 kHz, CR 4/6) -133 dBm (SF 12; SB 250 kHz, CR 4/6)
Output Power (Max):	+18.5 dBm
RF Data Rate:	0.24 to 37.5 kbps
RF Range:	Up to 15000 m (line of sight)
Trasmission Current:	128 mA (18.5 dBm)
Receive Current:	21.5 mA (@125 kHz BW)
Stand-by Current:	<1.8 uA

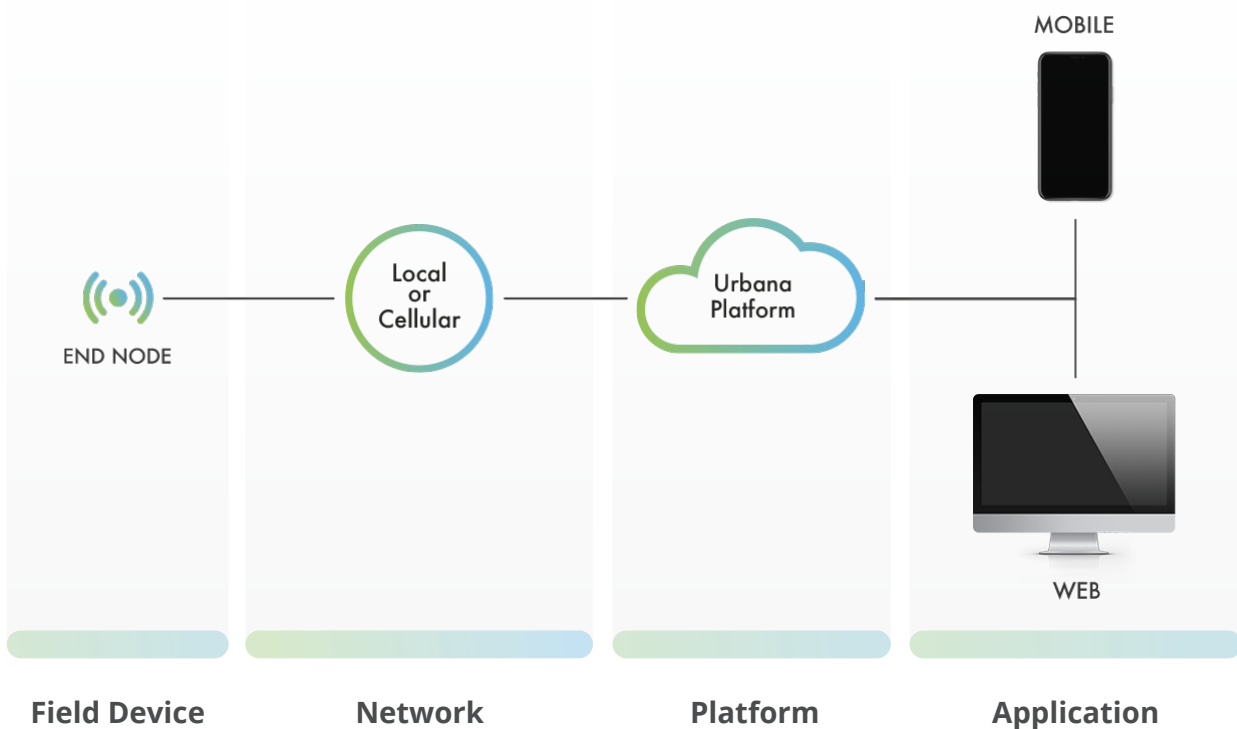
COMPLIANCES

The device is in conformity with the relevation Union harmonization legislation:	Directive EU 2015/53
	Delegated Directive EU 2015/863

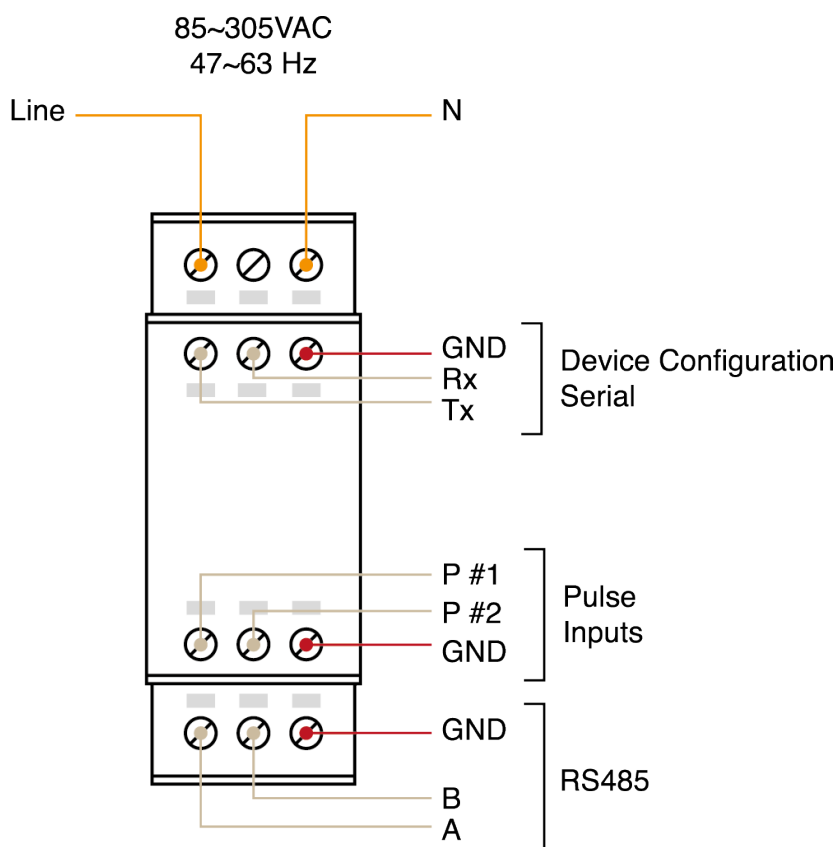
The following harmonized standards and technical specifications have been applied:	EN 55024:2010-11
	EN 55024/A1:2015-06
	EN 60950-1:2006-04
	EN 60950-22:2006-04
	EN 55032:2015-07
	EN 61000-3-3: 2013-08
	ETSI 301 489-1:2017-02

URBANA IoT PLATFORM

Urbana platform is designed to provide end-to-end IoT solutions from hardware to software. The core structure of the platform is based on a scalable distributed and containerised infrastructure maintaining the requirements of clients to scale up whenever needed. The tech stack used in Urbana allows us to have no restriction based on number of devices, features, users and availability. With use of these highly scalable and available databases, Urbana IoT Platform is able to provide advanced reporting and fallback mechanism to provide high level of reliability. One of the most important components of the Urbana IoT Platform is the MQTT broker (server). The MQTT layer is the gate that connects the cloud-based part of the infrastructure to the local field network of devices. It plays a critical role both in terms of security and scalability but also in terms of interoperability. Urbana infrastructure can interface with any device compliant with LoRaWAN® network protocol as standardized by the LoRa Alliance®. Urbana Smart Solutions, being an end-to-end provider, have in-house LoRaWAN® gateways readily for the clients if needed, which are Plug&Play compliant with all the Urbana devices.



CONNECTION SCHEME



Model	External Energy Meter Type	External Energy Meter Communication	Number of pulse inputs	Mounting	Product Code
MTMT	Three-phase	Modbus RTU over RS485	2	DIN Rail	MTMTEU00T
MTMD	Mono-phase	Modbus RTU over RS485	2	DIN Rail	MTMDEU000

Metering Modem
Datasheet

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