

DEM1

Datasheet



yobitq



Product overview

The YOBIQ DEM1 brings single-phase energy measurement to compact DIN-rail installations. Its direct connection supports currents up to 45 A, with demand measurement and two digital outputs. Choose LoRaWAN for wireless reporting or Modbus RTU for a wired integration.

Use the meter to record demand and consumption at individual measurement points, so building and energy teams can compare operating periods and investigate unexpected use.

Why choose DEM1?

Capability	Benefit
Single-phase direct measurement	Meter a circuit without external current transformers.
Demand measurement	Add demand information to the energy-consumption record.
LoRaWAN or Modbus RTU	Choose wireless or wired reporting when ordering.
DIN-rail mounting	Integrate the meter into a distribution board.
Model-specific I/O	Select the connections needed for the installation.

Applications

Application	Example uses
Buildings	Measure selected single-phase circuits in offices and shared spaces.
Equipment monitoring	Compare energy use across equipment operating periods.
Energy projects	Establish a baseline and assess the effect of operational changes.

Digital output functions

The DEM1 has two digital outputs. Regulations required under the MID certification reserve the first output as a fixed S0 pulse output, used for verified consumption reporting to a separate metering or billing system.

The second output is configurable and can switch based on consumption, voltage or current thresholds. This makes it suitable for a range of applications, such as timer-based controls or prepaid/postpaid billing in combination with an external relay.

Digital output use cases

Use case	Description
Prepaid or postpaid billing	Use the configurable output with an external relay to enable or disable supply based on prepaid credit or postpaid billing status.
Timer-based load control	Switch connected equipment on or off according to a configured schedule.
Remote load shedding	Drive a contactor or relay command to remove non-critical loads during demand peaks and avoid penalty costs.
Alarm beacon activation	Trigger visual or audible alarms when thresholds are crossed, making abnormal power behavior immediately visible on-site.
Controlled reconnect workflow	Support supervised remote reconnect procedures after validation checks in rental, tenant or temporary service scenarios.
Run/stop signal to auxiliary device	Send a simple control signal to ventilation, pump or process support equipment based on metering logic.

Communication and configuration

Parameter	Specification
LoRaWAN version	1.0.4
Device class	Class C by default; configurable to Class A
Activation	OTAA
Radio regions	EU868, IN865
Maximum transmit power	14 dBm at 868 MHz, 23 dBm at 865 MHz
LoRa antenna	Built-in; external SMA option
Local wireless interface	BLE with password authentication
Mobile configuration	Kibi Mobile App
Device-to-device communication	YOBIQ D2D
Automation	Onboard schedules, event-driven and threshold logic
Network security	LoRaWAN AES-128 encryption and OTAA activation

Integrate with ChirpStack, The Things Network, LORIoT or a private LoRaWAN network server. Match the radio region, device profile and DEM payload decoder to the installed unit.

Electrical specifications

Parameter	Value
Phases	Single-phase
Current connection	Direct
Maximum direct current	45 A
Demand measurement	Supported
Measurement Accuracy	Class B
Digital outputs	2
Digital inputs	None
Integrated relay	None

Variants

Model	Direct current	Digital outputs	Digital inputs	Relays	Communication
DEM1-45-2O-L	45 A	2	0	0	LoRaWAN
DEM1-45-2O-M	45 A	2	0	0	Modbus RTU

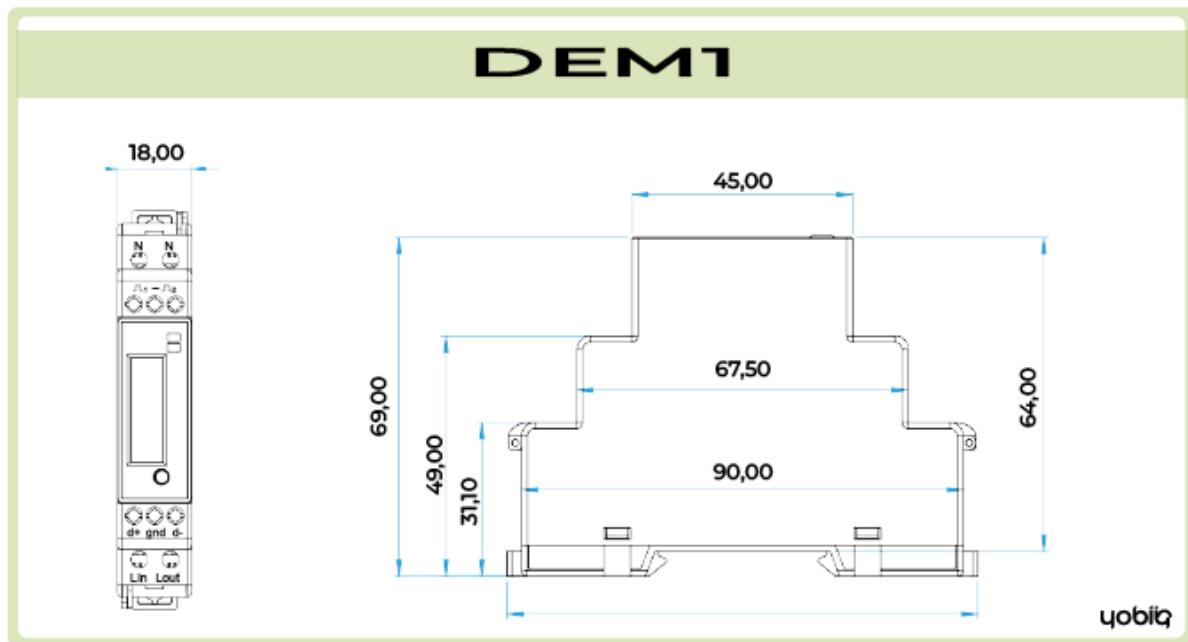
The L and M variants are alternative communication configurations. Order by the complete model code and confirm the radio region for a LoRaWAN unit.

Communication and configuration

Variant suffix	Interface
L	LoRaWAN
M	Modbus RTU

Mechanical and environmental specifications

Parameter	Value
Enclosure dimensions	90 × 18 mm (height × width)
Width	One DIN modules
Mounting	TS35 DIN rail
Enclosure material / colour	ABS UL94-V0 / green
Enclosure protection	IP20
Approximate weight	150 g
Operating temperature	-30°C to +55°C
Storage temperature	-40°C to +85°C
Operating humidity	0-85% RH, non-condensing



Certifications & Compliance

Certification / Compliance	Details
Electromagnetic Compatibility	EMC 2014/30/EU (SS-EN 55032:2015, SS-EN IEC 61000-6-1, -2, -3, -4)
Electrical Safety	LVD 2014/35/EU (IEC 62368-1:2018)
Radio	RED 2014/53/EU (EN 300 220-1, EN 300 220-2, EN 301 489-1, EN 301 489-3)
RoHS	RoHS 2002/95/EG
MID	Module B + D
HS Code	9028 30 00
Country of Origin	Turkey



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