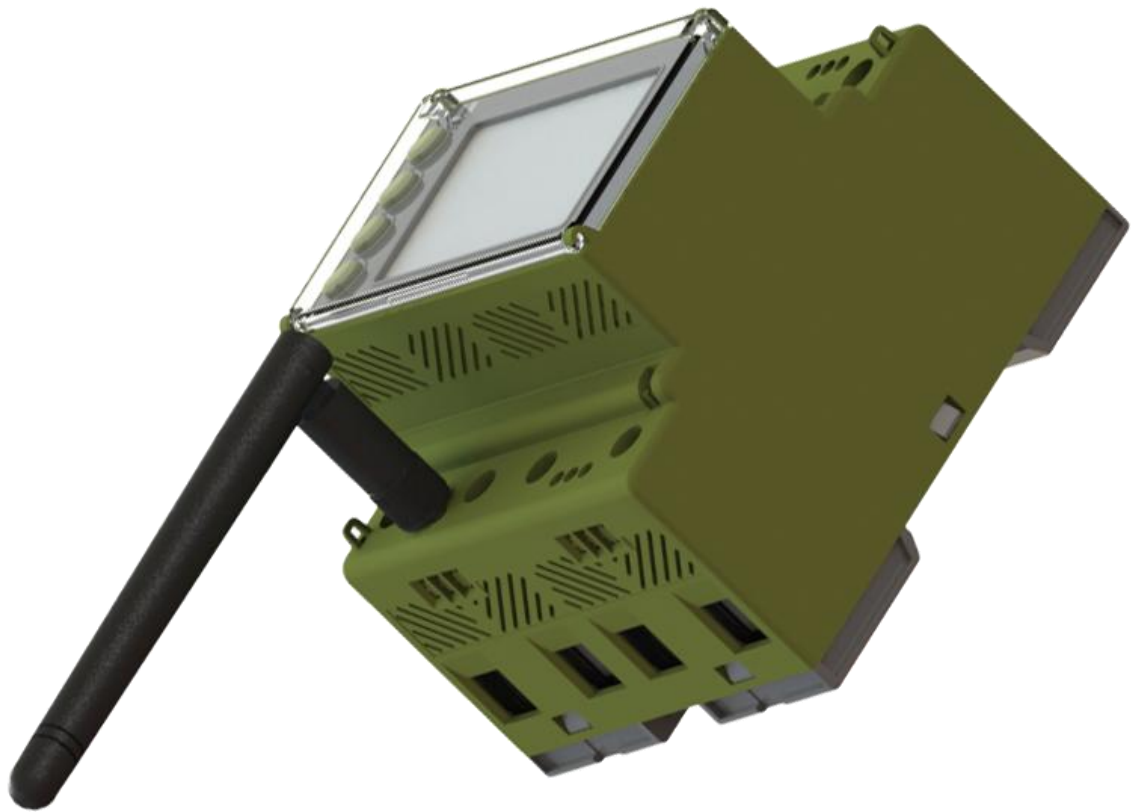


DEM4

Datasheet



yobitq



Product overview

The YOBIIQ DEM4 provides three-phase energy measurement with demand and total harmonic distortion information. Direct and external-current-transformer variants cover different installation requirements, while LoRaWAN and Modbus RTU options connect the measurements to the chosen platform.

Each listed variant includes two digital inputs and two digital outputs. Use the direct model where the installation and current rating permit it, or select the CT version with appropriately specified current transformers for the measurement point.

Why choose DEM4?

Capability	Benefit
Three-phase measurement	Monitor a distribution board or three-phase load.
Direct and CT versions	Match the meter to the wiring and current to be measured.
Demand and THD	Add load and waveform-distortion indicators to the energy record.
Two inputs and two outputs	Include I/O in the metering installation.
LoRaWAN or Modbus RTU	Choose the communication interface at ordering.

Applications

Application	Example uses
Commercial buildings	Measure consumption and demand across distribution boards.
Existing installations	Use a CT configuration where it suits the conductors and current range.
Industrial energy monitoring	Track three-phase energy and THD at selected measurement points.

Digital input and output functions

Each DEM4 variant, direct or CT, has two digital inputs and two digital outputs. Regulations required under the MID certification reserve the first digital 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, making it suitable for a range of applications such as timer-based controls or prepaid/postpaid billing in combination with an external relay. The two digital inputs can register external contacts or events.

Digital input and output use cases

Use case	Description
Tariff contact logging	Capture utility tariff state changes or external pulse contact events to correlate rate periods with measured consumption.
Breaker status feedback	Read auxiliary breaker contacts to confirm trip/open state and improve electrical incident visibility for maintenance teams.
Generator transfer state	Track ATS or generator run-state signals for runtime analysis, emergency readiness and post-event reporting.
Door / panel tamper event	Use a dry contact to register enclosure access and add a security audit trail to remote electrical rooms.
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.
Closed-loop edge automation	Use a digital input as permissive feedback and a digital output as actuation to build a straightforward local control loop with central visibility.

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 RCM payload decoder to the installed unit.

Electrical specifications

Parameter	Direct model	CT model
Phases	Three-phase	Three-phase
Current connection	Direct	External current transformers
Current selection	80/100 A configuration in the supplied matrix; confirm ordered rating	Selected CT ratio and meter input specification
CT secondary current	Not applicable	1 A or 5 A
Demand measurement	Supported	Supported
THD	Supported	Supported
Digital inputs / outputs	2 / 2	2 / 2
Integrated relay	None listed	None listed

Choose CT or direct measurement according to the installation, conductor arrangement and measured current. A CT model's primary current range is determined by the selected transformers; the "100" in its model code is not used here as a CT primary-current limit. Confirm the configured CT secondary current (1 A or 5 A) matches the installed current transformers before commissioning.

Variants

Model	Connection	Communication
DEM4-100-2I2O-L	Direct	LoRaWAN
DEM4-100-2I2O-M	Direct	Modbus RTU
DEM4-CT-100-2I2O-L	External CT	LoRaWAN
DEM4-CT-100-2I2O-M	External CT	Modbus RTU

Mechanical and environmental specifications

Parameter	Value
Enclosure dimensions	90 × 72 mm (height × width)
Width	Four 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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