



3-Phase Smart Meter

ORDERING CODE	Z-WAVE FREQUENCY
ZMNXD1	868,4 MHz
ZMNXD2	921,4 MHz
ZMNXD3	908,4 MHz
ZMNXD4	869,0 MHz
ZMNXD5	916,0 MHz
ZMNXD8	865,2 MHz

Qubino 3-Phase Smart Meter is used for energy measurements in three-phase electrical power network and can be used in residential, industrial and utility applications. The module measures energy directly in 4-wire networks according to the principle of fast sampling of voltage and current signals. It is designed to be mounted on DIN rail.

PACKAGE CONTENTS

3-Phase Smart Meter Module, Installation Manual

INSTALLATION

- To prevent electrical shock and/or equipment damage, disconnect electrical power at the main fuse or circuit breaker (if it is compliant to standard IEC947-2) before installation and maintenance.
- Be aware that even if the circuit breaker is off, some voltage may remain in the wires — before proceeding with the installation, be sure no voltage is present in the wiring.
- Take extra precautions to avoid accidentally turning on the device during installation.
- Connect the module exactly according to the diagram.
- Place the antenna as far as possible from metal elements as they may cause signal interference.
- Do not shorten the antenna.

Danger of electrocution!

Installation of this module requires a great degree of skill and may be performed only by a licensed and qualified electrician. Please keep in mind that even when the module is turned off, voltage may still be present in the module's terminals.

Note!

Do not connect the module to loads exceeding the recommended values. Connect the module exactly as shown in the provided diagrams. Improper wiring may be dangerous and result in equipment damage.

Electrical installation must be protected by over current protection with rated breaking capacity up to 80A and must be used according to wiring diagram to achieve appropriate overload protection of the module.

Z-WAVE INCLUSION

AUTO-INCLUSION

- Enable inclusion mode on your Z-Wave controller
- Connect the module to the power supply
- Auto-inclusion will be initiated within 5 seconds of connection to the power supply and the module will automatically enroll in your network

MANUAL INCLUSION

- Connect the module to the power supply
- Enable inclusion mode on controller and press and hold the S (Service) button for at least 2 seconds
- A new device will appear on your dashboard

Z-WAVE EXCLUSION/RESET

Z-WAVE EXCLUSION

- Connect the module to the power supply
- Enable exclusion mode on your Z-Wave controller and press and hold S (Service) button for at least 2 to 6 seconds.
- The module will be excluded from your network but any custom configuration parameters will not be erased.

FACTORY RESET

- Connect the module to the power supply
- Within the first minute the module is connected to the power supply, press S (Service) button at least 6 to 20 seconds

By resetting the module, all custom parameters previously set on the module will return to their default values, and the owner ID will be deleted. Use this reset procedure only when the main controller is missing or otherwise inoperable.

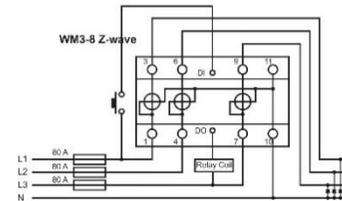
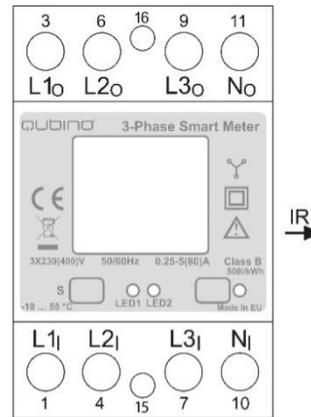
IMPORTANT DISCLAIMER

Z-Wave wireless communication is not always 100% reliable. This module should not be used in situations in which life and/or valuables are solely dependent on its functioning. If the module is not recognized by your controller or shows up incorrectly, you may need to change the device type manually and make sure your gateway controller supports multi-channel devices. Contact us for help before returning the product: <http://qubino.com/support/#email>

WARNING

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being. When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal free of charge.

ELECTRICAL DIAGRAM



Notes for diagram:

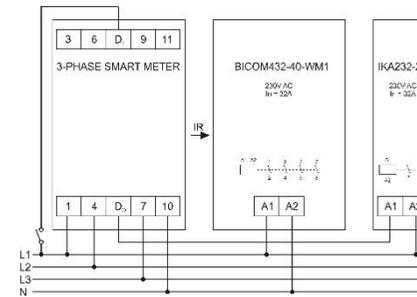
L1, L2, L3	Live input
Ni	Neutral input
L1o, L2o, L3o	Live output
No	Neutral output
16	Input for IR external relay/Ext. relay
15	Output for External relay (max. 3W)
S	Service button (used to add or remove module from the Z-Wave network)
LED1	Green - Power on (solid) / no ID (blinking slow 1s) / Inc./Exc. mode (blinking fast 0,5s)
LED2	Yellow on – output on (any) / Yellow off – outputs off (both) / Blinking IR communication error
IR	Output for IR external relay (BICOM)
500imp/kWh	Red - Pulse rate (On – no load indication)

MEASUREMENTS:

Voltage	V
Current	I
Power - Active	W
Power – Active total Import	kWh
Power – Active total Export	kWh
Energy – Reactive	var
Energy – Reactive total	kvarh
Energy – Apparent total	kVAh

EXTERNAL RELAYS:

It is possible to connect two external relay to Smart Meter module. One controlled by built-in optical (IR) communication port on the side, second controlled by output on terminal 15.



TECHNICAL SPECIFICATIONS

Main terminals (L1, L2, L3, No, L1o, L2o, L3o, No)

Contacts capacity:	2.5 ... 16 (25) mm ²
Connection screws:	M5
Max torque:	3.5 Nm (PZ2)

Optional terminals (DI, DO)

Contact capacity:	1 ... 2.5 mm ²
Screws:	M3
Max torque:	1.2 Nm

Measuring input:

Type (connection):	three phase (4u)
Basic current (Ib):	5 A
Maximum current (Imax):	80 A
Minimum current (Imin):	0.25 A
Starting current:	20 mA
Reference voltage (Un):	3X230V/400V
Power consumption at Un:	< 8 VA
Nominal frequency (fn):	50 and 60 Hz

Accuracy:

Active energy and power:	
Standard EN 62053-21:	class 1
Standard EN 50470-3:	class B
Reactive energy:	
Standard EN 62053-23:	class 2

LED:

Colour:	red
Pulse rate:	500 imp/kWh
Led on:	no load indication

Optical communication:

Type:	IR - used to control BICOM432-40-IR
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Input (16):

Rated voltage:	230 V (± 20%)
Input resistance:	450 kOhm

LCD:

Display	7+1 digit (100Wh resolution)
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Safety:

Indoor Meter:	yes
Degree of pollution:	2
Protection class:	II
AC voltage test:	4 kV
Installation Category:	300 Vrms cat. III
Standard:	EN 50470

Ambient conditions and EMC:

According standards for indoor active energy Meters.

Temperature and climatic condition according to EN 62052-11

Ambient conditions and Safety:

According standards for indoor active energy Meters.

Temperature and climatic condition according to EN 62052-11

Dust/water protection:	IP20
Operating temperature:	-10 ... 55°C
Storage temperature:	-40 ... 70°C
Enclosure material:	self-extinguish complying UL94 V

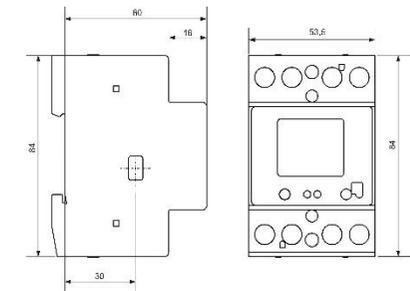
Indoor Meter:	yes
Degree of pollution:	2
AC voltage test:	4 kV
Standard:	EN 50470
Distance:	up to 30 m indoors (depending on building materials)
Weight (with packaging):	220g (240g)
Frequency range:	868.4 MHz*, Z-Wave
Installation	Din rail 35mm (EN 60715)
Dimensions (W x H x D):	53,6 x 84 x 65mm
Package dimensions (W x H x D):	56 x 86 x 70mm
Colour	RAL 7035

* Depends on ordering code

EC Directives conformity:

EC Directive on Meas. Instruments 2004/22/EC
EC Directive on EMC 2004/108/EC
EC Directive on Low Voltage 2006/95/EC
EC Directive WEEE 2002/96/

Dimensional drawings:



This user manual is subject to change and improvement without prior notice. **Download the extended manual: scan the QR code below or visit: <http://qubino.com/products/>**



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