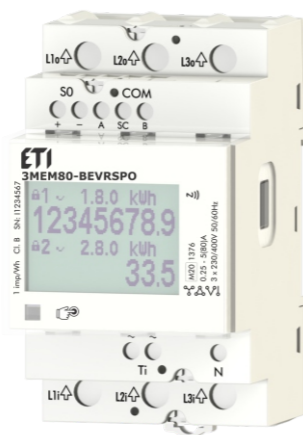


THREE-PHASE ENERGY METER 3MEM80-BEVRSP0



CONTENTS OF CONSIGNMENT:

- Three-phase energy meter 3MEM80-BEVRSP0
- Quick guide.

SECURITY ADVICE AND WARNINGS

This booklet contains instructions for installation and use of three-phase energy meter **3MEM80-BEVRSP0**. Installation and use of a device also includes handling with dangerous currents and voltages therefore should be installed, operated, serviced and maintained by qualified personnel only. ETI Company assumes no responsibility in connection with installation and use of the product. If there is any doubt regarding installation and use of the system in which the device is used for measuring or supervision, please contact a person who is responsible for installation of such system.

BEFORE INSTALLING CHECK THE FOLLOWING:

- Nominal voltage.
- Terminals integrity.
- Protection fuse for voltage inputs (recommended maximal external fuse size is 80 A).
- External switch or circuit breaker must be included in the installation for disconnection of the devices' power supply. It must be suitably located and properly marked for reliable disconnection of the device when needed.
- Proper connection and voltage level of I/O module.



Double insulation compliance with the EN 61010-1 standard.



WARNING: Indicates cases where careful reading of the user manual is required and steps required to prevent possible damage.



Compliance of the product with directive 2002/96/EC, as first priority, the prevention of waste electrical and electronic equipment (WEEE), and in addition, the reuse, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste. It also seeks to improve the environmental performance of all operators involved in the life cycle of electrical and electronic equipment.



Compliance of the product with European CE directives.



Compliance of the product with UK Conformity Assessed (UKCA) directives.

APPEARANCE

1. Current terminals – to load
2. AUX terminals (options):
- RS485
- PULSE OUTPUT (SO₁)
3. NFC
4. Information display
5. DIN-Rail fitting
6. IR communication port – ON SIDE
7. LED indicator
8. Cap touch
9. Tariff clock input
10. Neutral input
11. Current terminal – source (max 80 A)



SERVICE AND MAINTENANCE

If meter is used under specified conditions, it should not be necessary to recalibrate it during its lifetime. If degradation in the performance is observed it has probably been partly damaged and should be sent for repair or exchanged.

WARNING: Case is sealed. Do not open the meter. No warranty if case is opened.

MOUNTING

Three - phase electrical energy meter **3MEM80-BEVRSP0** is intended for DIN-rail mounting. In case of using the stranded wire, the ferrule must be attached before the mounting.

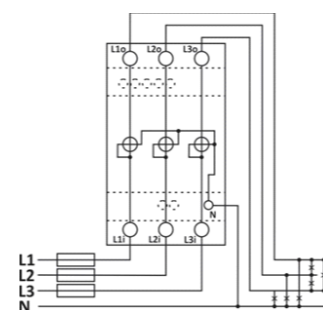
ELECTRICAL CONNECTION

Meter is used for direct connection into the three-phase four-wire or three-wire networks. It can be used also in single-phase network, connected in the phase L3. Three-wire 2 system connection network measures only phase to phase values (phase values are not available). After electrical installation for MID approved meters the installation should be also set and confirmed in software. Until installation confirmation warning Installation not set is displayed on LCD. Meter can be equipped with different modules. Pictures below are showing equipped combinations. Rail mounting according DIN EN6071.

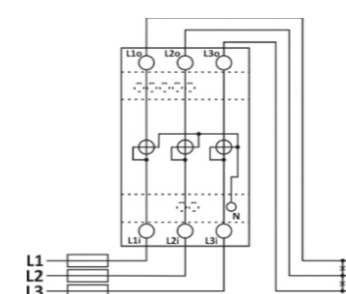
WARNING: Wrong or incomplete connection of voltage or other terminals can cause non-operation or damage to the device. Installation must be carried out and inspected by a specialist or under his supervision. When working on the meter; switch off the mains voltage! It is recommended to use 3x80 A fuse for the line protection.

PLEASE NOTE: Setting of installation can be done once, so take care to confirm the connection which fits the required connection and required use.

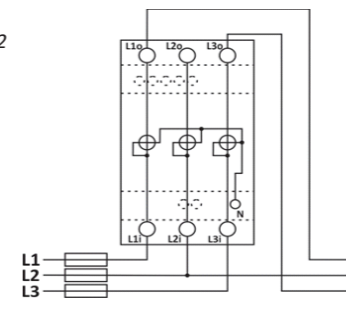
Three-phase 4-wire connection diagram (3W4)



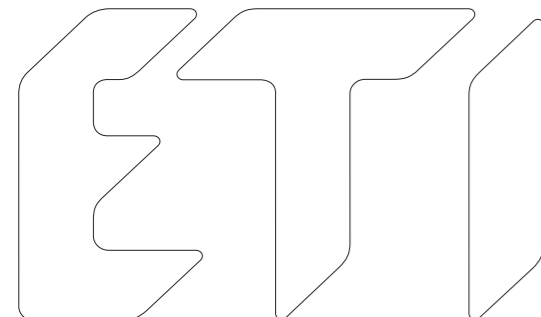
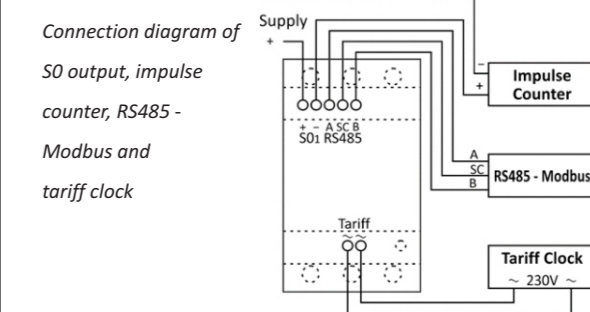
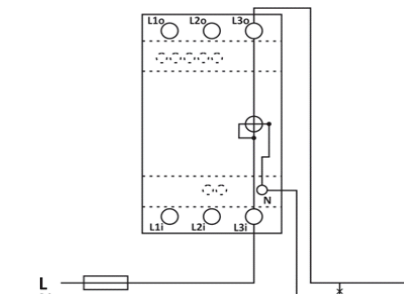
Three-phase 3-wire 3 system connection diagram (3W3)



Three-phase 3-wire 2 system connection diagram (2W3)



Single-phase connection diagram 1W



PERMITTED CONDUCTOR CROSS-SECTIONS

Terminals	Maximum cross-section of the guide	
Main inputs	Contacts capacity	1 2.5 mm ² - 25(16) mm ²
	Connection screws	M5
	Maximum torque	3.5 Nm (PZ2)
	Length of removed insulation	10 mm
Communication terminals	Contacts capacity	0,5mm ² - 1,5 mm ²
	Connection screws	M3
	Maximum torque	0,6Nm(PZ2)
	Length of removed insulation	8 mm

TECHNICAL DATA

Type (connection): three phase (4u)
Reference current (I_{ref}): 5 A
Maximum current (I_{max}): 80 A
Minimum current (I_{min}): 0.25 A
Transitional current (I_t): 0.5 A
Starting current: 20 mA
Power consumption at I_{ref}: < 0.05 VA
Nominal voltage (U_n): 3x230 V/400 V (-20%...+15%)
Power consumption per phase at U_n: < 8 VA, 0.6W
Nominal frequency (f_n): 50 Hz and 60 Hz
Minimum measuring time: 10 s

MECHANICAL CHARACTERISTICS

Weight (with packaging): 225g(258,5g)
Installation: DIN rail 35mm
Dimensions (W x H x D): (52,5 x 91,7 x 68.2)mm
Package dimensions (W x H x D): (74 x 106 x 80)mm
Colour: RAL 7035

ACCURACY

Active energy: class 1 EN 62053-21
class B EN 50470-3
±1.5 % from I_{min} to I_{tr}
±1 % from I_{tr} to I_{max}
Voltage: ±1 % of measured value
Current: ±1% of I_{ref} from I_{st} to I_{ref}
±1 % of measured value from I_{ref} to I_{max}
Active Power: ±1% of nominal power(Un*I_{ref})
from I_{st} to I_{ref}
±1% of measured value from I_{ref} to I_{max}
Reactive, Apparent power: ±2% of nominal power from I_{st} to I_{ref}
±2% of measured value from I_{ref} to I_{max}
Frequency: ±0.5% of measured value

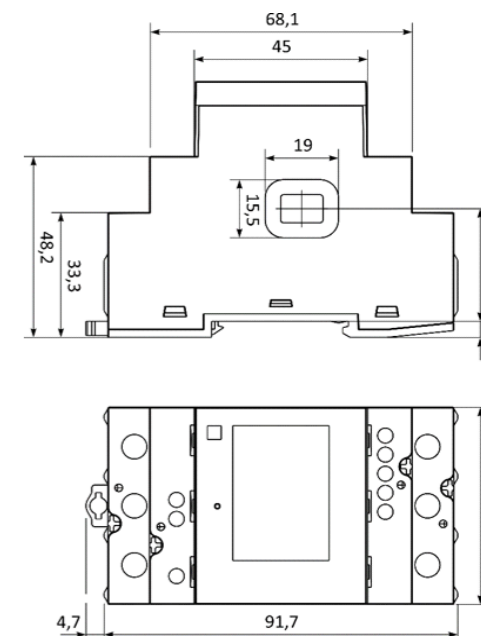
SAFETY AND AMBIENT CONDITIONS

According standards for indoor active energy meters.
Temperature and climatic condition according to EN 62052-11.
Dust/water protection: IP50
Operating temp. range: -25 °C... +70°C
Storage temp. range: -40 °C... +85°C
Enclosure material: self extinguish, complying UL94-V
Indoor meter: yes
Degree of pollution: 2
Protection class: II
Standard: IEC 62052-31
Mechanical environment: M1
Electromagnetic environment: E2
Humidity: non condensing

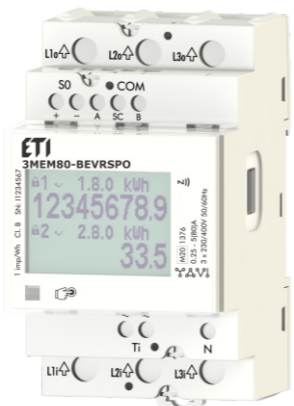
EU DIRECTIVES CONFORMITY

EU Directive on Measuring Instruments **2014/32/EU**
EU Directive on EMC **2014/30/EU**
EU Directive on Low Voltage **2014/35/EU**
EC Directive WEEE **2002/96/EC**

DIMENSIONAL DRAWING



TRI FAZNI MERILNIKI ENERGIJE 3MEM80-BEVRSP0



VSEBINA POŠILJKE:

- Trifazni merilnik energije 3MEM80-BEVRSP0
- Kratka navodila.

VARNOSTNI NASVETI IN OPOZORILA

Ta kratka navodila za namestitvev in uporabo trifaznih merilnikov energije **3MEM80-BEVRSP0**. Namestitvev in uporaba merilnika zajema tudi delo z nevarnimi tokovi in napetostmi, zato morajo tako delo opravljati le za to usposobljene osebe. Podjetje ETI ne prevzema nobene odgovornosti v zvezi z namestitvijo in uporabo izdelka. Če se pojavijo kakršnikoli dvomi v zvezi z namestitvijo in uporabo sistema v katerem se bo inštrument uporabljal za merjenje ali nadzor, se prosimo obrnite na osebo odgovorno za postavitev takega sistema.

PRED VKLOPOM NAPRAVE PREVERITE

- Nazivno napetost.
- Kontakti morajo biti nepoškodovani.
- Varovalko za vhodne napetosti (priporočena največja zunanja velikost varovalke je 80 A).
- Zunanje inštalacijsko stikalo ali odklopnik mora biti vključen v inštalacijo merilnika tako, da se lahko odklopi merilnik iz napajanja. Stikalo ali odklopnik mora biti na primernem mestu in pravilno označen.
- Pravilnost vezave in napetostnih nivojev na pomožnih sponkah.



Dvojna izolacijska skladnost s standardom EN 61010-1 standard.



OPOZORILO: Označuje primere, ko je potrebno skrbno branje uporabniškega priročnika in po zahtevanih korakih, da se prepreči morebitna poškodba.



Skladnost proizvoda z Direktivo 2002/96/ES za odlaganje in preprečevanje odpadkov električne in elektronske opreme (OEE0) med ostale komunalne odpadke. Recikliranje v druge oblike predelave takih odpadkov, da se zmanjša odstranjevanje odpadkov. Standard si prizadeva izboljšati okoljsko učinkovitost vseh izvajalcev, vključenih v življenjski cikel električne in elektronske opreme.



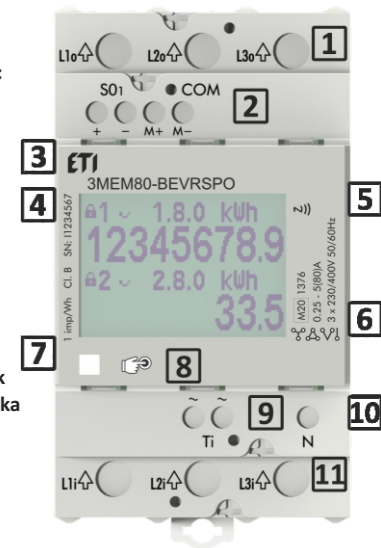
Skladnost proizvoda z evropskimi direktivami CE.



Skladnost izdelka z direktivami Združenega kraljestva o skladnosti (UKCA).

OPIS MERILNIKA

1. Tokovni priključki (porabnik)
2. Pomožni terminali: - RS485 - PULZNI IZHOD (S01)
3. NFC
4. LCD prikazovalnik
5. Montaža na DIN letev
6. IR Komunikacija
7. LED indikator
8. Tipka na dotik
9. Tarifni vhod
10. Nevtralni vhod
11. Tokovni priključek ničelnega vodnika - max 80 A



SERVIS IN VZDRŽEVANJE

V roku življenjske dobe ni predvidena recalibracija, če je merilnik obratoval pod navedenimi pogoji. Če opazite nepravilnosti, je zelo verjetno prišlo do poškodbe merilnika. V tem primeru pošljite merilnik na popravilo ali zamenjavo.

POZOR: Merilnik ima zaprto ohišje, zapečaten z garancijsko nalepko. V primeru poškodbe garancijske nalepke se garancija ne prizna.

MONTAŽA

Merilniki energije **3MEM80-BEVRSP0** so namenjeni merjenju energije v trifaznih in enofaznih polnilnih omrežjih.

Za podrobnejše informacije glejte navodila za uporabo **3MEM80-VRPSO**.

ELEKTRIČNA PRIKLJUČITEV

Merilniki energije **3MEM80-BEVRSP0** so namenjeni za neposredno povezavo v trifaznem štirižičnem ali trižičnem omrežju. Uporablja se lahko tudi v enofazni mreži. Trižično omrežje 2 sistemske povezave meri le medfazne vrednosti (fazne vrednosti niso na voljo). Po priključitvi merilnika v omrežje je potrebno ustrezno priključitev tudi potrditi v merilniku. Dokler potrditev o priključitvi ni potrjena, se na prikazovalniku izpisuje opozorilo. Merilnik je lahko opremljen z različnimi moduli.

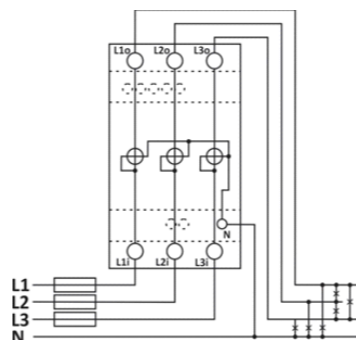
Spodaj so prikazane opremljene kombinacije. Montaža na DIN letev po DIN EN 60715.

POZOR: Napačna ali nepopolna priključitev električnih napetosti ali drugih priključkov lahko povzroči neučinkovitost ali poškodbo naprave.

OPOZORILO: Nastavitve merilnika je možno opraviti samo enkrat, zato je potrebna pozornost na potrditev povezave, ki ustreza zahtevi povezave in uporabe.

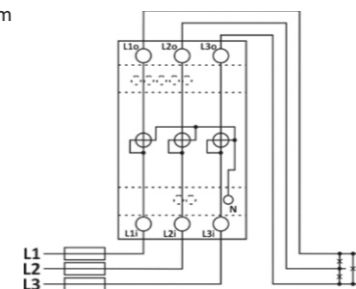
Trifazni 4-žični diagram

povezave (3W4)



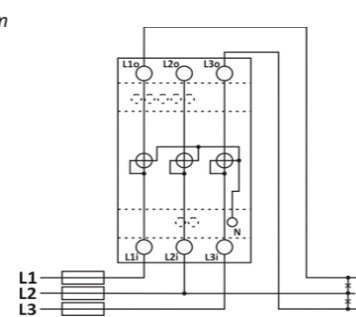
Trifazni 3- žični diagram

povezave (3W3)



Trifazni 2-žični diagram

povezave (2W3)



Enofazna priključitev 1W

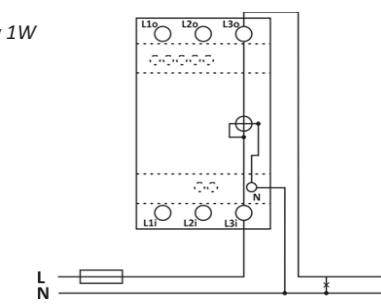
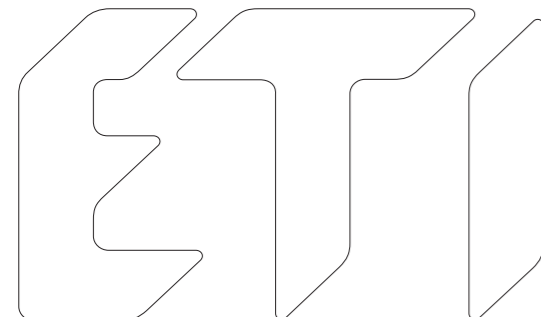
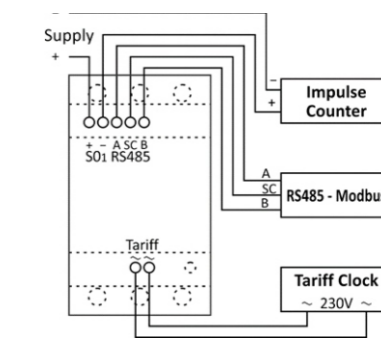


Diagram povezave izhoda S0, impulzni števec, RS485 - in tarifni vhod



DOVOLJENI PREČNI PREREZI VODNIKA

Priključki	Največji prečni prerezi vodnika	
Glavni vhodi	Zmogljivost priključkov	1.25 mm ² - 25(16) mm ²
	Priključitveni vijaki	M5
	Največji navor	3.5 Nm (PZ2)
	Dolžina odstranjene izolacije	10 mm
Komunikacijski priključki	Zmogljivost priključkov	0,5mm ² - 1.5 mm ²
	Priključitveni vijaki	M3
	Največji navor	0,6Nm(PZ2)
	Dolžina odstranjene izolacije	8 mm

TEHNIČNI PODATKI

Tip priključitve: trifazni (4u)
Referenčni tok (I_{ref}): 5 A
Največji tok (I_{max}): 80 A
Najmanjši tok (I_{min}): 0.25 A
Prehodni tok (I_p): 0.5 A
Zagonski tok (I_{st}): 20 mA
Lastna poraba energije pri I_{ref}: < 0.05 VA
Nazivna napetost (U_n): 3x230 V/400 V (-20 %...+15 %)
Lastna poraba energije na U_n: < 8 VA, 0.6W (na fazo)
Nazivna frekvenca (f_n): 50 Hz and 60 Hz
Minimalni čas meritve: 10 s

MEHANSKE ZNAČILNOSTI

Teža (s pakiranjem): 225g(258,5g)
Namestitvev: DIN letev 35mm
Dimenzije (W x H x D): (52,5 x 91,7 x 68.2)mm
Dimenzije paketa(W x H x D): (74 x 106 x 80)mm
Barva: RAL 7035

MERILNA TOČNOST

Delovna energija: razred 1 EN 62053-21
razred B EN 50470-3
±1.5 % od I_{min} do I_{tr}
±1 % od I_{tr} do I_{max}
Napetost: ±1 % od merjene vrednosti
Tok: ±1% od merjene vrednosti
±1% od merjene vrednosti od I_{ref} do I_{max}
Delovna moč: ±1% od nazivne moči (U_n*I_{ref}) I_{st} do I_{ref}
±1% od nazivne moči I_{ref} do I_{max}
Jalova, navidezna moč: ±2% od nazivne moči I_{st} do I_{ref}
±2% od merjene vrednosti I_{ref} do I_{max}
Frekvenca: ±0.5% od merjene vrednosti

OKOLJSKI POGOJI IN VARNOST

Glede na standarde za merilnike delovne energije (notranja uporaba).
Temperaturni in okoljski vplivi glede na standard EN 62052-11.
Zaščita proti prahu/vodi: IP50
Temperatura delovanja: -25 °C... +70°C
Temperatura skladiščenja: -40 °C... +85°C
Material: samougasljiv v skladu z UL94-V
Notranji merilnik: da
Stopnja onesnaženosti okolja (degree of pollution): 2
Zaščitni razred: II
Standard: IEC 62052-31
Mehansko okolje: M1
Elektromagnetno okolje: E2
Vlažnost: ne kondenzira

SKLADNOST Z EU DIREKTIVAMI

EU MID direktiva 2014/32/EU
EU EMC direktiva 2014/30/EU
EU LVD direktiva 2014/35/EU
EC WEEE direktiva 2002/96/EC

DIMENZIJSKA RISBA

