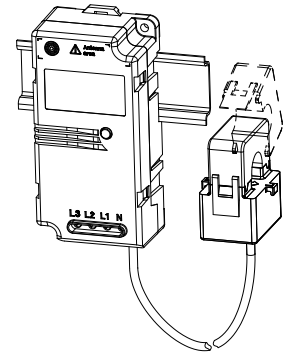


EMN 20 .. 100 - W2 (Single Phase)

The EMN series (Energy Meter Node) is an AC electricity sub-meter with wireless mesh network communication output. This module is compatible with the Mesh Gate L or XL.



Electrical data

I _{PN}	Primary nominal current rms (A)	Types	
		EMN 20 W2	EMN 100 W2
	20		
	100		
I _{PM}	Primary current, measuring range (of I _{PN})	120	%
V _{PM}	Primary voltage, measuring range (neutral/phase) ¹⁾	90 .. 300	V _{rms}
	Permanent overload voltage (neutral/phase)	300	V _{rms}
f	Frequency	50/60	Hz
S	Output signal: radio frequency communication ²⁾	see Mesh Gate datasheet	
	Power supply	Line powered between N-L1 inputs	
V _{PN}	Primary nominal, voltage (neutral/phase)	100 .. 272 ²⁾	V _{rms}
P _C	Maximum power consumption	2	W

Measurement Values

	Configurable reading interval: 5 .. 30 min			Cummulated values
	Internal base values			
	Av	Min	Max	
Current (A)				
Voltage (V)				
Active Energy (KWh)				
Reactive Energy (kVarh)				
Apparent Energy (kVA)				

f Frequency measured in phase 1 (L1)

Accuracy

X	Accuracy: @ T _A = 25°C	Max	
	Rms current @ I _{PN}	1.5	%
	Rms voltage @ V _P	1.5	%
	Active Energy (refer to IEC 62053-21 class 1) ³⁾	± 1	%
	Reactive Energy (refer to IEC 62053-23 class 3)	± 3	%

General data

T _A	Ambient operating temperature (90 % RH max)	- 10 .. + 55	°C
T _S	Ambient storage temperature	- 25 .. + 85	°C
m	Mass	400	g
IPxx	Protection index	P 2X	
	Standards	EN 50178: 1997	
		IEC 61010-1: 2001	
	Range to Mesh Gate or Mesh Node (indoor, line of sight)	30	m

Notes: ¹⁾ See connection diagram

²⁾ RF Certification: CE, FCC, IC, Japan (pending)

³⁾ Class 1 guaranteed for Power Factor ≥ 0.65.

Features

- Wide range of electrical parameters measurement
- Wireless communication on license free 2.4 GHz-transmit RF power maximum
EIRP: 10 dBm(10mW)
- Class 1 accuracy active energy.

Advantages

- Fast & easy mounting:
 - Wireless communication
 - Split core CT
 - Self powered from voltage line
- Compact
- Gateway interface: RS 232/485
Modbus RTU
- Ideal for retrofit applications.

Applications

- Energy sub-metering
- Network condition monitoring
- Energy audit & diagnostic
- Building energy management.

Application domain

- Energy solutions.

EMN 20 .. 100 - W2 (Single Phase)

Isolation characteristics



Isolation class II
IEC 61010-1 CAT III 300 V rms
Pollution degree: PD2

Safety

CB test Certificate N° FR 583050 IEC System for mutual recognition of test certificates for electrical equipment (IECEE) CB Scheme.



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

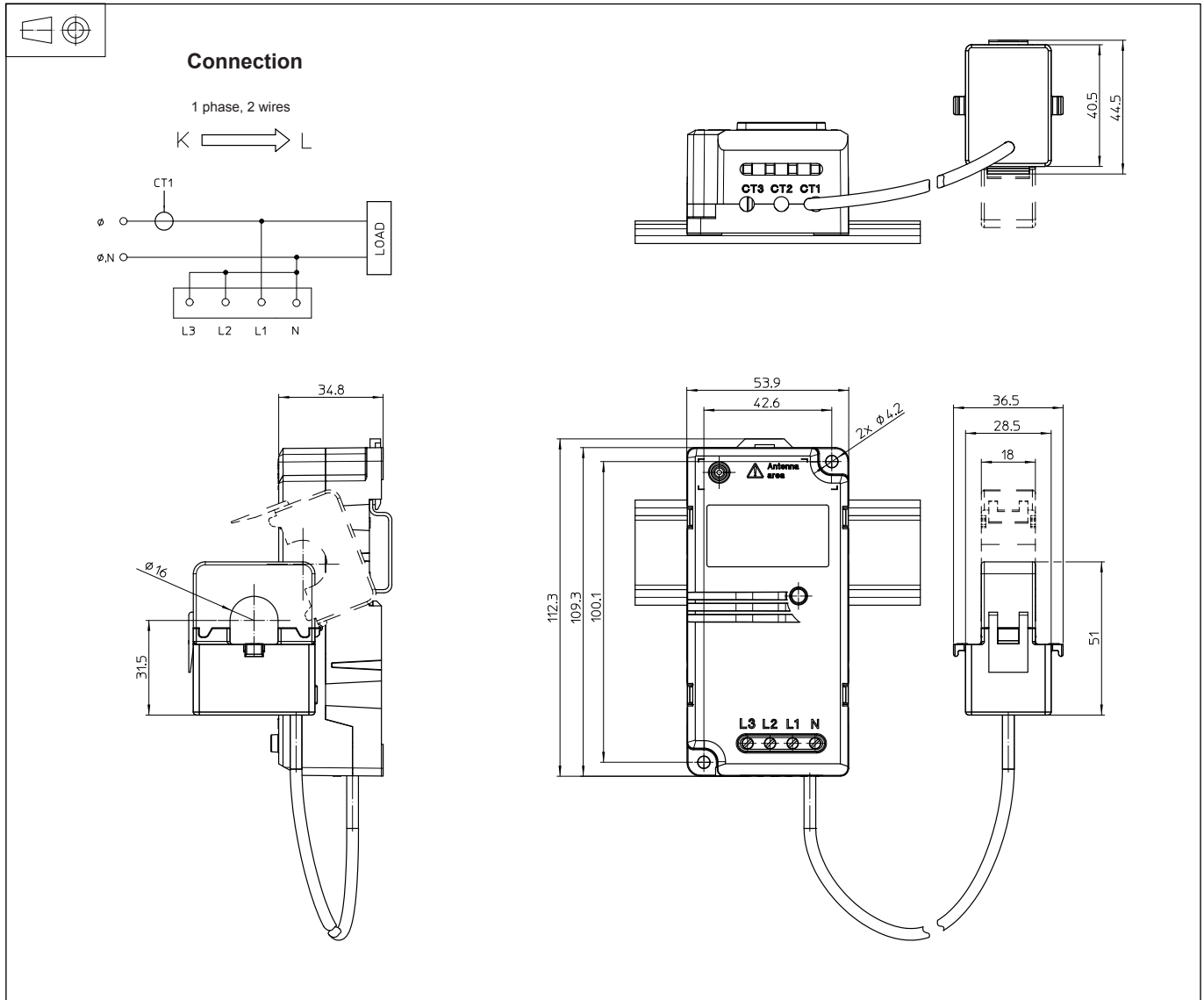


Caution, risk of electrical shock: do not remove any parts of the EMN - W2



For current transformer (CT) mounting:
make sure that the power cable on which the CT will be attached is powered off.

Dimensions EMN 20 .. 100 - W2 (Single Phase) (in mm)



Mechanical characteristics

- General tolerance ± 1 mm
- Primary through-hole of current transducer hole $\varnothing 16$
- Current transformer output cable length: 1 m
- Module fixing DIN rail rear box or
- Module fastening 2 slots $\varnothing 4.2$ mm
2 M4 steel nuts
- Recommended fastening torque 2.8 Nm
- Voltage terminal block 4 M3
- Recommended fastening torque 0.5 Nm
- Input voltage terminal use cable max cross section 2.5 mm²

Remarks

- Temperature of the primary conductor should not exceed 65°C.
- EMN module must be installed vertically as shown on the diagram above.