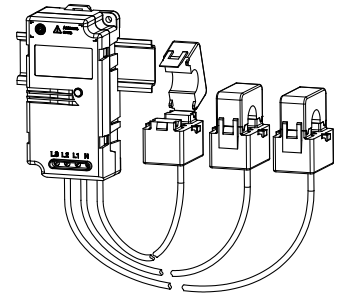


## EMN 20 .. 100 - W0 (3 x Single Phase)

The EMN (Energy Meter Node) series is an AC energy submeter with a wireless mesh network communications output. The W0 is designed for single phase networks (up to three circuits) with a line-to-neutral voltage up to 300V rms. This module is compatible with the MeshGate L or XL.



### Electrical data

I <sub>PN</sub>	Primary nominal current rms (A)	Types	
		EMN 20 W0	EMN 100 W0
	20		
	100		
I <sub>PM</sub>	Primary current, measuring range (of I <sub>PN</sub> )	120	%
V <sub>PM</sub>	Primary voltage, measuring range (neutral/phase) <sup>1)</sup>	90 .. 300 <sup>2)</sup>	V <sub>rms</sub>
	Permanent overload voltage (neutral/phase)	300	V <sub>rms</sub>
f	Frequency	50/60	Hz
S	Output signal: radio frequency communication <sup>3)</sup>	see Mesh Gate datasheet	
	Power supply	Line powered between N-L1 inputs	
V <sub>PN</sub>	Primary nominal, voltage (neutral/phase)	100 .. 272 <sup>2)</sup>	V <sub>rms</sub>
P <sub>C</sub>	Maximum power consumption	2	W

### Measurement Values

	Configurable reading interval: 5 .. 30 min									Cummulated values				
	Internal base values									SUM	L1	L2	L3	SUM
	L1			L2			L3							
	Av	Min	Max	Av	Min	Max	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 <sub>A</sub> = 25°C	Max	
	Rms current @ I <sub>PN</sub>	1.5	%
	Rms voltage @ V <sub>P</sub>	1.5	%
	Active Energy (refer to IEC 62053-21 class 1) <sup>4)</sup>	± 1	%
	Reactive Energy (refer to IEC 62053-23 class 3)	± 3	%

### General data

T <sub>A</sub>	Ambient operating temperature (90 % rH)	- 10 .. + 55	°C
T <sub>S</sub>	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: <sup>1)</sup> See connection diagram

<sup>2)</sup> Series available Q2 2009

<sup>3)</sup> RF Certification: CE, FCC, IC, Japan (pending)

<sup>4)</sup> 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 & Automation.

## EMN 20 .. 100 - W0 (3 x 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.

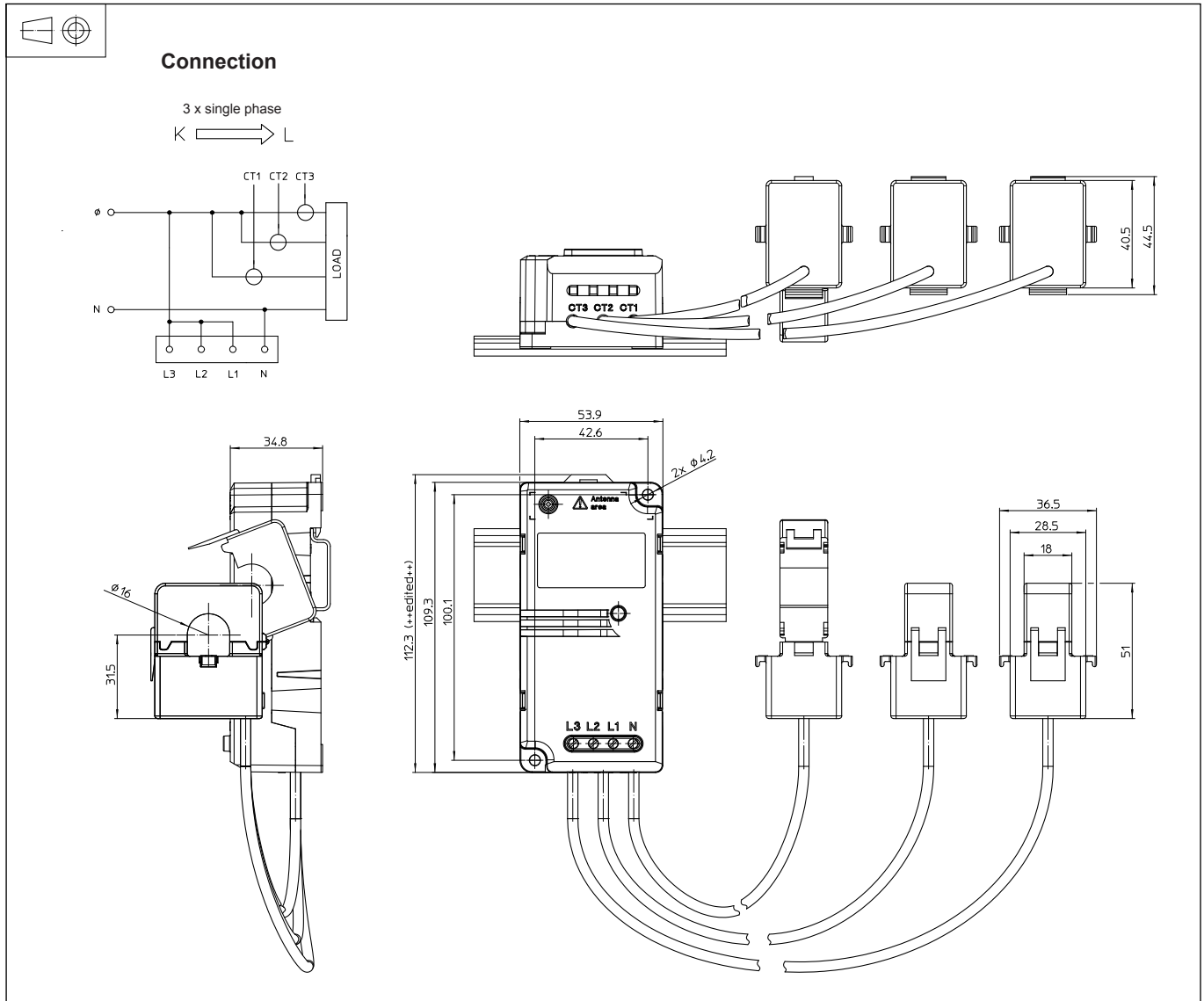


Caution, risk of electrical shock: do not remove any parts of the EMN - W0



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 - W0 (3 x Single Phase) (in mm. 1mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 1$  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 or 2.07 Lb.Ft.
- Voltage terminal block 4 M3
- Recommended fastening torque 0.5 Nm or 0.37 Lb.-Ft.
- Input voltage terminal use cable max cross section 2.5 mm<sup>2</sup>

### Remarks

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