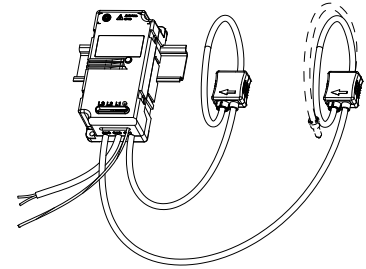


EMN 200 .. 2000-D3/SP2 (3 phase Delta)

The EMN (Energy Meter Node) series is an AC energy submeter with a wireless mesh network communications output. The D3/SP2 is designed for three phase networks without the neutral and with an inter-phase voltage up to 500V rms. This module is compatible with the MeshGate L or XL.



Electrical data

Symbol	Description	Types	Units
I_{PN}	Primary nominal current rms (A)		
	200 (on request)	EMN 200 D3/SP2	
	500	EMN 500 D3/SP2	
	1000 (on request)	EMN 1000 D3/SP2	
	2000	EMN 2000 D3/SP2	
I_{PM}	Primary current, measuring range (of I_{PN})	120	%
V_{PM}	Primary voltage, measuring range (phase/phase) rms ¹⁾	90 .. 520	V
f	Frequency	50/60	Hz
S	Output signal: radio frequency communication ²⁾ see Mesh Gate datasheet		
V_C	External DC supply voltage ($\pm 10\%$) ³⁾	+ 24	V
I_C	Current consumption @ + 24 V	< 50	mA

Measurement values

	Configurable reading interval: 5 .. 30 min Interval base values						Counter values			
	L1			L3			SUM	L1	L3	SUM
	Av	Min	Max	Av	Min	Max				
Current (A)										
Voltage (V)										
Active Energy (KWh)										
Reactive Energy (kVarh)										
Apparent Energy (kVA)										

f Frequency measured from phase 1 (L1)

Accuracy

X	Accuracy @ $T_A = 25^\circ\text{C}$	Max	
	Rms current @ I_{PN}	1.5	%
	Rms voltage @ V_P	1.5	%
	Active Energy (refer to IEC 62053-21 class 1)	± 1	%
	Reactive energy (refer to IEC 62053-23 class 3)	± 3	%

T_A	Ambient operating temperature (90 % RH max)	- 10 .. + 55	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 70	$^\circ\text{C}$
m	Mass	400	g
IP_{xx}	Protection index	IP 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⁾ Power supply must comply with limited-energy circuit criteria.

Features

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

Advantages

- Fast & easy mounting:
 - Wireless communication
 - High accuracy split core Rogowski coil
- 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 200 .. 2000-D3/SP2 (3 phase Delta)

Isolation characteristics

Isolation class I
IEC 61010-1 cat III 300 Vrms



This device must be connected to earth (ground),
use the green/yellow wire.

Safety

CB test Certificate N° FR 588764 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.

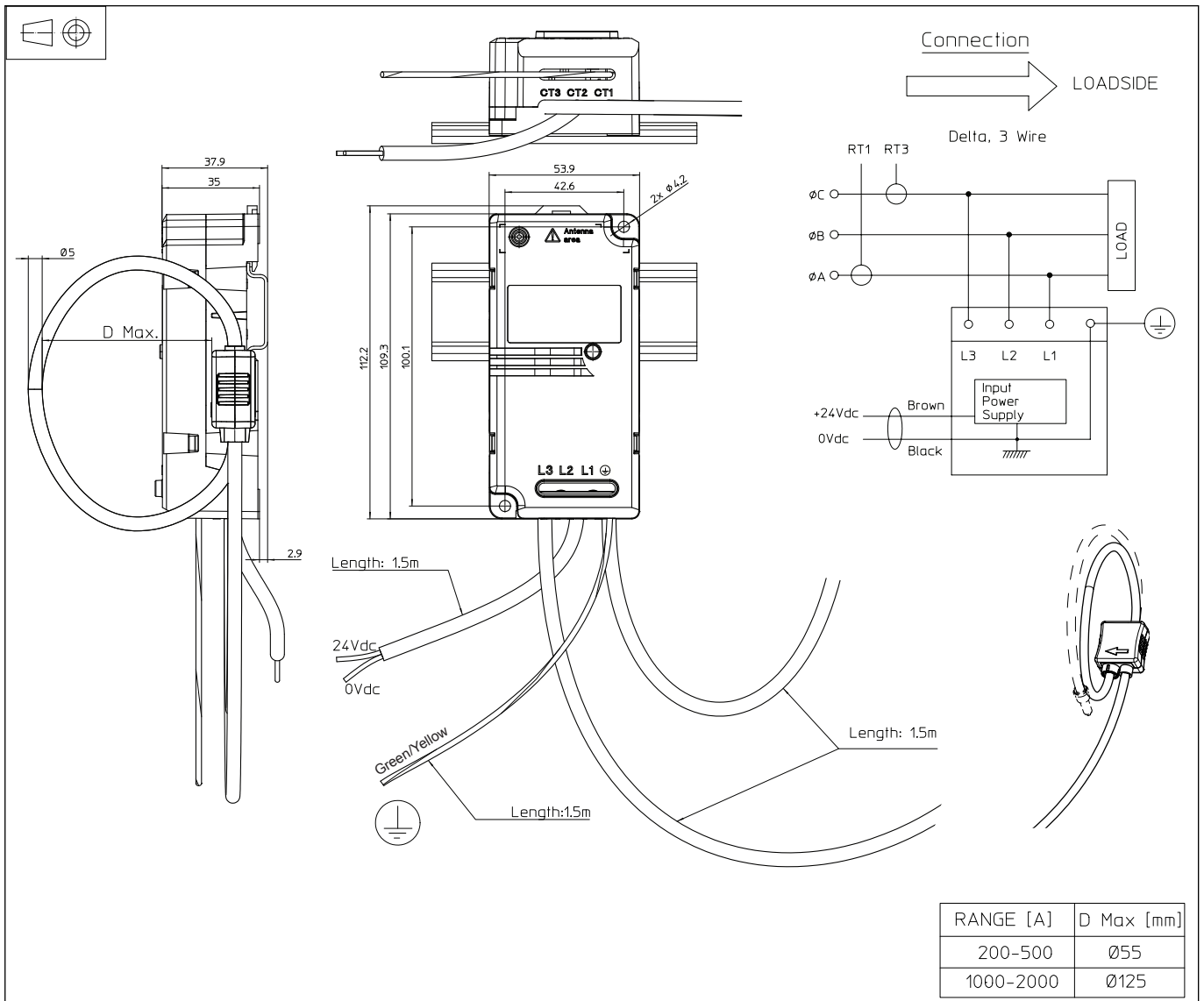


Caution, risk of electrical shock: Do not remove any parts of the EMN - D3



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

Dimensions EMN 200 .. 2000-D3/SP2 (3 phase Delta) (in mm)



Mechanical characteristics

- General tolerance ± 1 mm
- Primary through-hole of Rogowski coil. see drawing above
- All cables length: 1.5 m
- Module fixing DIN rail rear box or
- Module fastening 2 notches $\text{Ø } 4.2$ mm
2 M4 steel nuts
Recommended fastening torque 2.8 Nm Voltage connections 3 M3
Recommended fastening torque 0.5 Nm
- Input voltage terminal use cable max cross section 2.5 mm^2

Remarks

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