

MULTIMETER

THREE-PHASE ELECTRIC PANEL MULTIMETER

Standards

EN 62052-11, EN61557-12, EN 62053-21, EN 62053-22, EN 62053-23, EN 50470-1, EN 50470-3, EN 61010-1, EN 61010-2, EN61010-031



THREE-PHASE PANEL MULTIMETER

Description

Three-phase multifunction meter is an HVEX solution for transducing voltage, current, active power, reactive power, and energy balance signals for various automation, measurement, and control system processes. The product is characterized by its ability to operate reliably and accurately in industrial environments and to operate with relay output logic.

It features four voltage inputs, three current inputs for traditional CT or Rogowski-type CT, two relay outputs, and optional communication: RS485 with Modbus RTU or Ethernet RJ45, depending on configuration.

Key features:

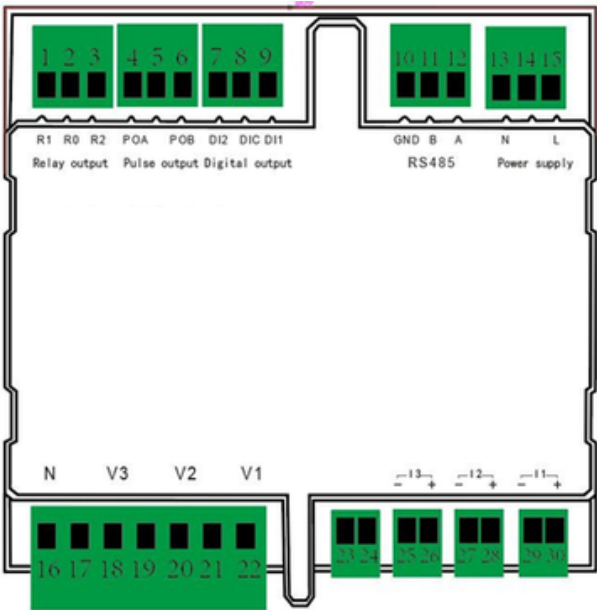
- Conversion of AC voltage and currents into digital signals and display for visualization
- Signal isolation
- Electrical protection
- RMS value reading

Applications:

- Conversion of AC voltage and currents into digital signals and display for visualization
- Signal isolation
- Electrical protection
- RMS value reading

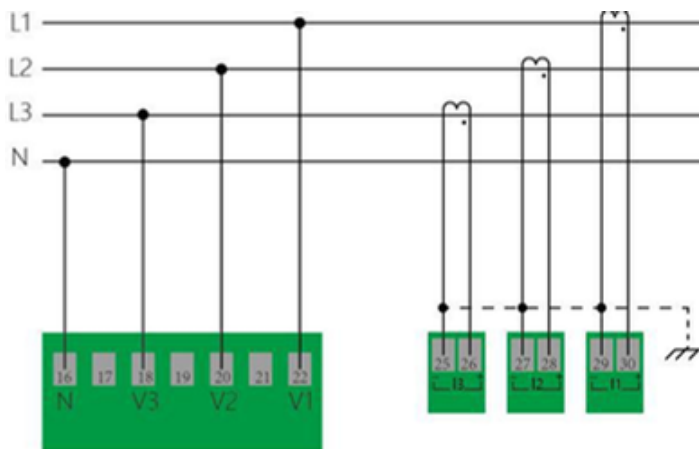
Assignments

Phase and line voltage	✓
Currents	✓
Powers	✓
Energies	✓
Harmonic Distortion	✓
Power factor	✓
Frequency	✓
Demand	✓
RS485/Modbus RTU or Ethernet RJ45	✓
3 current inputs	✓
4 voltage inputs	✓
2 Digital inputs	✓
Pulse output	✓
2 relay outputs (1 NO; 1 NC)	✓

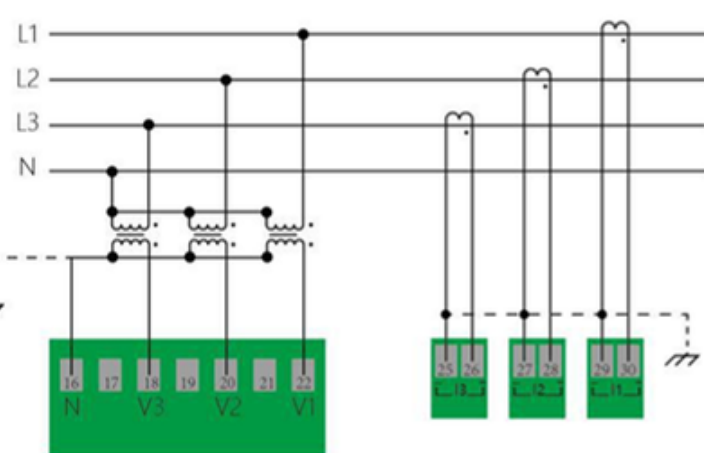


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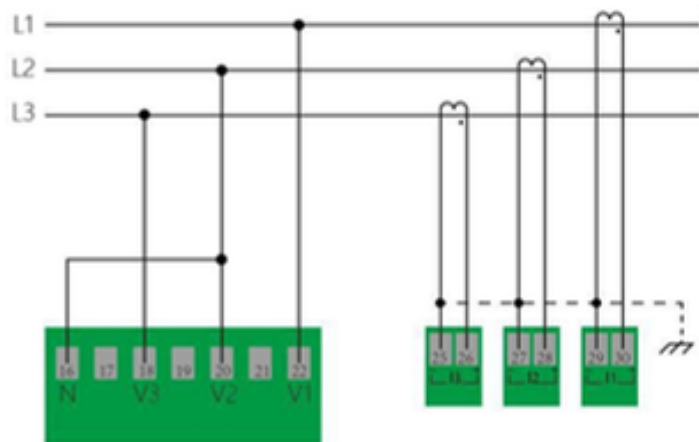
Connections with regular external CT



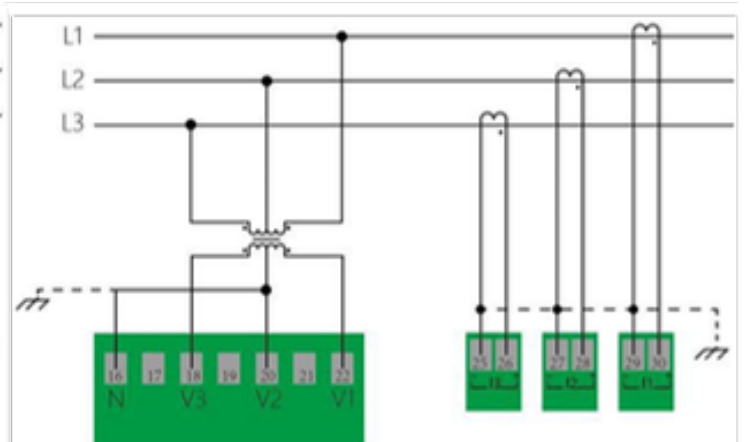
3PH4W (without PT) wiring diagram



3PH4W (with PT) wiring diagram



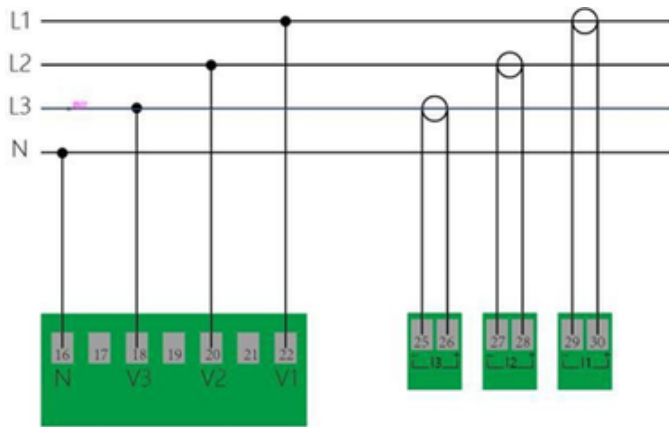
3PH3W (without PT) wiring diagram



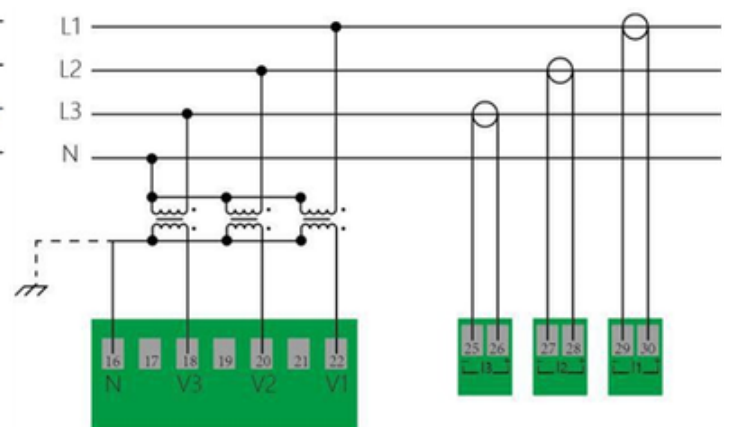
3PH3W (with PT) wiring diagram

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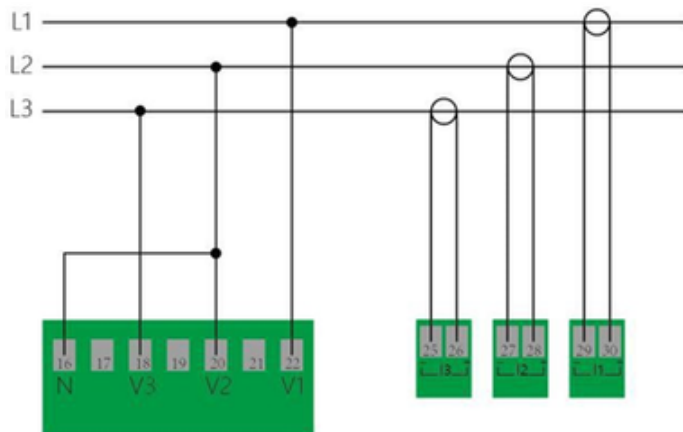
Connections with Rogowski Coil



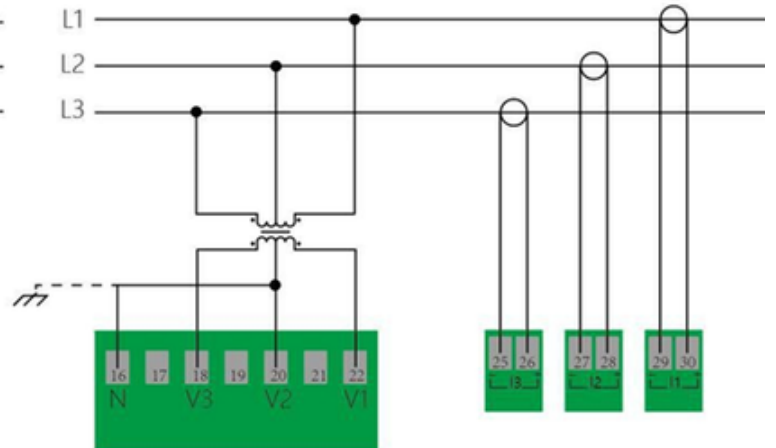
3PH4W (without PT) wiring diagram



3PH4W (with PT) wiring diagram



3PH3W (without PT) wiring diagram



3PH3W (with PT) wiring diagram

Technical Specifications

Power supply	95 ~ 265 VAC; 110 ~ 260 VDC; 45 ~ 60 Hz
Maximum power consumption	3,5 VA
Range	0 ~ 600 VAC Phase to Phase Voltage
Maximum voltage	720 VAC Phase to Phase Voltage
Protection degree	IP20
Energy pulse output	Active energy pulse output, optocoupler isolation (5kvrms)
Relay output	One way electromagnetic relay output, including normally open and normally closed contacts, contact capacity: 3A30VDC, 3A 250V AC
Digital input	2-way dry contact input, optocoupler isolation (5kvrms)
Communication	RS485 or Ethernet RJ45 (optional)
Protocol (RS485 option)	Modbus RTU

Current sensor rating

Model	MMX237C	MMX237V	MMX237R		
Default current sensor type	TC 1 / 5 A	TC 333 mV	Rogowski coil		
Rated phase current	5A to 6kA	5 A; 100 A; 200 A; 500 A	600 A	2500 A	6000 A
Meter rated current	5 A	333 mV	50 mV/kA	85 mV/kA	50 mV/kA
Input channel maximum value	7,5 A	500mV	500 mV	500 mV	500 mV
Current measurement Range	0,005 ~ 5 A	0,005 ~ 500 mV	2 A to 600 A	2,5 A to 2500 A	6 A to 6000 A
Accuracy	±0,3%	±0,5%	±0,5%		
Guaranteed accuracy range	0,5% to 100%	1% to 100%	2% to 100%		

Technical Specifications

Quantity	Measurement
Phase voltage	U1, U2, U3 and average value
Line voltage	U12, U23, U31, and average value
Current	I1, I2, I3, and average value
Power	Active power,Reactive power,Apparent power (total and per phase)
Energy	Active energy import,active energy export, reactive energy import, reactive energy export.apparent energy. If it exceeds 9999999.9kwh, the energy value will be reset to "0" automatically
Harmonic distortion	Total harmonic distortion of each phase of voltage and current
Power factor	Fundamental power factor (DPF); true power factor (tPF); (average value of each phase and three phases)
Grid frequency	Synthetic frequency
Unbalance	Voltage and current per phase
Demand	Current per phase; active, reactive and apparent power
Reading	Accuracy
Voltage	0,2% (30 ~ 600 VAC)
Frequency	0,01% (45 ~ 65 Hz)
Power factor	±0,05
Active and apparent power	Class S
Reactive power	Class S
Active energy	Class S
Reactive energy	Class S

Operative and environmental conditions

Operating temperature	- 25°C ~ + 60 °C
Storage temperature	- 40°C ~ + 85 °C
Humidity range	5 ~ 95% Relative Humidity, 50 °C (Non-condensing)
Class of pollution	2
Over voltage capability	CAT III 1000V, It is suitable for distribution system below 277 / 480VAC
Insulation strength	IEC61010-1
Altitude	3000 m

Dimensions

Lenght	8.1 cm
Width	8,1 cm
Depth	3 cm
Weight	259 g

We provide solutions for improvement of eletrical energy generation, transmission and distribution efficiency, quality and reliability. With a highly specialized and experienced team in research, delvelopment and innovation, HVEX develops tailor-made solutions for brazilian and foreign markets. Wide range of products with solutions focused on signal transduction, measurement, monitoring and protection.



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