

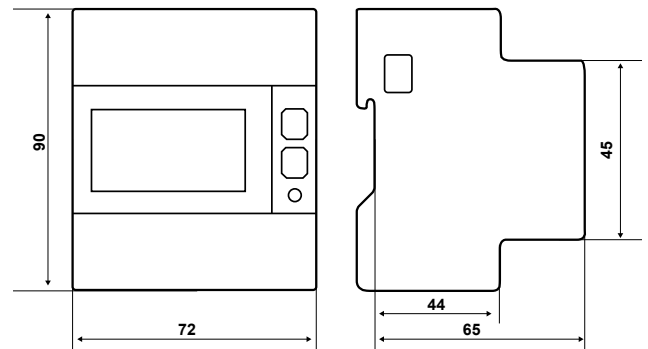
# VM803-VM804

Energy meter, compact, three-phase, 80A, 3 or 4 wires

Compact-design energy meter, direct connection in 4 DIN modules only, 8-digit LCD display, intended for measuring electric energy both in housing units and in business and industrial units; it comes with MID certification and is therefore suitable for billing.



Dimensions (mm)



Power Supply      I<sub>max</sub>   I<sub>ref</sub> (I<sub>b</sub>)   I<sub>tr</sub>   I<sub>min</sub>   I<sub>st</sub>   Options      Availability

VM803MA	3x400V 50Hz 3 wires	80A	5A	500mA	250mA	20mA	MID certification	in stock
VM803A	3x400V 50Hz 3 wires	80A	5A	500mA	250mA	20mA	-	in stock
VM803RA	3x400V 50Hz 3 wires	80A	5A	500mA	250mA	20mA	resettable total meters	on request
VM804MA	3x230/400V 50Hz 4 wires	80A	5A	500mA	250mA	20mA	MID certification	in stock
VM804A	3x230/400V 50Hz 4 wires	80A	5A	500mA	250mA	20mA	-	in stock
VM804RA	3x230/400V 50Hz 4 wires	80A	5A	500mA	250mA	20mA	resettable total meters	on request

\* Note: all partial meters models are resettable.

## ELECTRICAL FEATURES

Power supply: 230V (±20%) 50Hz derived from metering circuit.

Consumption  $\leq$  1 W.

Current:

- Max value I<sub>max</sub>: 80A
- Value I<sub>ref</sub> (I<sub>b</sub>): 5A
- Value I<sub>tr</sub>: 500mA
- Value I<sub>min</sub>: 250mA
- Start current I<sub>st</sub>: 20mA

Accuracy:

- Active energy: class B according to EN50470-3.
- Reactive energy : class 2 according to EN62053-23.

Outputs and inputs:

- 2 pulse outputs [ON-50ms OFF-50ms ±2ms], opto-isolated passive (max 250Vac-dc 100mA);
- 1 tariff input, opto-isolated active (max 276Vac-dc);
- 1 metrological LED with 1000 pulse/KWh integrating constant.

# HOMOLOGATION AND STANDARDS

MID Certification (models "VM803MA" and "VM804MA").

Active energy accuracy falls within the limits set out in EN50470-3 Class B, whereas reactive energy accuracy complies with European Norm EN60253 Class 2.

## INSTALLAZIONE

DIN rail, 4 modules

## OPERATION

This meter, in addition to energy, reads also the main electric parameters and provides them to the optical communication port. The LCD displays energy and instantaneous values readouts.

- Metering carried out on the four dials, bidirectional values for totalizing power import/export (absorbed/supplied).
- Over 30 instantaneous parameters read, full set of energy meters [refer to the table], including 2 tariffs and resettable partial energy meters. Versions "VM803RA" and "VM804MA" (no MID) allow to reset all meters (individually or in block) via keyboard.
- LCD display, backlit, wide, 8-digits. Thorough symbols for prompt reading of the state and values displayed. Energy instantaneous values displaying.
- Phase sequence displaying and diagnostic function for detecting and displaying connection errors and phase out.
- Metrological LED on the front panel.
- Two S0 outputs for transmitting energy metering pulses to other devices.
- Auxiliary input for high/low tariff switching.
- Optical port (on left side) for coupling with communication modules series VM001x.
- Sealable terminal cover (MID version).
- Versions available for network connection with or without neutral (three or four wires), suitable for both balanced and unbalanced load.

The analysis of the MTBF value (reliability coefficient), the accurate selection of components as well as the low internal working temperatures, together with rigid and severe manufacturing and control standards, ensure top-quality and excellent-reliability products.

### MEASUREMENTS

INSTANTANEOUS VALUES	SYMBOL	UNIT	DISPLAY	COM PORT	S0 OUTPUT
Voltage	$V_{\Sigma} - V_{L1-N} - V_{L2-N} - V_{L3-N}$	V		●	
Line voltage	$V_{L1-L2} - V_{L2-L3} - V_{L3-L1}$	V		●	
Current	$I_{\Sigma} - I_1 - I_2 - I_3 - I_N$	A		■	
Power factor	$PF_{\Sigma} - PF_{L1} - PF_{L2} - PF_{L3}$			●	
Apparent power	$S_{\Sigma} - S_{L1} - S_{L2} - S_{L3}$	kVA	■	■	
Active power	$P_{\Sigma} - P_{L1} - P_{L2} - P_{L3}$	kW	■	■	
Reactive power	$Q_{\Sigma} - Q_{L1} - Q_{L2} - Q_{L3}$	kvar	■	■	
Frequency	f	Hz		●	
Phase sequence	CW/CCW		●	●	
Energy flow	IMP/EXP		●	●	

STORED DATA	SYMBOL	UNIT	DISPLAY	COM PORT	S0 OUTPUT
Total active energy	$\Sigma - L1 - L2 - L3$	kWh	■	■	■ (Σ)
Total reactive energy (ind. and cap.)	$\Sigma - L1 - L2 - L3$	kvarh	■	■	■ (Σ)
Total apparent energy (ind. and cap.)	$\Sigma - L1 - L2 - L3$	kVAh	■	■	■ (Σ)
T1/T2 tariff energy meters	Σ	kWh, kvarh, kVAh	■	■	
Resettable partial energy meters	Σ	kWh, kvarh, kVAh	■	■	
Energy balance	Σ	kWh, kvarh, kVAh	■	■	

- STANDARD
- BIDIRECTIONAL VALUE

ADDITIONAL DATA	SYMBOL	VALUE/STATE	DISPLAY	COM PORT
Running tariff	T	1/2		●
Voltage Over/Under Limit	VOL, VUL	ON/OFF		●
Current Under/Over Limit	IOL, IUL	ON/OFF		●
Frequency Under/Over Limit	fOL, fUL	ON/OFF		●
Partial meters	PAR	START/STOP	●	●
Communication (ON)	COM	ON/OFF	●	
Pulse S0 (ON)	S0-1, S0-2	ON/OFF	●	
Error condition	ERR	01/02/OFF	●	●

- STANDARD
- BIDIRECTIONAL VALUE

Column "S0 OUTPUT" shows all system counters ( $\Sigma$ ) which can be selected for S0 outputs. It is not possible to set the same counter for both outputs.

NOTE: on the 3-wire model the following parameters: phase-neutral voltages, neutral current, phase powers, phase power factor and all phase meters are unavailable.

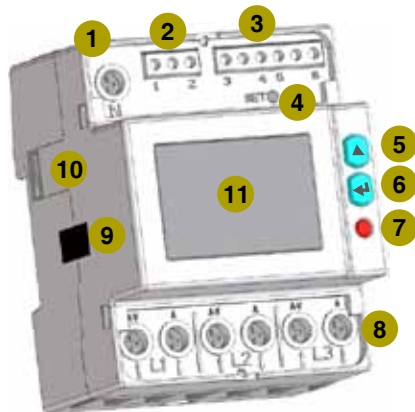
- Measurement of renewable energy from photovoltaic systems, wind power turbines, etc.
- Logging and billing of energy consumption at campsites, shopping centers, housing developments, wharfs, etc.
- Individual energy consumption logging for hotels, convention centers and trade fair facilities.
- Energy consumptions billing for business centers.
- Internal cost distribution for civil and/or industrial multi-owned and/or subleased buildings.
- Implementation of energy monitoring and control systems.
- Remote consumption metering and reading and cost calculation.

## FEATURES

Operating temperature:  $-25 \div 55^{\circ}\text{C}$ .

Relative humidity: max 80% (non-condensing).

Protection level : IP51 (front panel), IP20 (terminal block compartment).



- 1 Neutral terminal (4-wire models only)
- 2 Tariff input terminals
- 3 Terminals for both S0 outputs
- 4 SET button
- 5 SU button
- 6 ENTER button
- 7 Metrological LED
- 8 Voltage and current terminals
- 9 Anti-tampering seal-label
- 10 Optical communication port (for VM001x modules)
- 11 Backlit LCD display

# ACCESSORIES



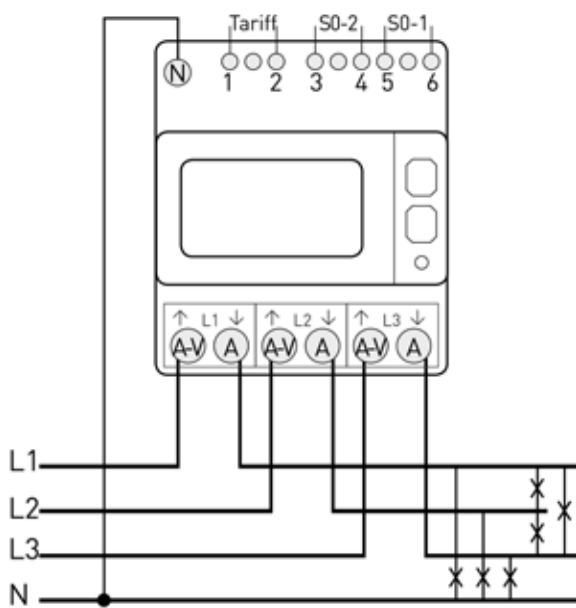
VM001A  
RS485-MODBUS communication module

VM001B  
M-BUS communication module

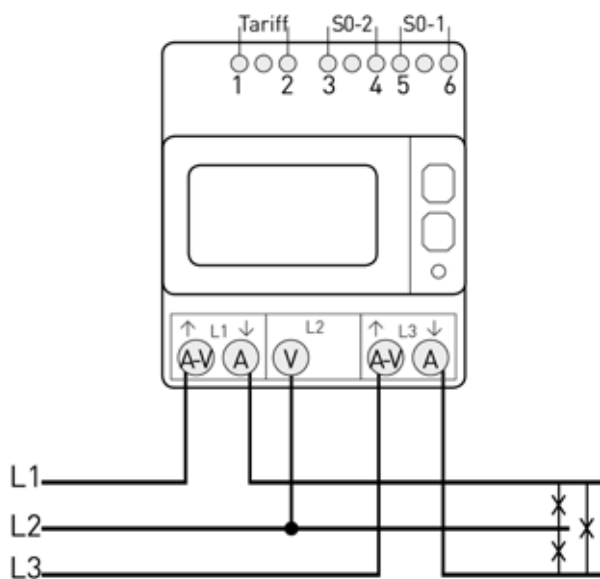
VM001C  
LAN-GATEWAY communication module

# ESEMPI DI COLLEGAMENTO

## ■ 3 PHASES - 4 WIRES



## ■ 3 PHASES - 3 WIRES



W