















INGECON SUN EMS

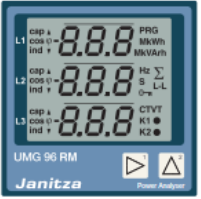

Lista de Vatímetros soportados /
List of supported wattmeters

Reference	WM20 AV5 3 H05	WM20 AV5 3 H	EM24-DIN AV5 3 D IS X	EM24-DIN AV9 3 X IS X	EM530-DIN AV5 3 X S1 X	EM540-DIN AV2 3 X S1 X	EM340-DIN AV2 3 X S1 X
Manufacturer	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi
Image							
Average Dimensions	96 x 96 x 52 mm	96 x 96 x 52 mm	71,6 x 66 x 90 mm	71,6 x 66 x 90 mm	54 x 63 x 90 mm	54 x 63 x 90 mm	54 x 63 x 91 mm
Installation	Panel	Panel	4 modules DIN	4 modules DIN	3 modules DIN	3 modules DIN	3 modules DIN
Display / refresh time	✓ / 500 ms	✓ / 500 ms	✓ / 750 ms	✓ / 750 ms	✓ / 500 ms	✓ / 500 ms	✓ / 2,6 s
Phases	three-phase	three-phase	three-phase	three-phase	three-phase	three-phase	three-phase
Voltage Measure	direct / Voltage transformer	direct / Voltage transformer	direct	direct	Direct	direct	direct
Current Measure	Current transformer	Current transformer	Current transformer	direct	Current transformer	direct	direct
Maximum Current	×	×	×	65 A			65 A
Wire section	2,5 - 16 mm ²	2,5 - 16 mm ²	2,5 - 16 mm ²	2,5 - 16 mm ²	2,5 - 16 mm ²	2,5 - 16 mm ²	2,5 - 16 mm ²
Cero injection certificate ⁽¹⁾	✓	✓	✓	✓	✓	✓	×
Control	Active / Reactive	Active	Active	Active	Active	Active	Active
EMS Connection Communications Speed	Ethernet (M C ETH) 10-100Mbps RS485 (M C RS485) 9600 Bauds	Ethernet (M C ETH) 10-100Mbps RS485 (M C RS485) 9600 Bauds	RS485 9600 Bauds	RS485 9600 Bauds	RS485 9600 Bauds	RS485 9600 Bauds	RS485 9600 Bauds
Connection Type	RJ45 (M C ETH) Terminal block (M C RS485)	RJ45 (M C ETH) Terminal block (M C RS485)	Terminal block	Terminal block	Terminal block	Terminal block	Terminal block
Protocol	Modbus	Modbus	Modbus	Modbus	Modbus	Modbus	Modbus
EMS Code Identification	Codes 65, 66, 98	Codes 65, 66, 98	Code 47	Code 45	Code 1744	Code 1760	Code 341, 345
Notes	This wattmeter is necessary to perform the Reactive Control	WM40 AV5 + M C ETH + M F I6R4 in case digital input needed.		45: EM24-DIN AV9 45: EM24-DIN AV2 46: EM24-DIN AV0 47: EM24-DIN AV5 48: EM24-DIN AV6			

(1) Check www.ingeteam.com web for more information.

Reference	ET112-DIN AV0 1 X S1 X	EM112-DIN AV0 1 X S1 X	EM111-DIN AV8 1 X S1 X	EM111-DIN AV5 1 X S1 X	MPA-1-667	E03	E13
Manufacturer	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi	Carlo Gavazzi	Janitza	SOCOMEK	SOCOMEK
Image							
Average Dimensions	35 x 63 x 90 mm	35 x 63 x 90 mm	17,5 x 63 x 91,5 mm	17,5 x 63 x 91,5 mm	99 x 63 x 36 mm	90 x 64 x 18 mm	90 x 64 x 36 mm
Installation	2 modules DIN	2 modules DIN	1 module DIN	4 modules DIN	2 modules DIN	1 module DIN	2 modules DIN
Display / refresh time	✗ / 1,6 s	✓ / 1,8 s	✓ / 2, s	✓ / 1,8 s	✓ / 2,6 s	✓ / 2 s	✓ / 2 s
Phases	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase
Voltage Measure	direct	direct	direct	direct	direct	direct	direct
Current Measure	direct	direct	direct	Current transformer	direct	direct	direct
Maximum Current	100 A	100 A	45 A	✗	100 A	40 A	80 A
Wire section	5 - 25 mm ²	5 - 25 mm ²	6 mm ²	6 mm ²	5 - 25 mm ²	6 mm ²	6 mm ²
Cero injection certificate ⁽¹⁾	✗	✗	✗	✗	✗	✗	✗
Control	Active	Active	Active	Active	Active	Active	Active
EMS Connection	RS485	RS485	RS485	RS485	RS485	RS485	RS485
Communications Speed	9600 Bauds	9600 Bauds	9600 Bauds	9600 Bauds	9600 Bauds	9600 Bauds	9600 Bauds
Connection Type	Terminal block / RJ11	Terminal block	Terminal block	Terminal block	Terminal block	Terminal block	Terminal block
Protocol	Modbus	Modbus	Modbus	Modbus	Modbus	Modbus	Modbus
EMS Code Identification	Code 102	Code 120	Code 103	Code 114			
Notes	Supported current transformer: CTA5X100A5A						

(1) Check www.ingetteam.com web for more information.

Reference	UMG 96 RM	UMG 604-PRO							
Manufacturer	Janitza	Janitza							
Image									
Average Dimensions	92 x 92 mm	90 x 82 x 107'5 mm							
Installation	Panel	8 modules DIN							
Display / refresh time	✓ / 200 ms	✓ / 200 ms							
Phases	three-phase	three-phase							
Voltage Measure	direct	direct							
Current Measure	Current transformer	Current transformer							
Maximum Current	×	×							
Wire section	6 mm ²	6 mm ²							
Cero injection certificate ⁽¹⁾	×	×							
EMS Connection	Ethernet RS485	Ethernet							
Communications Speed	Ethernet (10-100Mbps) RS485 (9600 Bauds)	10-100Mbps							
Connection Type	RJ45 Terminal block	RJ45							
Protocol	Modbus	Modbus							
EMS Code Identification									
Notes									

(1) Check www.ingeteam.com web for more information.

List of changes

REV	AUTOR	DENOMINATION	DATE
_	M.E.F.	Initial version	2020/11/23
_A	M.E.F.	New Wattmeters added: Janitza, KLEFR, SOCOMEC, EASTRON	2021/02/10
_B	M.E.F.	Wattmeters eliminated: KLEFR, EASTRON	2022/02/10
_C	M.E.F.	New Wattmeters added: EM530, EM540	2022/08/09
_D	M.E.F.	References Correction: EM530, EM540	2022/09/05