

## MULTIFUNCTION MULTIMETERS AND METERS FOR SINGLE-PHASE NETWORK FOR USE IN SINGLE-PHASE NETWORK WITH CURRENTS UP TO 63 A (INTERNAL CT) DIN RAIL 6 MODULES

### ENVIRONMENTAL WORKING CHARACTERISTICS

Working T:  $-5 \div +50^{\circ}\text{C}$

Storage T:  $-15 \div +60^{\circ}\text{C}$

Humidity:  $\leq 90\%$

### STANDARDS/ REGULATION

Safety: 61010-1:2001

EMC: EN61000-6-2 / EN61000-6-4

CISPR22-EN55022

### ELECTRICAL COMPATIBILITY CE

Energy: EN61036:1996



EMM D1-485  
EMM-D1-p

	EMM D1-485	EMM D1-p
<b>Mechanical characteristics</b>	DIN rail mounting 3 modules of 17,5 mm   Weight 0,4 kg	
<b>Auxiliary supply</b>	230 Vac   50-60 Hz	
<b>OPTION C1</b>	400 Vac	
<b>OPTION C2</b>	110 Vac	
<b>Protection degree</b>	Frontal IP 42   Box IP 20	
<b>Voltage inputs</b>	1 inputs 500 V max	
<b>Current inputs</b>	1 direct input 0,05÷63A rms direct	
<b>Measured parameters</b>	V I-I, V I-n,   cosfi, f, T, h   W, Var, VA   kWh, kVarh, KVAh	
<b>Measuring accuracy</b>	Voltage: < 0.5% Current: < 0.5% Powers: < 1% Energies: < 1% series 2 - CEI-EN61036	
<b>Frequency measure</b>	40 ÷ 100 Hz	
<b>Serial outputs</b>	1RS485 Communication protocol MODBUS-RTU Baud rate 9600-19200 bps	-
<b>Digital outputs</b>	-	2 photomos 10 ÷ 300 Vdc / 150 mA o 10÷250 Vca / 150 mA max for alarms or re-emission pulses (programmable time of pulse 100÷500 msec.).
<b>Analog outputs</b>	3 outputs 0-20 / 40-20mA completely programmable definition16 bit (by external converter serial/analog Z3A0) *	-
<b>OPTION Z3A0</b>		
<b>Display</b>	3 displays with 10mm red LED (3 digit of 10 mm - 7 segments)	

\* in this case serial output RS485 can not be used.

## MULTIFUNCTION MULTIMETERS DIN RAIL 6 MODULES



EMM-D4h  
EMM-D4hp  
EMM-D4hp-485  
EMM-D4hp-485-A  
EMM-D4hp-ETH

### ENVIRONMENTAL WORKING CHARACTERISTICS

Working T:  $-5 \div +50^{\circ}\text{C}$   
Storage T:  $-15 \div +60^{\circ}\text{C}$   
Humidity:  $\leq 90\%$

### STANDARDS/ REGULATION

Safety: 61010-1:2001  
EMC: EN61000-6-2 / EN61000-6-4  
CISPR22-EN55022

### ELECTRICAL COMPATIBILITY CE

Energy: EN61036:1996

	EMM D4h	EMM D4hp	EMM D4hp-485	EMM D4hp-485-A	EMM D4hp-ETH
<b>Mechanical characteristics</b>		DIN rail mounting 6 modules of 17,5 mm		Weight 0,5 kg	
<b>Auxiliary supply</b>		110-230-400 Vac   50-60 Hz			
<b>OPTION C1</b>		20÷60 Vac/dc			
<b>OPTION C2</b>		90÷250 Vac/dc			
<b>Protection degree</b>		IP 42 frontal   IP 20 box			
<b>Voltage inputs</b>		3 inputs 500 V max (possible external VT ratio programmable 01÷400)			
<b>Current inputs</b>		3 inputs 0,05÷5A rms with external CT ratio programmable 1÷2000			
<b>OPTION 1A</b>		3 inputs 0,01÷1A rms			
<b>OPTION T</b>		Isolated inputs with internal CT (for use in M.V.)			
<b>OPTION N</b>		4 <sup>th</sup> inputs for measuring neutral current or residual current			
<b>Measured parameters</b>		VI-I, VI-n, A   cosφ, f, °T, h   W, Var, VA   kWh, kVarh, KVAh			
<b>Measuring accuracy</b>		Voltage: $< 0.5\%$   Current: $< 0.5\%$   Powers: $< 1\%$   Energies: $< 1\%$ series 2   CEI-EN61036			
<b>Frequency measure</b>		40 ÷ 100 Hz			
<b>Serial outputs</b>	-	-	1Rs485 Communication protocol MODBUS-RTU baud rate 9600-19200 bps	1Rs485 Communication protocol MODBUS-RTU baud rate 9600-19200 bps	-
<b>OPTION LON</b>	-	-	Communication protocol LON-WORKS	Communication protocol LON-WORKS	-
<b>Ethernet outputs</b>	-	-	-	-	1 ethernet connector RJ45 Communication protocol MODBUS-TCP FTP / HTTP / SMTP / SNMP
<b>Digital outputs</b>	-	2 photomos 10÷300Vcc / 150 mA or 10÷250Vca/150 mA max for alarms or re-emission pulses (programmable time of pulse 100÷500msec.).	2 photomos 10÷300Vcc / 150 mA or 10÷250Vca/150 mA max for alarms or re-emission pulses (programmable time of pulse 100÷500msec.).	2 photomos 10÷300Vcc / 150 mA or 10÷250Vca/150 mA max for alarms or re-emission pulses (programmable time of pulse 100÷500msec.).	2 photomos 10÷300Vcc / 150 mA or 10÷250Vca/150 mA max for alarms or re-emission pulses (programmable time of pulse 100÷500msec.).
<b>Digital inputs</b>	-	1 optoisolated 90÷250Vca/cc for changing band of energy meters or status signalling	1 optoisolated 90÷250Vca/cc for changing band of energy meters or status signalling	1 optoisolated 90÷250Vca/cc for changing band of energy meters or status signalling	1 optoisolated 90÷250Vca/cc for changing band of energy meters or status signalling
<b>OPTION</b>	-	-	-	-	-
<b>Analogl outputs</b>	-	-	-	1 output 0÷20 / 4÷20mA programmable definition10 bit	-
<b>OPTION Z3A0</b>	-	-	3 outputs 0-20/4-20mA completely programmable - definition16 bit (by external serial/analog converter Z3A0)*	3 outputs 0-20/4-20mA completely programmable - definition16 bit (by external serial/analog converter Z3A0)*	-
<b>Display</b>		4 displays with 10 mm red LED (3 digit of 10 mm - 7 segments)			

\* in this case serial output RS485 can not be used.

## MULTIFUNCTION MULTIMETERS DIN RAIL 3 MODULES

### ENVIRONMENTAL WORKING CHARACTERISTICS

Working T:  $-5 \div +50^{\circ}\text{C}$   
Storage T:  $-15 \div +60^{\circ}\text{C}$   
Humidity:  $\leq 90\%$

### STANDARDS/ REGULATION

Safety: 61010-1:2001  
EMC: EN61000-6-2 / EN61000-6-4  
CISPR22-EN55022

### ELECTRICAL COMPATIBILITY CE

Energy: EN61036:1996

EMM- $\mu$ D3VA



EMM- $\mu$ D3h  
EMM- $\mu$ D3h-p  
EMM- $\mu$ D3h-485



	EMM $\mu$ D3VA	EMM $\mu$ D3h	EMM $\mu$ D3hp	EMM $\mu$ D3h-485
<b>Mechanical characteristics</b>	DIN rail mounting 3 modules of 17,5 mm   Weight 0,4 kg			
<b>Auxiliary supply</b>	230 Vac   50-60 Hz			
<b>OPTION C1</b>	400 Vac			
<b>OPTION C2</b>	110 Vac			
<b>Protection degree</b>	Frontal IP 42   Box IP 20			
<b>Voltage inputs</b>	3 inputs 500 V max			
<b>Current inputs</b>	3 inputs 0,05÷5A rms with external CT ratio TA programmable 1÷400			
<b>OPTION 1A</b>	3 inputs 0,01÷1A rms			
<b>Measured parameters</b>	V I-I, V I-n, A f h	V I-I, V I-n, A cosfi, f, ° T, h W, Var, VA kWh, kVarh, KVAh	V I-I, V I-n, A cosfi, f, ° T, h W, Var, VA kWh, kVarh, KVAh	V I-I, V I-n, A cosfi, f, ° T, h W, Var, VA kWh, kVarh, KVAh
<b>Measuring accuracy</b>	Voltage: < 0.5%   Current: < 0.5%   Powers: < 1%   Energies: < 1% series 2   CEI-EN61036			
<b>Frequency measure</b>	40 ÷ 100 Hz			
<b>Serial outputs</b>	-	-	-	1Rs485 Communication protocol MODBUS-RTU baud rate 9600-19200 bps
<b>Digital Outputs</b>	-	-	2 Photomos 10 ÷ 300Vcc / 150mA o 10÷250Vca / 150mA max for alarms or re-emission pulses (programmable time of pulse 100÷500 msec.).	-
<b>OPTION P</b>	2 photomos 10 ÷ 300 Vcc / 150 mA o 10÷250Vca / 150mA max for alarms	-	-	-
<b>Analog outputs</b>	-	-	-	3 outputs 0-20/4-20mA completely programmable - definition 16 bit (by external serial/analog converter Z3A0) *
<b>OPTION Z3A0</b>	-	-	-	-
<b>Display</b>	3 displays with 10 mm red LED (3 digit of 10 mm - 7 segments)			

\* in this case serial output RS485 can not be used.