

# EMM 4h | $\mu$ 4h | R4h

## DIGITAL MEASURING INSTRUMENTS - FLUSH MOUNT LED MULTIMETERS



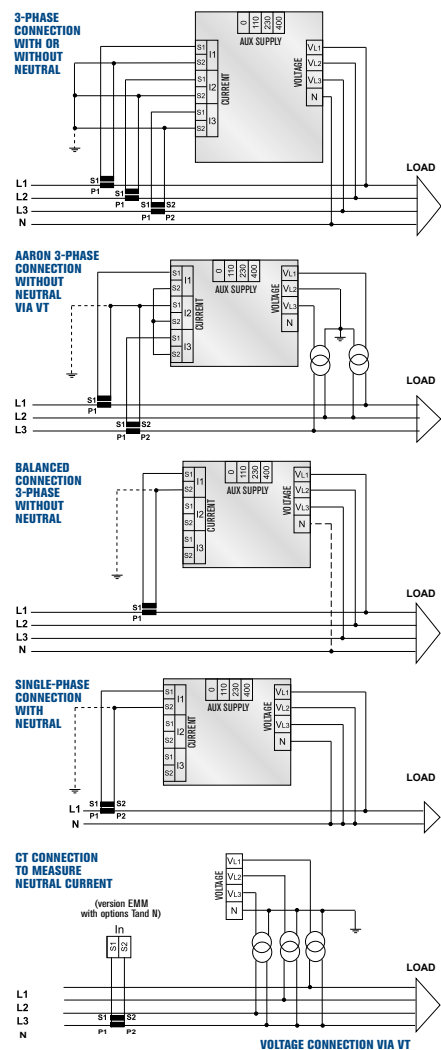
TECHNICAL CHARACTERISTICS	EMM-4h	EMM- $\mu$ 4h	EMM- R4h	
<b>AUXILIARY SUPPLY</b>				
Nominal voltage $U_s$	110 - 230 - 400 VAC	400VAC (directly by the voltage inputs)	400VAC (directly by the voltage inputs)	
Operating voltage range	$\pm 15\%$	$\pm 15\%$	$\pm 15\%$	
Power consumption	4VA	3VA	3VA	
Frequency	50 - 60 Hz	45 - 65 Hz	45 - 65 Hz	
<b>VOLTAGE INPUTS</b>				
Measurement range	20...500VAC L-L (20...290VAC L-N)	20...500VAC L-L (20...290VAC L-N)	20...500VAC L-L (20...290VAC L-N)	
Method of measuring	True RMS value	True RMS value	True RMS value	
Measuring input impedance	1M $\Omega$	1M $\Omega$	1M $\Omega$	
Method of connection	Single-phase, two-phase, three-phase orbanced three-phase system	Single-phase, two-phase, three-phase orbanced three-phase system	Single-phase, two-phase, three-phase orbanced three-phase system	
<b>CURRENT INPUTS</b>				
Reference current	1A (option) or 5A	1A (option) or 5A	1A (option) or 5A	
Measurement range	0,02...5A	0,02...5A	0,02...5A	
Method of measuring	True RMS value	True RMS value	True RMS value	
Overload capacity	+20% by an external current transformer	+20% by an external current transformer	+20% by an external current transformer	
Self-consumption	< 0,5VA	< 0,5VA	< 0,5VA	
<b>ACCURACY</b>				
Measures	Voltage	0,5%	0,5%	0,5%
	Current	0,5%	0,5%	0,5%
	Power	1 %	1 %	1 %
	Frequency	0,5%	0,5%	0,5%
	Active energy	Class 1	Class 1	Class 1
<b>INSULATION</b>				
Insulation voltage	3kVAC for 1 minute	3kVAC for 1 minute	3kVAC for 1 minute	
<b>AMBIENT CONDITION</b>				
Storage temperature	-10...+60°C	-10...+60°C	-10...+60°C	
Storage temperature	-25...+80°C	-25...+80°C	-25...+80°C	
<b>HOUSING</b>				
Version	Flush mount 96 x 96 mm	Flush mount 72 x 72 mm	Flush mount 96 x 96 mm	
Degree of protection	IP42 on front IP20 Housing and terminals	IP52 on front IP20 Housing and terminals	IP52 on front IP20 Housing and terminals	
Weight	500g	500g	500g	
<b>CERTIFICATIONS AND COMPLIANCE</b>				
Reference standards	IEC/EN 50081-2, IEC/EN 61000-6-2, IEC/EN 61010-1, IEC/EN 61036-1			
<b>OPTIONS</b>				
ORDER CODE	DESCRIPTION			
C1	Auxiliary Supply 20 $\pm$ 60 VAC/CC (version EMM-4h) - Auxiliary Supply 230 VAC (versions EMM-R4h, EMM- $\mu$ 4h)			
C2	Auxiliary Supply 90 $\pm$ 250 VAC/CC (version EMM-4h) - Auxiliary Supply 110 VAC (versions EMM-R4h, EMM- $\mu$ 4h)			
600	Voltage Inputs 600 V (version EMM-4h)			
1A	Rated Current inputs by external CT 1A			
T	Internal Current inputs, galvanically insulated			

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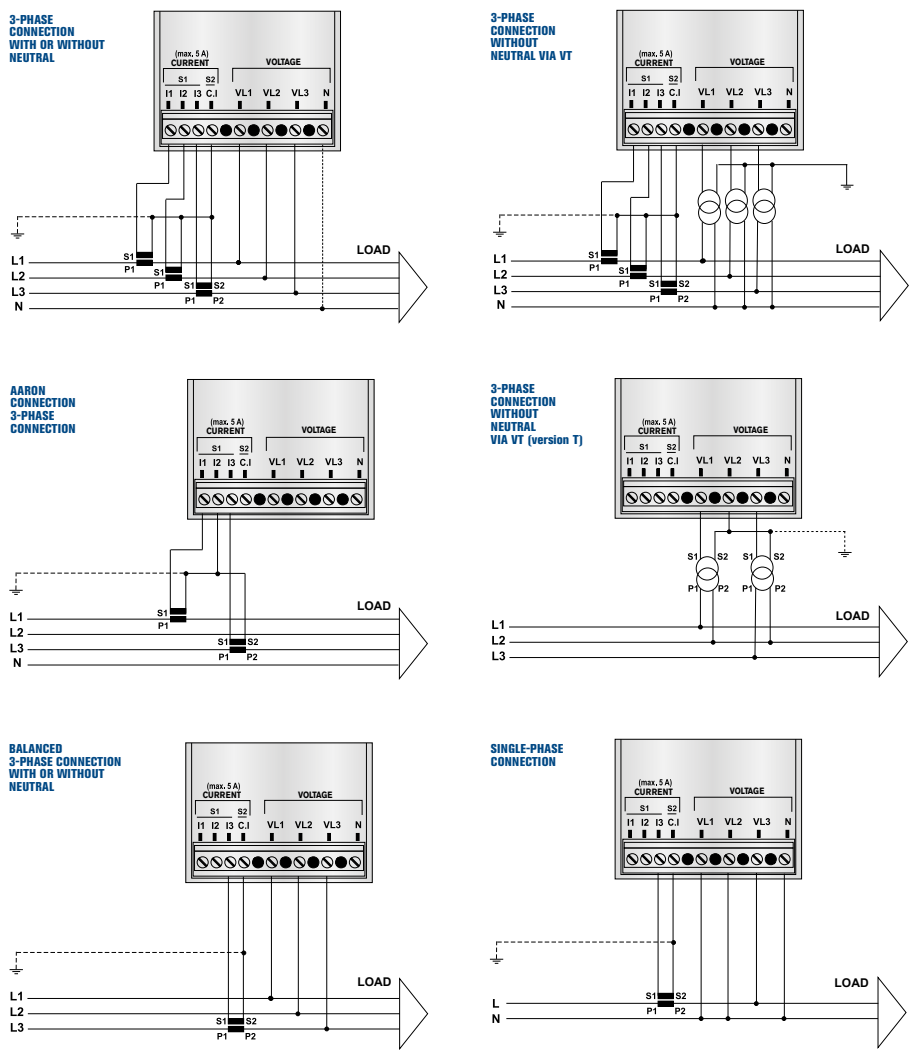
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<b>TT - TTA</b>	Current inputs by miniaturized closed CT (TT) or openable CT (TTA)
<b>N</b>	Neutral current input or differential current input
<b>M</b>	Import/Export energy counters
<b>P</b>	2 digital outputs
<b>DI</b>	1 digital input
<b>A</b>	1 analog outputs
<b>COMMUNICATION PORTS</b>	
<b>485</b>	RS485 serial interface
<b>ETH</b>	Ethernet interface with Web server function (version EMM-4h)
<b>PF/S</b>	Profibus-DP interface (version EMM-4h)
<b>M-Bus</b>	M-Bus interface (version EMM-4h)
<b>LON</b>	LON-Works interface (version EMM-4h)

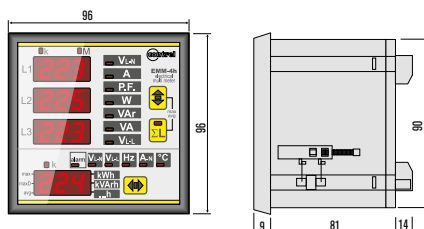
### WIRING DIAGRAMS EMM-4h



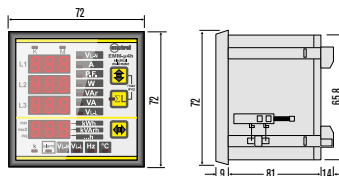
### WIRING DIAGRAMS EMM- $\mu$ 4h e EMM-R4h



### MECHANICAL DIMENSIONS EMM-4h



### MECHANICAL DIMENSIONS EMM- $\mu$ 4h



### MECHANICAL DIMENSIONS EMM-R4h

