



## Measurement Instruments

### Series MT

### Applications



Measurement of all possible electrical values from simple measurement as voltage, current, frequency over more complex such as power and energy, to all-in-one measurement with the netanalysing devices. To avoid down-time due to abnormal situations, i.e. power-supply voltage too high, absorbed power too high, etc., leading to malfunctioning and even breakdown of the machinery, the measurement and monitoring of the electrical values like voltage, current, power, energy etc. is an absolute must and even an indispensable asset when it comes to preventive maintenance.

### Function

Measurement, visualisation and logging of voltage, current, frequency, hours of operation, power, energy,  $\cos \varphi$ , etc.

### Standards

EN 61010-1, BS EN 60051-1-2

### Features

AC measurement devices with analogue as well as with digital technology and readout are available. The simple devices (one measurement only i.e. voltage, current, frequency) are only available in single phase, while the complex devices (more than one measurement i.e. power, energy, netanalyser) are also available in 3-phase execution. High currents can be measured through the intermediate use of a current transformer (for the analogue amp-meter combined with an interchangeable scale-plate). All devices have very good precision and have also a very low self-consumption to limit as much as possible the measurement error. Using one monophase-volt or amp-meter in a 3-phase system is possible by using the appropriate selector switch. The energy meters as well as the netanalysers are true RMS measuring devices. Monitoring and logging all electrical values on to a PC is possible by using the MT PRG software.









### Performance

	Analogue instruments	Digital instruments	Net analyser
<b>Readout</b>	Polycarbonate+carbon needle	3digit 7segment LED	LCD display
Scale selection	Interchangeable scaleplate	Dip-switches	Dip-switches
Own consumption current meters	0.3VA	1.5VA	-
Own consumption other meters	1.5VA	1.5VA	-
Operating temperature range	-10 ... +55°C	-5 ... +55°C	-10 ... +55°C
Test voltage	2000V at 50Hz during 1 minute	2000V at 50Hz during 1 minute	2000V at 50Hz during 1 minute
Class of precision (accuracy)	1.5 (0.5 for frequency meter)	0.5% ±1 digit referred to full scale	0.5% ±1 digit referred to full scale
Overload current coils			
- 1 second	10xIn	10xIn	10xIn
- Continuous	2xIn	2xIn	2xIn
Overload voltage coils			
- 0.5 second	2xUn	2xUn	2xUn
- Continuous	1.2xUn	1.2xUn	1.2xUn
Vibration resistance	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours	0.35 mm at 10/55Hz on 3 axes, duration of 6 hours
Shock resistance	50g	50g	50g
Protection degree	IP40	IP40	IP40
Screws	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min	1x1 mm <sup>2</sup>	1x1 mm <sup>2</sup>	1x1 mm <sup>2</sup>
max	1x16 mm <sup>2</sup> or 2x6 mm <sup>2</sup>	1x16 mm <sup>2</sup> or 2x6 mm <sup>2</sup>	1x16 mm <sup>2</sup> or 2x6 mm <sup>2</sup>

More technical data ● website  
Dimensions ● pg D.48



Series MT - Analogue measurement instruments

	Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.	
 	Volt meter	300V	1.5	1	3	MT AV 300	666417	1
		500V	1.5	1	3	MT AV 500	666418	1
 	Ammeter	-	1.5	1	3	MT AA	666414	1
		5A	1.5	1	3	MT AA 5	666413	1
		10A	1.5	1	3	MT AA 10	666408	1
		15A	1.5	1	3	MT AA 15	666409	1
		20A	1.5	1	3	MT AA 20	666410	1
		25A	1.5	1	3	MT AA 25	666411	1
		30A	1.5	1	3	MT AA 30	666412	1
 	Frequency meter	45 ... 65Hz	0.5	1	3	MT AF	666415	1
 	Hour counter	230V/50Hz	-	1	2	MT AH	666416	1
		110V/50Hz	-	1	2	MT AH 110	666431	1
		24V/50Hz	-	1	2	MT AH 24	666432	1

Series MT

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Series MT - Digital measurement instruments

Comfort functions

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











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		Scale	Accuracy	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.	
	Volt meter 	500V	0.5% ± 2 dig	1	2	MT DV 500 2M	666670	1	
	Ammeter 	5A	0.5% ± 2 dig	1	2	MT DA 5 2M	666671	1	
		5A	0.5% ± 2 dig	1	2	MT DA DV 52M	666674	1	
	Ammeter and Voltmeter 								
	Frequency meter 	40 ... 80Hz	0.3% ± 1 dig	1	2	MT DF 2M	666673	1	
	Watt meter 	9,99 W	1% ± 2 dig	1	2	MT DW 110	667214	1	
		999 W	1% ± 2 dig	3	2	MT DW 11000	667215	1	
	Multifunction relays	1-phase: V, A, W, cosφ, energy meter kWh, hour counter with buzzer alarm, priority relay. AC/DC supply		0.5%	1	2	MTDNPRI1	666448	1
		3-phase: V, A, W, cosφ, Hz (F-F; F-N; A in neutral); kWh (imp-exp); hour counter; phase sequence; phase-neutral asymmetric phase-neutral voltage, AC/CC supply.		0.5%	3+N	2	MTDNPRI3	666449	1
	Energy meter 	5(30)A	2	1	1	MT DE 1 1M	666675	1	
		5(32)A	2	1	2	MT DE 1I 32A	666434	1	
		5A	2	3+N	4	MT DE 3NI5A	666452	1	
		5A	2	3	4	MT DE 3I O	666676 <sup>(1)</sup>	1	
		63A 63A	2 2	1 3+N	2 4	MT DE 1I 63A MT DE 3N I 63A	666450 666631	1 1	
	Net analyser	5A	1	3(+N)	6	MT DN 3L	666451	1 <sup>(2)</sup>	
	Digital-multimeter								
									

(1) Only for net 3P+N  
(2) Oscilloscope function

New



Series MT - Current transformer

	Scale	Accuracy	Power (VA)	Type	Cat. No.	Ref. No.	Pack.
	40/5A	3	2	TAM 1D	MT CT 40	666381	1
	50/5A	3	2	TAM 1D	MT CT 50	666383	1
	60/5A	3	2	TAM 1D	MT CT 60	666385	1
	80/5A	3	3	TAM 1D	MT CT 80	666387	1
	100/5A	1	2	TAM 3D	MT CT 100	666375	1
	150/5A	1	3	TAM 3D	MT CT 150	666377	1
	200/5A	1	3	TAM 3D	MT CT 200	666378	1
	250/5A	0.5	2	TAM 3D	MT CT 250	666379	1
	300/5A	0.5	2	TAM 3D	MT CT 300	666380	1
	400/5A	0.5	3	TAM 3D	MT CT 400	666382	1
	500/5A	0.5	10	TAM 4D	MT CT 500	666384	1
	600/5A	0.5	10	TAM 4D	MT CT 600	666386	1
	800/5A	0.5	10	TAM 6	MT CT 800	666388	1
	1000/5A	0.5	10	TAM 6	MT CT 1000	666376	1
	1200/5A	0.5	-	-	MT CT 1200	666677	1
	1500/5A	0.5	-	-	MT CT 1500	666678	1
2000/5A	0.5	-	-	MT CT 2000	666679	1	



Interchangeable Ammeter scaleplates



40/5A	-	-	-	-	MT SP 40	666395	10
50/5A	-	-	-	-	MT SP 50	666397	10
60/5A	-	-	-	-	MT SP 60	666399	10
80/5A	-	-	-	-	MT SP 80	666401	10
100/5A	-	-	-	-	MT SP 100	666389	10
150/5A	-	-	-	-	MT SP 150	666391	10
200/5A	-	-	-	-	MT SP 200	666392	10
250/5A	-	-	-	-	MT SP 250	666393	10
300/5A	-	-	-	-	MT SP 300	666394	10
400/5A	-	-	-	-	MT SP 400	666396	10
500/5A	-	-	-	-	MT SP 500	666398	10
600/5A	-	-	-	-	MT SP 600	666400	10
800/5A	-	-	-	-	MT SP 800	666402	10
1000/5A	-	-	-	-	MT SP 1000	666390	10

Accessories

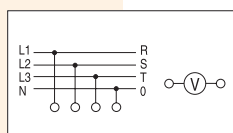
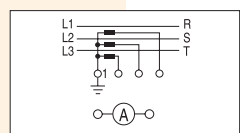
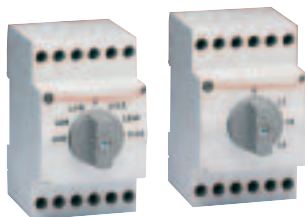


RS485 to RS232 signal converter



	Number of phases	Number of modules	Cat. No.	Ref. No.	Pack.
	-	2	MT RSC	666404	1

Selector switch



Amperage	3	3	MT S 4	666405	1
Voltage	3	3	MT S 7	666406	1

Series MT

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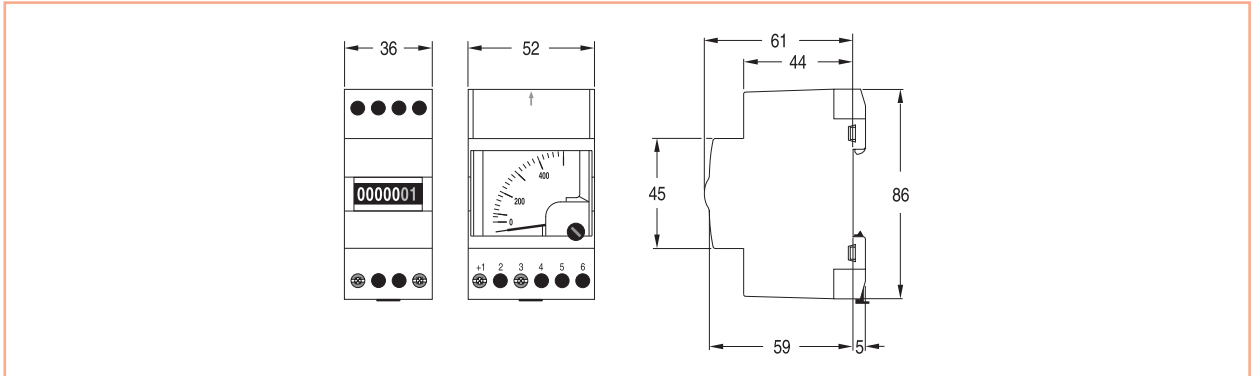
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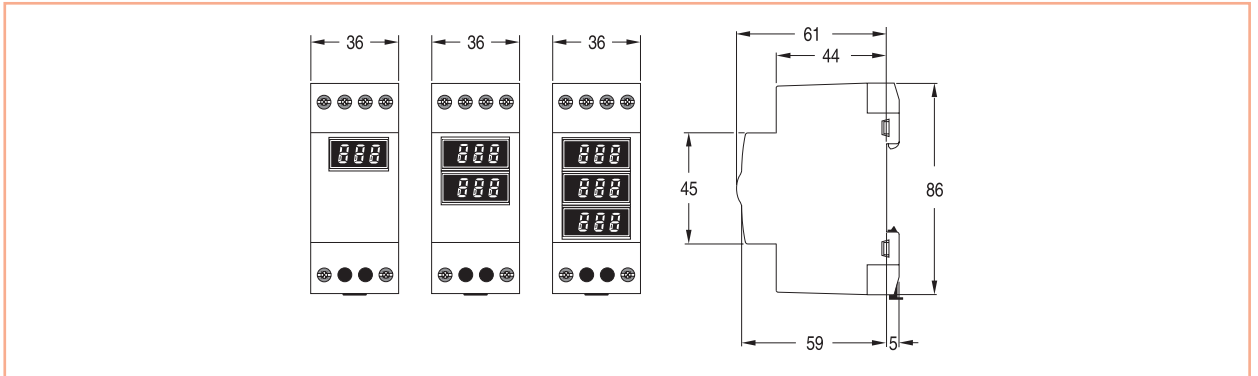
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## Dimensional drawings

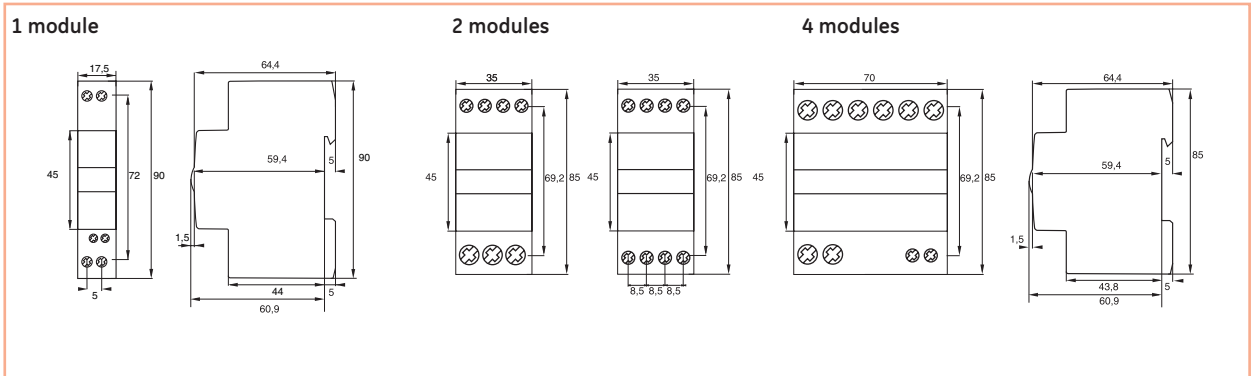
### Analogue measurement instruments - Series MT



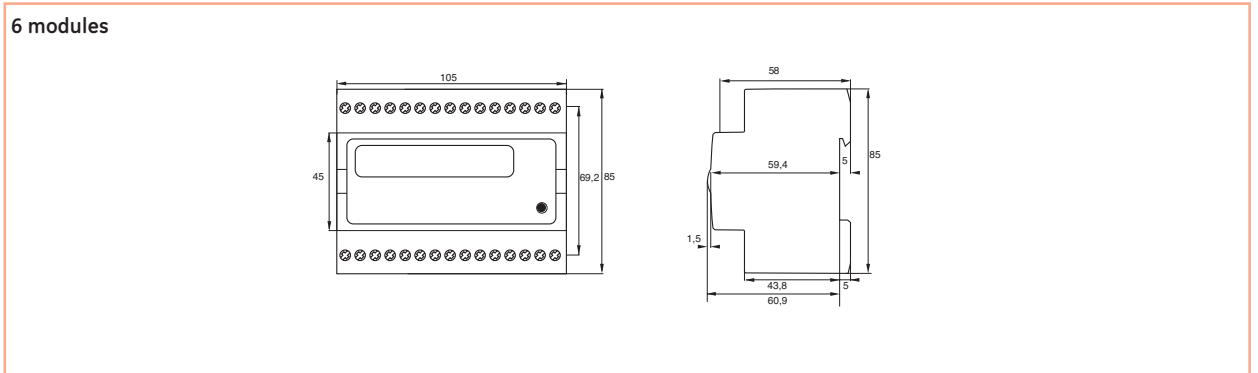
### Digital measurement instruments - Series MT



### Energy meter - Series MT



### Network analyser - Series MT



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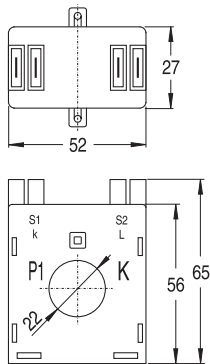
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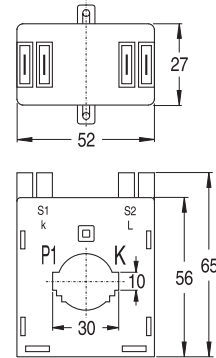
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**Current transformer - Series MT**

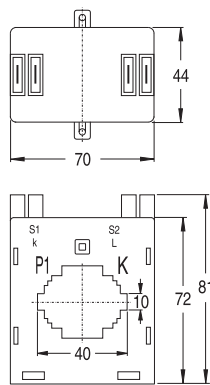
40 up to 80A



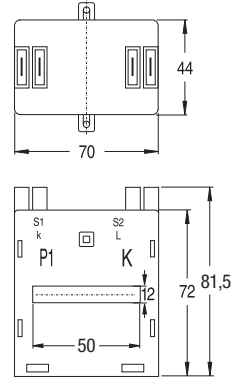
100 up to 400A



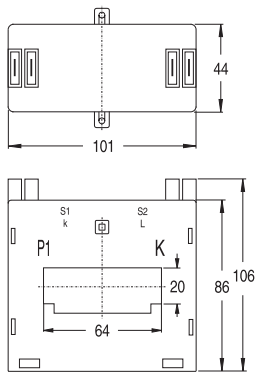
500 and 600A



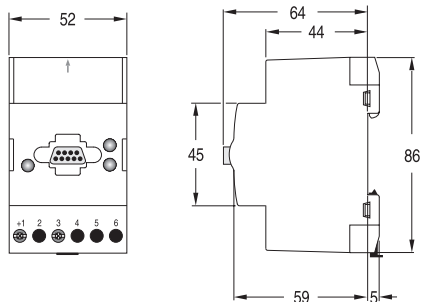
800A



1000 and 2000A



**Signal converter - Series MT**



**Selector switch - Series MT**

