

Wattmeters

Analogue indicator to measure active power



Description

- Does not need an auxiliary power supply
- DIN box with dimensions 96 and 144. Class 1.5
- Built-in electronic converter
- Balanced and unbalanced single and three-phase circuits.

Application

Measurement of active power in balanced or unbalanced single and three-phase circuits.

Features

	WMC	WTC
Voltage circuit		
Voltage	400 V	
Consumption	1 ... 4 V·A	
Frequency	45 ... 65 Hz	
Overloads	1.25 U_n permanent 2 U_n during 5 s	
Current circuit		
Nominal current	... 5 A	
Consumption	0.3 ... 1.5 V·A	
Frequency	45 ... 65 Hz	
Overloads	1.2 I_n permanent 5 I_n during 30 s 10 I_n during 5 s 40 I_n during 1 s	
Accuracy	± 1.5 % FS	
Ambient conditions		
Operating temperature	+10 ... +30 °C	
Limit temperature	- 25 ... +40 °C	
Altitude	2000 m	
Build features		
Dimensions	See the following table	
Weight	See the following table	
Type of box	panel	
Degree of protection:		
Front panel	IP 52	
Terminals	IP 00	
Insulation voltage	2 kV, during 1 min, between the mechanism and the box	
Standards	BS 89, EN 60051, IEC 144, UL 94, DIN 43780, IEC 51, UNE 21318	

Wattmeters


Analogue indicator to measure active power



References

WMC: Single-phase wattmeters



Single-phase			
Type	WMC 96	WMC 144	
Class	1,5		
Scale	90° P1 (Simple profile)		
Dimensions (mm)			
	a	96	144
	b	96	144
	c	49,2	71,8
Weight (g)	290	490	
$U_{\text{phase-phase}}$	400 V		
	(*) M13031	M13041	


*Scale is NOT included for **WMC 96**. For exchangeable scales, see Tables.

*Scale included for **WMC 144**. Indicate the transformer ratio, power and voltage scale base.

*Other voltage values, on demand.

WTC: Three-phase wattmeters



Type	Balanced three-phase		Three-phase 3 wires (ARON)		Three-phase (4 wires)		
	WTC 96E	WTC 144E	WTC 96A	WTC 144A	WTC 96AN	WTC 144AN	
Class	1,5						
Scale	90° P1 (Simple profile)						
Dimensions (mm)							
	a	96	144	96	144	96	144
	b	96	144	96	144	96	144
	c	49,2	71,8	62,9	71,8	62,9	71,8
Weight (g)	290	490	430	640	430	640	
$U_{\text{phase-phase}}$	400 V		110 V		400 V		
	(*)M13032	M13032	M13034	M13044	(*)M13033	M13043	

*Scale is NOT included for **WTC 96E** and **WTC 96AN**.

For exchangeable scales, see Tables.

*Scale included for **WTC 144E**, **WTC 96A**, **WTC144A** and **WTC 144AN**.

Indicate the transformer ratio, power and voltage scale base.

*Other voltage values, on demand.

Wattmeters

Analogue indicator to measure active power



References

Exchangeable scales

Single-phase wattmeters

Exchangeable scales		
Single-phase		
Type	SWM 96	
Equipment	WMC 96	
A	Scale Base	Code
50/5	20 kW	M130J9
75/5	-	-
100/5	40 kW	M130JC
150/5	60 kW	M130JE
200/5	80 kW	M130JF
300/5	120 kW	M130JH
400/5	160 kW	M130JJ
500/5	200 kW	M130JK
600/5	240 kW	M130JL
1 000/5	400 kW	M130JP
1 500/5	600 kW	M130JR
2 000/5	800 kW	M130JS
3 000/5	1.2 MW	M130JU
4 000/5	1.6 MW	M130JV
5 000/5	2.0 MW	M130JW

Three-phase wattmeters

Exchangeable scales			
Three-phase			
Type	SWT 96E		SWT 96AN
Equipment		WTC 96E	WTC 96AN
A	Scale Base	Code	Code
50/5	30 kW	M130K9	M130L9
75/5	50 kW	M130KB	M130LB
100/5	60 kW	M130KC	M130LC
150/5	90 kW	M130KE	M130LE
200/5	120 kW	M130KF	M130LF
300/5	180 kW	M130KH	M130LH
400/5	240 kW	M130KJ	M130LJ
500/5	300 kW	M130KK	M130LK
600/5	360 kW	M130KL	M130LL
1 000/5	600 kW	M130KP	M130LP
1 500/5	900 kW	M130KR	M130LR
2 000/5	1.2 MW	M130KS	M130LS
3 000/5	1.8 MW	M130KU	M130LU
4 000/5	2.4 MW	M130KV	M130LV
5 000/5	3 MW	M130KW	M130LW

Wattmeters

Analogue indicator to measure active power



Coding table

Wattmeters	M	1	X	X	X	X	0	0	X	X	X	
	Code							Internal Code		↑	↑	↑
	Current input	Standard ... / 5 A						0		↑	↑	↑
		... / 1 A						1				
	Voltage	Standard (400 V _{p-p})						0		↑	↑	↑
		110 V _{p-p} (a)						1				
		230 V _{p-p}						2				
		440 V _{p-p}						5				
		460 V _{p-p}						6				
	Scale range	50								↑	↑	↑
		75										
		100										
		150										
		200										
		300										
		400										
		500										
600												
1000												
Primary current transformer	1500								↑	↑	↑	
	2000											
	3000											
	4000											
	5000											

(a) For unbalanced ARON (3 wire) three-phase units, 100 V is considered the standard voltage

Wattmeter scales	M	1	X	X	X	X	0	0	X	X	
	Code							Internal Code		↑	↑
	Current input	Standard ... / 5 A						0		↑	↑
		... / 1 A						1			
	Voltage	Standard (400 V)						0		↑	↑
		110 V (a)						1			
		230 V						2			
440 V						5					
460 V						6					

(a) For unbalanced ARON (3 wire) three-phase units, 100 V is considered the standard voltage

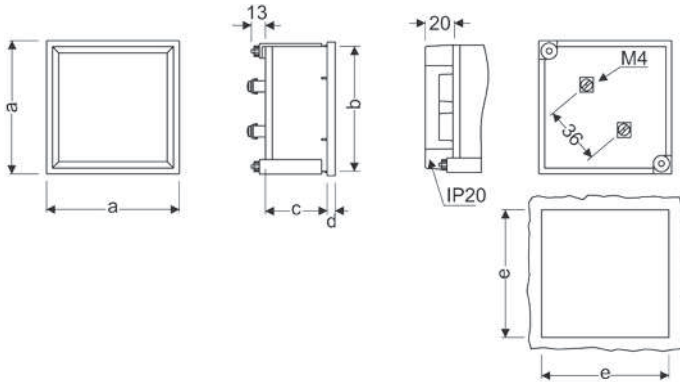
Wattmeters

Analogue indicator to measure active power



Dimensions

WMC / WTC

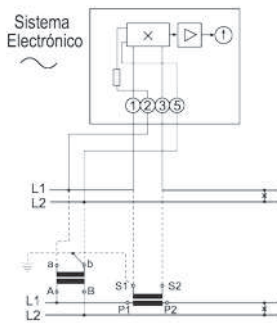


Type	a	b	c	d	e
96 E	96	91	43,5	5,7	92 ^{+0,8}
96 A / AN	96	91	57,2	5,7	92 ^{+0,8}
144	144	137	94,7	7,3	138 ⁺¹

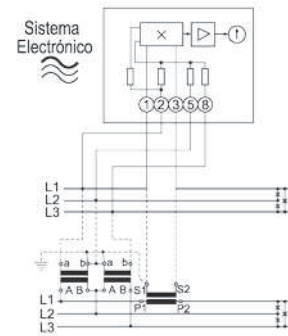
Dimensions (mm)

Connections

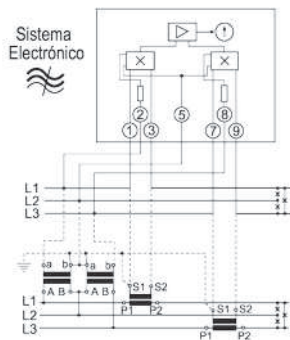
WMC



WTCE



WTCA



WTCAN

