



MOVING-IRON INSTRUMENTS WITH INTERCHANGEABLE SCALES



48LA, 72LA, 96LA, 144LA, 48LV, 72LV, 96LV, 144LV

For measuring AC current or voltage.

Type 48L..., 72L... and 96L... are with interchangeable scale.

Technical data:

Movement: Moving-iron with spring-type oil filled bearing, vibration-free oil damping.

Instrument case: non-flammable plastic according to UL 94-V1 or metal on request. On special request voltmeters as well as ammeters up to 6A will be supplied with plastic terminal cover.

Scale length: 40 mm (48L...), 62 mm (72L...), 102 mm (96L...), 152 mm (144L...).

Permanent overloading: 1.2 -fold current res. voltage.

Class of accuracy: 1.5

Frequency range: 15...50...100 Hz

Weight: 0.15 kg (48L...), 0.2 kg (72L...), 0.35 kg (96L...), 0.8 kg (144L...).

Fixing elements: plastic clips or two spring-type fastening clips for metal case instruments



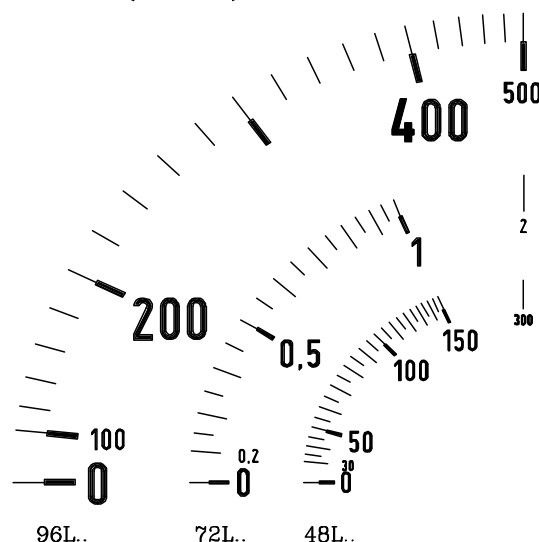
AMMETERS		Plastic case				Metal case		
Frame dimensions		48x48 mm	72x72 mm	96x96 mm	144x144 mm	72x72 mm	96x96 mm	144x144 mm
Measuring range	Cat. No.	Type 48 LA	Type 72 LA	Type: 96 LA	Type: 144 LA	Type 72 LA	Type 96 LA	Type 144 LA
		2015-13-...	1640-13-...	1636-13-...	2549-13-...	1561-13-...	1560-13-...	2299-13-...
		consumption	consumption	consumption	consumption	consumption	consumption	consumption
400/800 mA	001	max. 0.5 VA	max. 0.5 VA	max. 0.5 VA	max. 0.7 VA	max. 0.5 VA	max. 0.5 VA	max. 0.7 VA
500/1000 mA	002	↓	↓	↓	↓	↓	↓	↓
600/1200 mA	003							
1 / 2 A	005							
1.5 / 3 A	007							
2.5 / 5 A	009							
4 / 8 A	011							
5 / 10 A	012							
6 / 12 A	013							
10 / 20 A	015							
15 / 30 A	017							
20 / 40 A	018							
25 / 50 A	019							
30 / 60 A	020							
40 / 80 A	021	max. 1.5 VA	max. 2 VA	max. 2 VA	max. 2,5 VA	max. 2 VA	max. 2 VA	max. 2,5 VA
50 / 100 A	022	----	↓	↓	↓	↓	↓	↓
60 / 120 A	023	----						
100 / 200 A	024	----						
* 1 / 2 A	C03	max. 0.5 VA	max. 0.5 VA	max. 0.5 VA	max. 0.7 VA	max. 0.5 VA	max. 0.5 VA	max. 0.7 VA
* 5 / 10 A	C04	max. 0.5 VA	max. 0.5 VA	max. 0.5 VA	max. 0.7 VA	max. 0.5 VA	max. 0.5 VA	max. 0.7 VA

On request 48x48 mm instruments with metal case are possible

* For current transformer connection

Scales (M=1:1)

Note: on request types different from tables are accepted.





MOVING-IRON INSTRUMENTS WITH INTERCHANGEABLE SCALES

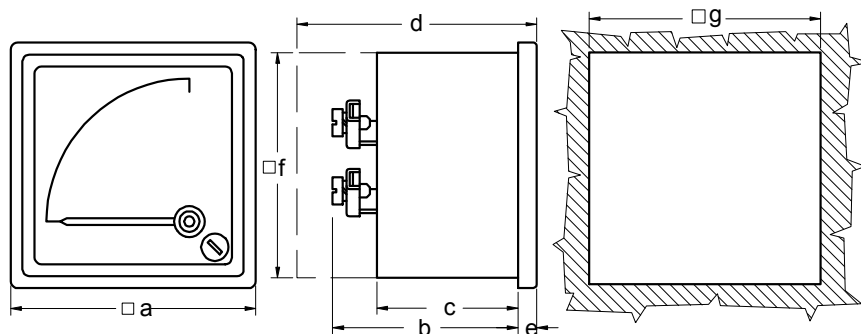


VOLTMETERS			Plastic case				Metal case		
Frame dimensions			48x48 mm	72x72 mm	96x96 mm	144x144 mm	72x72 mm	96x96 mm	144x144 mm
Measuring range	Cat. No.		Type 48 LV	Type 72 LV	Type 96 LV	Type 144 LV	Type 72 LV	Type 96 LV	Type 144 LV
			2015-13-...	1640-13-...	1636-13-...	2549-13-...	1561-13-...	1560-13-...	2299-13-...
			consumption	consumption	consumption	consumption	consumption	consumption	consumption
6 V	101		max. 3 VA	max. 3 VA	max. 3 VA	max. 3.5 VA	max. 3 VA	max. 3 VA	max. 3.5 VA
10 V	103								
15 V	105								
20 V	106								
25 V	107								
30 V	108								
40 V	109								
50 V	110								
60 V	111								
80 V	112								
100 V	113								
150 V	115								
200 V	116								
250 V	117								
300 V	118								
400 V	119								
500 V	120								
600 V	121								
**.../ 100 V	C05								
**.../ 110 V	C06								

** For voltage transformer connection

Note: on request types different from tables are accepted

Outline drawing



Type\Dim. (mm)	a	b1	b2	c1	c2	*d	e	f	g
48LV	48	57.5	----	41.5	----	63	5.5	44	45 ^{+0.6}
48LA 400mA-15A		60.5							
48LA 20A -50A									
72LV	72	57.5	62	41.5	51	c+25	5.5	66	68 ^{+0.7}
72LA 400mA-20A		60.5	69			----			
72LA 25A -100A									
96LV	96	57.5	62	41.5	51	c+25	5.5	90	92 ^{+0.8}
96LA 400mA-20A		60.5	69			----			
96LA 25A - 100A									
144LV	144	----	59		47	----	7	137	138 ⁺¹
144LA 400mA-20A			70			----			
144LA 25A - 100A									

b1, c1 refers to plastic case instrument

b2, c2 refers to metal case instrument

* case with terminal cover

Order specification:

-Moving-iron ammeter
 -Frame size: 72x72 mm
 -Case: plastic
 -Range: 50 / 10 A
 -CT: 600/5 A
 -Scale: 0...600/1200 A

Ordering data:

-Moving-iron ammeter
 -Type: 72LA
 -Cat. No. 640-13-CO4
 -CT: 600/5 A
 -Scale: 0...600/1200 A