

ТОП-0.66 and ТИИИ-0.66 CURRENT TRANSFORMERS

ТОП-0.66 and ТИИИ-0.66 current transformers are intended for transmission of measuring signals to measurement devices and are applied in electricity metering and counting circuits of a.c. installations of 50 Hz frequency and up to 0.66 kV (inclusive) rated voltage.



Transformers comply with the requirements of GOST 7746-2001 standard.
Climatic version – CT as in accordance with IEC 60721-2-1:2002 standard.

Transformers are resistant to externally induced mechanical stresses as for M2 mechanical performance group in accordance with GOST 30631-99 and are rated for installation at the altitude of not more than 1000 m above sea level.

As to installation conditions on worksite, the transformers are incorporated ones and they allow to be installed in whatever attitude position.

Insulation thermal-endurance class – E as to GOST 8865-93.

Magnetic cores of the 0.5S; 0.2 and 0.2S accuracy class current transformers for 10...400 A primary currents are of two designs:

1 - made of electric steel;

2 - composite type – made of electric steel and nanocrystalline alloy. Magnetic cores of 0.2 and 0.2S accuracy class are of the 2nd design – multiple-unit of electric steel and nanocrystalline alloy. Index of magnetic core design variant is included into the transformer designation.

Window type current transformers ТИИИ-0.66 for 400...4000 A primary currents are of two designs depending on window size:

-I - 23x103 mm (current transformers for 800...2000 A primary currents);

-II - 38x81 mm (current transformers for 400...1000 A primary currents);

-III - 60x131 mm (current transformers for 1000...4000 A primary currents).

Magnetic cores of transformers are made of electric steel. The window design variant number also is a part of identification code of current transformer.

Secondary winding contact terminals are covered with a transparent plastic cap, which, if necessary, can be sealed up. Transformers are subject to inspection by the Public Standards Body representatives.

ТОП-0.66 and ТИИИ-0.66 current transformers design provides double contact terminals allowing to carry out control checks at facilities without load-off and, for 0.5S; 0.2 and 0.2S accuracy class – a sealed-up contact terminal for connection to a counter coil, which prevents electricity stealing.

Structural parts of the transformers cases are made of hardly ignitable plastic.

As to protection against electric-shock hazard the transformers belong to 0 class in accordance with GOST 12.2.007.0-75 and have IP00 protection degree in accordance with GOST 14254-96.

Under a Customer's order TIIII current transformers for 600 and 800 A primary currents can be fitted with an aluminium busbar of dimensions and mass given in Figure 6, and TIIII current transformers for 1000, 1500 and 2000 A primary currents – with a copper or aluminium busbar of dimensions and mass as to Figure 7.

Basic specifications of the transformers

Description	Norm
Rated voltage, kV	0.66
Rated secondary current, A	5
Rater frequency, Hz	50 or 60
Rated primary current, A	10; 20; 30; 40; 50; 75; 100; 150; 200; 300; 400; 500; 600; 800; 1000; 1200; 1500; 2000; 3000; 4000
Rated secondary load, B·A	5; 10; 15; 20; 30
Accuracy class	1; 0.5; 0.5S; 0.2; 0.2S

Overall, mounting dimensions and mass of the transformers

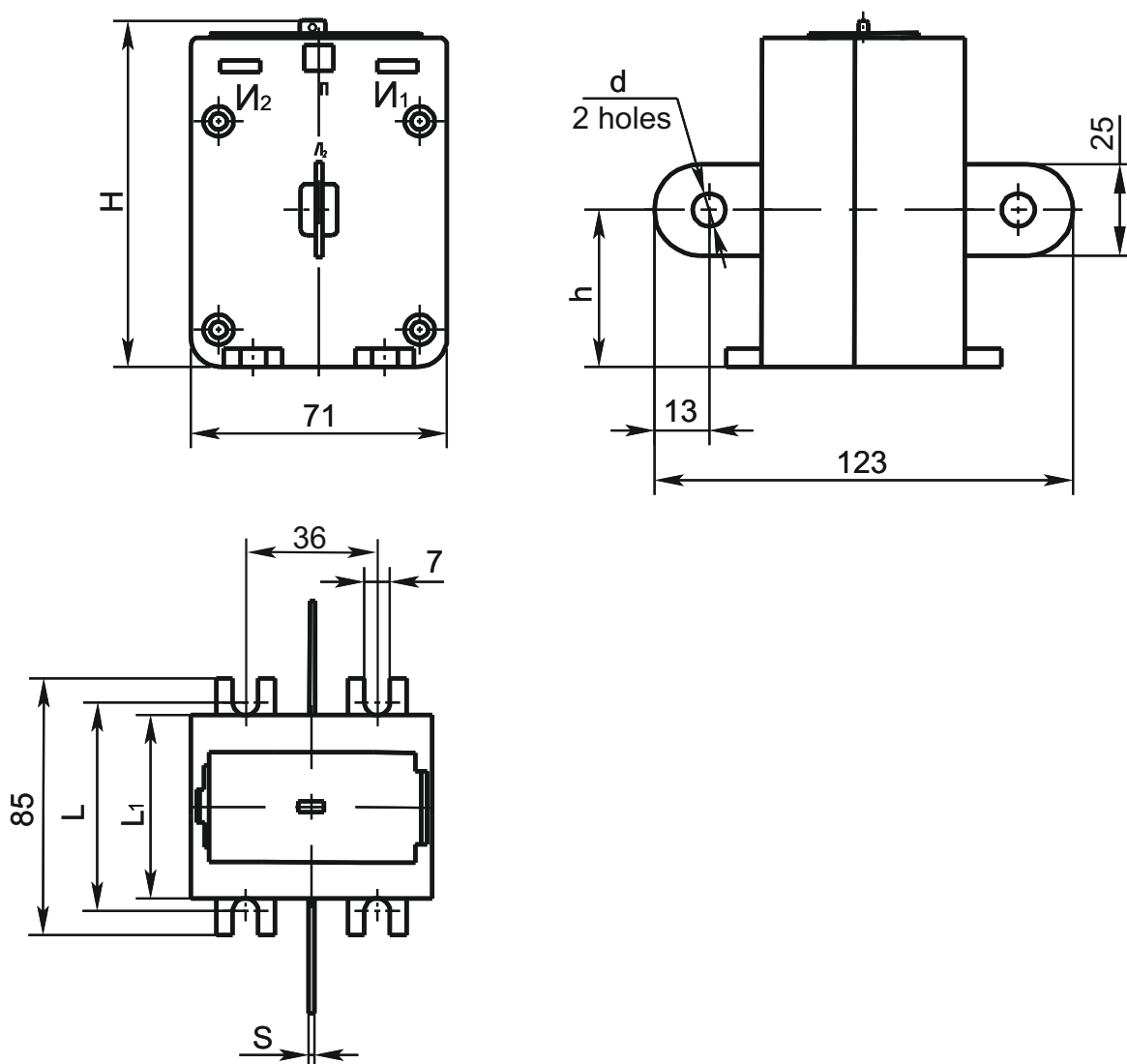


Fig. 1 TOII series transformers for 10...40 A primary currents

Overall, mounting dimensions and mass of the transformers

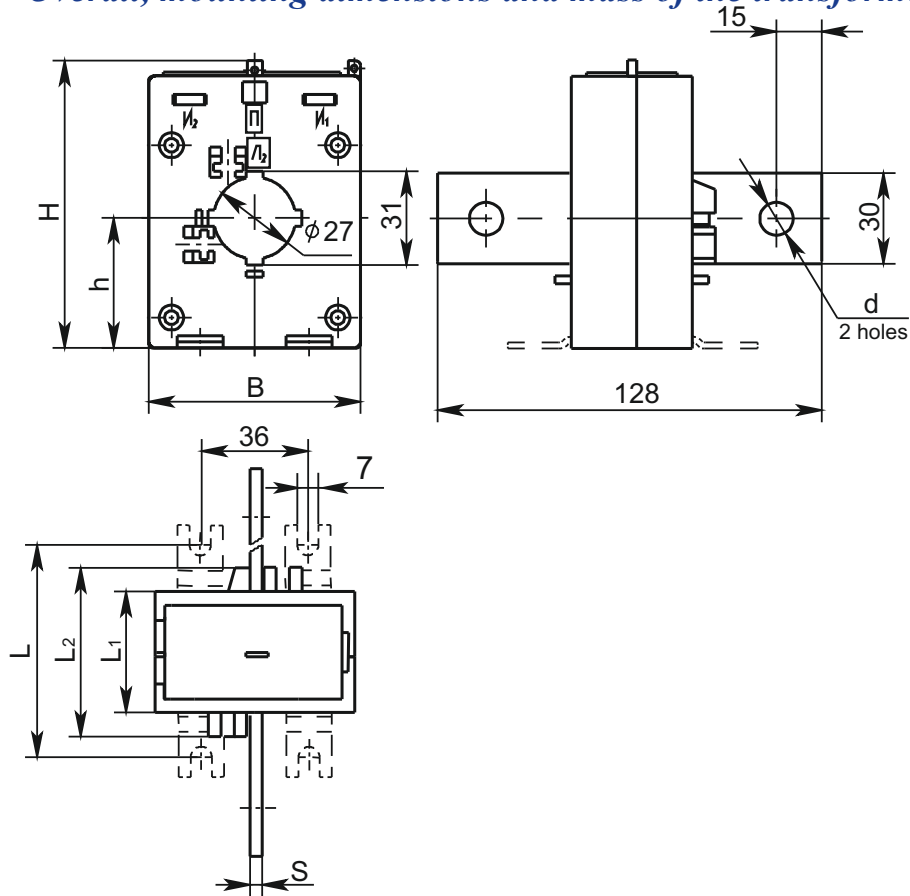


Fig. 2 TOII series transformers for 200, 300 and 400 A primary currents

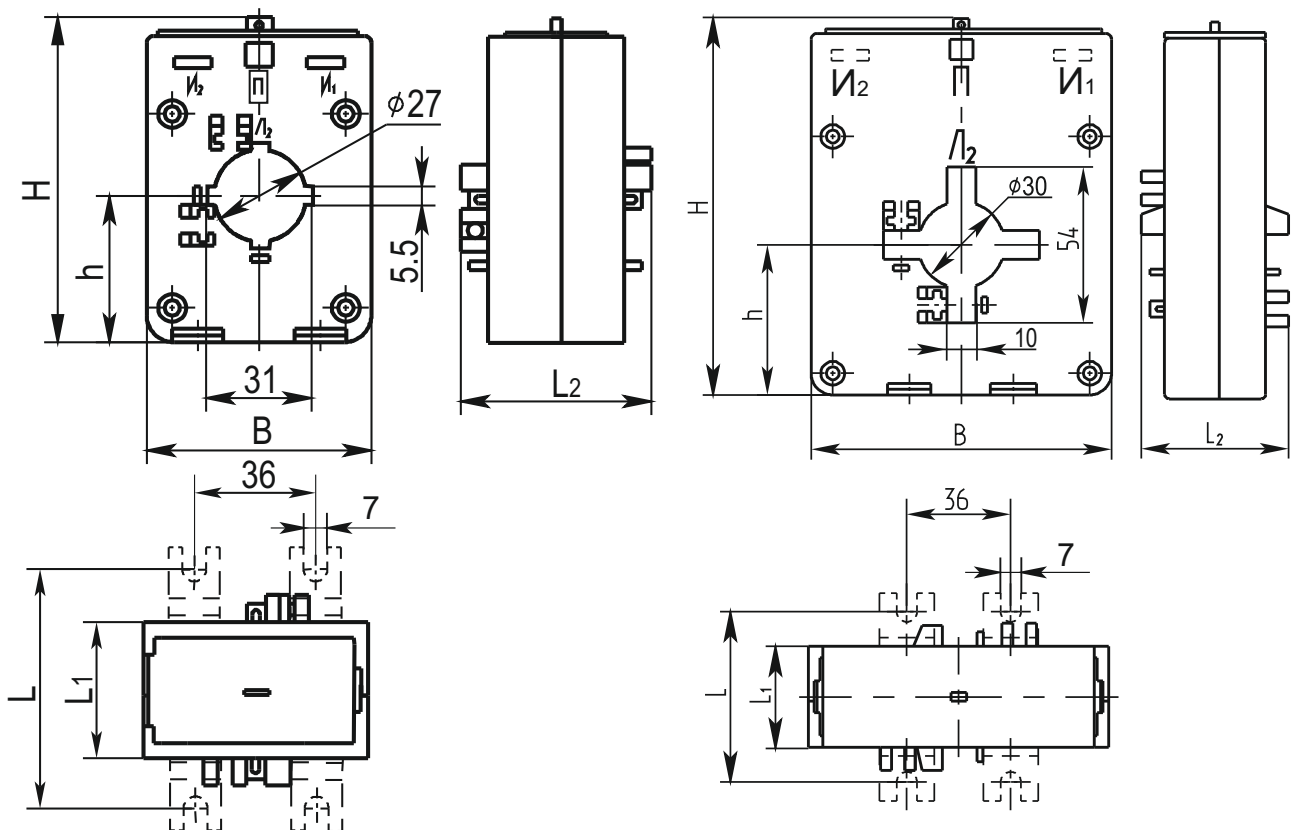


Fig. 3 TIII series transformers for 200, 300 and 400 A primary currents

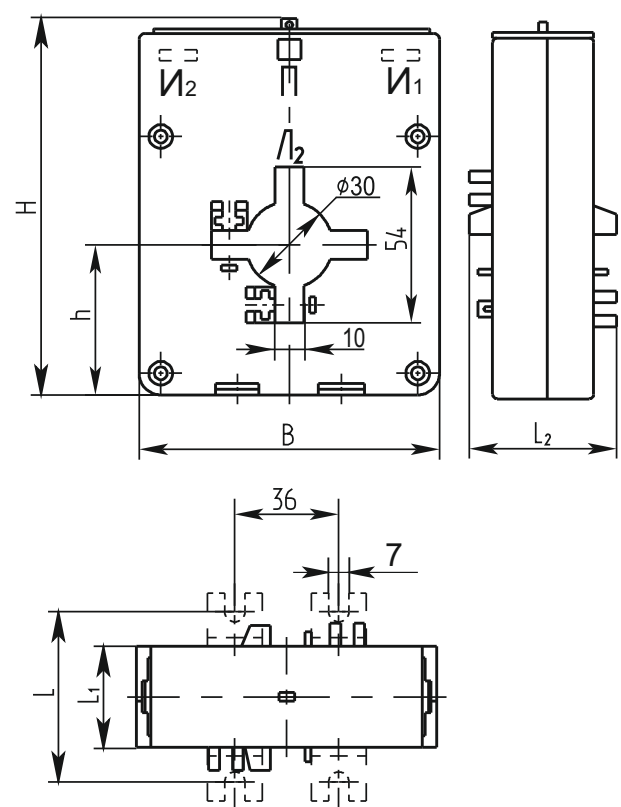


Fig. 4 TIII series transformers for 600 and 800 A primary currents

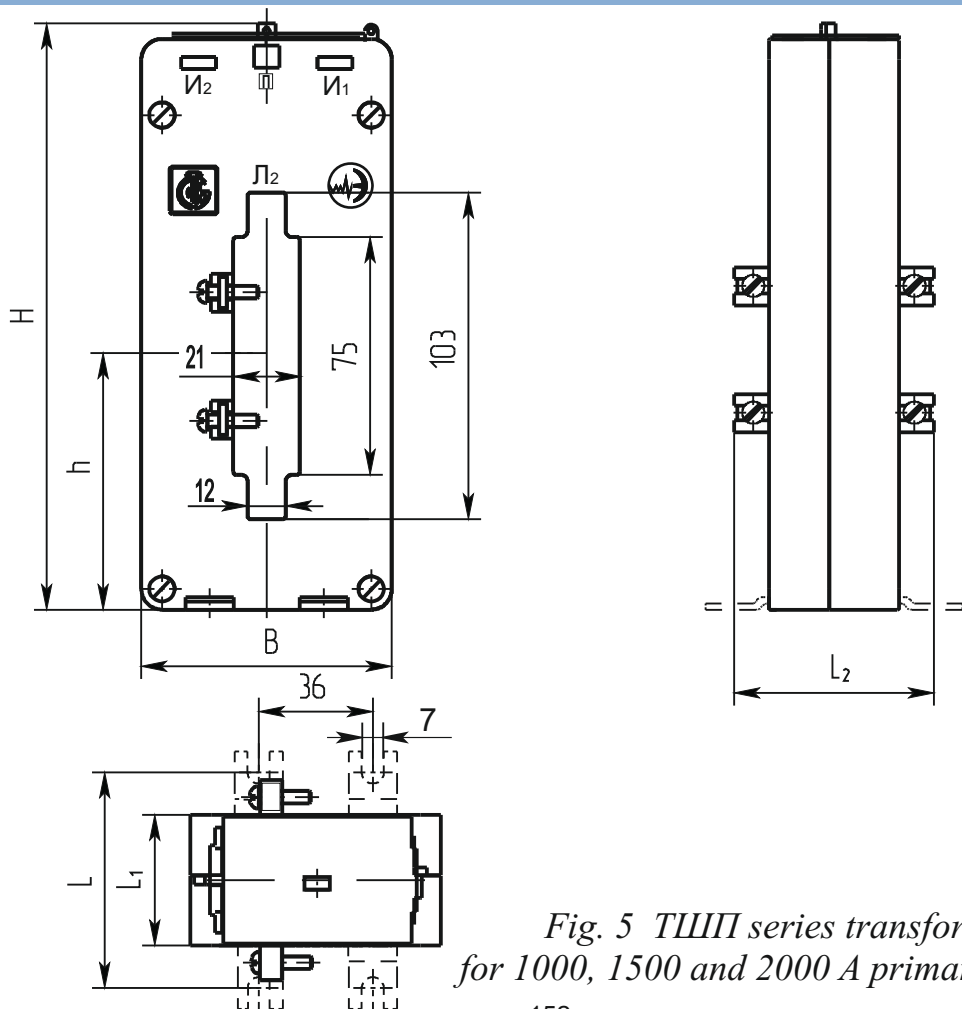


Fig. 5 TIII series transformers
for 1000, 1500 and 2000 A primary currents

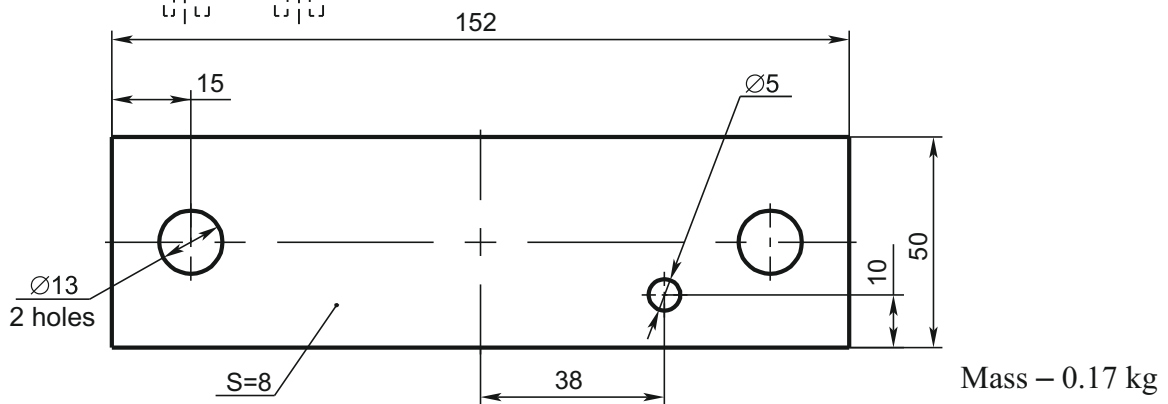
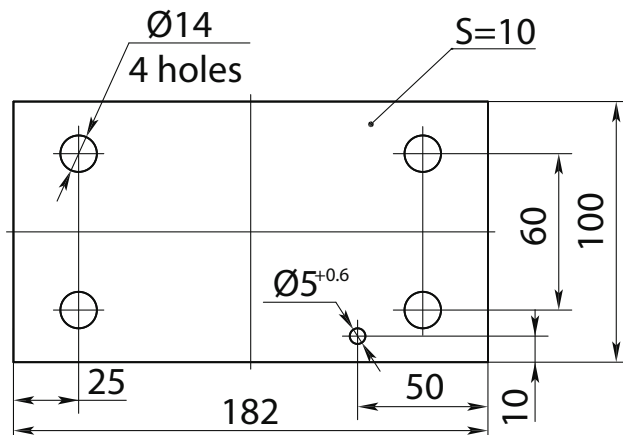


Fig. 6 Busbar for 600 and 800 A primary currents



Mass – 1.58 kg (copper)
– 0.48 kg (aluminium)

Fig. 7 Busbar for 1000, 1500
and 2000 A primary currents

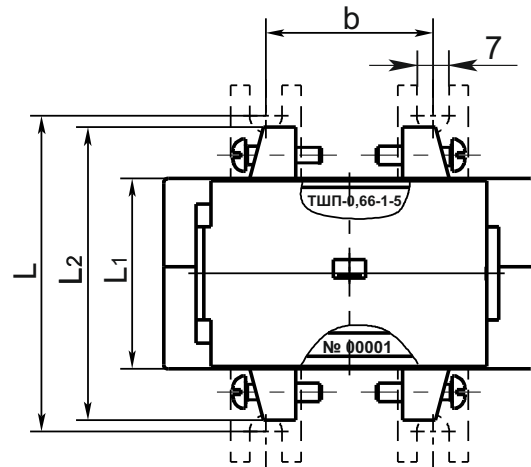
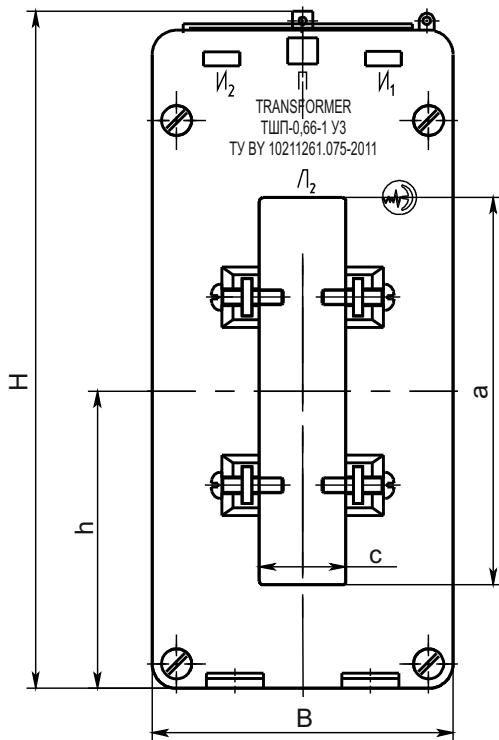


Fig. 8 TШП series transformers for 400...4000 A primary currents

Overall, mounting dimensions and mass of the transformers TШП-0,66

dimensions in millimeters

Type designation	Rated primary current, A	Accur-acy class	Rated secondary load, V·A	Fig	B	d	h	H	L ₁	L ₂	L	S	Mass, kg without busbar	Mass, kg with busbar	
ТШП-0.66-1	200	0.5	5	3	71	10.5	43	97	47	70	72	4	0.60	0.65	
	300	0.5; 0.5S											0.55	0.60	
	400	0.5; 0.5S				0.60	0.65								
	600	1; 0.5; 0.5S	10; 15; 20	4	105	13.0	52	132	35	60	60	8	0.65	0.70	
													0.87	1.04	
	800												0.90	1.07	
	1000	0.5	5; 10; 15; 20; 30	5	80	14	81	187	41	65	68	10		0.97	1.45*
														2.55**	
		1.20												1.68*	
		2.78**													
1500	0.5	0.85	1.33*												
	0.5S	1.05	2.63**												
2000	0.5	0.9	1.38*												
	0.5S	2.48**													
ТШП-0.66-2	200	0.5S	5	3	71	10.5	43	97	47	70	72	4	0.61	0.66	
	300	0.5S; 0.2;											0.70	0.75	
	400	0.2S				0.65	0.70								

* with aluminum busbar

** with copper busbar

Overall, mounting dimensions and mass of the transformers TOII-0.66

dimensions in millimeters

Type designation	Rated primary current, A	Accur -acy class	Rated secondary load, V·A	Fig	B	d	h	H	L ₁	L ₂	L	S	Mass, kg without busbar	Mass, kg with busbar								
ТОП-0.66-1	10; 20; 30; 40; 100; 150	0.5; 0.5S	5	1	71	9.0	43	97	55	-	74	15	-	0.65								
	50	0.5; 0.5S												0.70								
	200	0.5S												0.65								
	50	0.5S	10											0.83								
		0.5	10; 15; 20																			
		1	10; 15; 20; 30																			
	75	0.5S	10											0.80								
		0.5	10; 15; 20																			
		1	10; 15; 20; 30																			
	150	0.5S	10											0.75								
		0.5	10; 15; 20																			
		1	10; 15; 20; 30																			
	100; 200	1; 0.5	10; 15; 20											2	10.5	13.0	47	70	72	4	0.60	0.65
	200	0.5	5																		0.55	0.60
300	0.5; 0.5S	5		0.60	0.65																	
	0.5; 0.5S			0.65	0.70																	
400	1; 0.5	10; 15; 20	ТОП-0.66-2	5	9.0	55	-	74	1.5	-	0.60											
10; 20; 30; 40; 75; 100; 150	0.5S	1									0.65											
50											2	10.5	0.61	0.66								
200												47	70	72	4	0.55	0.60					
300															5							
400	0.2; 0.2S	1									13.0	0.70										
10; 20; 30; 40; 75; 100; 150; 200											1	9.0	-	74	1.5	0.75						
50												2				10.5	0.65					
300			13.0	47	70	72	4	0.60	0.65													
400	5	0.65	0.70																			

Overall, mounting dimensions and mass of the transformers

dimensions in millimeters

Type designation	Rated primary current, A	Accuracy class	Rated secondary load, V·A	Fig	B	b	a	c	h	H	L ₁	L ₂	L	Mass, kg
ТШП-0.66-I	800	1; 0.5	5; 10; 15	8	80		103	23	80	182	41	65	68	0.84
		0.5S	5; 10											0.87
	1; 0.5; 0.5S	5; 10; 15	1000											0.91
			1200											0.95
			1500											1.03
2000														
ТШП-0.66-II	400	1	5; 10; 15	8	90	36	81	38	70	162	50	75	77	1.17
		0.5	5; 10											1.19
		0.5S	5											
	500	1	5; 10; 15											1.21
		0.5	5; 10											
		0.5S	5											
	600	1	5; 10; 15											1.00
		0.5	5; 10											
		0.5S	5											
	800	1	5; 10; 15											1.03
		0.5	5; 10											
		0.5S	5											
	1000	1	5; 10; 15											1.15
0.5		5; 10												
0.5S		5												
ТШП-0.66-III	1000	1; 0.5; 0.5S	5; 10; 15	120	60	131	60	98	222	41	65	68	1.18	
	1200												1.23	
	1500												1.11	
	2000												1.24	
	3000												1.44	
4000														

Sample of notation (to place an order, or to refer to) for a typical transformer of 150 A primary current, of 5 A secondary current, of 5 VA secondary load rating, of 0.5S accuracy class:

Current transformer ТШП-0.66-1-5-0.5S-150/5 Y3 ТУ РБ 05544590.020-97

The same, but with a composite magnetic core:

Current transformer ТШП-0.66-2-5-0.5S-150/5 Y3 ТУ РБ 05544590.020-97

Example of reference designation of the busbar design transformer with the II window size (38×81 mm), with rated primary current 800 A, with secondary current 5 A, with accuracy class 0.5S, with secondary load 5 V·A, when ordering and in the documentation of other product:

Current transformer ТШП-0.66-II-5-0.5S-800/5 Y3 ТУ БУ 100211261/075-2012.

(where ТУ РБ = Technical Specifications of the Republic of Belarus).