



Medium Voltage Product

TPU 4x.xx

Indoor supporting current transformers



Technical parameters	Value
Highest voltage for equipment	3.6 - 12 kV
Power frequency test voltage, 1 min.	10 - 42 kV
Lighting impulse test voltage	40 - 95 kV
Rated primary current	10 - 3 200 A
Rated short-time thermal current	2 - 100 kA/ 1s
Reconnectable (primary till 400-800 A)	primary or secondary

Description

The TPU 4x.xx transformers are cast in epoxy resin and designed for insulation voltages up to 12 kV. The 3.6 kV and 7.2 kV versions have the same dimensions as the 12 kV. For certain types of panels there is a need for extra long creepage distance on the transformers. For this purpose you can order current transformers with „ribs on the top“. The transformers are manufactured in conformity with dimensions stated hereunder. The TPU 4x.xx transformers are designed as single-turn or multi-turn versions, with one transformer ratio or with double ratio having the possibility to be reconnectable on the primary or on the secondary side. The number of secondary windings (from 1 to 6 – max. 12 secondary terminals - 2 rows), depends on the combination of the technical parameters (such as the accuracy class, burden, short-circuit current, overcurrent factor...) and the transformer dimensions size.

When agreed between the manufacturer and the customer the TPU transformers can be provided with the voltage indication system. For this purpose, however, it is necessary to know in what insulation level the transformers shall operate. The secondary windings are used for measurement or protection purposes, or for special use (testing winding, „X“ class windings). One terminal of each secondary winding used and one terminal of short-circuited and not used winding have to be earthed during the transformer operation. The secondary windings are lead out into a cast-type secondary terminal box with plastic cover. The terminal cover is sealable. The terminals are provided with M5 screws for the termination and with throughgoing holes for direct earthing (first row of secondary terminals).

Technical data

The transformer can be mounted in any position. The transformer body is fixed by using four screws. Earth clamp M8 is on the transformer base plate.

Rated primary voltages

3.6 kV; 7.2 kV; 12 kV

Rated primary currents

10; 15; 20; 25; 30; 40; 50; 60; 75; 100; 150; 200; 300; 400; 500; 600; 750; 1 000; 1 250; 1 500; 2 000; 2 500; 3 000 and 3 200 A; primary reconnectable modification max till 400-800 A. Other primary currents can also be agreed upon with the customer.

Rated secondary currents

5 A; 1 A, others on request (possibility to combine different values in one transformer)

Accuracy classes

0.2; 0.2S; 0.5; 0.5S; 1; 3; 5; 5P10; 5P15; 5P20; 10P10; 10P15; 10P20; others on request.

Rated frequency

50 Hz or 60 Hz, others on request

The transformers are designed and manufactured in conformity with the following standards and recommendations: IEC, VDE, ANSI, BS, GOST and CSN, others on request.

Cantilever strength

5 kN

Permissible torques for screw connections

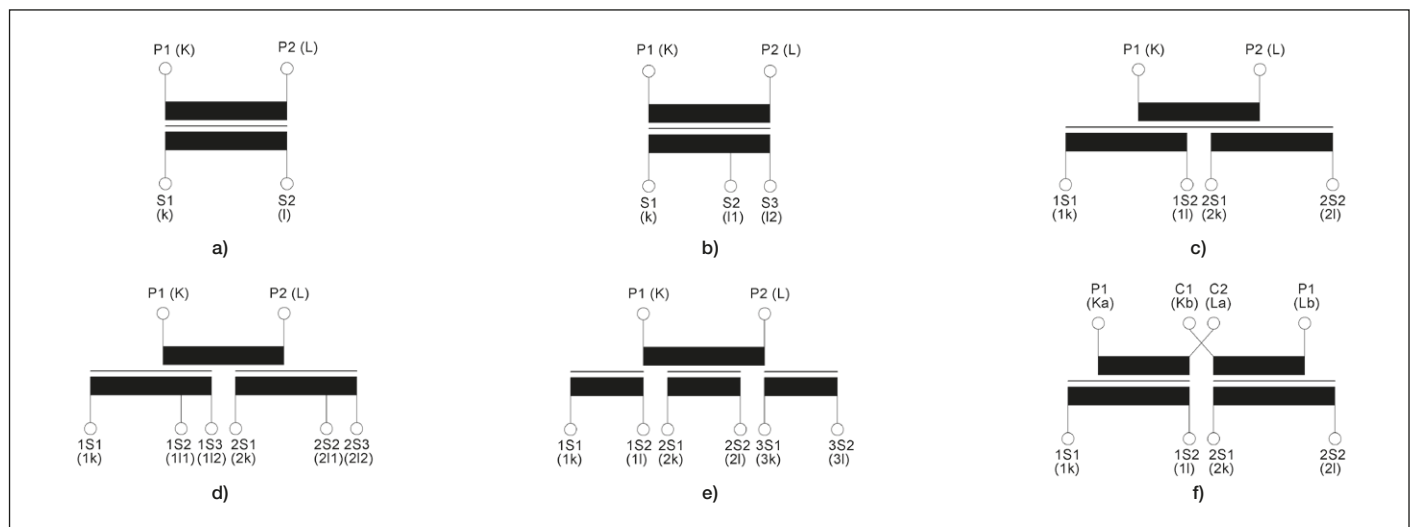
M5	max 3.5 Nm	min 2.8 Nm
M8	max 20 Nm	min 16 Nm
M12	max 70 Nm	min 56 Nm

Code designation - TPU current transformers

TPU	x	x	.	x	x
	voltage	current		dimension	primary terminals
	4...up to 12 kV	0... to 600 A multiturn 1... to 1 250 A, combi multiturn, singleturn* 3...to 1 250 A singleturn 4...to 1 500 A singleturn 5...to 2 000 A singleturn 6...to 2 500 A singleturn 7...to 3 000 A singleturn 8...to 3 200 A singleturn		1..short 148 mm, DIN 2..long 148 mm, DIN 3..short, wide.. 184 mm 4..long, wide...184 mm 5..middle 148 mm, DIN	1..no pr.rec., no ribs /40x80mm, 80x80mm/ 2..prim. rec., no ribs /40x80mm, 80x80mm/ 3..no pr.rec., with ribs /60x68mm, 80x80mm/ 4..prim. rec., with ribs /40x80mm, 80x80mm/

* TPU 41.41 and TPU 41.43 only

Marking of current transformer outlets - example



a) Single-core design | b) Double-core design | c) Three-core design | d) Single-core design, reconnectable on the secondary side | e) Double-core design, reconnectable on the secondary side | f) Double-core design, reconnectable on the primary side

Standardized insulation levels of TPU 4x.xx transformers

3.6 / 21 / 45 kV	7.2 / 27 / 60 kV	12 / 28 / 75 kV
3.6 / 10 / 40 kV	7.2 / 20 / 60 kV	12 / 35 / 75 kV
		12 / 42 / 95 kV



Fig. 2. 1 Secondary terminal box
(3 secondaries and voltage indicator)

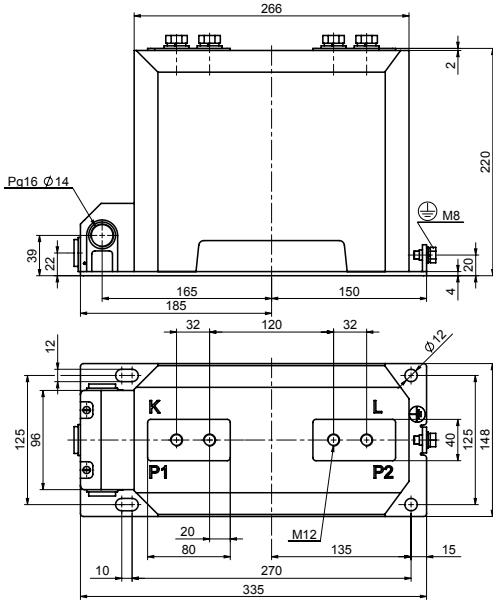


Fig. 2. 2 Secondary terminal box
(2 secondaries and grounding screw)

Dimensional Drawing

TPU 40.11
TPU 43.11

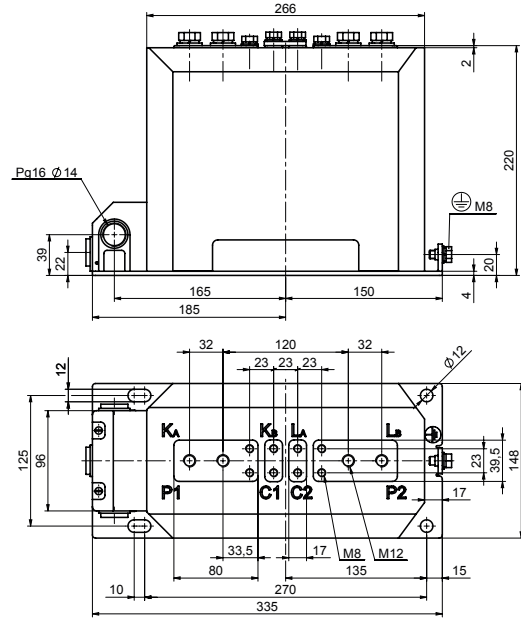
Weight: 20-24kg
Creepage distance: 201 mm



Drawing n.	Polarity
44614000	P1 to secondary terminal
44614010	P2 to secondary terminal

TPU 40.12

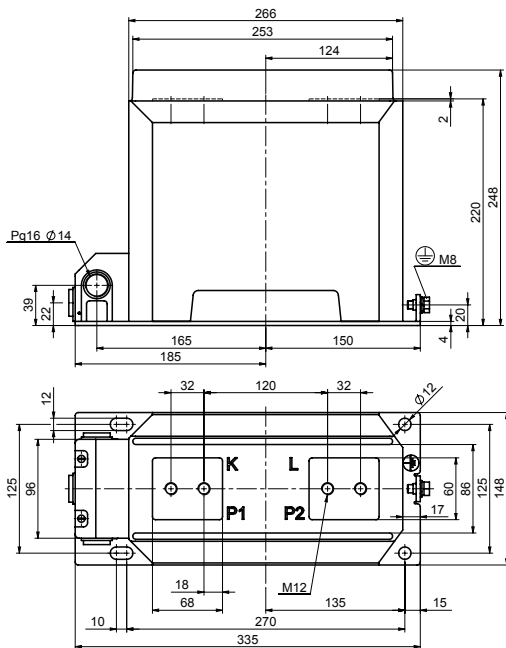
Weight: 19-25kg
Creepage distance: 338 mm



Drawing n.	Polarity
44614020	P1 to secondary terminal
44614030	P2 to secondary terminal

TPU 40.13
TPU 43.13

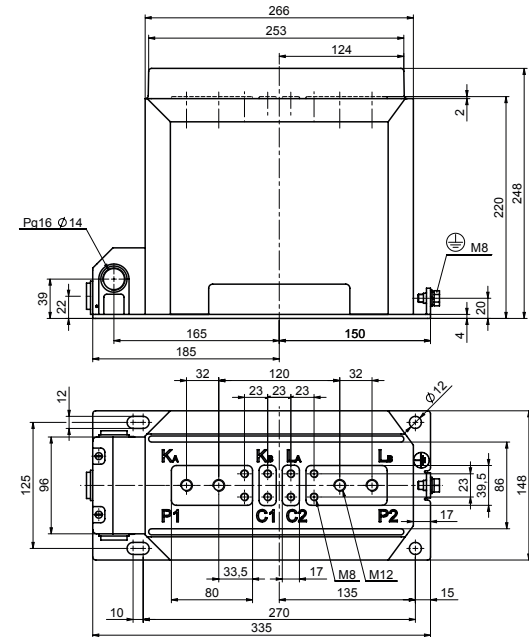
Weight: 20-24kg
Creepage distance: 214mm



Drawing n.	Polarity
44614040	P1 to secondary terminal
44614050	P2 to secondary terminal

TPU 40.14

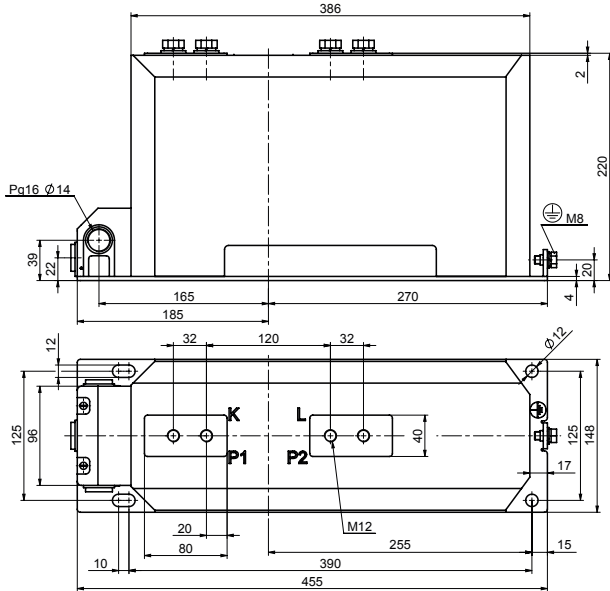
Weight: 19-25kg
Creepage distance: 201mm



Drawing n.	Polarity
44614060	P1 to secondary terminal
44614070	P2 to secondary terminal

TPU 40.21
TPU 43.21

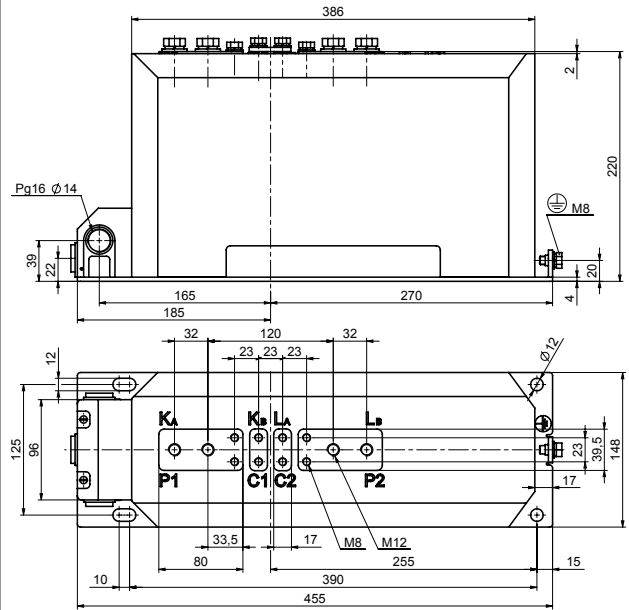
Weight: 29-37kg
Creepage distance: 201mm



Drawing n.	Polarity
44614080	P1 to secondary terminal
44614090	P2 to secondary terminal

TPU 40.22

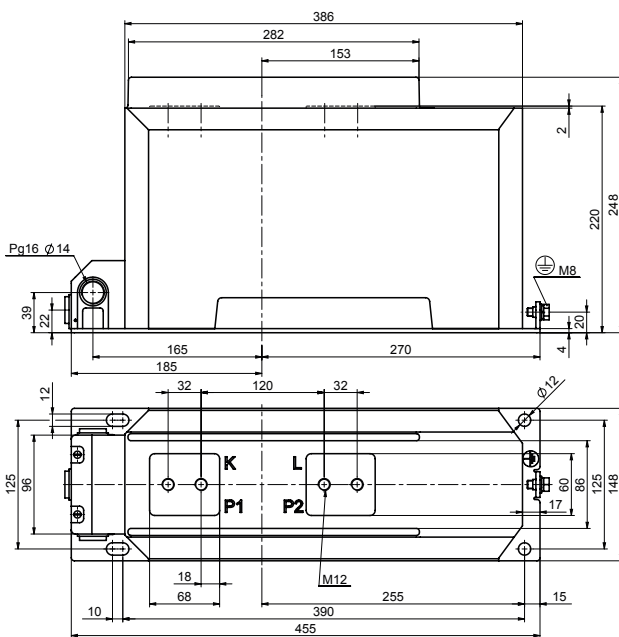
Weight: 29-37kg
Creepage distance: 215mm



Drawing n.	Polarity
44614100	P1 to secondary terminal
44614110	P2 to secondary terminal

TPU 40.23
TPU 43.23

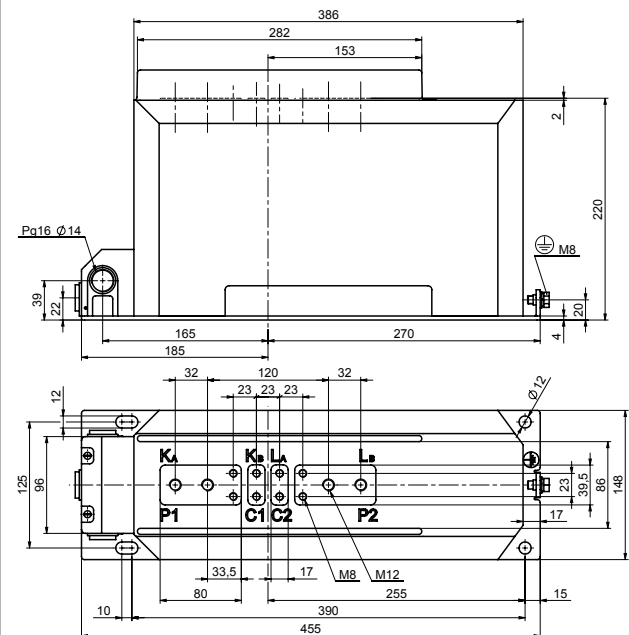
Weight: 29-37kg
Creepage distance: 214mm



Drawing n.	Polarity
44614120	P1 to secondary terminal
44614130	P2 to secondary terminal

TPU 40.24

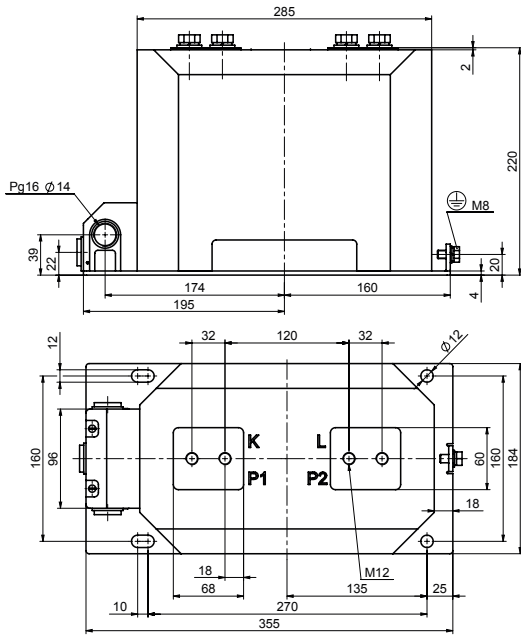
Weight: 29-37kg
Creepage distance: 215mm



Drawing n.	Polarity
44614140	P1 to secondary terminal
44614150	P2 to secondary terminal

TPU 40.31
TPU 43.31

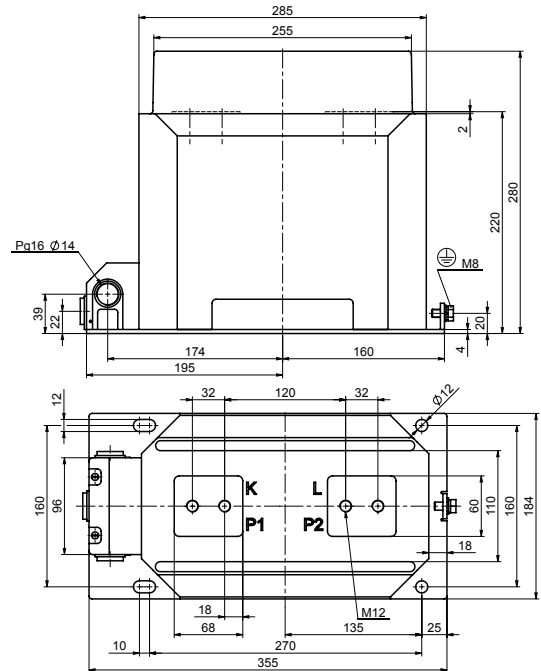
Weight: 31-39kg
Creepage distance: 215mm



Drawing n.	Polarity
44614160	P1 to secondary terminal
44614170	P2 to secondary terminal

TPU 40.33
TPU 43.33

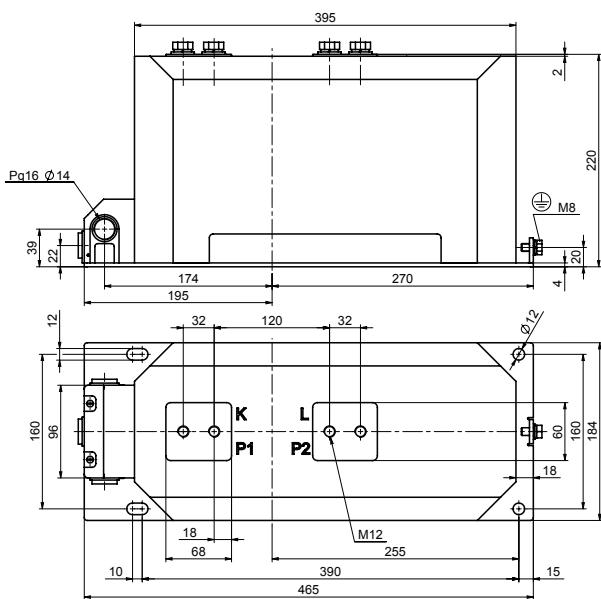
Weight: 31-39kg
Creepage distance: 215mm



Drawing n.	Polarity
44614180	P1 to secondary terminal
44614190	P2 to secondary terminal

TPU 40.41
TPU 41.41
TPU 43.41

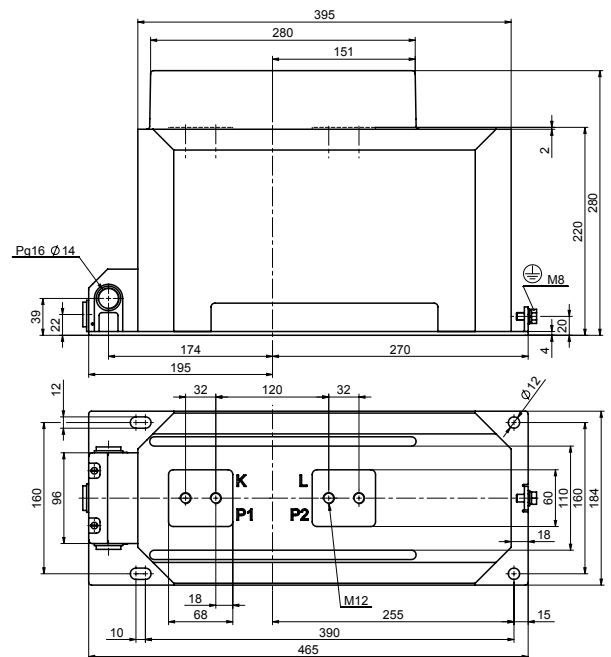
Weight: 45-55kg
Creepage distance: 215mm



Drawing n.	Polarity
44614200	P1 to secondary terminal
44614210	P2 to secondary terminal

TPU 40.43
TPU 41.43
TPU 43.43

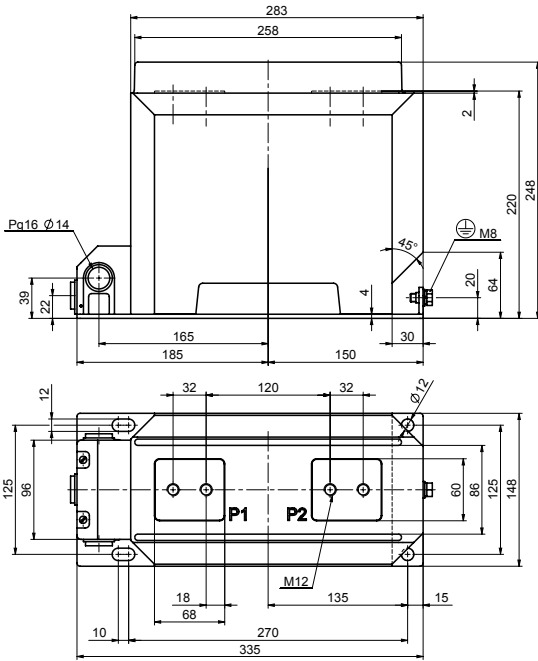
Weight: 45-55kg
Creepage distance: 215mm



Drawing n.	Polarity
44614220	P1 to secondary terminal
44614230	P2 to secondary terminal

TPU 40.53
TPU 43.53

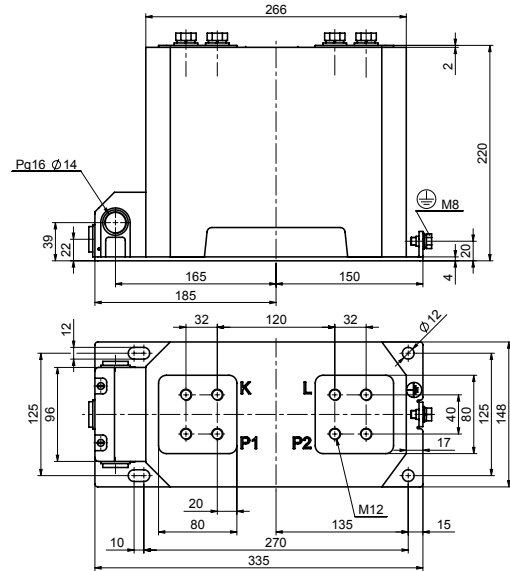
Weight: 28kg
Creepage distance: 214mm



Drawing n.	Polarity
1VL4600921R0101	P1 to secondary terminal
1VL4600921R0102	P2 to secondary terminal

TPU 44.11
TPU 45.11
TPU 46.11
TPU 47.11
TPU 48.11

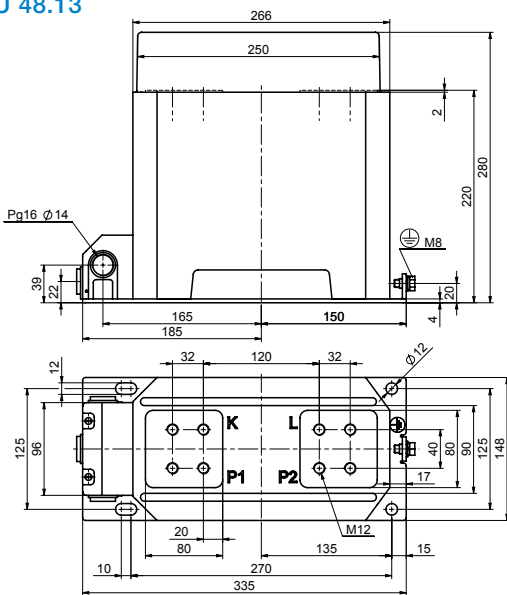
Weight: 25-31kg
Creepage distance: 201mm



Drawing n.	Polarity
44614240	P1 to secondary terminal
44614250	P2 to secondary terminal

TPU 44.13
TPU 45.13
TPU 46.13
TPU 47.13
TPU 48.13

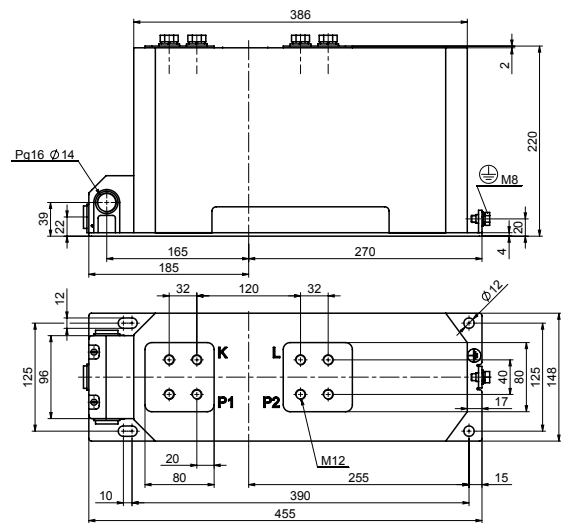
Weight: 25-31kg
Creepage distance: 201mm



Drawing n.	Polarity
44614260	P1 to secondary terminal
44614270	P2 to secondary terminal

TPU 44.21
TPU 45.21
TPU 46.21
TPU 47.21
TPU 48.21

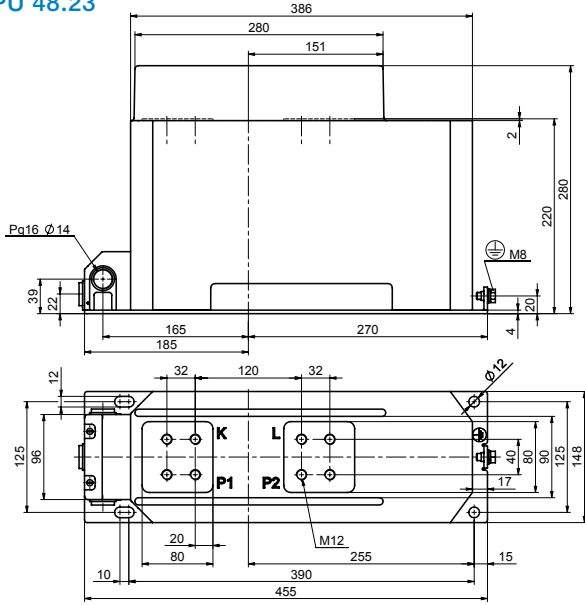
Weight: 40-45kg
Creepage distance: 201mm



Drawing n.	Polarity
44614280	P1 to secondary terminal
44614290	P2 to secondary terminal

TPU 44.23
 TPU 45.23
 TPU 46.23
 TPU 47.23
 TPU 48.23

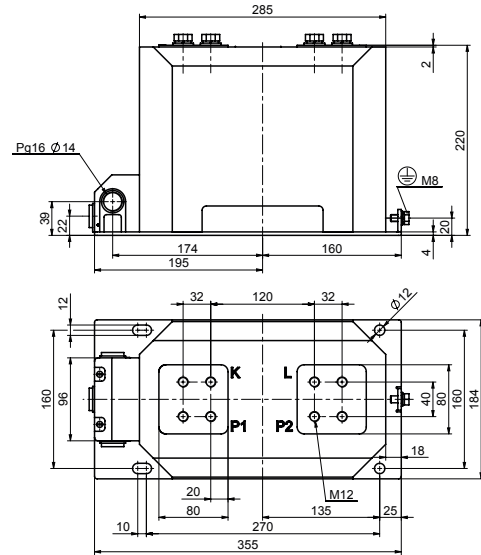
Weight: 40-45kg
 Creepage distance: 201mm



Drawing n.	Polarity
44614300	P1 to secondary terminal
44614310	P2 to secondary terminal

TPU 44.31
 TPU 45.31
 TPU 46.31
 TPU 47.31
 TPU 48.31

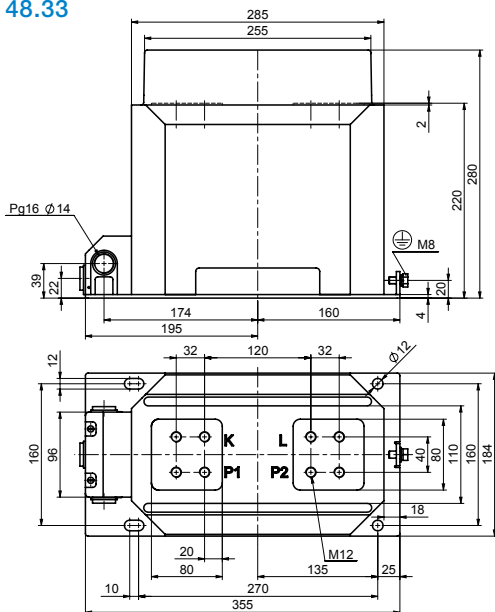
Weight: 34-42kg
 Creepage distance: 210 mm



Drawing n.	Polarity
44614320	P1 to secondary terminal
44614330	P2 to secondary terminal

TPU 44.33
 TPU 45.33
 TPU 46.33
 TPU 47.33
 TPU 48.33

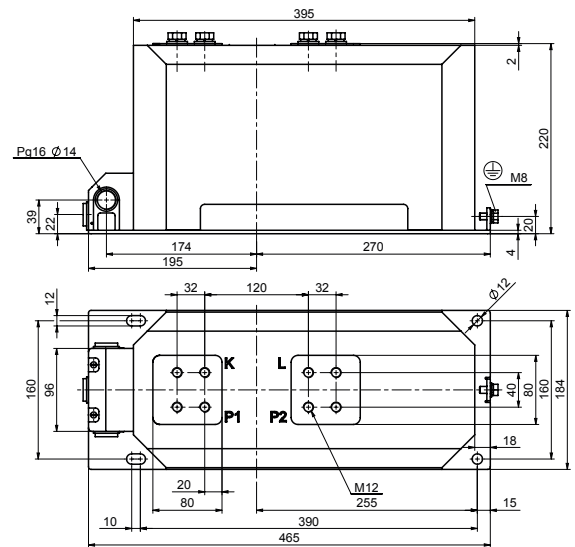
Weight: 34-42kg
 Creepage distance: 210mm



Drawing n.	Polarity
44614340	P1 to secondary terminal
44614350	P2 to secondary terminal

TPU 44.41
 TPU 45.41
 TPU 46.41
 TPU 47.41
 TPU 48.41

Weight: 46-58kg
 Creepage distance: 210mm



Drawing n.	Polarity
44614360	P1 to secondary terminal
44614370	P2 to secondary terminal

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