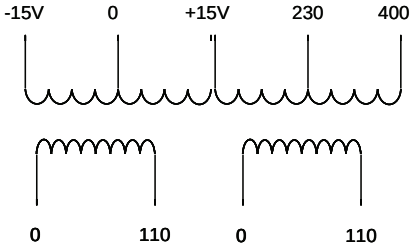
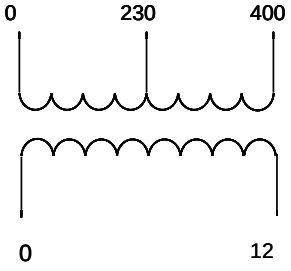
Single phase insulating transformers
Primary voltage 230, 400V: +/- 15V. Secondary voltage 0-110 0-110V. Thermal class B. Type EURO. DIN rail

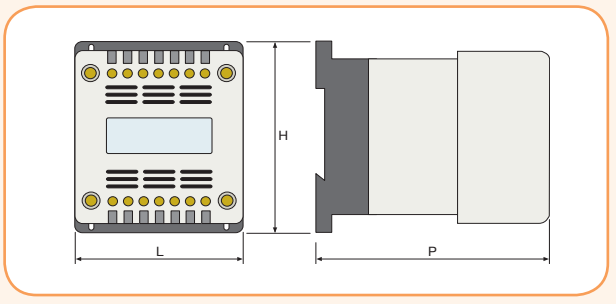
Type	Description	Code No.	Power (VA)	Dimensions LxHxP (mm)	Weight (kg)	Packaging (pcs)
TRANSF 1f EU 0-110 0-110V 30VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 30VA	003801841	30	90 x 96 x106	1,55	1
TRANSF 1f EU 0-110 0-110V 40VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 40VA	003801842	40	90 x 96 x106	1,55	1
TRANSF 1f EU 0-110 0-110V 50VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 50VA	003801843	50	90 x 96 x106	1,60	1
TRANSF 1f EU 0-110 0-110V 63VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 63VA	003801844	63	90 x106 x106	1,90	1
TRANSF 1f EU 0-110 0-110V 75VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 75VA	003801845	75	90 x106 x106	2,00	1
TRANSF 1f EU 0-110 0-110V 100VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 100VA	003801846	100	90 x116 x106	2,45	1
TRANSF 1f EU 0-110 0-110V 160VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 160VA	003801847	160	126 x113 x135	2,85	1
TRANSF 1f EU 0-110 0-110V 200VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 200VA	003801848	200	126 x113 x135	4,00	1
TRANSF 1f EU 0-110 0-110V 250VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 250VA	003801849	250	126 x123 x135	5,00	1
TRANSF 1f EU 0-110 0-110V 300VA TH	Single phase insulating trans. +/-15V 0-110 0-110V 300VA	003801850	300	126 x123 x135	5,20	1





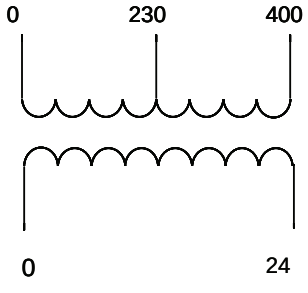
Single phase safety transformers
Primary voltage 230, 400V. Secondary voltage 0-12V. Thermal class B. DIN rail

Type	Description	Code No.	Power (VA)	Dimensions LxHxP (mm)	Weight (kg)	Packaging (pcs)
TRANSF 1f 0-12V 30VA TH	Single phase safety trans. 0-12V 30VA	003801851	30	90 x 96 x106	1,35	1
TRANSF 1f 0-12V 40VA TH	Single phase safety trans. 0-12V 40VA	003801852	40	90 x 96 x106	1,35	1
TRANSF 1f 0-12V 50VA TH	Single phase safety trans. 0-12V 50VA	003801853	50	90 x 96 x106	1,40	1
TRANSF 1f 0-12V 63VA TH	Single phase safety trans. 0-12V 63VA	003801854	63	90 x106 x106	1,70	1
TRANSF 1f 0-12V 75VA TH	Single phase safety trans. 0-12V 75VA	003801855	75	90 x106 x106	1,80	1
TRANSF 1f 0-12V 100VA TH	Single phase safety trans. 0-12V 100VA	003801856	100	90 x116 x106	2,25	1
TRANSF 1f 0-12V 160VA TH	Single phase safety trans. 0-12V 160VA	003801857	160	126 x113 x135	3,65	1
TRANSF 1f 0-12V 200VA TH	Single phase safety trans. 0-12V 200VA	003801858	200	126 x113 x135	3,80	1
TRANSF 1f 0-12V 250VA TH	Single phase safety trans. 0-12V 250VA	003801859	250	126 x123 x135	4,80	1
TRANSF 1f 0-12V 300VA	Single phase safety trans. 0-12V 300VA	003801860	300	126 x123 x135	5,00	1



Single phase safety transformers
Primary voltage 230, 400V. Secondary voltage 0-24V. Thermal class B. DIN rail

Type	Description	Code No.	Power (VA)	Dimensions LxHxP (mm)	Weight (kg)	Packaging (pcs)
TRANSF 1f 0-24V 30VA TH	Single phase safety trans. 0-24V 30VA	003801861	30	90 x 96 x106	1,35	1
TRANSF 1f 0-24V 40VA TH	Single phase safety trans. 0-24V 40VA	003801862	40	90 x 96 x106	1,35	1
TRANSF 1f 0-24V 50VA TH	Single phase safety trans. 0-24V 50VA	003801863	50	90 x 96 x106	1,40	1
TRANSF 1f 0-24V 63VA TH	Single phase safety trans. 0-24V 63VA	003801864	63	90 x106 x106	1,70	1
TRANSF 1f 0-24V 75VA TH	Single phase safety trans. 0-24V 75VA	003801865	75	90 x106 x106	1,80	1
TRANSF 1f 0-24V 100VA TH	Single phase safety trans. 0-24V 100VA	003801866	100	90 x116 x106	2,25	1
TRANSF 1f 0-24V 160VA TH	Single phase safety trans. 0-24V 160VA	003801867	160	126 x113 x135	3,65	1
TRANSF 1f 0-24V 200VA TH	Single phase safety trans. 0-24V 200VA	003801868	200	126 x113 x135	3,80	1
TRANSF 1f 0-24V 250VA TH	Single phase safety trans. 0-24V 250VA	003801869	250	126 x123 x135	4,80	1
TRANSF 1f 0-24V 300VA	Single phase safety trans. 0-24V 300VA	003801870	300	126 x123 x135	5,00	1



Technical data on page 519

Single phase safety and insulating transformers IP20 DIN rail mounted

Technical data	
Primary voltage	0 - 230V - 400V +/- 15V (50-60 Hz)
Thermal class	F
Cable section	10 mm²
Protection	IP20
Fixing	on DIN rail
Standard	EN 61558-1
Service type	Continuous
Protection index	IP 20

Technical parameters for insulating transformers. Thermal class F. Fixed on DIN rail.

Fall secondary windigs power (VA)	No-load losse s Δ P (W)	Losses (short circuit) Δ P (W)	Ucc (cos φ=1) (%)	Efficiency (cos φ=1) (%)
30	7,6	4,2	11,0	0,89
40	7,8	5,0	9,0	0,88
50	8,0	6,0	8,0	0,88
63	8,0	7,0	7,8	0,86
75	8,2	7,2	7,5	0,85
100	8,3	9,1	7,2	0,83
160	8,2	14,8	6	0,92
200	8,3	15,2	5,7	0,92
250	9,3	17	5,3	0,92
300	9,4	18,3	5,0	0,91

Generally about transformers

The transformers must be protected against possible overloads and short circuits. Our transformers belong to the non-short-circuit-proof type and so they must be protected using external fuses. Rated current of the suggested fuse is always indicated on our labels. However the protection can be also obtained using Miniature Circuit Breakers - ETIMAT. Selected protection of the input winding of the transformer must be chosen taking into account that at the starting phase of the transfomer, a high value of inrush current is generated, a value that can reach 25 times the value of the input rated current, for about 10 milliseconds. Hence, time delay fuses (T or aM type) or MCB - ETIMAT having D or K characteristic must be used for a correct protection. The protection of the secondary side can be realized using fuses of F or gG type, or MCB - ETIMAT having B or C characteristic. Here below there is a table with all the suggested protection fuses for the input and output windings (all the values are in Ampere):

General rules for choosing a transformers protection

Fall secondary windigs power (VA)	Rated value of aM or T fuse for secondary side protection (A)				Rated value of aM or T fuse for primary side protection (A)	
	Voltage U_2 24V	Voltage U_2 48V	Voltage U_2 110V	Voltage U_2 220V	Voltage U_1 230V	Voltage U_1 400V
30	1,25	0,63	0,315	0,16	0,5	0,5
50	2,0	1,0	0,4	0,2	1,0	0,5
75	3,15	1,6	0,63	0,315	1,0	1,0
100	4,0	2,0	1,0	0,5	1,0	1,0
150	6,0	3,15	1,25	0,63	1,0	1,0
200	8,0	4,0	2,0	1,0	1,0	1,0
250	10,0	6,0	2,0	1,0	2,0	1,0
300	12,0	6,0	2,5	1,25	2,0	1,0
400	16,0	8,0	4,0	2,0	4,0	2,0
500	20,0	10,0	4,0	2,0	4,0	2,0
630	25,0	12,0	6,0	3,15	4,0	2,0
800	32,0	16,0	6,3	4,0	4,0	4,0
1000	40,0	20,0	10,0	5,0	10,0	6,0
1600	63,0	32,0	12,0	6,0	10,0	10,0
2500	100,0	50,0	20,0	10,0	16,0	10,0

Transformer thermal class

Thermal class	Over temperature °C
A	75
E	90
B	95
F	115
H	140

The above over temperature values are referred to an ambient temperature of 25°C

Thermal class: The transformers have some level of power loss that causes a rising in the temperature of the metallic parts and of the windings. High temperatures cause deterioration of the materials and shorten the "average life" of the transformer itself. For this reason the international standards define some thermal classes, with a maximum over temperature value for each one. The thermal classes established by EN 61558 standard are.

Rated power:

It is the value resulting from the rated secondary winding voltage multiplied by the rated secondary current. In case of a n-phases transformers, it is the value corresponding to n times the result of rated secondary voltage multiplied by rated secondary current. If a transformer is used in a non-continuous work cycle, its power can be lower.