SINGLE-PHASE AUTOTRANSFORMERS

REVERSIBLE

TR 24

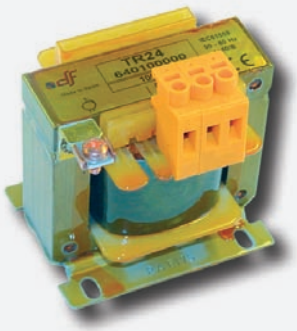
TR 24 REVERSIBLE AUTOTRANSFORMER

Single-phase reversible autotransformers, especially intended for use as a voltage adapter when an economical solution is required in applications where the galvanic isolation or attenuation of disturbances are not required. On request we can manufacture autotransformers with other voltages, with taps, with thermal switch, etc.

TECHNICAL DATA

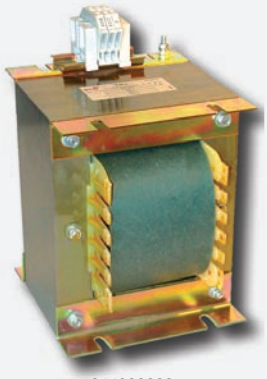
Reversible
Voltages: 0-230-400 V
Thermal class: B
Max. ambient temperature: 40°C
Frequency: 50/60 Hz
Class I
Protection index: IP00
Dielectric strength: > 3 kV
Others characteristics on request

POWER (kVA)	REFERENCE	DIMENSIONS (mm)				FIXING (mm)		WEIGHT (kg)
		A	B	C	D	E	F	
100	**640100000**	75	71	84	56	47	4,8	1,00
200	**640200000**	84	84	90	64	67	4,8	1,90
320	**640320000**	96	82	100	84	67	5,7	2,23
400	**640400000**	96	92	100	84	77	5,7	2,68
500	**640500000**	96	107	100	84	91	5,7	3,35
630	**640630000**	108	91	111	80,5	73	5,7	3,60
800	**640800000**	108	104	111	80,5	87	5,7	4,40
1000	**641000000**	120	106	118	90	87	5,7	4,90
1600	**641600000**	150	114	142	122	92	6,8	7,50
2000	**642000000**	150	130	142	122	108	6,8	9,80
2500	**642500000**	150	157	142	122	135	6,8	12,9
3000	**643000000**	150	157	142	122	135	6,8	13,2



640100000

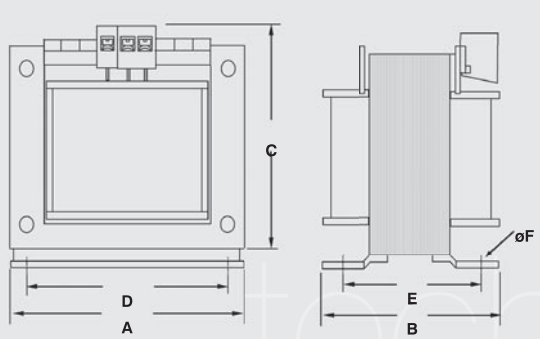
4000	**644000000**	163	165	256	98	120	8	19,0
5000	**645000000**	163	175	256	98	130	8	21,5
6300	**646300000**	163	195	256	98	150	8	23,5



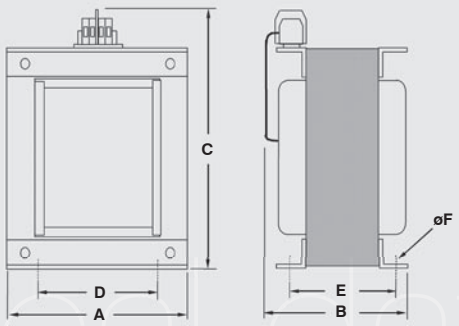
644000000

Dimensions may slightly vary according the voltages

DIMENSIONS



100 - 3000 VA



4000 - 6300 VA

STANDARDS
IEC 61558
EN 61558
IEC 60076-11

PROTECTION 172

IP PROTECTION INDEX 178-179

SINGLE-PHASE AUTOTRANSFORMERS

REVERSIBLE

TR 25

TR 25 REVERSIBLE AUTOTRANSFORMER

Single-phase reversible autotransformers 125-220V, especially intended for use as a voltage adapter when an economical solution is required in applications where the galvanic isolation or attenuation of disturbances are not required.Manufactured with metallic covers and handle. Up to 1000VA they are delivered with mains cable.

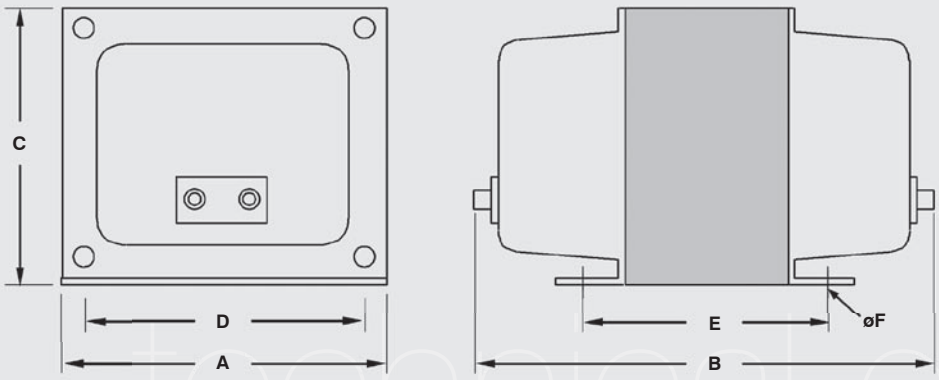
TECHNICAL DATA

Reversible
Voltages: 125-220 V
Thermal class: B
Max. ambient temperature: 40°C
Frequency: 50/60 Hz
Protection index: IP21
Metallic covers
Up to 1000 VA are supplied with cable plug

POWER (kVA)	REFERENCE	DIMENSIONS (mm)			FIXING (mm)			WEIGHT (kg)
		A	B	C	D	E	F	
100	**650100000**	75	85	63	57	47	9	1,0
200	**650200000**	96	105	80	79	49	9	1,5
300	**650300000**	96	115	80	79	58	9	2,0
400	**650400000**	96	120	80	79	60	9	2,2
500	**650500000**	96	130	80	79	67	9	2,8
750	**650750000**	108	140	90	91	70	10	3,6
1000	**651000000**	108	150	90	91	75	10	4,1
1500	**651500000**	126	160	105	116	90	10	6,4
2000	**652000000**	126	170	105	116	100	10	7,5
2500	**652500000**	150	165	125	132	80	12	8,2
3000	**653000000**	150	185	125	132	100	12	10,6

650500000

DIMENSIONS



TRANSFORMERS

STANDARDS
IEC 60076-11

PROTECTION
172

IP PROTECTION INDEX
178-179

TRANSFORMERS & AUTOTRANSFORMERS

PROTECTION

PROTECTION OF TRANSFORMERS & AUTOTRANSFORMERS

The transformers and autotransformers (and their lines) must be protected against overloads and/or short-circuits that they can be submitted in use, and could causes dangerous situations for persons, animals or installations. This protection are also a requirement of the standards and the national regulations about electrical installations.

Due to the high inrush current (about 25·In) it is very difficult to get an optimal protection in the primary side. If we select the rated current of fuses according to the primary rated current, the inrush current will melt the fuses. On the other hand, if the fuses are overrating for withstand the inrush, the transformer won't have a good protection against overloads.

For this reason we recommend to protect transformers and autotransformers on the secondary side (output). The most adequate way to protect this devices (and their lines) is to include on the output side a device protection capable to interrupt overloads as well as short circuits. For the other hand the input line must be protected against short circuit.

As a general rule the criteria to select the ratings of protection devices are the following:

PROTECTION ON THE OUTPUT SIDE (LOAD)

In this part can appear overloads (if the user try to obtain a power higher than the rated power) as well as short circuits.

In order to achieve a good protection, the device (fuse link, circuit breaker or similar) must be capable to interrupt all range of currents (overloads and short circuits) and must have a rated current equal or lower than the output rated current of the autotransformer.

PROTECTION ON THE INPUT SIDE (SUPPLY LINE)

In this part there is no risk of overload because if the output protection has been correctly selected, it will operate if appear an overload at the output side and the load will be disconnected of the autotransformer.

For this reason we only must protect the input line of autotransformer against short circuits in the line, in the autotransformer connections or inside the windings in a hypothetical failure of the insulations.

When the transformer is energized, it can demand a high momentary current (can be about 25 times the rated current) with a duration of a few milliseconds, that decrease very quickly until reach the rated value.

This factors should be take into account to choose the protection in order to avoid the fusing of the fuses or the not desired operation of the circuit breakers:

- Miniature fuses 5x20 ó 6x32 time-lag (slow) according to IEC/EN60127:
  In fuse link ≥ 3·In transformer

- Fuse links aM type according to IEC/EN60269:
  In fuse link ≥ 1,8·In transformer

- Fuse links gG type according to IEC/EN60269:
  In fuse link ≥ 3·In transformer