

SINGLE-PHASE TRANSFORMERS

SAFETY FOR SWIMMING-POOL SPOTLIGHTS

TR 26 IP20

TR 26 SAFETY FOR SWIMMING-POOL TRANSFORMER

Single-phase safety transformers intended to supply spotlights in swimming-pools, garden ponds, ornamental fountains and moist locations, where for safety reasons it is necessary to supply with safety extra low voltage (SELV). It has several taps in the primary winding in order to compensate for the voltage drop in the transformer-spotlight line conductors and thus gets an adequate brightness in every spotlight. On request we can manufacture transformers with other rated power or voltages, or with other line lengths between transformers and spotlights.

TECHNICAL DATA

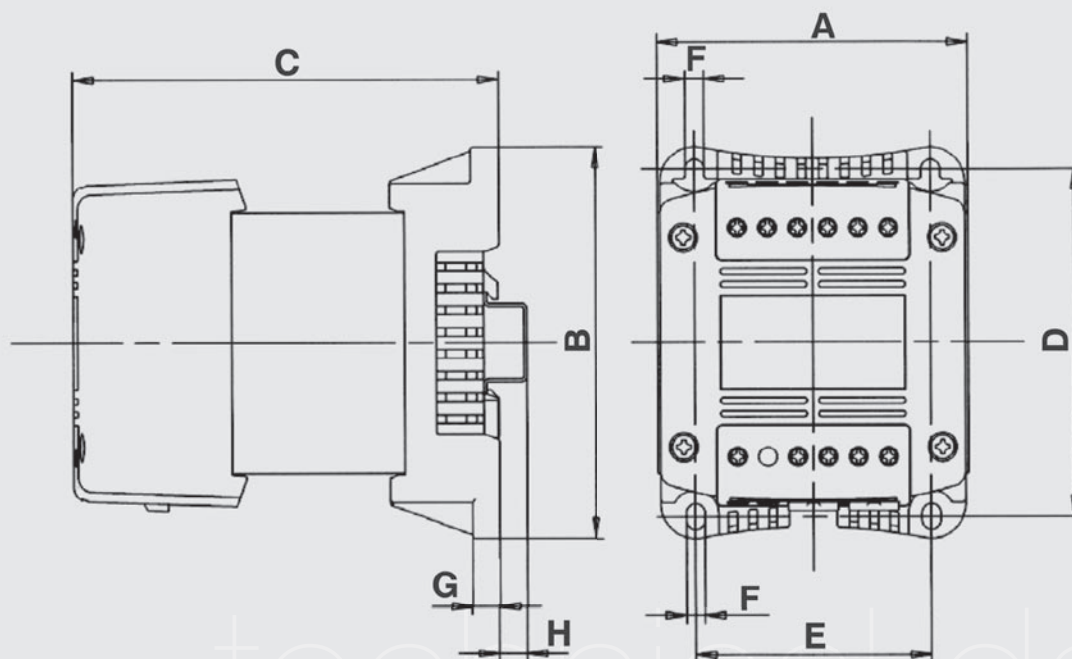
Rated power range: 130, 350 and 700 VA
 Class I protection against electric shock
 Rated primary voltage: 230 V
 Rated secondary voltage: 12 V
 Thermal class: B(130 °C) and F(155 °C)
 Maximum ambient temperature (40 °C)
 Frequency: 50/60 Hz
 Protection index: IP20
 Dielectric strength between primary & secondary: $\geq 4,5$ kV
 Dielectric strength between windings & metallic parts: $\geq 2,5$ kV

POWER (VA)	REFERENCE	DIMENSIONS (mm)								FOR SPOTLIGHT	DISTANCES (transformer - spotlight)	WEIGHT (kg)
		A	B	C	D	E	F	G	H			
130	660130000	84	113	116	101	66	5	7,5	2	1x12V 100W	10-18-25 m	2,00
350	660350000	108	135	138	120	82	6,5	9,5	9,5	1x12V 300W	10-25-40 m	4,45
700	660700000	120	152	166	135	94	7	9,5	-	2x12V 300W	10-25-40 m	7,89



660350000

DIMENSIONS



technical data



SINGLE-PHASE TRANSFORMERS

SAFETY FOR SWIMMING-POOL SPOTLIGHTS

TR 26 IP00

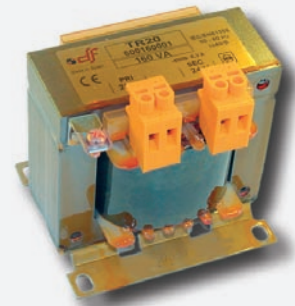
TR 26 SAFETY FOR SWIMMING-POOL TRANSFORMER

Single-phase safety transformers intended to supply spotlights in swimming-pools, garden ponds, ornamental fountains and moist locations, where for safety reasons it is necessary to supply with safety extra low voltage (SELV). It has several taps in the primary winding in order to compensate for the voltage drop in the transformer-spotlight line conductors and thus gets an adequate brightness in every spotlight. On request we can manufacture transformers with other rated power or voltages, or with other line lengths between transformers and spotlights.

TECHNICAL DATA

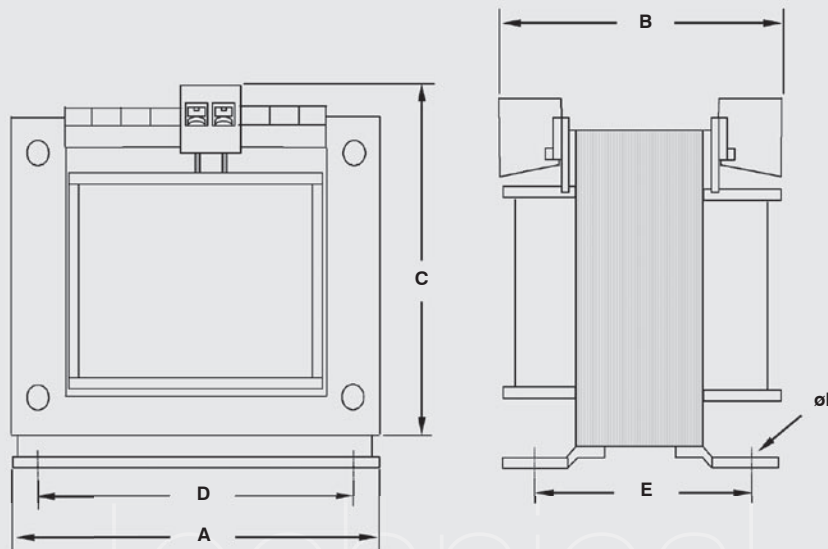
Rated power range: 130, 350 and 700 VA
Class I protection against electric shock
Rated primary voltage: 230 V
Rated secondary voltage: 12 V
Thermal class: B(130 °C) and F(155 °C)
Maximum ambient temperature (40 °C)
Frequency: 50/60 Hz
Protection index: IP00
Dielectric strenght between primary & secondary: ≥4,5 kV
Dielectric strenght between windings & metallic parts: ≥2,5 kV

POWER (VA)	REFERENCE	DIMENSIONS (mm)						FOR SPOTLIGHT		DISTANCES (transformer - spotlight)	WEIGHT (kg)
		A	B	C	D	E	F				
130	660130001	84	90	90	64	67	4,8	1x12V 100W	10-18-25 m	1,96	
350	660350001	108	110	93	90	80	5,0	1x12V 300W	10-25-40 m	3,90	
700	660700001	120	135	108	90	117	5,7	2x12V 300W	10-25-40 m	7,80	



660350001

DIMENSIONS



STANDARDS
IEC 61558-1
IEC 61558-2-6
EN 61558-1
EN 61558-2-6

PROTECTION

172

IP PROTECTION INDEX

178-179

SINGLE-PHASE TRANSFORMERS

SAFETY FOR SWIMMING-POOL SPOTLIGHTS

new

TR 26 H

TR 26 SAFETY FOR SWIMMING-POOL TRANSFORMER

Single-phase safety transformers intended to supply spotlights in swimming-pools, garden ponds, ornamental fountains and moist locations, where for safety reasons it is necessary to supply with safety extra low voltage (SELV). It has several taps in the primary winding in order to compensate for the voltage drop in the transformer-spotlight line conductors and thus gets an adequate brightness in every spotlight. On request we can manufacture transformers with other rated power or voltages, or with other line lengths between transformers and spotlights. The main characteristic of this model is the reduced height that allows the installation in a low profile box.

TECHNICAL DATA

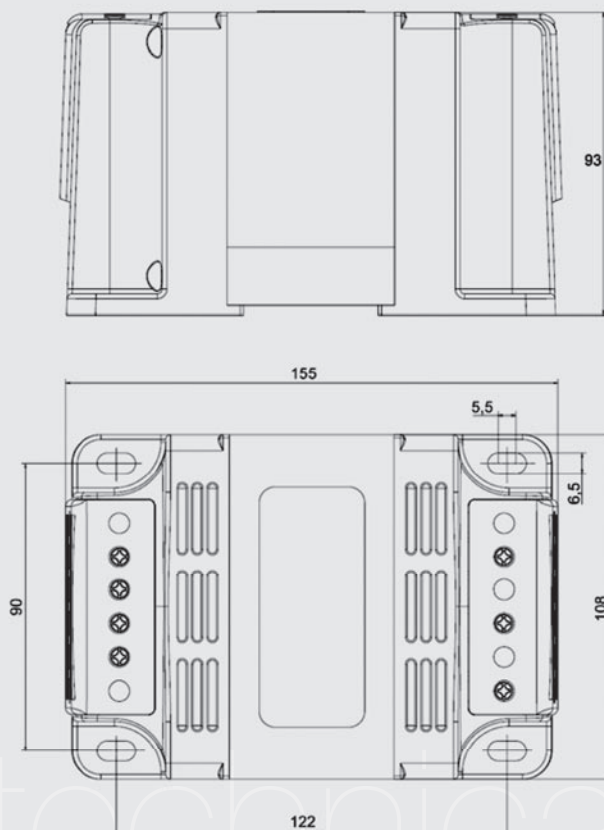
Rated power: 350 VA
 Class I protection against electric shock
 Rated primary voltage: 230 V
 Rated secondary voltage: 12 V
 Thermal class F (155 °C)
 Maximum ambient temperature (40 °C)
 Frequency: 50/60 Hz
 Protection index: IP20
 Dielectric strength PRI-SEC: $\geq 4,5$ kV
 Dielectric strength windings-body: $\geq 2,5$ kV
 Electrostatic screen between windings

POWER (VA)	REFERENCE	FOR SPOTLIGHT	DISTANCES (transformer - spotlight)	WEIGHT (kg)
350	660350010	1x12V 300W	8-18-25 m (wire size 6 mm ²) 10-25-40 m (wire size 10 mm ²)	4,2



660350010

DIMENSIONS





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 cause dangerous situations for persons, animals or installations. This protection is also a requirement of the standards and the national regulations about electrical installations.

Due to the high inrush current (about $25 \cdot I_n$) 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 these 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 $\geq 3 \cdot I_n$ transformer
- Fuse links aM type according to IEC/EN60269:
In fuse link $\geq 1,8 \cdot I_n$ transformer
- Fuse links gG type according to IEC/EN60269:
In fuse link $\geq 3 \cdot I_n$ transformer

technical data