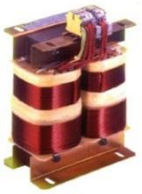


Safety Isolating Column-type
Single-Phase Transformers

Serie MCS/500

Power from 2,5kVA to 10kVA
Input on request max 1000V
Output on request max 50V

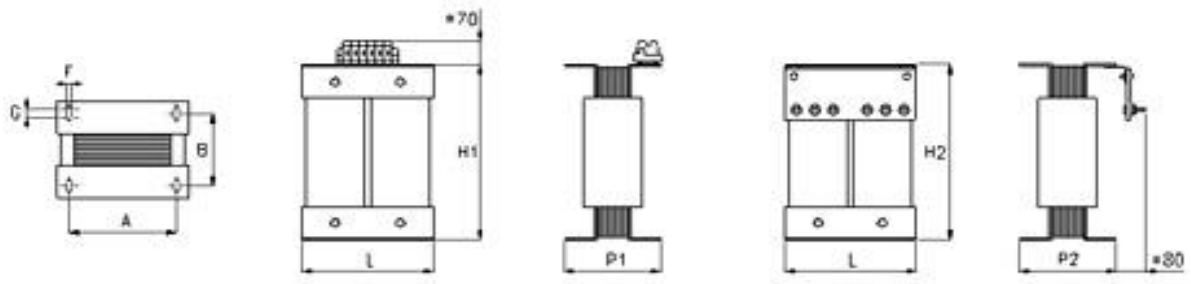
Technical features

- Safety transformers built according to standards IEC 61558-2-6
- Single voltage input max. 1000V
- Single voltage output respectively max. 50V AC
- Class F insulation material
- Ambient temperature max. 40 °C
- Degree of protection IP 00 Class H varnish dipped and oven dried

Safety transformers are used in those plants where the relevant regulations expressly require their use; for example in hospital equipment or in systems with the presence of conductive liquids (water); they guarantee intrinsic safety both for the degree of insulation and for the very low voltage present on the secondary.
They are characterized in fact by a secondary voltage not exceeding 50 V alternating or 120 Vdc flat.
It is possible to use the two secondary 0/12 to power two separate loads taking into account that each can supply half of the total power of the transformer; by making a series connection with the two secondaries you will get 24 V at full power, while connecting them in parallel you can take full power at 12 V.
This series of Safety transformers are class I and the accessible metal parts must be grounded.
It is possible to make them on request also in class II by inserting them in a special container; much more practical and immediate would be to make them in toroidal execution (see Toroidal).

Dimensions and drillings

Reference number	Rated thermal power (kVA)	Dimensions			Drillings				Dissipated power (W)	Efficiency (%)	Weight (Kg)
		L	P	H	A	B	F	G			
MCS/511	2,5	200	150	255	150	110	9	23	111	95,6	21
MCS/512	4	240	160	305	205	120	9	30	141	96,5	29
MCS/513	6,3	240	180	305	205	140	9	30	235	96,3	38
MCS/514	10	280	210	355	230	160	12	30	319	96,8	60



The data indicated could change without notice

Technical notes

The technical choice in using a column-type instead of a shell-type core is determined by the greater heat dissipation capability needed when output power increases. Comparing it to the shell-type transformer, the winding is divided up on 2 double-height coils, thus creating a larger surface for heat exchange.
The magnetic cores of the whole family are low loss grain oriented and thus with low power dispersal.
The connections, according to the transformer power and voltages, are on terminal blocks on a rail or on a panel board with silver-alloy welded screws. This feature is fundamental when high currents are used. The braze welding system ensures a good mechanical sturdiness and an excellent electrical contact.
The MCS safety isolating transformer family has the same use as the SMM shelltype, differing only in power (max. 10 KVA, as per standard requirements) and the type of usable loads.
The isolating transformers of the MCI family are used to create isolated supply lines from the mains supply, for electromedical equipment in hospital installations, operating rooms, where the presence of a tap on winding output to be connected to an isolation detector is needed. This family is also used for computer systems when the neutral line does not exist or is unstable.
Upon request, it is possible to fit, between the input and output, an electrostatic shield connected to a terminal block. When connecting it to earth, higher safety levels and filtering effects from the common mains supply interferences are obtained,
thus eliminating stray capacitance effects between input and output.
The standard vertical installation has vertical coils and “L” shape brackets. In horizontal installations, transformers with “Z” shape brackets can be supplied, upon request or after contacting our Technical Service.