

## Medical transformers

# Transformers for medical purposes MED

They are used to supply power to medical premises, operating rooms, medical surgeries, etc. They provide electrical safety for patients and staff against electric shock, but also safe and reliable power supply in operating rooms or intensive care units.



The rooms that are powered by a medical transformer have a separate isolated network established. Medical transformers with higher performance up to 10kVA are usually used to power operating rooms or bed sections in hospitals.

In our portfolio we offer medical transformers with standard power of 1 - 10kVA with weight from 20 to 100 kg, which can be installed in electrical switchboard or outside the switchboard in a metal casing with IP23 protection. PT100 or Ptc thermistor thermal sensors are installed to monitor the temperature of the transformer. Given the important function that medical transformers have in healthcare facilities, it is recommended to purchase them from verified, reliable and certified manufacturers.

ELSIM s. r. o. is your responsible partner in the field of custom transformer manufacturing.

TYPE	CAPACITY [VA]	TYPE	Voltage [V]	Weight [kg]
Transformer	1000	TR 9415/4-1k	230(400)	20
Transformer	1500	TR 9415/4-1,5k	230(400)	26
Transformer	2000	TR 9415/4-2k	230(400)	30
Transformer	2500	TR 9415/4-2,5k	230(400)	32
Transformer	3150	TR 9415/4-3k	230(400)	42
Transformer	4000	TR 9415/4-4k	230(400)	48
Transformer	5000	TR 9415/4-5k	230(400)	56
Transformer	6300	TR 9415/4-6,3k	230(400)	72
Transformer	8000	TR 9415/4-8k	230(400)	82
Transformer	10000	TR 9415/4-10k	230(400)	95

**Classic version:** no-load current  $I_0 < 3\%$ , short-circuit voltage  $u_k < 3\%$  on-current  $< 12 \times I_n$

**ES-Energy saving /saving version/:** no-load current  $I_0 < 2\%$ , short-circuit voltage  $u_k < 3\%$  on-current  $< 8 \times I_n$

### Classic version

TYPE	Capacity (VA)	Input voltage (V)	Output voltage at $I_z$ (V)	Output current $I_z$ (A)	$\Delta P_{Fe}(W)$	$\Delta P_{Cu}(W)$	$\eta(\%)$
TR 9415/4-2,5K	2500	230 (400)	230	10,9	<45	<90	95
TR 9415/4-3K	3150	230 (400)	230	13,7	<50	<100	95
TR 9415/4-4K	4000	230 (400)	230	17,4	<55	<105	96
TR 9415/4-5K	5000	230 (400)	230	21,7	<75	<110	96
TR 9415/4-6,3K	6300	230 (400)	230	27,4	<100	<130	96
TR 9415/4-8K	8000	230 (400)	230	34,8	<105	<200	96
TR 9415/4-10K	10000	230 (400)	230	43,5	<135	<210	97

### ES – Energy saving /energy-saving design/

TYPE	Capacity (VA)	Input voltage (V)	Output voltage at $I_z$ (V)	Output current $I_z$ (A)	$\Delta P_{Fe}(W)$	$\Delta P_{Cu}(W)$	$\eta(\%)$
TR 9415/4-2,5K ES	2500	230 (400)	230	10,9	<15	<90	96
TR 9415/4-3K ES	3150	230 (400)	230	13,7	<18	<100	96
TR 9415/4-4K ES	4000	230 (400)	230	17,4	<20	<105	97
TR 9415/4-5K ES	5000	230 (400)	230	21,7	<25	<110	97
TR 9415/4-6,3K ES	6300	230 (400)	230	27,4	<34	<130	97
TR 9415/4-8K ES	8000	230 (400)	230	34,8	<40	<200	97
TR 9415/4-10K ES	10000	230 (400)	230	43,5	<42	<210	97

$\Delta P_{Fe}$  – losses in the magnetic circuit

$\Delta P_{Cu}$  – losses in windings

$\eta$  - effectiveness

SHORT-CIRCUIT RESISTANCE:	Not short-circuit resistant
PROTECTION - FUSE	DII...A Gg
INPUT VOLTAGE:	230V 50Hz
PROTECTION:	IP00
VOLTAGE WITHSTAND:	4700V
THERMAL CLASS:	F155°C
AMBIENT TEMPERATURE:	ta40