Ignition Transformers

ELECTRONIC IGNITION TRANSFORMERS

This transformer is produced with the electronic technology, the system is vacuum impregnated to ensure the highest rate of insulation. The features of this transformer make it suitable for gas and oil burners where is required continuous power, with smaller size and weight than conventional inductive transformers.

The Applications

The electronic ignition transformer is suitable to be applied to all kind of oil and gas burners, wall hang boilers, hot water high pressure cleaners and anti-mosquito equipment. These applications are indicated by a symbol beside each type of product as follows.

Oil Burners	
Gas Burners	
Hot water high pressure cleaners	
Anti-mosquito equipment	

The inlets

These icons represent the inlets types available on every single product

Plug D	
Plug K	

The outlets

These icons represent the outlets types available on every single product

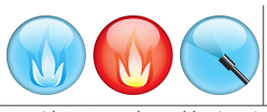
H plug, horizontal output plug, Ø 4mm	
V plug, Vertical output plug, Ø 4mm (13.5 mm deep)	

CAPACITANCE DISCHARGE IGNITER TRW	Type	Vin	Pin	Iout cc	Energy	Vout	ED	Ta	Output
	TRW1P2	220-240V	7W	5 mA	5 mJ	1x15 kV	100%	60°C	Grounded pole
	TRW1P2R	230V	7W	5mA	5 mJ	1x15 kV	100%	60°C	Grounded pole
	TRW1P4	230V	7W	5mA	5 mJ	1x15 kV	100%	60°C	Grounded pole
	TRW1P4R	220-240V	7W	5 mA	5 mJ	1x15 kV	100%	60°C	Grounded pole
	TRW1S2M	230V	7W	5mA	5 mJ	15 kV	100%	60°C	Insulated
	TRW1S4	230V	7W	5mA	5 mJ	15 kV	100%	60°C	Insulated
	TRW2P2	220-240V	7W	5 mA	5 mJ	1x15 kV	100%	60°C	Grounded pole
	TRW2P4	220-240V	7W	5 mA	5 mJ	1x15 kV	100%	60°C	Grounded pole
	TRW2P4R	220-240V	7W	5 mA	5 mJ	1x15 kV	100%	60°C	Grounded pole

This Ignition transformer is built to satisfy the power requirement of condensing and atmospheric boilers. Thanks to its particular electronic configuration it delivers a very high power output to ensure the ignition even on most difficult conditions. This product is available as "over the gas valve" mounting version. The integrated single pole flame detection signal is available.

ELECTRONIC IGNITION TRANSFORMER TRJ	Type	Vin	Pin	Iout cc	Iout Burn*	Vout	ED	Ta	Output
	TRJ1-20CVD	220-240V	30W	20 mA	15 mA	2x14 kV	100%	60°C	Grounded center
	TRJ2-30VD	220-240V	65W	35 mA	21 mA	2x10 kV	33% su 3'	60°C	Grounded center
	TRJ2-30PVD	220-240V	63W	30 mA	22 mA	1x15 kV	33% su 3'	60°C	Grounded pole

New transformer with higher efficiency and lower cost.



The inlets

The outlets

**Iout Burn.= Current measured on the burner with 5mm spark gap, blowing air and suppressed cables.*

ELECTRONIC IGNITION TRANSFORMERS TRK

Type	Vin	Pin	Iout cc	Iout Burn*	Vout	ED	Ta	Output	Notes
TRK1-20CVD	220-240V	30W	20 mA	12 mA	2x14 kV	100%	60°C	Grounded center	
TRK1-20PCVD	220-240V	30W	20 mA	12 mA	1x15 kV	100%	60°C	Grounded pole	
TRK1-30CVD	230V	30W	30 mA	17 mA	2x12 kV	100%	60°C	Grounded center	
TRK1-30CHD	230V	30W	30 mA	17 mA	2x12 kV	100%	60°C	Grounded center	
TRK1-30PCVD	230V	30W	30 mA	17 mA	1x15 kV	100%	60°C	Grounded pole	
TRK2-35	220-240V	65W	35 mA	20 mA	2x10 kV	33% on 3'	60°C	Grounded center	
TRK2-30PVD	220-240V	63W	30 mA	20 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-30PFVD	220-240V	63W	30 mA	20 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-30PVDUS	230V	69W	30 mA	20 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-30PFVDUS	230V	69W	30 mA	20 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-40VD	230V	65W	40 mA	24 mA	2x10 kV	33% on 3'	60°C	Grounded center	
TRK2-40HD	230V	65W	40 mA	24 mA	2x10 kV	33% on 3'	60°C	Grounded center	
TRK2-40HK	230V	65W	40 mA	24 mA	2x10 kV	33% on 3'	60°C	Grounded center	
TRK2-40HKL	230V	65W	40 mA	24 mA	2x10 kV	33% on 3'	60°C	Grounded center	
TRK2-40PVD	230V	65W	40 mA	24 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-40PHK	230V	65W	40 mA	24 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-40PHKL	230V	65W	40 mA	24 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-40SHK	230V	65W	40 mA	24 mA	15 kV	33% on 3'	60°C	Insulated	
TRK2-40SVD	230V	65W	40 mA	24 mA	15 kV	33% on 3'	60°C	Insulated	
TRK1-20CUVD	120V	22W	20 mA	12 mA	2x14 kV	100%	60°C	Grounded center	
TRK1-20PCUVD	120V	30W	20 mA	12 mA	1x15 kV	100%	60°C	Grounded pole	
TRK2-30PUVD	120V	60W	26 mA	20 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-30PUFVD	120V	60W	26 mA	20 mA	1x15 kV	33% on 3'	60°C	Grounded pole	
TRK2-30UVD	120V	60W	30 mA	20 mA	2x12 kV	33% on 3'	60°C	Grounded center	

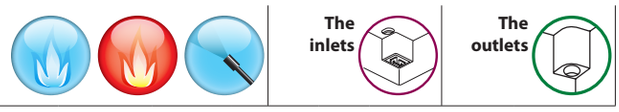
This is a standard electronic transformer.
The features of this transformer make it suitable for a wide range of applications such oil and gas burners, continuous or intermittent duty, single or double poles.

**Iout Burn.= Current measured on the burner with 5mm spark gap, blowing air and suppressed cables.*

ELECTRONIC IGNITION TRANSFORMERS TRH

Type	Vin	Pin	Iout cc	Iout Burn*	Vout	ED	Ta	Output	Notes
TRH2-30CU	120V	70W	30 mA	25 mA	2x12 kV	100%	60°C	Grounded center	
TRH2-30C	230V	60W	30 mA	25 mA	2x12 kV	100%	60°C	Grounded center	
TRH2-30CQ	400V	60W	30 mA	25 mA	2x12 kV	100%	60°C	Grounded center	
TRH2-60	230V	100W	50 mA	30 mA	2x12 kV	33% on 3'	60°C	Grounded center	
TRH2-40U	120V	90W	40 mA	30 mA	2x12 kv	33% on 3'	60°C	Grounded center	

This is a HIGH POWER electronic transformer suitable for heavy oil and gas burners where high spark currents on continuous duty conditions and severe working temperatures are required. It is available on 120V 230V and 400V versions.

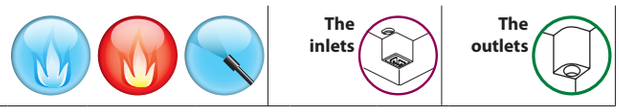


**Iout Burn.= Current measured on the burner with 5mm spark gap, blowing air and suppressed cables.*

ELECTRONIC IGNITION TRANSFORMERS TRL

Type	Vin	Pin	Iout cc	Iout Burn*	Vout	ED	Ta	Output
TRL12-30C	12V DC	80W	30 mA	22 mA	2x12kV	100%	60°C	Grounded center
TRL24-30C	24V DC	80W	30 mA	22 mA	2x12kV	100%	60°C	Grounded center
TRL12-30PC	12V DC	80W	30 mA	22 mA	1x15kV	100%	60°C	Grounded pole
TRL24-30PC	24V DC	80W	30 mA	22 mA	1x15kV	100%	60°C	Grounded pole

This is a 12 and 24 VDC HIGH POWER electronic transformer suitable for heavy oil and gas burners. It is very performant, with high spark currents on continuous duty conditions even on severe working temperatures.



**Iout Burn.= Current measured on the burner with 5mm spark gap, blowing air and suppressed cables.*

INDUCTIVE TRANSFORMERS

Traditional electro-mechanic transformer, It can be customized in many different versions to fit the requirements of any kind of application like oil and gas burners, high pressure cleaners, anti-mosquito equipments, ozone generators.

The Applications

The conventional ignition transformer is suitable to be applied to all kind of oil and gas burners, hot water high pressure cleaners and anti-mosquito equipment. These application are indicated by a symbol beside each type of product as follows.

Oil Burners	
Gas Burners	
Hot water high pressure cleaners	
Anti-mosquito equipment	

The inlets

These icons represent all the different kind of connetion for each product

Standard buried cable L=380mm		COFI plug		Triangle plug	

The outlets

These icons represent the outlets types available on every single product

Code SP, eccentric plug, Ø 4 (21.5 mm deep)		Code SPPRO, hole Ø 6, plug Ø 4 for cable Ø 5.2 (35 mm deep)	
Code VIMAN, self-tapping screw with sleeve (25 mm deep)		Code SPMAN, plug Ø 4 with sleeve (23 mm deep)	
Code SPRAS, flush plug, Ø 4 (13.5 mm deep)		Code VIRAS, flush self-tapping screw (18 mm deep)	

Transformer TRZ

The smallest conventional transformer of the range, especially developed for the anti-mosquito equipments, a version can be made with the optional integrated neon lamp power supply.

Type	Vin	Freq	Vout	Iout	ED	Output	Notes
TRZ410CL	230V	50Hz	2x2 kV	10 mA	100%	Grounded center	Lamp power supply
TRZ510C	230V	50Hz	2x2,5 kV	10 mA	100%	Grounded center	
TRZ4.509PC	230V	50Hz	1x4,5 kV	9 mA	100%	Grounded pole	

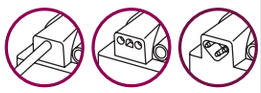
The outlets The inlets

****The whole range is available with input voltages between 100 and 400V*

Transformer TRE

Small dimension transformer, it achieves the same performances of medium size transformers with lower costs, largely used for oil and gas burners, available with the secondary insulated for flame detection by ionization of the flame. It can also be applied to anti-mosquito equipment or ozone generators.

Type	Vin	Freq	Vout	Iout	ED	Output	Notes
TRE308C	230V	50Hz	1x1,5 kV	8 mA	100%	Grounded center	
TRE510C	230V	50Hz	2x2,5 kV	10 mA	100%	Grounded center	
TRE820	230V	50Hz	2x4 kV	20 mA	19% on 3'	Grounded center	
TRE210PC	230V	50Hz	1x2 kV	10 mA	100%	Grounded pole	
TRE410PC	230V	50Hz	1x4 kV	10 mA	100%	Grounded pole	
TRE510PC	230V	50Hz	1x5 kV	10 mA	100%	Grounded pole	
TRE820P	230V	50Hz	1x8 kV	20 mA	19% on 3'	Grounded pole	
TRE820PISO	230V	50Hz	1x8 kV	20 mA	19% on 3'	Grounded pole	Insulated

The outlets The inlets 

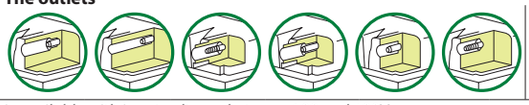
****The whole range is available with input voltages between 100 and 400V*

Transformer TRS

Type	Vin	Freq	Vout	Iout	ED	Output	Notes
TRS513C	230V	50Hz	2x2,5 kV	10 mA	100%	Grounded center	
TRS812C	230V	50Hz	2x4 kV	12 mA	100%	Grounded center	
TRS818C	230V	50Hz	2x4 kV	18 mA	100%	Grounded center	
TRS820	230V	50Hz	2x4 kV	20 mA	25% on 4'	Grounded center	
TRS1020	230V	50Hz	2x5 kV	20 mA	25% on 4'	Grounded center	
TRS1020	230V	50Hz	2x5 kV	20 mA	33% on 3'	Grounded center	
TRS1030	230V	50Hz	2x5 kV	30 mA	25% on 4'	Grounded center	
TRS1220	230V	50Hz	2x6 kV	20 mA	25% on 4'	Grounded center	
TRS404PC	230V	50Hz	1x4 kV	4 mA	100%	Grounded pole	
TRS505PC	230V	50Hz	1x5 kV	5 mA	100%	Grounded pole	
TRS508PC	230V	50Hz	1x5 kV	8 mA	100%	Grounded pole	
TRS510PC	230V	50Hz	1x5 kV	10 mA	100%	Grounded pole	
TRS515PC	230V	50Hz	1x5 kV	15 mA	100%	Grounded pole	
TRS6.508PC	230V	50Hz	1x6,5 kV	8 mA	100%	Grounded pole	
TRS606PC	230V	50Hz	1x6,5 kV	6 mA	100%	Grounded pole	
TRS610PC	230V	50Hz	1x6,5 kV	10 mA	100%	Grounded pole	
TRS708PC	230V	50Hz	1x7 kV	8 mA	100%	Grounded pole	
TRS818PC	230V	50Hz	1x8 kV	18 mA	100%	Grounded pole	
TRS820P	230V	50Hz	1x8 kV	20 mA	25% on 4'	Grounded pole	
TRS723P US	120V	60Hz	1x8 kV	23 mA	25% on 4'	Grounded pole	
TRS820PISO	230V	50Hz	1x8 kV	20 mA	33% on 3'	Grounded pole	Insulated
TRS830P	230V	50Hz	1x8 kV	30 mA	25% on 4'	Grounded pole	
TRS1815CISO	230V	50Hz	1x2 kV	15 mA	100%	Grounded pole	Insulated

Medium-size conventional transformer, suitable for all kinds of gas and oil burners, where continuous or intermittent power and achievement of higher voltages and currents are required. This serie is available in a great number of variations. It suits very different uses such as burners, high-pressure cleaners, anti-mosquito electric equipment and ionizers.

The outlets



The inlets

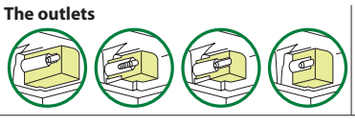
****The whole range is available with input voltages between 100 and 400V*

Transformer TRG

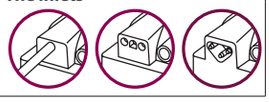
Type	Vin	Freq	Vout	Iout	ED	Output	Notes
TRG1015C	230V	50Hz	2x5 kV	15 mA	100%	Grounded center	
TRG1020C	230V	50Hz	2x5 kV	20 mA	100%	Grounded center	
TRG1035	230V	50Hz	2x5 kV	35 mA	25% on 4'	Grounded center	
TRG1035 US	120V	60Hz	2x5 kV	35 mA	25% on 4'	Grounded center	
TRG1225	230V	50Hz	2x6 kV	25 mA	25% on 4'	Grounded center	
TRG1230	230V	50Hz	2x6 kV	30 mA	33% on 3'	Grounded center	
TRG1230	120V	60Hz	2x6 kV	30 mA	25% on 4'	Grounded center	
TRG623PC US	120V	60Hz	1x6 kV	23 mA	100%	Grounded pole	
TRG820PC	230V	50Hz	1x8 kV	20 mA	100%	Grounded pole	
TRG835P	230V	50Hz	1x8 kV	35 mA	25% on 4'	Grounded pole	
TRG1020PC	230V	50Hz	1x10 kV	20 mA	100%	Grounded pole	
TRG1035P	230V	50Hz	1x10 kV	35 mA	25% on 4'	Grounded pole	

Large-size conventional transformer, suitable for large-flow and heavy fuel burners, where continuous power and higher voltages or currents are required. The versions of this range are suitable for use in large-size transformers and industrial high-pressure cleaners.

The outlets



The inlets



****The whole range is available with input voltages between 100 and 400V*

i-GAS

Automatic control for gas burners with ignition and flame detection integrated:

It allows the control of a single direct ignition burner till 350kW, with flame detection integrated (single electrode) or separate electrode.
i-GAS can freely fit to many different application conditions thanks to its easy programmability.
Some parameters are factory settled and password protected, directive compliant, others are customizable following customer's needs.
An advanced self diagnostic system provide through an alphanumeric display all information about the cycle, lock causes, eventual applied device's failures, or burner's failures.
The reset push button, and its warning light, can be remoted through a socket connection.
The ignition transformer provide a high energy spark that warrant the ignition in every situation.
It is possible to use the same ignition electrode both to make ignition and flame readings. For ionization, or with a separate electrode (dedicated), plugging it directly to the control device socket. The socket give to the device easy serviceability, allowing quick plug/unplug operability.
i-GAS represents the burner's supervisor being active all the time the power is on, even when the thermo switch do not require heat. All connected devices are monitored all the time, even in stand by condition. Any uneven failure might be detected before power heat is demanded by the thermo switch.
The circuit configuration allows the manufacturer to simplify cable harness of burners main case.

Technical specification

Power Supply	230 V ±15%	Pre-blowing	1÷250 s	Minimum ionization current	> 1 µA
Frequency*	50/60 Hz	Pre-ignition	500 ms	ionization current limits	0,5 mA
Power Consumption	3 VA MAX	Safety time on ignition	2÷25 s	Flame detection probe voltage	250 V ac
Power dissipation	2W MAX	Safety time running	1÷12 s	Flame detection probe insulation	> 50 MΩ
Max output's current	3 A @ 230 V cosφ 0.4	Post-blowing	1÷250 s	Flame detection probe wire lenght	< 30 m
Line Fuse	5x20mm RAPIDO 3,15 A	Allowed Post-combustion time	< 20 s	Single electrode wire lenght	< 1 m
Working temperature range	0÷60 °C	Auto shutoff & timer (optional)	00h05m ÷20h50m	Output ignition Voltage	1x15kV ± 10%
Storage temperature range	-20÷80 °C	Ignition Cycle counter	524288	Short circuit ignition current	30mA rms ± 10%
Relative umidity	45÷85 %				
Enclosure Nylon UL94 V-0	115x97x41 mm				
IP degree EN60529	IP00				
Weight	400 g MAX				

** Sinusoidal, quasi-sinusoidal, square*

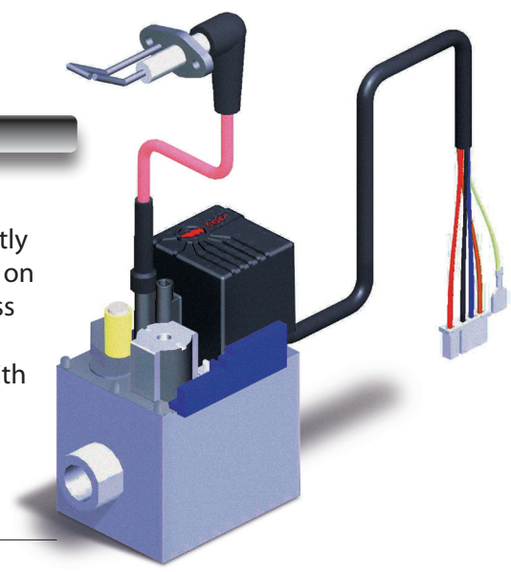
Compliance

- Gas Devices directive (2009/142/CE)
- Low voltage directive (2006/95/CE)
- Machinery directive (2006/42/CE)
- EMC directive (2004/108/CE)
- Conform to EN298
- Conform to EN230
- Conform to EN746-2
- Conform to UNI10156
- DPR 15 November 1996 n° 661

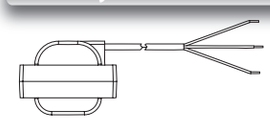
The Applications

TOP MOUNTED VALVE IGNITER

Development of capacitance discharge igniters to be mounted directly on the gas valve's top. This igniter is been studied for the application on wall hang boilers where the spaces are narrow and the wiring harness need to be simplified. The transformer can drive the solenoid valves directly or with an inner DC converter. Only one wire is connected with the control device providing Ignition power, flame signal and valve driving power. The output wire is used both for ignition and flame detection with single electrode. Different version are available to be fitted on each valve.



Primary Connections



Standard buried cable

Plug A

Plug B

Plug C

Plug D

Plug T

Plug K

High-voltage cables

Cofi manufactures high voltage ignition cable for all market needs. From the simple copper wire with connector to more complex cable with carbon fiber conductor, connector and moulded protections. The High voltage cables with resistive conductor in carbon fiber and semi-conductive rubber are used for shielding electromagnetic disturbances. Our EMC laboratory is fully equipped with instrument for EMC measurements for cable's and filters verifications.

SILICONE/CARBON FIBER cable
1x1 diameter 7
Resistive cable 10 kOhm/m
Cable diameter 7 mm 35 kV
r.m.s. -40 +180°C
Sold in lengths or by meter

Code: 09CA091868

SILICONE/ CARBON FIBER cable
1x1 diameter 5.2 mm
Resistive cable 10 kOhm/m
Cable diameter 5.2 mm 20 kV
r.m.s. -40 +180°C
Sold in lengths or by meter

Code: 09CA091869

SILICONE/COPPER Cable 1x1
diameter 7 mm
Tear-resistant silicone cable, insulation
20kV EI 2 -50 +180°C
Sold in 100 m skein

Code: 09CA091804M

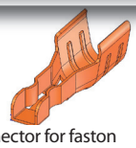
SILICONE/COPPER Cable 1x1
diameter 4.7 mm
Tear-resistant silicone cable, insulation
15kV EI 2 -50 +180°C
Sold in lengths or by meter

Code: 09CA091807

OZONE, PVC/COPPER Cable 1x1
diameter 7 mm
PVC Cable insulation 20kV EI 2
-20 +90°C
Sold in lengths or by meter

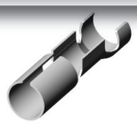
Code: 09CA091803

Connections and protections



Connector for faston
2,8x0,8 mm
For cables with diameter
5 mm

Code: 11PC112031



Connector in phosphor bronze
Diameter 4 mm for cable with diameter 4.7 mm

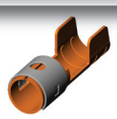
Code: 11PC112004

Connector in phosphor bronze
Diameter 4 mm for cable with diameter 7 mm

Code: 11PC112010

Connector, diameter
6.3 mm, for cables with diameters 4.7 - 5.2 - 7 mm
Straight without spring

Code: 11PC112013



Connector, diameter
6.3 mm, for cables with diameters 4.7 - 5.2 - 7 mm
Straight with spring

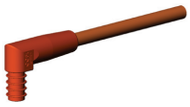
Code: 11PC112011

Connector, diameter
6.3 mm, for cables with diameters 4.7 - 5.2 - 7 mm
90° with spring

Code: 11PC112018

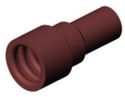
PVC over moulded Cap
D. 4 mm for cables with diameter 4.7-5.2-7 mm

Code: 17GOST0000



PVC over moulded 90° Cap
D. 4 mm for cables with diameter 4.7-5.2-7 mm
Used with electronic transformers'"V" outlets.

Code: 17GOST000K

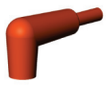


Silicone Cap L = 35 mm for cables with diameters 4.7-5.2-7 mm
Used with conventional transformers' VIMAN and SPMAN outlets

Code: 17GO172601

Terminal cap, type A, in PBT, straight for cables with diameters 4.7 - 5.2 - 7 mm

Code: 04PL041442



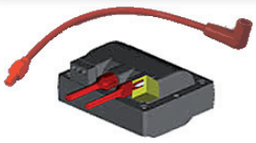
90° Silicone Cap for 6.3mm connector for cables with diameters 4.7-5.2-7 mm

Code: 17GO172605

90° Silicone Cap for 4 mm connector for cables with diameters 4.7-5.2-7 mm

Code: 17GO172604

Installed cable lengths



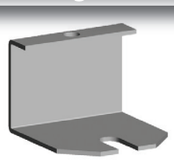
Complete high-voltage cables. Complete cable for high pressure cleaners. It ensures perfect sealing of the transformer outputs for perfect protection against humidity in dirty and contaminated environments.

Cable in silicone/copper or silicone/ carbon fiber, diameter 7 mm. Custom-made length.

Connector, diameter 4 mm, overmolded.

90° Connector, diameter 6.3 mm, with terminal cover.

Mounting brackets

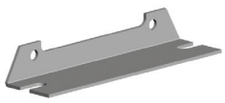


40X40 mm galvanized bracket

Bracket for horizontal mounting of transformer on any surface.

Code: 15MI152457

Kit with screws and nuts available



102X26 mm galvanized bracket

Bracket for vertical mounting of transformer on any surface.

Code: 15MI152452

Kit with screws and nuts available

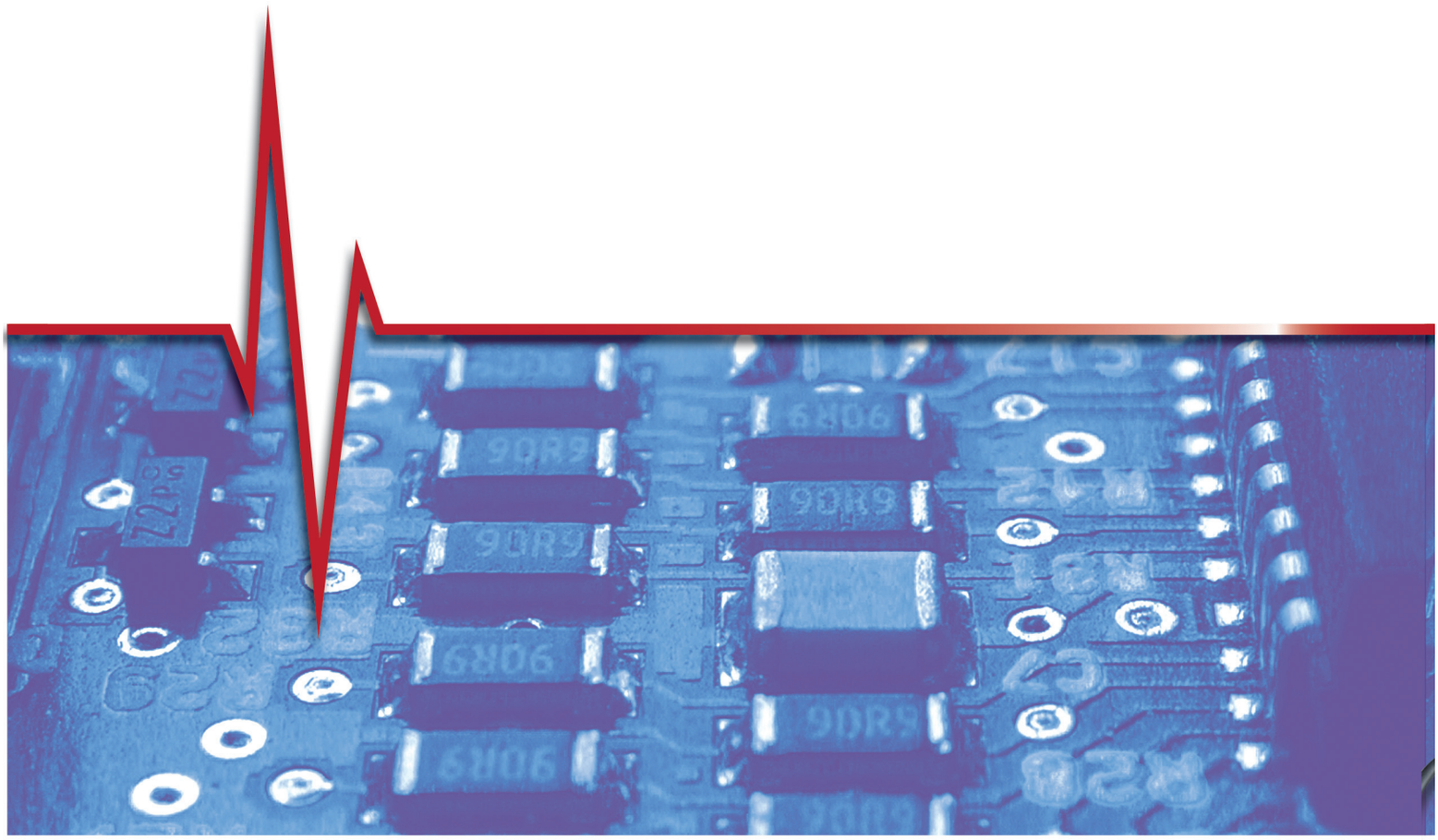
Filters

Emi disturbance suppression filter

Code: 06CE061517

ACCESSORIES

ad giampieroruggieri.it



English edition - january 2014 - the data stated in this catalogue are not binding for the company and may be changed at any time without previous notice

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