

## Efficient PCB transformer **ECO 2003**



### General Data

Rated input voltage 230 Vac
Rated output voltage 6 - 2 x 12 Vac
Rated power 1.5 - 10 VA
Insulation class B
Maximum ambient temperature 70 °C
Efficiency up to 77 %
Degree of protection IP 00

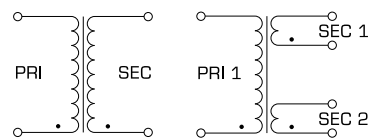
### Advantages

Low no-load losses max. 0.6 W
Unconditionally short-circuit proof (up to 1.5 VA)
Also with double output voltage for series or parallel connection
Designed for high ambient temperatures
Permanent corrosion protection, high insulation value and maximum electrical reliability thanks to XtraDensifill resin encapsulation
Coil shell in 2-chamber technology
Self-extinguishing potting material

### Applications

Safety transformer for the safe electrical isolation of the input and output sides. The transformer is suitable for creating SELV and PELV circuits because of the limit on the output voltage.

### Circuit Diagram



### Standards



Safety isolating transformer  
to: VDE 0570 Teil 2-6, DIN EN 61558-2-6, EN 61558-2-6, IEC 61558-2-6,  
UL 5085-1/-2, CSA 22.2 No.66

### Certifications



ENEC 10 (VDE), UL 5085-1/-2, CSA 22.2 No.66



## Efficient PCB transformer ECO 2003

Type	ECO2003-1,5S..	ECO2003-1,5DD..	ECO2003-3,2S..	ECO2003-3,2DD..	ECO2003-5,0S..	ECO2003-5,0DD..
<b>Electrical data</b>						
<b>Input</b>						
Rated input voltage	230 Vac	230 Vac	230 Vac	230 Vac	230 Vac	230 Vac
Rated frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
<b>Output</b>						
<b>Output rated voltage: Order no.</b>	6 Vac: ECO2003-1,5S6 8 Vac: ECO2003-1,5S8 9 Vac: ECO2003-1,5S9 12 Vac: ECO2003-1,5S12 18 Vac: ECO2003-1,5S18	2x9 Vac: ECO2003-1,5DD9 2x12 Vac: ECO2003-1,5DD12	8 Vac: ECO2003-3,2S8 12 Vac: ECO2003-3,2S12	2x9 Vac: ECO2003-3,2DD9 2x12 Vac: ECO2003-3,2DD12	8 Vac: ECO2003-5,0S8 12 Vac: ECO2003-5,0S12	2x9 Vac: ECO2003-5,0DD9 2x12 Vac: ECO2003-5,0DD12
Rated Power	1.5 VA	1.5 VA	3.2 VA	3.2 VA	5.0 VA	5.0 VA
No-load voltage (app. x factor)	1.39	1.39	1.50	1.50	1.25	1.25
No-load loss (typ.)	0.60 W	0.60 W	0.60 W	0.60 W	0.60 W	0.60 W
Efficiency	61 %	61 %	64 %	64 %	74 %	74 %
<b>Standards</b>						
Classification	Safety isolating transformer	Safety isolating transformer	Safety isolating transformer	Safety isolating transformer	Safety isolating transformer	Safety isolating transformer
<b>Approvals</b>						
Approvals	cURus, ENEC 10 (VDE)	cURus, ENEC 10 (VDE)	cURus, ENEC 10 (VDE)	cURus, ENEC 10 (VDE)	cURus, ENEC 10 (VDE)	cURus, ENEC 10 (VDE)
<b>Environment</b>						
Ambient temperature max.	70 °C	70 °C	60 °C	60 °C	50 °C	50 °C
<b>Safety and protection</b>						
Type	encapsulated	encapsulated	encapsulated	encapsulated	encapsulated	encapsulated
Class of Insulation System	VDE=B, UL=class 105	VDE=B, UL=class 105	VDE=B, UL=class 105	VDE=B, UL=class 105	VDE=B, UL=class 105	VDE=B, UL=class 105
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	II	II	II	II	II	II
Short circuit strength	inherently short-circuit proof	inherently short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof
<b>Order numbers</b>						
Order Number	refer to rated output voltage	refer to rated output voltage	refer to rated output voltage	refer to rated output voltage	refer to rated output voltage	refer to rated output voltage

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1.2

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1.4

1.5



## Efficient PCB transformer **ECO 2003**

Electrical data	<b>Type</b>	ECO2003-10S..
	<b>Input</b>	
	Rated input voltage	230 Vac
	Rated frequency	50 - 60 Hz
	<b>Output</b>	
	<b>Output rated voltage: Order no.</b>	9 Vac: ECO2003-10S9
	Rated Power	10.0 VA
	No-load voltage (app. x factor)	1.22
	No-load loss (typ.)	0.60 W
	Efficiency	77 %
	<b>Standards</b>	
	Classification	Safety isolating transformer
	<b>Approvals</b>	
	Approvals	cURus, ENEC 10 (VDE)
	<b>Environment</b>	
	Ambient temperature max.	40 °C
	<b>Safety and protection</b>	
	Type	encapsulated
	Class of Insulation System	VDE=B, UL=class 105
	Protection index	IP 00
	Safety class (prepared)	II
Short circuit strength	non-short-circuit proof	
<b>Order numbers</b>		
<b>Order Number</b>	refer to rated output voltage	

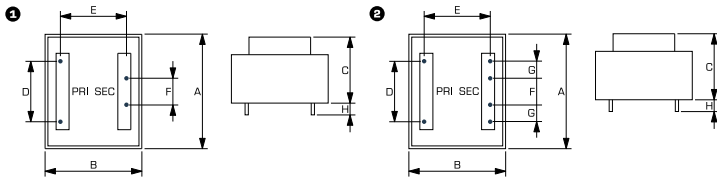


Efficient PCB transformer  
**ECO 2003**

**Mechanical data**

Typ	Terminals	Pin (ø)	Core type	Weight	Dimension picture (in mm)								
					A	B	C	D	E	F	G	H	
ECO2003-1,5S..	Pins for printed circuit board	0.8 mm	EI 30/12,5	0.08 kg	1	32.3	27.3	23.8	20	20	10	5	5
ECO2003-1,5DD..	Pins for printed circuit board	0.8 mm	EI 30/12,5	0.08 kg	2	32.3	27.3	23.8	20	20	10	5	5
ECO2003-3,2S..	Pins for printed circuit board	0.8 mm	EI 38/13,5	0.15 kg	2	41	35	28.1	20	25	10	5	5
ECO2003-3,2DD..	Pins for printed circuit board	0.8 mm	EI 38/13,5	0.15 kg	2	41	35	28.1	20	25	10	5	5
ECO2003-5,0S..	Pins for printed circuit board	0.8 mm	EI 42/14,8	0.20 kg	2	44	37	33	25	25	15	5	5
ECO2003-5,0DD..	Pins for printed circuit board	0.8 mm	EI 42/14,8	0.20 kg	2	44	37	33	25	25	15	5	5
ECO2003-10S..	Pins for printed circuit board	0.8 mm	EI 48/16,8	0.30 kg	2	51	43	34.6	25	27.5	15	5	5

Dimension pictures



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