

## Toroidal safety isolating and isolating transformer

**RTE**



### General Data

Rated input voltage 230 Vac
Rated output voltage 2 x 12 - 2 x 35 Vac
Power 15 - 625 VA
Insulation class B
Maximum ambient temperature 40 °C
Efficiency up to 95 %
Degree of protection IP 00

### Advantages

Minimum size at high output
Low weight
Double output voltage for series or parallel connection
Protected against overload by integral temperature fuse
Minimal no-load losses
Outstanding temperature behaviour thanks to low magnetic leakage field
Very low noise field

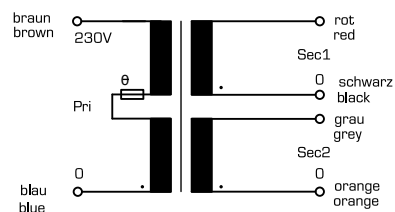
### Applications

As a mains transformer for adjustment of the voltage and simple electrical isolation.

As an isolating transformer as specified in EN 61558-2-6 for the safe electrical isolation of the input and output sides. The transformer may be used to set up protective separation as a protective measure in accordance with VDE 0100.

As a safety isolating transformer as specified in EN 61558-2-6 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.

### Sample application



Parallelschaltung: rot mit grau / schwarz mit orange  
Parallel connection: red with grey / black with orange

Reihenschaltung: schwarz mit grau  
Series connection: black with grey

### Standards



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

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

Isolating transformer  
to: VDE 0570 Part2-4, DIN EN 61558-2-4, EN 61558-2-4, IEC 61558-2-4, UL 5085-1/-2, CSA 22.2 No.66

### Approvals



UL 5085-1/-2, CSA 22.2 No.66



## Toroidal safety isolating and isolating transformer **RTE**



Typ	RTE 15/..	RTE 20/..	RTE 30/..	RTE 40/..	RTE 50/..	RTE 60/..
<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>Rated output voltage: Order no.</b>	2x12 Vac: RTE 15/2x12 2x15 Vac: RTE 15/2x15 2x18 Vac: RTE 15/2x18	2x12 Vac: RTE 20/2x12 2x15 Vac: RTE 20/2x15 2x18 Vac: RTE 20/2x18 2x24 Vac: RTE 20/2x24*	2x12 Vac: RTE 30/2x12 2x15 Vac: RTE 30/2x15 2x18 Vac: RTE 30/2x18 2x24 Vac: RTE 30/2x24*	2x12 Vac: RTE 40/2x12 2x15 Vac: RTE 40/2x15 2x18 Vac: RTE 40/2x18 2x24 Vac: RTE 40/2x24**	2x12 Vac: RTE 50/2x12 2x15 Vac: RTE 50/2x15 2x18 Vac: RTE 50/2x18 2x24 Vac: RTE 50/2x24**	2x12 Vac: RTE 60/2x12 2x15 Vac: RTE 60/2x15 2x18 Vac: RTE 60/2x18 2x24 Vac: RTE 60/2x24**
Rated Power	15 VA	20 VA	30 VA	40 VA	50 VA	60 VA
No-load voltage (app. x factor)	1.35	1.29	1.20	1.20	1.20	1.14
No-load loss (typ.)	0.30 W	0.33 W	0.45 W	0.45 W	0.40 W	0.70 W
Efficiency	73 %	77 %	80 %	82 %	82.5 %	85 %
<b>Standards</b>						
Classification	Safety isolating transformer	Safety isolating transformer *Mains transformer	Safety isolating transformer *Mains transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer
<b>Approvals</b>						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
<b>Environment</b>						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
<b>Safety and protection</b>						
Type	Open type	Open type	Open type	Open type	Open type	Open type
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	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof
Test voltage	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz
<b>Order numbers</b>						
<b>Order Number</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>

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## Toroidal safety isolating and isolating transformer

### RTE



Typ	RTE 80/..	RTE 100/..	RTE 120/..	RTE 160/..	RTE 200/..	RTE 225/..
<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>Rated output voltage: Order no.</b>	2x12 Vac: RTE 80/2x12 2x15 Vac: RTE 80/2x15 2x18 Vac: RTE 80/2x18 2x24 Vac: RTE 80/2x24**	2x12 Vac: RTE 100/2x12 2x15 Vac: RTE 100/2x15 2x18 Vac: RTE 100/2x18 2x24 Vac: RTE 100/2x24**	2x12 Vac: RTE 120/2x12 2x15 Vac: RTE 120/2x15 2x18 Vac: RTE 120/2x18 2x24 Vac: RTE 120/2x24**	2x12 Vac: RTE 160/2x12 2x15 Vac: RTE 160/2x15 2x18 Vac: RTE 160/2x18 2x24 Vac: RTE 160/2x24**	2x12 Vac: RTE 200/2x12 2x15 Vac: RTE 200/2x15 2x18 Vac: RTE 200/2x18 2x24 Vac: RTE 200/2x24**	2x12 Vac: RTE 225/2x12 2x15 Vac: RTE 225/2x15 2x18 Vac: RTE 225/2x18 2x24 Vac: RTE 225/2x24**
Rated Power	80 VA	100 VA	120 VA	160 VA	200 VA	225 VA
No-load voltage (app. x factor)	1.12	1.10	1.08	1.08	1.08	1.07
No-load loss (typ.)	1.00 W	0.90 W	1.00 W	1.10 W	1.50 W	1.50 W
Efficiency	86 %	88 %	91 %	91 %	91.5 %	92 %
<b>Standards</b>						
Classification	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer
<b>Approvals</b>						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
<b>Environment</b>						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
<b>Safety and protection</b>						
Type	Open type	Open type	Open type	Open type	Open type	Open type
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	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof
Test voltage	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz
<b>Order numbers</b>						
Order Number	see rated output voltage	see rated output voltage	see rated output voltage	see rated output voltage	see rated output voltage	see rated output voltage



## Toroidal safety isolating and isolating transformer RTE



Typ	RTE 250/..	RTE 300/..	RTE 330/..	RTE 400/..	RTE 500/..	RTE 625/..
<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>Rated output voltage: Order no.</b>	2x12 Vac: RTE 250/2x12 2x18 Vac: RTE 250/2x18 2x24 Vac: RTE 250/2x24** 2x30 Vac: RTE 250/2x30**	2x18 Vac: RTE 300/2x18 2x24 Vac: RTE 300/2x24**	2x18 Vac: RTE 330/2x18	2x18 Vac: RTE 400/2x18 2x24 Vac: RTE 400/2x24** 2x30 Vac: RTE 400/2x30**	2x24 Vac: RTE 500/2x24 2x30 Vac: RTE 500/2x30 2x35 Vac: RTE 500/2x35	2x30 Vac: RTE 625/2x30
Rated Power	250 VA	300 VA	330 VA	400 VA	500 VA	625 VA
No-load voltage (app. x factor)	1.05	1.06	1.04	1.05	1.04	1.04
No-load loss (typ.)	2.10 W	2.50 W	2.50 W	3.20 W	3.40 W	4.90 W
Efficiency	93 %	92.5 %	94 %	93.5 %	95 %	95 %
<b>Standards</b>						
Classification	Safety isolating transformer **Isolating transformer	Safety isolating transformer **Isolating transformer	Safety isolating transformer	Safety isolating transformer **Isolating transformer	Isolating transformer	Isolating transformer
<b>Approvals</b>						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
<b>Environment</b>						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
<b>Safety and protection</b>						
Type	Open type	Open type	Open type	Open type	Open type	Open type
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	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof	non-short-circuit proof
Test voltage	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz	4000 Vac, 50 Hz
<b>Order numbers</b>						
<b>Order Number</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>	<b>see rated output voltage</b>

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### Toroidal safety isolating and isolating transformer

#### RTE



Mechanical data	30						
	Type	Fixing method	Terminals	Major diameter Ø	Outside diameter in the area of the wire lead	Height without mounting	Weight
	RTE 15/..	Mounting kit, M4 bolt	Connecting leads, 200 mm	58 mm	60 mm	27 mm	0.29 kg
	RTE 20/..	Mounting kit, M4 bolt	Connecting leads, 200 mm	60 mm	62 mm	31 mm	0.32 kg
	RTE 30/..	Mounting kit, M4 bolt	Connecting leads, 200 mm	68 mm	70 mm	31 mm	0.46 kg
	RTE 40/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	74 mm	77 mm	33 mm	0.52 kg
	RTE 50/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	77 mm	79 mm	39 mm	0.68 kg
	RTE 60/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	80 mm	83 mm	38 mm	0.75 kg
	RTE 80/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	88 mm	91 mm	43 mm	1.10 kg
	RTE 100/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	92 mm	94 mm	45 mm	1.20 kg
	RTE 120/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	94 mm	96 mm	46 mm	1.40 kg
	RTE 160/..	Mounting kit, M6 bolt	Connecting leads, 200 mm	105 mm	107 mm	50 mm	1.70 kg
	RTE 200/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	113 mm	115 mm	51 mm	2.10 kg
	RTE 225/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	115 mm	117 mm	54 mm	2.30 kg
	RTE 250/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	114 mm	117 mm	54 mm	2.52 kg
	RTE 300/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	122 mm	126 mm	64 mm	3.10 kg
	RTE 330/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	124 mm	127 mm	65 mm	3.20 kg
	RTE 400/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	128 mm	131 mm	73 mm	4.10 kg
	RTE 500/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	140 mm	143 mm	68 mm	4.80 kg
	RTE 625/..	Mounting kit, M8 bolt	Connecting leads, 200 mm	152 mm	154 mm	74 mm	6.10 kg