Control- and safety isolating- resp. isolating transformer
STEU

General Data

Rated input voltage 230 and 400 Vac
Rated output voltage 24 - 230 Vac
Rated power 63 - 2500 VA
Insulation class B
Maximum ambient temperature 40 °C
Efficiency up to 94 %
Degree of protection IP 00

Advantages

Dual input voltage 230 and 400 Vac
Very good switch-on behaviour thanks to reduced starting currents
High performance for the volume thanks to compact design
Primary side ±15 V tappings for voltage adjustment
Very good corrosion protection and low noise thanks to BLOCKIMPEX vacuum impregnation
Quick to cable up thanks to the use of spring-clamp terminals
Contact protected screw connection terminals complying with UVV BGV A3
Simple mounting thanks to robust metal footplate with oval slots
Up to 250 VA with combination footplate for bolted and rail mounting

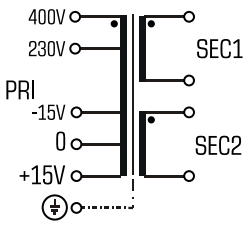
Applications

As a control transformer for the electrical isolation of the input and output sides. The construction of the transformer to supply control systems according to VDE 0113 is designed.

As an isolating transformer 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 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.

Sample application



Standards

Control transformer
to: VDE 0570 Teil 2-2, DIN EN 61558-2-2, EN 61558-2-2, IEC 61558-2-2, 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

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Electrical data

Typ	STEU 63/48	STEU 63/24	STEU 63/23	STEU 100/48	STEU 100/24	STEU 100/23
Input						
Rated input voltage	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac
Tappings Input	±15 V	±15 V	±15 V	±15 V	±15 V	±15 V
Frequency range	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Output						
Rated output voltage	2x24 Vac	2x12 Vac	2x115 Vac	2x24 Vac	2x12 Vac	2x115 Vac
Rated power VDE (DB cos phi=1)	63 VA	63 VA	63 VA	100 VA	100 VA	100 VA
Rated power VDE (KB cos phi=0.5)	175 VA	175 VA	175 VA	310 VA	310 VA	175 VA
No-load voltage (app. x factor)	1.10	1.10	1.10	1.07	1.07	1.07
Efficiency	86 %	86 %	86 %	86 %	86 %	86 %
Standards						
Classification	Control- and safety isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer
Approvals						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
Environment						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Cooling method	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling
Safety and protection						
Type	Open type	Open type	Open type	Open type	Open type	Open type
Class of Insulation System	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	I	I	I	I	I	I
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
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x Irated related to set)						
Setting range 230 ±15 Vac	0.25 - 0.40 A	0.25 - 0.40 A	0.25 - 0.40 A	0.40 - 0.63 A	0.40 - 0.63 A	0.40 - 0.63 A
Setting value 230 ±15 Vac	0.35 A	0.35 A	0.35 A	0.50 A	0.50 A	0.50 A
Setting range 400 ±15 Vac	0.16 - 0.25 A	0.16 - 0.25 A	0.16 - 0.25 A	0.25 - 0.40 A	0.25 - 0.40 A	0.25 - 0.40 A
Setting value 400 ±15 Vac	0.20 A	0.20 A	0.20 A	0.29 A	0.29 A	0.29 A
Order numbers						
Order Number	**STEU 63/48**	**STEU 63/24**	**STEU 63/23**	**STEU 100/48**	**STEU 100/24**	**STEU 100/23**

Control- and safety isolating- resp. isolating transformer
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Electrical data

Typ	STEU 160/48	STEU 160/24	STEU 160/23	STEU 250/48	STEU 250/24	STEU 250/23
Input						
Rated input voltage	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac
Tappings Input	±15 V	±15 V	±15 V	±15 V	±15 V	±15 V
Frequency range	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Output						
Rated output voltage	2x24 Vac	2x12 Vac	2x115 Vac	2x24 Vac	2x12 Vac	2x115 Vac
Rated power VDE (DB cos phi=1)	160 VA	160 VA	160 VA	250 VA	250 VA	250 VA
Rated power VDE (KB cos phi=0.5)	490 VA	490 VA	490 VA	850 VA	850 VA	850 VA
No-load voltage (app. x factor)	1.10	1.10	1.10	1.07	1.07	1.07
Efficiency	86 %	86 %	86 %	88 %	88 %	88 %
Standards						
Classification	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer
Approvals						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
Environment						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Cooling method	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling
Safety and protection						
Type	Open type	Open type	Open type	Open type	Open type	Open type
Class of Insulation System	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	I	I	I	I	I	I
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
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x Irated related to set)						
Setting range 230 ±15 Vac	0.63 - 1.00 A	0.63 - 1.00 A	0.63 - 1.00 A	1.00 - 1.60 A	1.00 - 1.60 A	1.00 - 1.60 A
Setting value 230 ±15 Vac	0.80 A	0.80 A	0.80 A	1.20 A	1.20 A	1.20 A
Setting range 400 ±15 Vac	0.40 - 0.63 A	0.40 - 0.63 A	0.40 - 0.63 A	0.63 - 1.00 A	0.63 - 1.00 A	0.63 - 1.00 A
Setting value 400 ±15 Vac	0.46 A	0.46 A	0.46 A	0.70 A	0.70 A	0.70 A
Order numbers						
Order Number	**STEU 160/48**	**STEU 160/24**	**STEU 160/23**	**STEU 250/48**	**STEU 250/24**	**STEU 250/23**

Control- and safety isolating- resp. isolating transformer
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Electrical data

Typ	STEU 320/48	STEU 320/24	STEU 320/23	STEU 400/24	STEU 400/23	STEU 500/48
Input						
Rated input voltage	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac
Tappings Input	±15 V	±15 V	±15 V	±15 V	±15 V	±15 V
Frequency range	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Output						
Rated output voltage	2x24 Vac	2x12 Vac	2x115 Vac	2x12 Vac	2x115 Vac	2x24 Vac
Rated power VDE (DB cos phi=1)	320 VA	320 VA	320 VA	400 VA	400 VA	500 VA
Rated power VDE (KB cos phi=0.5)	1120 VA	1120 VA	1120 VA	1440 VA	1440 VA	2000 VA
No-load voltage (app. x factor)	1.07	1.07	1.07	1.04	1.04	1.04
Efficiency	90 %	90 %	90 %	90 %	90 %	92 %
Standards						
Classification	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer	Control- and isolating transformer
Approvals						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
Environment						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Cooling method	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling
Safety and protection						
Type	Open type	Open type	Open type	Open type	Open type	Open type
Class of Insulation System	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	I	I	I	I	I	I
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
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x Irated related to set)						
Setting range 230 ±15 Vac	1.00 - 1.60 A	1.00 - 1.60 A	1.00 - 1.60 A	1.60 - 2.50 A	1.60 - 2.50 A	1.60 - 2.50 A
Setting value 230 ±15 Vac	1.50 A	1.50 A	1.50 A	1.90 A	1.90 A	2.40 A
Setting range 400 ±15 Vac	0.63 - 1.00 A	0.63 - 1.00 A	0.63 - 1.00 A	1.00 - 1.60 A	1.00 - 1.60 A	1.00 - 1.60 A
Setting value 400 ±15 Vac	0.88 A	0.88 A	0.88 A	1.10 A	1.10 A	1.40 A
Order numbers						
Order Number	**STEU 320/48**	**STEU 320/24**	**STEU 320/23**	**STEU 400/24**	**STEU 400/23**	**STEU 500/48**

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Electrical data

Typ	STEU 500/24	STEU 500/23	STEU 630/24	STEU 630/23	STEU 800/48	STEU 800/24
Input						
Rated input voltage	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac
Tappings Input	±15 V	±15 V	±15 V	±15 V	±15 V	±15 V
Frequency range	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Output						
Rated output voltage	2x12 Vac	2x115 Vac	2x12 Vac	2x115 Vac	2x24 Vac	2x12 Vac
Rated power VDE (DB cos phi=1)	500 VA	500 VA	630 VA	630 VA	800 VA	800 VA
Rated power VDE (KB cos phi=0.5)	2000 VA	2000 VA	2350 VA	2350 VA	3400 VA	3400 VA
No-load voltage (app. x factor)	1.04	1.04	1.04	1.04	1.03	1.03
Efficiency	92 %	92 %	92 %	92 %	94 %	94 %
Standards						
Classification	Control- and safety isolating transformer	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and safety isolating transformer
Approvals						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
Environment						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Cooling method	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling
Safety and protection						
Type	Open type	Open type	Open type	Open type	Open type	Open type
Class of Insulation System	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	I	I	I	I	I	I
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
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x Irated related to set)						
Setting range 230 ±15 Vac	1.60 - 2.50 A	1.60 - 2.50 A	2.50 - 4.00 A	2.50 - 4.00 A	2.50 - 4.00 A	2.50 - 4.00 A
Setting value 230 ±15 Vac	2.40 A	2.40 A	3.00 A	3.00 A	3.70 A	3.70 A
Setting range 400 ±15 Vac	1.00 - 1.60 A	1.00 - 1.60 A	1.60 - 2.50 A	1.60 - 2.50 A	1.60 - 2.50 A	1.60 - 2.50 A
Setting value 400 ±15 Vac	1.40 A	1.40 A	1.70 A	1.70 A	2.20 A	2.20 A
Order numbers						
Order Number	**STEU 500/24**	**STEU 500/23**	**STEU 630/24**	**STEU 630/23**	**STEU 800/48**	**STEU 800/24**

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Electrical data

Typ	STEU 800/23	STEU 1000/48	STEU 1000/24	STEU 1000/23	STEU 1600/23	STEU 2000/23
Input						
Rated input voltage	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac	230/400 Vac
Tappings Input	±15 V	±15 V	±15 V	±15 V	±15 V	±15 V
Frequency range	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Output						
Rated output voltage	2x115 Vac	2x24 Vac	2x12 Vac	2x115 Vac	2x115 Vac	2x115 Vac
Rated power VDE (DB cos phi=1)	800 VA	1000 VA	1000 VA	1000 VA	1600 VA	2000 VA
Rated power VDE (KB cos phi=0.5)	3400 VA	5000 VA	5000 VA	5000 VA	7800 VA	10900 VA
No-load voltage (app. x factor)	1.03	1.03	1.03	1.03	1.01	1.02
Efficiency	94 %	94 %	94 %	94 %	94 %	94 %
Standards						
Classification	Control- and isolating transformer	Control- and isolating transformer	Control- and safety isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and isolating transformer
Approvals						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
Environment						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Cooling method	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling	self-cooling
Safety and protection						
Type	Open type	Open type	Open type	Open type	Open type	Open type
Class of Insulation System	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130	VDE=B, UL=class 130
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	I	I	I	I	I	I
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
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x Irated related to set)						
Setting range 230 ±15 Vac	2.50 - 4.00 A	4.00 - 6.30 A	4.00 - 6.30 A	4.00 - 6.30 A	6.30 - 10.00 A	8.00 - 10.00 A
Setting value 230 ±15 Vac	3.70 A	4.60 A	4.60 A	4.60 A	7.30 A	9.10 A
Setting range 400 ±15 Vac	1.60 - 2.50 A	2.50 - 4.00 A	2.50 - 4.00 A	2.50 - 4.00 A	4.00 - 6.30 A	4.00 - 6.30 A
Setting value 400 ±15 Vac	2.20 A	2.70 A	2.70 A	2.70 A	4.20 A	5.20 A
Order numbers						
Order Number	**STEU 800/23**	**STEU 1000/48**	**STEU 1000/24**	**STEU 1000/23**	**STEU 1600/23**	**STEU 2000/23**

Control- and safety isolating- resp. isolating transformer
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Electrical data

Typ	STEU 2500/23
Input	
Rated input voltage	230/400 Vac
Tappings Input	±15 V
Frequency range	50 - 60 Hz
Output	
Rated output voltage	2x115 Vac
Rated power VDE (DB cos phi=1)	2500 VA
Rated power VDE (KB cos phi=0.5)	12400 VA
No-load voltage (app. x factor)	1.02
Efficiency	94 %
Standards	
Classification	Control- and isolating transformer
Approvals	
Approvals	cURus
Environment	
Ambient temperature max.	40 °C
Cooling method	self-cooling
Safety and protection	
Type	Open type
Class of Insulation System	VDE=B, UL=class 130
Protection index	IP 00
Safety class (prepared)	I
Short circuit strength	non-short-circuit proof
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x Irated related to set)	
Setting range 230 ±15 Vac	10.00 - 16.00 A
Setting value 230 ±15 Vac	11.20 A
Setting range 400 ±15 Vac	6.30 - 10.00 A
Setting value 400 ±15 Vac	6.50 A
Order numbers	
Order Number	**STEU 2500/23**

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Mechanical data

Typ	Terminals	Fixing method	Fixing screws	Weight	Dimension picture (in mm)	A	B	C	D	E	F
STEU 63/48	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	1.30 kg	1	84	85	88	64	64	46
STEU 63/24	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	1.30 kg	1	84	85	88	64	64	46
STEU 63/23	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	1.30 kg	1	84	85	88	64	64	46
STEU 100/48	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	2.10 kg	1	84	85	96	64	64	54.5
STEU 100/24	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	2.10 kg	1	84	85	96	64	64	54.5
STEU 100/23	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	2.10 kg	1	84	85	96	64	64	54.5
STEU 160/48	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	2.90 kg	1	96	102	104	84	87	56
STEU 160/24	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	2.90 kg	1	96	102	104	84	87	56
STEU 160/23	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	2.90 kg	1	96	102	104	84	87	56
STEU 250/48	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	3.60 kg	1	96	125	105	84	87	62.5
STEU 250/24	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	3.60 kg	1	96	102	104	84	87	62.5
STEU 250/23	Spring terminal, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	3.60 kg	1	96	125	105	84	87	62.5
STEU 320/48	Spring terminal, PE 6.3 x 0.8	Base plate	M5	4.30 kg	2	120	107	121	90	74	55
STEU 320/24	Spring terminal, PE 6.3 x 0.8	Base plate	M5	4.30 kg	2	120	107	121	90	74	55
STEU 320/23	Spring terminal, PE 6.3 x 0.8	Base plate	M5	4.30 kg	2	120	107	121	90	74	55
STEU 400/24	Spring terminal, PE 6.3 x 0.8	Base plate	M5	5.30 kg	2	120	104	121	90	86	60
STEU 400/23	Spring terminal, PE 6.3 x 0.8	Base plate	M5	5.30 kg	2	120	104	121	90	86	60
STEU 500/48	Spring terminal, PE 6.3 x 0.8	Base plate	M5	7.70 kg	2	120	124	121	90	106	71
STEU 500/24	Spring terminal, PE 6.3 x 0.8	Base plate	M5	7.70 kg	2	120	124	121	90	106	71
STEU 500/23	Spring terminal, PE 6.3 x 0.8	Base plate	M5	7.70 kg	2	120	124	121	90	106	71
STEU 630/24	Spring terminal, PE 6.3 x 0.8	Base plate	M6	7.90 kg	2	150	113	143	122	91	59
STEU 630/23	Spring terminal, PE 6.3 x 0.8	Base plate	M6	7.90 kg	2	150	117	148	122	91	59
STEU 800/48	Spring terminal, PE 6.3 x 0.8	Base plate	M6	10.30 kg	2	150	130	143	122	107.5	65
STEU 800/24	Spring terminal, PE 6.3 x 0.8	Base plate	M6	10.30 kg	2	150	130	143	122	107.5	65
STEU 800/23	Spring terminal, PE 6.3 x 0.8	Base plate	M6	10.30 kg	2	150	130	143	122	107.5	65
STEU 1000/48	Spring terminal, PE 6.3 x 0.8	Base plate	M6	13.30 kg	2	150	156	143	122	134	82
STEU 1000/24	Spring terminal, PE 6.3 x 0.8	Base plate	M6	13.30 kg	2	150	180	185	122	134	82
STEU 1000/23	Spring terminal, PE 6.3 x 0.8	Base plate	M6	13.30 kg	2	150	156	143	122	134	82
STEU 1600/23	Spring terminal, PE 6.3 x 0.8	Base plate	M8	21.00 kg	2	192	161	185	155	133	80
STEU 2000/23	Spring terminal, PE 6.3 x 0.8	Base plate	M8	25.50 kg	2	192	183	185	156	155	91
STEU 2500/23	Spring terminal, PE 6.3 x 0.8	Base plate	M8	27.00 kg	2	192	190	185	156	161	94

Dimension pictures