

Universal control- and safety isolating- resp. isolating transformer

USTE



General Data

Rated input voltage 208 - 600 Vac
Rated output voltage 24 - 230 Vac
Rated power 100 - 3200 VA
Insulation class B
Maximum ambient temperature 40 °C
Efficiency up to 96 %
Degree of protection IP 00

Advantages

Universal input voltages 208 to 600 Vac
Very good switch-on behaviour thanks to reduced starting currents
High performance for the volume thanks to compact design
Very good corrosion protection and low noise thanks to BLOCKIMPEX vacuum impregnation
Quick to cable up thanks to the use of spring-loaded terminals
Contact protected screw connection terminals complying with UVV BVG 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 isolating 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.

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

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

Safety isolating transformer
to: VDE 0570 Part 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



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



Universal control- and safety isolating- resp. isolating transformer **USTE**

Electrical data	Type	USTE 100/2x12	USTE 100/2x115	USTE 250/2x12	USTE 250/2x115	USTE 400/2x12	USTE 400/2x115
	Input						
	Rated input Voltage	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac
	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	2x12 Vac	2x115 Vac
	Rated power VDE (DB cos phi=1)	100 VA	100 VA	250 VA	250 VA	400 VA	400 VA
	Rated power VDE (KB cos phi=0.5)	310 VA	310 VA	850 VA	850 VA	1440 VA	1440 VA
	No-load voltage (app. x factor)	1.07	1.07	1.07	1.07	1.05	1.05
	Efficiency	87 %	87 %	90 %	90 %	92 %	92 %
Standards							
Classification	Control- and safety isolating transformer	Control- and isolating transformer	Control- and safety 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	
Short circuit proof and overload proof*							
Setting range 208 - 230 Vac	0.63 - 1.00 A	0.63 - 1.00 A	1.00 - 1.60 A	1.00 - 1.60 A	1.60 - 2.50 A	1.60 - 2.50 A	
Setting value 208 - 230 Vac	0.63 A	0.63 A	1.30 A	1.30 A	2.10 A	2.10 A	
Setting range 380 - 415 Vac	0.25 - 0.40 A	0.25 - 0.40 A	0.63 - 1.00 A	0.63 - 1.00 A	1.00 - 1.60 A	1.00 - 1.60 A	
Setting value 380 - 415 Vac	0.34 A	0.34 A	0.71 A	0.71 A	1.10 A	1.10 A	
Setting range 440 +20Vac	0.25 - 0.40 A	0.25 - 0.40 A	0.63 - 1.00 A	0.63 - 1.00 A	1.00 - 1.60 A	1.00 - 1.60 A	
Setting value 440 +20 Vac	0.31 A	0.31 A	0.64 A	0.64 A	1.00 A	1.00 A	
Setting range 500 -20/+25 Vac	0.25 - 0.40 A	0.25 - 0.40 A	0.40 - 0.63 A	0.40 - 0.63 A	0.63 - 1.00 A	0.63 - 1.00 A	
Setting value 500 -20/+25 Vac	0.27 A	0.27 A	0.57 A	0.57 A	0.90 A	0.90 A	
Setting range 575 ±25 Vac	0.16 - 0.25 A	0.16 - 0.25 A	0.40 - 0.63 A	0.40 - 0.63 A	0.63 - 1.00 A	0.63 - 1.00 A	
Setting value 575 ±25 Vac	0.24 A	0.24 A	0.50 A	0.81 A	0.81 A	0.81 A	
* Fusing recommendation for the primary circuit by circuit breaker with tripping characteristic type 20 x Inom related to set							
Order numbers							
Order Number	USTE 100/2x12	USTE 100/2x115	USTE 250/2x12	USTE 250/2x115	USTE 400/2x12	USTE 400/2x115	

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Universal control- and safety isolating- resp. isolating transformer **USTE**

Electrical data	Type	USTE 630/2x12	USTE 630/2x115	USTE 800/2x115	USTE 1000/2x115	USTE 1600/2x115	USTE 2500/2x115
	Input						
	Rated input Voltage	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac
	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	2x115 Vac	2x115 Vac	2x115 Vac	2x115 Vac
	Rated power VDE (DB cos phi=1)	630 VA	630 VA	800 VA	1000 VA	1600 VA	2500 VA
	Rated power VDE (KB cos phi=0.5)	2350 VA	2350 VA	3400 VA	5000 VA	7800 VA	12500 VA
	No-load voltage (app. x factor)	1.03	1.03	1.03	1.02	1.02	1.01
	Efficiency	93 %	93 %	93 %	94 %	94 %	95 %
Standards							
Classification	Control- and safety isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and isolating transformer	Control- and isolating transformer
Approvals							
Approvals	cURus	cURus	cURus	cURus	cURus	cURus	cURus
Environment							
Ambient temperature max.	40 °C	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	self cooling
Safety and protection							
Type	open 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	VDE=B, UL=class 130
Protection index	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00	IP 00
Safety class (prepared)	I	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	non-short-circuit proof
Short circuit proof and overload proof*							
Setting range 208 - 230 Vac	2.50 - 4.00 A	2.50 - 4.00 A	2.50 - 4.00 A	4.00 - 6.30 A	6.30 - 10.00 A	10.00 - 16.00 A	
Setting value 208 - 230 Vac	3.20 A	3.20 A	3.90 A	5.00 A	7.50 A	12.50 A	
Setting range 380 - 415 Vac	1.60 - 2.50 A	1.60 - 2.50 A	1.60 - 2.50 A	2.50 - 4.00 A	4.00 - 6.30 A	6.30 - 10.00 A	
Setting value 380 - 415 Vac	1.70 A	1.70 A	2.20 A	2.70 A	4.10 A	6.90 A	
Setting range 440 +20Vac	1.00 - 1.60 A	1.00 - 1.60 A	1.60 - 2.50 A	1.60 - 2.50 A	2.50 - 4.00 A	4.00 - 6.30 A	
Setting value 440 +20 Vac	1.50 A	1.50 A	1.90 A	2.40 A	3.70 A	6.10 A	
Setting range 500 -20/+25 Vac	1.00 - 1.60 A	1.00 - 1.60 A	1.60 - 2.50 A	1.60 - 2.50 A	2.50 - 4.00 A	4.00 - 6.30 A	
Setting value 500 -20/+25 Vac	1.30 A	1.30 A	1.70 A	2.20 A	2.30 A	5.20 A	
Setting range 575 ±25 Vac	1.00 - 1.60 A	1.00 - 1.60 A	1.00 - 1.60 A	1.60 - 2.50 A	2.50 - 4.00 A	4.00 - 6.30 A	
Setting value 575 ±25 Vac	1.20 A	1.20 A	1.50 A	1.90 A	2.90 A	4.70 A	
* Fusing recommendation for the primary circuit by circuit breaker with tripping characteristic type 20 x Inom related to set							
Order numbers							
Order Number	USTE 630/2x12	USTE 630/2x115	USTE 800/2x115	USTE 1000/2x115	USTE 1600/2x115	USTE 2500/2x115	



Universal control- and safety isolating- resp. isolating transformer

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Electrical data	Type	USTE 3200/2x115
	Input	
	Rated input Voltage	208 Vac/230 Vac/380 Vac 400 Vac/415 Vac/440 Vac 460 Vac/480 Vac/500 Vac 525 Vac/550 Vac/575 Vac 600 Vac
	Frequency range	50 - 60 Hz
	Output	
	Rated output voltage	2x115 Vac
	Rated power VDE (DB cos phi=1)	3200 VA
	Rated power VDE (KB cos phi=0.5)	14400 VA
	No-load voltage (app. x factor)	1.02
	Efficiency	96 %
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
Short circuit proof and overload proof*		
Setting range 208 - 230 Vac		10.00 - 16.00 A
Setting value 208 - 230 Vac		15.20 A
Setting range 380 - 415 Vac		6.30-10.00 A
Setting value 380 - 415 Vac		8.40 A
Setting range 440 +20Vac		6.30-10.00 A
Setting value 440 +20 Vac		7.50 A
Setting range 500 -20/+25 Vac		6.30-10.00 A
Setting value 500 -20/+25 Vac		6.50 A
Setting range 575 ±25 Vac		4.00 - 6.30 A
Setting value 575 ±25 Vac		5.80 A
		* Fusing recommendation for the primary circuit by circuit breaker with tripping characteristic type 20 x Inom related to set
Order numbers		
Order Number		USTE 3200/2x115

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Universal control- and safety isolating- resp. isolating transformer **USTE**

Mechanical data	Typ	Terminals	Fixing method	Fixing screws	Weight	Dimension picture (in mm)	A	B	C	D	E	F	
	USTE 100/2x12	Spring terminals, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	2.10 kg		84	85	86	64	64	54.5	
	USTE 100/2x115	Spring terminals, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M4	2.10 kg		84	85	96	64	64	54.5	
	USTE 250/2x12	Spring terminals, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	3.60 kg		96	102	104	84	87	62.5	
	USTE 250/2x115	Spring terminals, PE 6.3 x 0.8	Dual purpose base plate also for installation on mounting rails	M5	3.60 kg		96	102	104	84	87	62.5	
	USTE 400/2x12	Spring terminals, PE 6.3 x 0.8	Base plate	M5	5.30 kg		120	104	121	90	86	60	
	USTE 400/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M5	5.30 kg		120	104	121	90	86	60	
	USTE 630/2x12	Spring terminals, PE 6.3 x 0.8	Base plate	M6	7.90 kg		150	113	143	122	91	59	
	USTE 630/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	7.90 kg		150	113	143	122	91	59	
	USTE 800/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	10.90 kg		150	130	143	122	108	68	
	USTE 1000/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	13.80 kg		150	156	143	122	134	82	
	USTE 1600/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M8	20.80 kg		192	145	180.5	156	117	72	
	USTE 2500/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M8	26.30 kg		192	190	180.5	156	161	94	
	USTE 3200/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M10	39.00 kg		231	220	250	180	148	92	

Dimension pictures

