

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 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

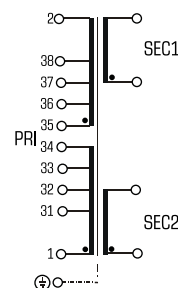
Applications

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 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.

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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Universal control- and safety isolating- resp. isolating transformer

USTE

Typ	USTE 100/2x12	USTE 100/2x115	USTE 250/2x12	USTE 250/2x115	USTE 400/2x12	USTE 400/2x115
Electrical data						
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	1.440 VA	1.440 VA
No-load voltage (app. x factor)	1.07	1.07	1.07	1.07	1.05	1.05
Efficiency	87.0 %	87.0 %	90.0 %	90.0 %	92.0 %	92.0 %
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
Type of 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
Insulation class	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 I_{rated} related to set)						
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 +20 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 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
Order numbers						
Order Number	USTE 100/2x12	USTE 100/2x115	USTE 250/2x12	USTE 250/2x115	USTE 400/2x12	USTE 400/2x115



Universal control- and safety isolating-
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USTE

Typ	USTE 630/2x12	USTE 630/2x115	USTE 800/2x115	USTE 1000/2x115	USTE 1200/2x115	USTE 1600/2x115
Electrical data						
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	1.000 VA	1.200 VA	1.600 VA
Rated power VDE (KB cos phi=0.5)	2.350 VA	2.350 VA	3.400 VA	5.000 VA	5.000 VA	7.800 VA
No-load voltage (app. x factor)	1.03	1.03	1.03	1.02	1.02	1.02
Efficiency	93.0 %	93.0 %	93.0 %	94.0 %	94.0 %	94.0 %
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
Approvals						
Approvals	cURus	cURus	cURus	cURus	cURus	cURus
Environment						
Ambient temperature max.	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Type of 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
Insulation class	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 I_{rated} related to set)						
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	4.00 - 6.30 A	6.30 - 10.00 A
Setting value 208 - 230 Vac	3.20 A	3.20 A	3.90 A	5.00 A	5.00 A	7.50 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	2.50 - 4.00 A	4.00 - 6.30 A
Setting value 380 - 415 Vac	1.70 A	1.70 A	2.20 A	2.70 A	2.70 A	4.10 A
Setting range 440 +20 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	2.50 - 4.00 A
Setting value 440 +20 Vac	1.50 A	1.50 A	1.90 A	2.40 A	2.40 A	3.70 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	1.60 - 2.50 A	2.50 - 4.00 A
Setting value 500 -20/+25 Vac	1.30 A	1.30 A	1.70 A	2.20 A	2.20 A	3.30 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	1.60 - 2.50 A	2.50 - 4.00 A
Setting value 575 ±25 Vac	1.20 A	1.20 A	1.50 A	1.90 A	1.90 A	2.90 A
Order numbers						
Order Number	USTE 630/2x12	USTE 630/2x115	USTE 800/2x115	USTE 1000/2x115	USTE 1200/2x115	USTE 1600/2x115

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Universal control- and safety isolating- resp. isolating transformer

USTE

Typ		USTE 2500/2x115	USTE 3200/2x115	
Electrical data	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	
	Frequency range	50 - 60 Hz	50 - 60 Hz	
	Output			
	Rated output voltage	2x115 Vac	2x115 Vac	
	Rated power VDE (DB cos phi=1)	2.500 VA	3.200 VA	
	Rated power VDE (KB cos phi=0.5)	12.500 VA	14.400 VA	
	No-load voltage (app. x factor)	1.01	1.02	
	Efficiency	95.0 %	96.0 %	
	Standards			
	Classification	Control- and isolating transformer	Control- and isolating transformer	
	Approvals			
	Approvals	cURus	cURus	
	Environment			
	Ambient temperature max.	40 °C	40 °C	
Type of cooling	self-cooling	self-cooling		
Safety and protection				
Type	Open type	Open type		
Insulation class	VDE=B, UL=class 130	VDE=B, UL=class 130		
Protection index	IP 00	IP 00		
Safety class (prepared)	I	I		
Short circuit strength	non-short-circuit proof	non-short-circuit proof		
PRI Fusing recommendation by circuit breaker with tripping characteristic type 20 x I _{rated} related to set)				
Setting range 208 - 230 Vac	10.00 - 16.00 A	10.00 - 16.00 A		
Setting value 208 - 230 Vac	12.50 A	15.20 A		
Setting range 380 - 415 Vac	6.30 - 10.00 A	6.30-10.00 A		
Setting value 380 - 415 Vac	6.90 A	8.40 A		
Setting range 440 +20 Vac	4.00 - 6.30 A	6.30-10.00 A		
Setting value 440 +20 Vac	6.10 A	7.50 A		
Setting range 500 -20/+25 Vac	4.00 - 6.30 A	6.30-10.00 A		
Setting value 500 -20/+25 Vac	5.20 A	6.50 A		
Setting range 575 ±25 Vac	4.00 - 6.30 A	4.00 - 6.30 A		
Setting value 575 ±25 Vac	4.70 A	5.80 A		
Order numbers				
Order Number	USTE 2500/2x115	USTE 3200/2x115		



Universal control- and safety isolating-
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Typ	Terminals	Fixing method	Fixing screws	Weight	Dimension picture (in mm)	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	2.1 kg	1	84	85	96	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	2.1 kg	1	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	3.6 kg	1	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	3.6 kg	1	96	102	104	84	87	62.5
USTE 400/2x12	Spring terminals, PE 6.3 x 0.8	Base plate	M5	5.3 kg	2	120	104	121	90	86	60
USTE 400/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M5	5.3 kg	2	120	104	121	90	86	60
USTE 630/2x12	Spring terminals, PE 6.3 x 0.8	Base plate	M6	7.9 kg	2	150	113	143	122	91	59
USTE 630/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	7.9 kg	2	150	113	143	122	91	59
USTE 800/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	10.9 kg	2	150	130	143	122	108	68
USTE 1000/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	13.8 kg	2	150	156	143	122	134	82
USTE 1200/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M6	13.8 kg	2	-	-	-	-	-	-
USTE 1600/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M8	20.8 kg	2	192	145	180.5	156	117	72
USTE 2500/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M8	26.3 kg	2	192	190	180.5	156	161	94
USTE 3200/2x115	Spring terminals, PE 6.3 x 0.8	Base plate	M10	39.0 kg	2	231	220	250	180	148	92

Dimension pictures

