



**ENERGY EFFICIENT  
CAST RESIN TRANSFORMERS**  
according to Commission Regulation (EU) No 548/2014,  
Ecodesign Directive 2009/125/EG

# ENERGY EFFICIENT CAST RESIN TRANSFORMERS

The product range of cast resin transformers comprises of power up to 20 MVA and voltage levels up to 36 kV. Ruhstrat cast resin transformers are produced in accordance with IEC/EN 60076-11, DIN EN 50541-21, VDE 0532, DIN 42523 as well as special national regulations and customer requests.

With the climate classification C2, the environmental classification E2 and the fire classification F1, they satisfy the highest demands for safe installation in residential and commercial environments.

## Standard Design of Ruhstrat Cast Resin Transformers:

- HV material: Aluminium or copper
- LV material: Aluminium or copper
- Insulation class: F
- Climate classification C2 / Environmental classification E2 / Fire classification F1 according to IEC/EN 60076-11

## Design Types of Ruhstrat Cast Resin Transformers:

- Distribution transformers
- Transformers for 6-, 12-, 18- or 24-pulse inverter operation
- Double-stack and multi-winding transformers
- Step-up transformers
- Transformers for wind power
- Starter transformers
- Test transformers, including those in combination with variable transformers



# ENERGY EFFICIENT CAST RESIN TRANSFORMERS – 10 KV

Technical data	
Input voltage	10 kV $\pm 2 \times 2,5\%$
Insulation class	12/28/60 kV
Output voltage	400V
Insulation class	$\leq 1,1/3$ / - kV
Winding material	Al/Al
Winding temperature rise	100/100 K
Frequency	50 Hz
Vector group	Dyn5
Uk	6%
Environmental class/Climate class/Fire class	E2 - C2 - F1 (Type Test Certificate CESI A9032391)

Power [kVA]	Losses	No-load losses [W]	Load loss [W]	Io	Lwa	Weight [kg]	Width [mm]	Depth [mm]	Height [mm]	Distance between wheels [mm]
100	AoAk-Reg548	280	1800	1,8	51	800	1250	600	1250	520
100	AoBk-Reg548	280	2050	1,8	51	800	1250	600	1250	520
160	AoAk-Reg548	400	2600	1,6	54	1000	1300	650	1300	520
160	AoBk-Reg548	400	2900	1,6	54	1000	1300	650	1300	520
200	AoAk-Reg548	450	2955	1,4	55	1100	1350	650	1350	520
200	AoBk-Reg548	450	3300	1,4	55	1100	1350	650	1350	520
250	AoAk-Reg548	520	3400	1,2	57	1250	1400	650	1400	520
250	AoBk-Reg548	520	3800	1,2	57	1250	1400	650	1400	520
315	AoAk-Reg548	615	3875	1,1	58	1300	1400	750	1450	670
315	AoBk-Reg548	615	4535	1,1	58	1300	1400	750	1450	670
400	AoAk-Reg548	750	4500	1	60	1550	1450	750	1500	670
400	AoBk-Reg548	750	5500	1	60	1550	1450	750	1500	670
500	AoAk-Reg548	900	5630	0,9	60	1650	1400	750	1600	670
500	AoBk-Reg548	900	6410	0,9	60	1650	1400	750	1600	670
630	AoAk-Reg548	1100	7100	0,9	62	2000	1500	850	1700	670
630	AoBk-Reg548	1100	7600	0,9	62	1900	1500	850	1700	670
800	AoAk-Reg548	1300	8000	0,8	64	2400	1600	850	1800	670
1000	AoAk-Reg548	1550	9000	0,7	65	2950	1650	1000	1950	820
1250	AoAk-Reg548	1800	11000	0,7	67	3450	1750	1000	2050	820
1600	AoAk-Reg548	2200	13000	0,5	68	4250	1850	1000	2100	820
2000	AoAk-Reg548	2600	16000	0,5	70	5200	1950	1310	2200	1070
2500	AoAk-Reg548	3100	19000	0,4	71	6100	2050	1310	2300	1070
3150	AoAk-Reg548	3800	22000	0,4	74	7000	2150	1400	2450	1070

# ENERGY EFFICIENT CAST RESIN TRANSFORMERS – 20 KV

Technical data	
Input voltage	20 kV $\pm 2 \times 2,5\%$
Insulation class	24/50/95 kV
Output voltage	400 V
Insulation class	<1,1/3 / - kV
Winding material	Al/Al
Winding temperature rise	100/100 K
Frequency	50 Hz
Vector group	Dyn5
Uk	6 %
Environmental class/Climate class/Fire class	E2 - C2 - F1 (Type Test Certificate CESI A9032391)

Power [kVA]	Losses	No-load losses [W]	Load loss [W]	Io	Lwa	Weight [kg]	Width [mm]	Depth [mm]	Height [mm]	Distance between wheels [mm]
100	AoAk-Reg548	280	1800	1,8	51	900	1350	600	1250	520
100	AoBk-Reg548	280	2050	1,8	51	900	1350	600	1250	520
160	AoAk-Reg548	400	2600	1,6	54	1050	1300	650	1350	520
160	AoBk-Reg548	400	2900	1,6	54	1050	1300	650	1350	520
200	AoAk-Reg548	450	2955	1,4	55	1200	1400	650	1350	520
200	AoBk-Reg548	450	3300	1,4	55	1200	1400	650	1350	520
250	AoAk-Reg548	520	3400	1,2	57	1350	1400	650	1400	520
250	AoBk-Reg548	520	3800	1,2	57	1350	1400	650	1400	520
315	AoAk-Reg548	615	3875	1,1	58	1450	1400	750	1450	670
315	AoBk-Reg548	615	4535	1,1	58	1450	1400	750	1450	670
400	AoAk-Reg548	750	4500	1	60	1700	1450	750	1500	670
400	AoBk-Reg548	750	5500	1	60	1700	1450	750	1500	670
500	AoAk-Reg548	900	5630	0,9	60	1800	1450	750	1650	670
500	AoBk-Reg548	900	6410	0,9	60	1800	1450	750	1650	670
630	AoAk-Reg548	1100	7100	0,9	62	2150	1550	850	1700	670
630	AoBk-Reg548	1100	7600	0,9	62	2050	1550	850	1700	670
800	AoAk-Reg548	1300	8000	0,8	64	2600	1600	850	1850	670
1000	AoAk-Reg548	1550	9000	0,7	65	3150	1700	1000	2000	820
1250	AoAk-Reg548	1800	11000	0,7	67	3850	1750	1000	2050	820
1600	AoAk-Reg548	2200	13000	0,5	68	4550	1900	1000	2150	820
2000	AoAk-Reg548	2600	16000	0,5	70	5600	2050	1310	2200	1070
2500	AoAk-Reg548	3100	19000	0,4	71	5800	2150	1310	2450	1070
3150	AoAk-Reg548	3800	22000	0,4	74	7100	2250	1400	2550	1070

# PRODUCT INQUIRY CAST RESIN TRANSFORMERS

Please fill in using block letters and send by **fax to +49 551 820 830 - 9600**. This product inquiry is also available for **download at [www.ruhstrat.com](http://www.ruhstrat.com)**.

## YOUR DATA

Company:\* \_\_\_\_\_

Contact:\* \_\_\_\_\_

Department / Position: \_\_\_\_\_

Street, House No.:\* \_\_\_\_\_

Postal code/City/Country:\* \_\_\_\_\_

E-Mail:\* \_\_\_\_\_

Phone\*/Fax: \_\_\_\_\_

## TECHNICAL DATA

Quantity: ▶ \_\_\_\_\_ Units

Rated power: ▶ \_\_\_\_\_ kVA

Primary voltage: ▶ \_\_\_\_\_ V

Secondary voltage: ▶ \_\_\_\_\_ V

Short circuit voltage:  
(at 75 °C)  4 %  
 6 %  
▶ \_\_\_\_\_ %

Frequency:  50 Hz  
 60 Hz  
▶ \_\_\_\_\_ Hz

Tapping points:  ± 2 × 2,5 %  
 ± 4 %  
 ± 5 %  
▶ \_\_\_\_\_ %

Vector group: ▶  Dyn5  
▶ \_\_\_\_\_

No-load losses: ▶ \_\_\_\_\_ W

Load loss: ▶ \_\_\_\_\_ W  
(at 75 °C)

Installation height: ▶  < 1000 m  
▶ \_\_\_\_\_ m

Sound pressure level: ▶ \_\_\_\_\_ dB(A)

Ambient temperature: ▶ \_\_\_\_\_ °C

Voltage tripping unit:  
▶ \_\_\_\_\_ V/AC  
▶ \_\_\_\_\_ V/DC

Temperature sensor: ▶  PTC  
▶  PT-100

Protection type IP: ▶ \_\_\_\_\_

Inform me about new products by sending your newsletter  
(E-mail address required)

Remarks: \_\_\_\_\_

Special conditions:  
(Parallel operation, rectifier operation, special dimensions etc.)  
\_\_\_\_\_



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