

CRT2, CRT6, CRT12, CRT6-6, CRT6-12, ETR2

TRANSFORMERS

PRODUCT DATA

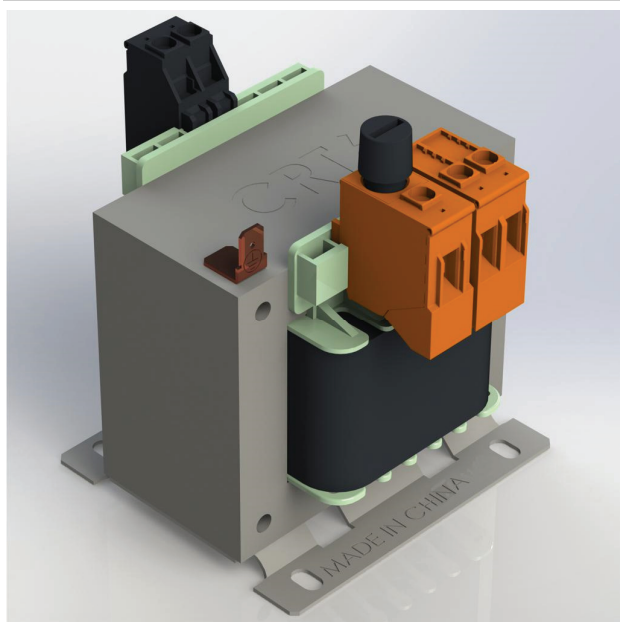


Fig. 1. CRT6, CRT12 transformers for cabinet wall mounting

GENERAL

The CRT transformers are suitable for cabinet wall mounting and are designed for use with Excel 5000 and Excel Web components.

The ETR2 is suitable for wall and cabinet mounting.

IMPORTANT NOTES

These transformers are not intended for series or parallel connection.

The test in 27.2 (Resistance to abnormal heat under fault conditions) is not performed because the test result may be affected by the enclosure in the final application.

CRT TRANSFORMERS - FEATURES

- Cabinet wall mounting
- Separate inputs for 220 V~ and 230 V~ mains power supply
- Fusing for primary or secondary side
- Available also as double transformer with separate secondary windings

ETR 2 - FEATURES

- Wall and DIN rail mounting (e.g., in a radiator niche)
- Potted in an enclosed housing
- Overtemperature protection through use of bimetal switch
- 1.5-meter-long lead with wall outlet plug and 3-meter-long connection cable are permanently attached to the transformer

TECHNICAL DATA

See tables 1, 2, and 3.

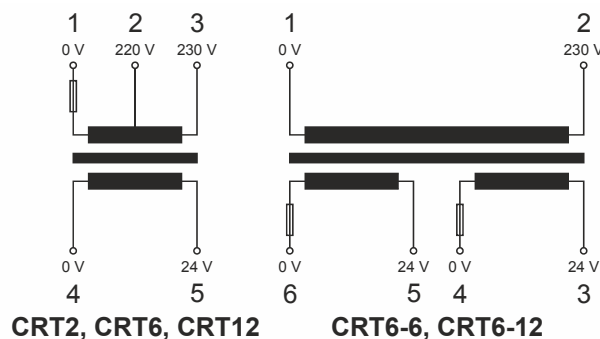


Fig. 2. Wiring diagrams

Table 1. Electrical characteristics of CRT2, CRT6, and CRT12







Electrical characteristics	CRT2	CRT6	CRT12
Type	1~ safety isolating transformer	1~ safety isolating transformer	1~ voltage control and safety isolating transformer
Designated input voltage	220 V or 230 V	220 V or 230 V	220 V or 230 V
Designated input current	0.27 A or 0.26A (ac)	0.78 A or 0.75 A (ac)	1.46 A or 1.40 A (ac)
Integrated input fuse	 0.4 AT	 1.0 AT	 3.15 AT
Designated output voltage	24 V	24 V	24 V
Designated output current	2.0 A (ac)	6.0 A (ac)	12.0 A (ac)
Recommended output fuse	 2.0 AT	 6.3 AT	 13A-K
Duty cycle	100%	100%	100%
Designated output power	48 VA (power factor 1)	144 VA (power factor 1)	288 VA (power factor 1) 705 VA (power factor 0.5)
Power loss	Approx. 9.8 W ($\eta \sim 83\%$)	Approx. 22 W ($\eta \sim 86.5\%$)	Approx. 32 W ($\eta \sim 90\%$)
Connection mode	liO	liO	liO
Designated frequency	50...60 Hz	50...60 Hz	50...60 Hz
Safety class	Prep. for class I equipment	Prep. for class I equipment	Prep. for class I equipment
Protection index	IP00	IP00	IP00
Type of cooling	AN	AN	AN
Insulation class	B (UL class 130)	B (UL class 130)	B (UL class 130)
Max. ambient temperature	40 °C	40 °C	40 °C
HV test voltage prim./sec.; sec./core prim./core; sec./sec.	3.6 kV; 1.3 kV 1.8 kV; --	3.6 kV; 1.3 kV 1.8 kV; --	3.6 kV; 3.0 kV 3.0 kV; --
Terminal (input+output)	Screw terminals 4 mm ²	Screw terminals 4 mm ²	Screw terminals 4 mm ²
Terminal (PE)	Plug-type terminal 6.3x0.8 mm	Plug-type terminal 6.3x0.8 mm	Plug-type terminal 6.3x0.8 mm

Table 2. Electrical characteristics of CRT6-6 and CRT6-12





Electrical characteristics	CRT6-6	CRT6-12
Type	1~ voltage control and safety isol. transformer	1~ voltage control and safety isol. transformer
Designated input voltage	230 V	230 V
Designated input current	1.45 A (ac)	1.85 A (ac)
Designated output voltage	24 V and 24 V	24 V and 24 V
Designated output current	6.25 A and 6.25 A (ac)	6.25 A and 10.4 A(ac)
Integrated output fuse	 6.3 AT  6.3 AT	 6.3 AT  10.0 AT
Duty cycle	100%	100%
Designated output power	300 VA (power factor 1) 705 VA (power factor 0.5)	400 VA (power factor 1) 908 VA (power factor 0.5)
Power loss	Approx. 30.4 W ($\eta \sim 90.4\%$)	Approx. 38 W ($\eta \sim 91\%$)
Connection mode	liiO	liiO
Designated frequency	50...60 Hz	50...60 Hz
Safety class	Prepared for class I equipment	Prepared for class I equipment
Protection index	IP00	IP00
Type of cooling	AN	AN
Insulation class	B (UL class 130)	B (UL class 130)
Max. ambient temperature	40 °C	40 °C
HV test voltage prim./sec.; sec./core prim./core; sec./sec.	3.6 kV; 3.0 kV 3.0 kV; 3.0 kV	3.6 kV; 3.0 kV 3.0 kV; 3.0 kV
Terminal (input+output)	Screw terminals 4 mm ²	Screw terminals 4 mm ²
Terminal (PE)	Plug-type terminal 6.3x0.8 mm	Plug-type terminal 6.3x0.8 mm

Table 3. Electrical characteristics of ETR2

Electrical characteristics	ETR2
Primary input voltage ¹⁾	230 V, 50...60 Hz
Primary DC resistance	30.5 Ω ± 15%
Secondary DC resistance	0.35 Ω ± 15%
Secondary unload voltage	25.9 VAC ± 5%
Secondary voltage at rated current	24.3 VAC at 2 A
Primary unload current (max.)	90 mA
Insulation resistance	500 VDC, 100 MΩ
High-pot. test: primary to secondary	4.5 kV, 1 mA, 1 sec
Primary to core	4.5 kV, 1 mA, 1 sec
Secondary to core	2.1 kV, 1 mA, 1 sec
Temperature rise at rated load	max. 40 K (by "rise of primary winding resistance" method; T _a = 40 °C)
Winding temperature at abnormal load	Max. 225 °C
Insulation system	Class B (130 °C)

¹⁾ At 10% overvoltage or undervoltage in the supply voltage, the rated output of the transformer shall be selected accordingly.

EFFICIENCY DIAGRAMS

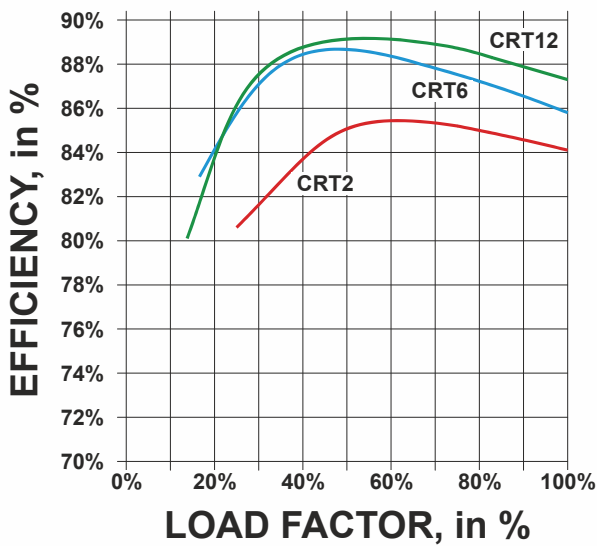


Fig. 3. CRT2, CRT6, and CRT12: Load factor vs. efficiency

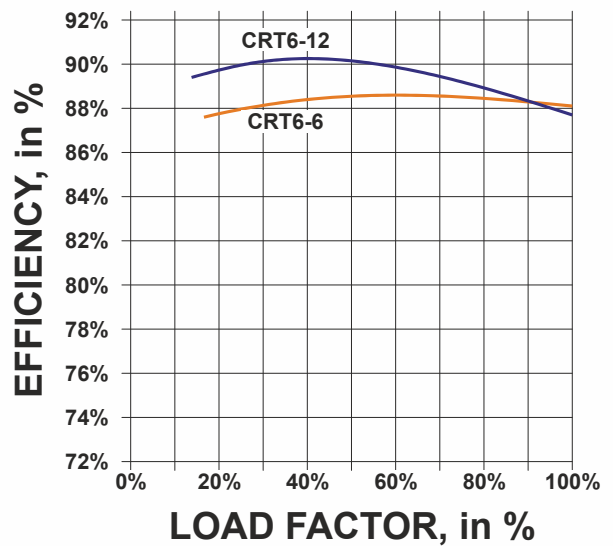


Fig. 4. CRT6-6 and CRT6-12: Load factor vs. efficiency

DIMENSIONS

Dimensions of CRT 2, 6, 12 and 6-6, 6-12

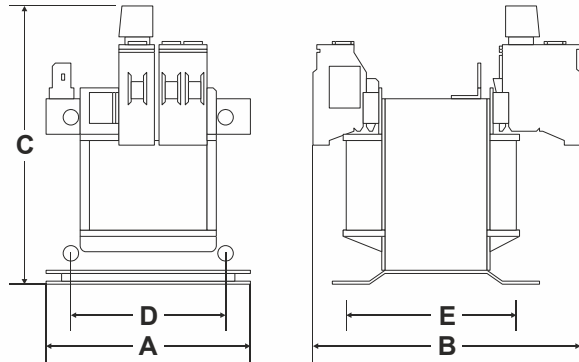


Fig. 5. Dimensions of CRT 2, 6, 12 and 6-6, 6-12

Dimensions of ETR 2

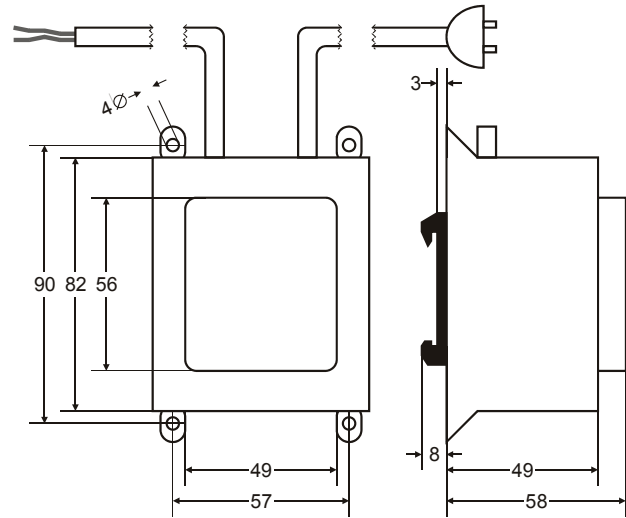


Fig. 6. Dimensions of ETR2 (mm)

Table 4. Dimensions of CRT2, 6, 12 and 6-6, 6-12 (mm)

	CRT2	CRT6	CRT12	CRT6-6	CRT6-12
A	66	84	105	105	120
B	86.5	98	113	113	109
C	90	105	121	131	137
D	50	64	80	80	90
E	55	63.5	83	83	84
Weight (approx.)	1.0 kg	2.0 kg	4.3 kg	4.3 kg	5.2 kg

Home and Building Technologies

Honeywell GmbH
Böblinger Strasse 17
71101 Schönaich, Germany
Phone +49 (0) 7031 637 01
Fax +49 (0) 7031 637 740
<http://ecc.emea.honeywell.com>