

PRODUCT GUIDE

RET615

Transformer protection and control



18. Technical data

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Table 6. Dimensions

Description	Value	
Width	Frame	177 mm
	Case	164 mm
Height	Frame	177 mm (4U)
	Case	160 mm
Depth	201 mm (153 + 48 mm)	
Weight	Complete protection relay	4.1 kg
	Plug-in unit only	2.1 kg

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Table 7. Power supply

Description	Type 1	Type 2
Nominal auxiliary voltage U_n	100, 110, 120, 220, 240 V AC, 50 and 60 Hz 48, 60, 110, 125, 220, 250 V DC	24, 30, 48, 60 V DC
Maximum interruption time in the auxiliary DC voltage without resetting the relay	50 ms at U_n	
Auxiliary voltage variation	38...110% of U_n (38...264 V AC) 80...120% of U_n (38.4...300 V DC)	50...120% of U_n (12...72 V DC)
Start-up threshold	19.2 V DC (24 V DC × 80%)	
Burden of auxiliary voltage supply under quiescent (P_q)/operating condition	DC <13.0 W (nominal)/<18.0 W (max.) AC <16.0 W (nominal)/<21.0 W (max.)	DC <13.0 W (nominal)/<18.0 W (max.)
Ripple in the DC auxiliary voltage	Max 15% of the DC value (at frequency of 100 Hz)	
Fuse type	T4A/250 V	

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Table 8. Energizing inputs

Description	Value		
Rated frequency	50/60 Hz ± 5 Hz		
Current inputs	Rated current, I_n	1/5 A ¹⁾	
	Thermal withstand capability:	• Continuously	20 A
		• For 1 s	500 A
	Dynamic current withstand:	Half-wave value	1250 A
		Input impedance	<20 mΩ
Voltage inputs	Rated voltage	60...210 V AC	
	Voltage withstand:	• Continuously	240 V AC
		• For 10 s	360 V AC
	Burden at rated voltage	<0.05 VA	

1) Residual current and/or phase current

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Table 9. Binary inputs

Description	Value
Operating range	±20% of the rated voltage
Rated voltage	24...250 V DC
Current drain	1.6...1.9 mA
Power consumption	31.0...570.0 mW
Threshold voltage	16...176 V DC
Reaction time	<3 ms

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Table 10. RTD/mA measurement (XRGGIO130)

Description	Value		
RTD inputs	Supported RTD sensors	100 Ω platinum TCR 0.00385 (DIN 43760) 250 Ω platinum TCR 0.00385 100 Ω nickel TCR 0.00618 (DIN 43760) 120 Ω nickel TCR 0.00618 250 Ω nickel TCR 0.00618 10 Ω copper TCR 0.00427	
	Supported resistance range	0...2 kΩ	
	Maximum lead resistance (three-wire measurement)	25 Ω per lead	
	Isolation	2 kV (inputs to protective ground)	
	Response time	<4 s	
	RTD/resistance sensing current	Maximum 0.33 mA rms	
	Operation accuracy	Resistance	± 2.0% or ±1 Ω
		Temperature	±1°C
		10 Ω copper:	±2°C
	mA inputs	Supported current range	0...20 mA
Current input impedance		44 Ω ± 0.1%	
Operation accuracy		±0.5% or ±0.01 mA	

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Table 11. Signal output X100: SO1

Description	Value
Rated voltage	250 V AC/DC
Continuous contact carry	5 A
Make and carry for 3.0 s	15 A
Make and carry for 0.5 s	30 A
Breaking capacity when the control-circuit time constant L/R<40 ms	1 A/0.25 A/0.15 A
Minimum contact load	100 mA at 24 V AC/DC

Table 12. Signal outputs and IRF output

Description	Value
Rated voltage	250 V AC/DC
Continuous contact carry	5 A
Make and carry for 3.0 s	10 A
Make and carry 0.5 s	15 A
Breaking capacity when the control-circuit time constant L/R<40 ms, at 48/110/220 V DC	1 A/0.25 A/0.15 A
Minimum contact load	10 mA at 5 V AC/DC

Table 13. Double-pole power output relays with TCS function

Description	Value
Rated voltage	250 V AC/DC
Continuous contact carry	8 A
Make and carry for 3.0 s	15 A
Make and carry for 0.5 s	30 A
Breaking capacity when the control-circuit time constant L/R<40 ms, at 48/110/220 V DC (two contacts connected in series)	5 A/3 A/1 A
Minimum contact load	100 mA at 24 V AC/DC
Trip-circuit supervision (TCS):	
• Control voltage range	20...250 V AC/DC
• Current drain through the supervision circuit	~1.5 mA
• Minimum voltage over the TCS contact	20 V AC/DC (15...20 V)

Table 14. Single-pole power output relays

Description	Value
Rated voltage	250 V AC/DC
Continuous contact carry	8 A
Make and carry for 3.0 s	15 A
Make and carry for 0.5 s	30 A
Breaking capacity when the control-circuit time constant L/R<40 ms, at 48/110/220 V DC	5 A/3 A/1 A
Minimum contact load	100 mA at 24 V AC/DC

Table 15. High-speed output HSO with BIO0007

Description	Value
Rated voltage	250 V AC/DC
Continuous contact carry	6 A
Make and carry for 3.0 s	15 A
Make and carry for 0.5 s	30 A
Breaking capacity when the control-circuit time constant L/R<40 ms, at 48/110/220 V DC (two contacts connected in series)	5 A/3 A/1 A
Operate time	<1 ms
Reset	<20 ms, resistive load

Table 16. Front port Ethernet interfaces

Ethernet interface	Protocol	Cable	Data transfer rate
Front	TCP/IP protocol	Standard Ethernet CAT 5 cable with RJ-45 connector	10 MBits/s