Controls
Thermal Overload Relays - RW Series

Separate mounting kit

Description	Mounting on Overload Relays	Catalog Number
Enables overload relay to be directly mounted to a back panel via screws or DIN rail	RW27-1D3	BF27D
	RW67-1D3 and RW67-2D3	BF67.1D
	RW117-1D3	BF117D

Connector links

Description	Assembles with		Catalog Number
	Contactor	Overload Relay	
Link connectors for easier CWM contactors and RW overload relays assembly	CWM112E	RW117-2D3	GA117D
	CWM112E/150E	RW317-1D3	GA317-1D
	CWM180E	RW317-1D3	GA317-2D
	CWM250E/300E	RW317-1D3	GA317-3D

General Ratings

TYPE		RW17D	RW27D	RW67D	RW117D	RW317D	RW407D
Standards		Devices according to International Standards IEC 60947-1 / 60947-4-1, European Standards EN 60947-1 / 60947-4-1, Underwriters Laboratories - UL 508; CSA C.22.2/14; VDE 0660/102					
Number of Poles		3					
Tripping Class		10					
Phase Failure Sensitivity		Yes					
Temperature Compensation		Yes					
Rated Insulation Voltage Ui							
Acc. IEC 60947-4-1	[V]	690				1000	
Acc. UL; CSA	[V]	600					
Rated Operation Voltage Ue							
Acc. IEC 60947-4-1	[V]	690				1000	
Acc. UL; CSA	[V]	600					
Rated Impulse Voltage Uimp	[kV]	6					
Current							
Direct		YES				NO	
Alternating	[Hz]	up to 400				50/60	
Degree of Protection		Protection against direct contact acc. VDE 0160 - Part 100 - IP20					
Ambient Temperature							
Storage		-50 to +80ºC (-58 to 176ºF)					
Operating		-20 to +70ºC (-4 to 158ºF)					
Ambient temperature compensation		-20 to +60ºC (-4 to 140ºF)					
Pollution Degree		3					
Mounting		Direct on contactor or separately with accessory				Separate	
Power Dissipation per Pole	[W]	up to 3		up to 5.5		-	-
Weight	[kg]	0.15	0.15	0.31	0.52	2.30	3.12
	[lb]	0.33	0.32	0.68	1.15	5.06	6.88
Shock Resistance							
IEC 60 068 part 2-27	[g/ms]	8/10					
Main Terminals Capacity		Cross / Slotted Combination1)			Allen Head	Slide Bar	Slide Bar
Fine - Stranded with Sleeve	[mm2]	1.5 - 10	1.5 - 10	6.0 - 35	6.0 - 35	-	-
Coarse - Stranded / Solid	[mm2]	1.5 - 6.0	1.5 - 6.0	6.0 - 35	25 - 35	-	-
Slide Bars	[mm2]	-	-	-	-	2x(25x5)	2x(60x10)
Stranded / Solid (UL / CSA)	[AWG]	14 - 6	14 - 6	18 - 2	8 – 1/0	8 – 1/0	8 – 1/0
Tightening Torque	[N.m]	1.4 - 2.3	1.4 - 2.3	4.0 - 6.0	4.0 - 6.0	14 - 26	23 - 26
	[lb-in]	12.4 - 20.4	12.4 - 20.4	35.4 - 53.1	35.4 - 53.1	123.9 - 230.1	203.6 - 230.1

1) For RW67-2D power terminal screws are Allen Head

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TYPE			RW17D	RW27D	RW67D	RW117D	RW317D	RW407D
Front Auxiliary Contact			1 NO + 1 NC					
Rated Auxiliary Contacts								
AC-14/15	24V	[A]	4.0					
	60V	[A]	3.5					
	125V	[A]	3.0					
	230V	[A]	2.0					
	400V	[A]	1.5					
	500V	[A]	0.5					
	690V	[A]	0.3					
DC-13/14	24V	[A]	1.0					
	60V	[A]	0.5					
	110V	[A]	0.25					
	220V	[A]	0.1					
UL508			C600 ; R300					
Rated Thermal Current		[A]	6					
Short Circuit Protection								
Fuses Type D or NH	gL/gG	[A]	6					
Auxiliar Terminals Capacity								
Fine - Stranded with Sleeve		[mm2]	1.0 - 2.5					
Coarse - Stranded / Solid		[mm2]	1.0 - 2.5					
Stranded / Solid (UL / CSA)		[AWG]	16 - 12					
Tightening Torque		[N.m]	1.0 - 1.5					
		[lb-in]	8.9 - 13.3					

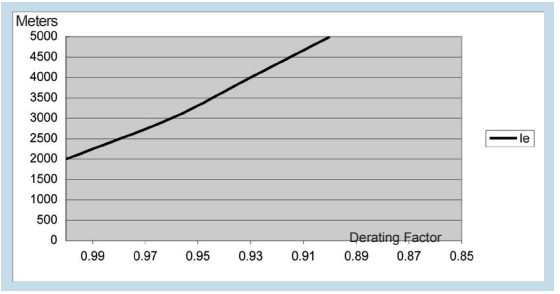
NOTE:
The derating of a RW overload relay has two possible factors:
1) Ambient temperature
- Temperature compensation considers a factor according to which the rated current must be reduced when ambient temperature is higher than 60ºC (140ºF).

2) Altitude
- Altitude compensation involves both, rated current and voltage.
- Current compensation considers a factor according to the rated current must be reduced.

- For voltage, altitude limits the higher operating voltage we can use the overload relay.

Temperature Compensation	Current Correction
65ºC	0.94
70ºC	0.87
75ºC	0.81
80ºC	0.73

Altitude	Voltage Correction [Ue]
Up to 2,000m (6,667ft.)	690
Up to 3,000m (10,000ft.)	550
Up to 4,000m (13,333ft.)	480
Up to 5,000m (16,667ft.)	420



The derating of the permissible operating current for installation altitudes above 2,000m (6,667 ft) and ambient temperatures over 60ºC (140ºF) is calculated according to:

Total derating = Derating $_{altitude}$ x Derating $_{ambient\ temperature}$

Example;
Altitude: 3,000 m (10,000 ft) K1 = 0.96
Ambient temperature: 70ºC (158ºF) K2 = 0.87

Total current derating = 0.96 x 0.87 = 0.84 x Ie
In this case, the maximum rated voltage we can connect to our RW overload relay is 550V.

In order to select the proper overload relay, you have to choose a device with a current range that accommodates:
Overload Setting Point = FLA_{motor} / (K1 x K2)

As in the example above, K1 x K2 = 0.84
For a motor with FLA = 20Amps

Overload Setting Point = 20 / 0.84 = 23.8Amps