

Thermal Overload Relays

Controls - RW Series



Rated for the new industry

RW overload relays are an important part of WEG Controls' range of products. As usual in WEG products, an extended operational service life is one of the main features you can find in RW overload relays.

WEG's RW Class 10 Thermal Overload Relays are designed for use with, and as perfect complement to, the CWC miniature and CWM standard contactors.

Effectively, RW overload relays can be mounted directly under WEG contactors, assuring electrical and mechanical operation as an open across-the-line starter, from fractional power to 75HP @ 460V. Accessories are also available for separate mounting. RW overload relays are available in compact frame sizes, from 0.28 to 840A.

Modern Architecture

Previous models of open overloads with "heaters" encounter problems in the field, including

- Inaccurate trip point, because of uneven screw tightness when installed on the field, one phase at a time.
- Ambient problems, such as dust and other contaminants, because of their open design,
- Inability to protect in case of single phase failure,
- Nuisance tripping, because no temperature compensation is possible.

WEG overload relays' modern design solves all of these problems. RW overload relays are fitted with fixed bimetallic elements, which eliminate any need for heater elements for field installation or future upgrading to a more efficient motor. All sizes provide complete motor protection by offering

- Ambient temperature compensation (-4°F to +140°F)
- Phase loss sensitivity protection,
- Current unbalance sensitivity.

Dial FLA Setting

The trip-current is set via an infinitely adjustable dial designed with the motor's full load current (FLA) in mind.

Temperature Compensation

Because RW overload relays include a fourth bimetallic strip in addition to the three that are directly heated by the motor current, ambient temperature variations in the range of -4°F to +140°F are no obstacle for accurate protection of your motors even in the toughest conditions.

Phase Failure Sensitivity

WEG overload relays include phase failure sensitivity protection as standard. This feature ensures fast tripping in case of phase loss, protecting your motor and avoiding expensive repairs / corrective maintenances.

Multi Function Button "R"

The programmable RESET button can be selected to operate in a Manual or Automatic mode, with or without TEST capabilities of the isolated "trip" NC and "alarm" NO auxiliary contacts. The "R" multifunction RESET / TEST button can be set in four different positions; H (manual RESET only), HAND (manual RESET/TEST), AUTO (automatic RESET/TEST) and A (automatic RESET only).

In HAND and AUTO positions, when gray R button is pushed, both N.O. 97-98 and N.C. 95-96 contacts change states.

Standards and Approvals

IEC 60947 and VDE 0660.

cULus

CE

Marine

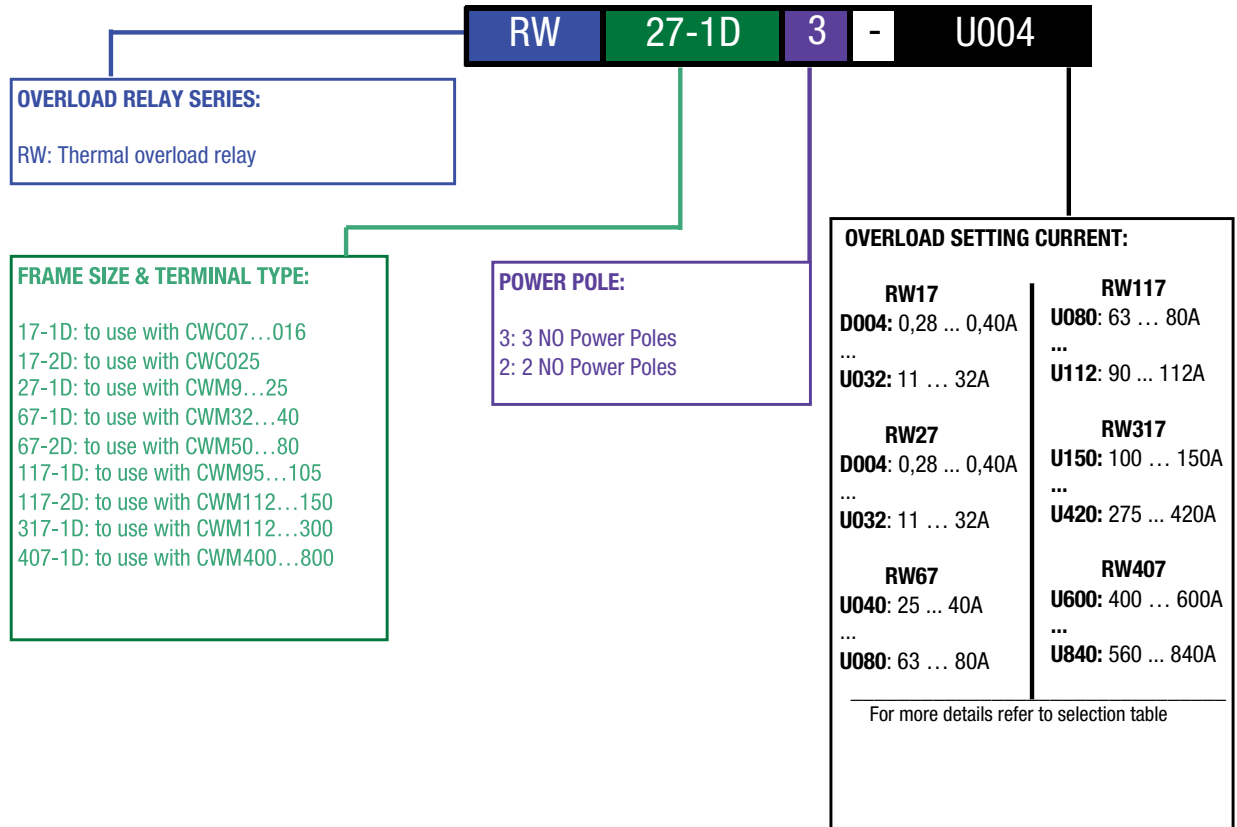


Controls

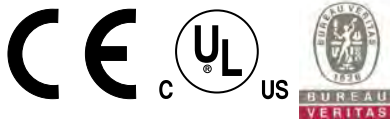
Thermal Overload Relays - RW Series

Catalog part number composition

RW SERIES



Certifications



Controls

Thermal Overload Relays - RW Series

Three-pole Thermal Overload Relay Class 10

RW SERIES

- Adjustable tripping current
- Phase-loss sensitivity
- Tripping class 10
- Auxiliary contacts 1NO + 1NC
- Temperature compensation from -4°F to +140°F
- Hand/Auto/Reset button

Matching Contactor	Setting Range [A]		Max. Fuse [A]	Catalog Number	List Price	Multiplier Symbol
	Min.	Max.				
CWC07...CWC016 CWCA0 (Mini-contactor)	0.28	0.40	15	RW17-1D3-D004	\$46	Z2
	0.40	0.63	15	RW17-1D3-C063	\$46	Z2
	0.56	0.80	15	RW17-1D3-D008	\$46	Z2
	0.80	1.20	15	RW17-1D3-D012	\$46	Z2
	1.20	1.80	15	RW17-1D3-D018	\$46	Z2
	1.80	2.80	15	RW17-1D3-D028	\$46	Z2
	2.80	4.00	15	RW17-1D3-U004	\$46	Z2
	4.00	6.30	25	RW17-1D3-D063	\$46	Z2
	5.60	8.00	30	RW17-1D3-U008	\$46	Z2
	7.00	10.0	40	RW17-1D3-U010	\$46	Z2
	8.00	12.5	50	RW17-1D3-D125	\$46	Z2
CWC025 (Mini-contactor)	10.0	15.0	60	RW17-1D3-U015	\$46	Z2
	11.0	17.0	60	RW17-1D3-U017	\$46	Z2
CWC025 (Mini-contactor)	15.0	23.0	90	RW17-2D3-U023	\$46	Z2
	22.0	32.0	100	RW17-2D3-U032	\$46	Z2
CWM9...CWM40 CWM9N...CWM32N	0.28	0.40	15	RW27-1D3-D004	\$50	Z2
	0.40	0.63	15	RW27-1D3-C063	\$50	Z2
	0.56	0.80	15	RW27-1D3-D008	\$50	Z2
	0.80	1.20	15	RW27-1D3-D012	\$50	Z2
	1.20	1.80	15	RW27-1D3-D018	\$50	Z2
	1.80	2.80	15	RW27-1D3-D028	\$50	Z2
	2.80	4.00	15	RW27-1D3-U004	\$50	Z2
	4.00	6.30	25	RW27-1D3-D063	\$50	Z2
	5.60	8.00	30	RW27-1D3-U008	\$50	Z2
	7.00	10.0	40	RW27-1D3-U010	\$50	Z2
	8.00	12.5	50	RW27-1D3-D125	\$50	Z2
	10.0	15.0	60	RW27-1D3-U015	\$50	Z2
	11.0	17.0	60	RW27-1D3-U017	\$50	Z2
CWM32...CWM40 CWM32N	15.0	23.0	90	RW27-1D3-U023	\$50	Z2
	22.0	32.0	90	RW27-1D3-U032	\$50	Z2
CWM50...CWM80 CWM50N	25.0	40.0	90	RW67-1D3-U040	\$73	Z2
	32.0	50.0	125	RW67-1D3-U050	\$73	Z2
	25.0	40.0	90	RW67-2D3-U040	\$85	Z2
	32.0	50.0	125	RW67-2D3-U050	\$85	Z2
	40.0	57.0	150	RW67-2D3-U057	\$85	Z2
	50.0	63.0	150	RW67-2D3-U063	\$85	Z2
CWM95...CWM105 CWM95N	57.0	70.0	175	RW67-2D3-U070	\$85	Z2
	63.0	80.0	175	RW67-2D3-U080	\$110	Z2
	63.0	80.0	200	RW117-1D3-U080	\$150	Z2
CWM112...CWM150 CWM150N	75.0	97.0	225	RW117-1D3-U097	\$192	Z2
	90.0	112	250	RW117-1D3-U112	\$192	Z2
	75.0	97	225	RW117-2D3-U097	\$232	Z2
CWM112...CWM300 CWM300N	90.0	112	250	RW117-2D3-U112	\$232	Z2
	100	150	300	RW317-1D3-U150	\$285	Z2
	140	215	350	RW317-1D3-U215	\$285	Z2
CWM400...CWM800	200	310	500	RW317-1D3-U310	\$320	Z2
	275	420	700	RW317-1D3-U420	\$320	Z2
	400	600	1000	RW407-1D3-U600	\$690	Z2
	560	840	1250	RW407-1D3-U840	\$690	Z2

Note: RW117-2D, RW317-1D and RW407-1D are for separate mounting -
Connector links for contactors CWM112...CWM300 are available as an accessory on page B-59.



Controls

Thermal Overload Relays - RW Series

Two-pole Thermal Overload Relays Class 10¹ (used for single phase applications)

- Adjustable tripping current
- Phase-loss sensitivity
- Tripping class 10
- Auxiliary contacts 1NO + 1NC
- Temperature compensation from -4°F to +140°F
- Hand/Auto/Reset button

Matching Contactor	Setting Range [A]		Max. Fuse [A]	Catalog Number	List Price	Multiplier Symbol
	Min.	Max.				
CWC07...CWC016 CWCA0 (Mini-contactor)	0.28	0.40	15	RW17-1D2-D004	\$36	Z2
	0.40	0.63	15	RW17-1D2-C063	\$36	Z2
	0.56	0.80	15	RW17-1D2-D008	\$36	Z2
	0.80	1.20	15	RW17-1D2-D012	\$36	Z2
	1.20	1.80	15	RW17-1D2-D018	\$36	Z2
	1.80	2.80	15	RW17-1D2-D028	\$36	Z2
	2.80	4.00	15	RW17-1D2-U004	\$36	Z2
	4.00	6.30	25	RW17-1D2-D063	\$36	Z2
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	7.00	10.0	40	RW17-1D2-U010	\$36	Z2
	8.00	12.5	50	RW17-1D2-D125	\$36	Z2
	10.0	15.0	60	RW17-1D2-U015	\$36	Z2
	11.0	17.0	60	RW17-1D2-U017	\$36	Z2
CWC025 (Mini-contactor)	15.0	23.0	90	RW17-2D2-U023	\$36	Z2
	22.0	32.0	100	RW17-2D2-U032	\$36	Z2
CWM9...CWM40	0.28	0.40	15	RW27-1D2-D004	\$40	Z2
	0.40	0.63	15	RW27-1D2-C063	\$40	Z2
	0.56	0.80	15	RW27-1D2-D008	\$40	Z2
	0.80	1.20	15	RW27-1D2-D012	\$40	Z2
	1.20	1.80	15	RW27-1D2-D018	\$40	Z2
	1.80	2.80	15	RW27-1D2-D028	\$40	Z2
	2.80	4.00	15	RW27-1D2-U004	\$40	Z2
	4.00	6.30	25	RW27-1D2-D063	\$40	Z2
	5.60	8.00	30	RW27-1D2-U008	\$40	Z2
	7.00	10.0	40	RW27-1D2-U010	\$40	Z2
	8.00	12.5	50	RW27-1D2-D125	\$40	Z2
	10.0	15.0	60	RW27-1D2-U015	\$40	Z2
	11.0	17.0	60	RW27-1D2-U017	\$40	Z2
CWM32...CWM40	15.0	23.0	90	RW27-1D2-U023	\$40	Z2
	22.0	32.0	90	RW27-1D2-U032	\$40	Z2
CWM50...CWM80	25.0	40.0	90	RW67-1D2-U040	\$65	Z2
	32.0	50.0	125	RW67-1D2-U050	\$65	Z2
CWM50...CWM80	25.0	40.0	90	RW67-2D2-U040	\$75	Z2
	32.0	50.0	125	RW67-2D2-U050	\$75	Z2
	40.0	57.0	150	RW67-2D2-U057	\$75	Z2
	50.0	63.0	150	RW67-2D2-U063	\$75	Z2
	57.0	70.0	175	RW67-2D2-U070	\$75	Z2
	63.0	80.0	175	RW67-2D2-U080	\$100	Z2

Note: ¹ Availability upon request.




Controls


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Separate Mounting Bracket

Description	Mounting on Overload Relays (2 or 3 pole)	Catalog Number	List Price	Multiplier Symbol
 Enables overload relay to be directly mounted to a back panel via screws or DIN rail	RW27-1D	BF27D	\$14	Z2
	RW67-1D and RW67-2D	BF67.1D	\$23	Z2
	RW117-1D	BF117D	\$26	Z2

External Reset Button

Description	Mounting in Cover of Control Panel	Catalog Number	List Price	Multiplier Symbol
 Enables overload relay to be Reset from control panel, without opening the cover	22 MM Flush Reset PB Blue 'R'	CSW-RSBF4R	\$20	Z5
	30 MM Flush Reset PB Black 'Reset'	CSW30-RSBW	\$22	Z5

Connector links (3 per package)

Description	Assemblies with		Catalog Number	List Price	Multiplier Symbol
	Contactor	Overload Relay			
 Link connectors for easier CWM contactors and RW overload relays assembly	CWM112	RW117-2D3	GA117D	\$41	Z2
	CWM150	RW317-1D3	GA317-1D	\$68	Z2
	CWM180	RW317-1D3	GA317-2D	\$70	Z2
	CWM250 / CWM300	RW317-1D3	GA317-3D	\$118	Z2
	CWM400	RW317-1D3	GA317-10D	\$118	Z2

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	2 or 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			1000		
Rated Operation Voltage Ue						
Acc. IEC 60947-4-1 [V]	690			1000		
Acc. UL; CSA [V]	600			1000		
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 +80°C (-58 to 176°F)					
Operating	-20 to +70°C (-4 to 158°F)					
Ambient temperature compensation	-20 to +60°C (-4 to 140°F)					
Pollution Degree	3					
Mounting	Direct on contactor or separately with accessory					Separate
Current Heat Loss						
Lower value of setting range (W)	0.9	0.9	1.5	2.3	1	1
Higher value of setting range (W)	1.4	1.7	4.7	4.7	1.9	1.9
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	8/10					
IEC 60 068 part 2-27 [g/ms]	8/10					
Main Terminals Capacity	Cross / Slotted Combination ¹					
Fine - Stranded with Sleeve [mm ²]	1.5 - 10	1.5 - 10	6.0 - 35	6.0 - 35	Slide Bar	Slide Bar
Coarse - Stranded / Solid [mm ²]	1.5 - 6.0	1.5 - 6.0	6.0 - 35	25 - 35	-	-
Slide Bars [mm ²]	-	-	-	-	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
Short Circuit Rating 600V						
[kA]	5	5	5 (40-57A) 10(50-63A)	10	10	200