



MELCHER
The Power Partners.

a bel power solutions brand

RCM150/300 Series 150/300 W DC-DC Converters



The RCM Series converters are reliable power supplies for railway and transportation systems. There are 2 input voltage ranges covering all common railway batteries. The output delivers 150 or 300 W at 12, 15 or 24 V. The converters are designed for chassis mounting and exhibit a closed housing with cooling openings.

Many options are available, such as an output ORing FET for redundant operation, output voltage adjustment, interruption time of 10 ms (class ST2), shutdown input, and an output voltage monitor controlling a relay (change-over contact).

Features

- RoHS lead-free-solder product
- 2 input voltage ranges, covering all railway batteries
- Single output 12, 15 or 24 V
- Closed housing for chassis mounting
- Extremely high efficiency and high power density
- Low inrush current
- 3 connectors: Input, output, auxiliary
- Overtemperature, overvoltage, overcurrent, and overload protection
- Many options available
- Compliant to EN 50155, EN 50121-3-2, AREMA
- Fire and smoke: compliant to EN 45545 and NFPA 130
- 5 year warranty



Safety-approved to the latest edition of IEC/EN 60950-1 and UL/CSA 60950-1



¹ pending

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Model Selection

Table 1: Standard models

$V_{i\ min}^1$ [V]	Input voltage				Output		Power $P_{o\ nom}$ [W]	Efficiency ²		Model	Options
	$V_{i\ cont}$ [V]	$V_{i\ max}^1$ [V]	$V_{o\ nom}$ [V]	$I_{o\ nom}$ [A]	η_{min}	η_{typ}					
14.4	16.8 (24) 45	50.4	12	12.5	150	88	90	24RCM150-12 24RCM150-15 24RCM150-24	D, M, Q, F, K		
			15	10.0	150						
			24	6.25	150	90	91				
43.2	50.4 (110) 137.5	154	12	12.5	150	91	92.5	110RCM150-12 110RCM150-15 110RCM150-24	D, M, Q, F, K		
			15	10.0	150						
			24	6.25	150	92	93				
14.4	16.8 (24) 45	50.4	12	25	300	89	90.5	24RCM300-12 24RCM300-24	D, M, Q, F, K		
			24	12.5	300	90	91				
43.2	50.4 (110) 137.5	154	12	25	300	91	92.5	110RCM300-12 110RCM300-24	D, M, Q, F, K		
			24	12.5	300	92	93.5				

¹ Short time; see table 2 for details.

² Efficiency at $T_A = 25\ ^\circ\text{C}$, $V_{i\ nom}$, $I_{o\ nom}$, $V_{o\ nom}$, only option D fitted.

Part Number Description

Operating input voltage $V_{i\ cont}$ (continuously):

16.8 – 45 VDC24
50.4 – 137.5 VDC 110

SeriesRCM

Output power:

150 W150
300 W300

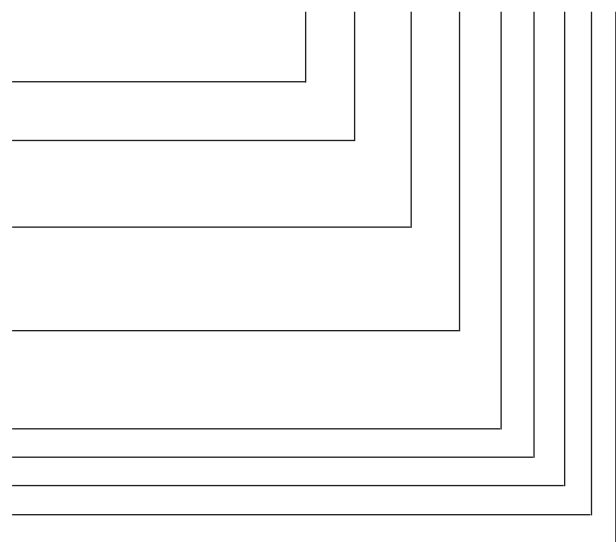
Nominal output voltage:

12 V-12
15 V-15
24 V-24

Auxiliary functions and options:

Out OK, output voltage adjust, shutdown ¹ D
Interruption timeM
ORing FET.....Q
Fuse built-in.....F
Pluggable Connectors K

110 RCM 150 -24 D M Q F K



¹ Opt. D requires the auxiliary connector.

Note: The sequence of options must follow the order above.

Note: All models are RoHS-compliant for all six substances.

Available combinations of options:
24/110RCMxxx-xx (K)
24/110RCMxxx-xxD (K)
24/110RCMxxx-xxDF (K)
24/110RCMxxx-xxDMQ (K)
24/110RCMxxx-xxDMQF (K)

Example: 110RCM150-24DMQ: DC-DC converter, input voltage range 50.4 to 137.5V continuously, output providing 24 V /6.25 A, monitoring relay, output voltage adjust, shutdown input, interruption time 10 ms, integrated ORing FET, operating ambient temperature $T_A = -40$ to $70\ ^\circ\text{C}$, RoHS-compliant for all six substances.