05903 SERIES
24V 100A HIGH-CURRENT CUBE-STYLE DC COIL RELAY

05903300

Specifications

Max Voltage Rating (V DC):	24
Current Rating Continuous (A):	100
Coil Voltage Rating (V DC):	12, 24
Ingress Protection:	IP 54
Operating Temperature (°C):	-40 to +85

Description

The 05903 Series 24V 100A High-Current Relay is a normally open, armature relay that can be used in heavy trucks and commerical vehicles.

Glass-fiber-reinforced housing and a compact form help ensure safe use in automotive applications. Configurations of this cube relay are available with 12V and 24V coil voltage ratings.

Web Resources

Download 2D print, installation guide and technical resources at: **littelfuse.com/05903**

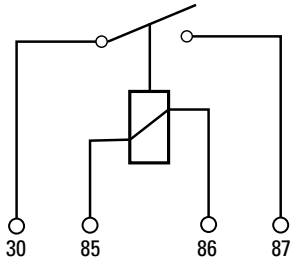
Applications

- Heavy trucks
- Commerical vehicles

Features and Benefits

- Continuous current rating of 100A for high-current contact switching
- Glass-fiber-reinforced nylon housing enables use in automotive applications
- Main contacts are rated for 24V
- Contact voltage drop of ≤40mV @ 40A
- Normally open (also known as monostable) relay design
- Armature relay uses a single coil that pulls down on an armature to close the relay
- Coil voltage options include 12V and 24V

Electrical Diagram



05903300 & 05903500

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Ordering Information

PART NUMBER	CONTINUOUS CURRENT (A)	INTERMITTENT CURRENT	VOLTAGE RATING	MOUNTING	COIL VOLTAGE (V DC)	COIL TYPE	AUX CONTACT	POLARIZED
			SYSTEM NOMINAL (V DC)					
05903300	100	200	12	SIDE MOUNT	12	Single	No	No
05903500	100	140	24	SIDE MOUNT	24	Single	No	No

Performance Data

MAIN CONTACT	
Contact Arrangement	SPST NO
Rated Operating Voltage	12V DC
Max Short Circuit Current	400A @ 24V DC
Dielectric Withstand Voltage	1000V AC
Insulation Resistence	≥500MΩ @ 500V DC
Max Voltage Drop	≤40mV @ 40 A

COIL DATA		
Voltage Rating (V DC)	12	24
Pickup Voltage @ 25˚C (V DC MAX)	8.5	18
Dropout Voltage @ 25˚C (V DC MIN)	1.8	2
Hold Current (A)	0.5	0.15
Coil Watts @ 25˚C (W)	5.5	4

LIFE	
Electrical Life	6,000
Mechanical Life	100,000

OPERATE / RELEASE TIME	
Close (ms)	15
Release (ms)	10

ENVIRONMENTAL DATA	
Shock	3G
Vibration	1~50Hz (freq.1~10Hz, amp;.25/f²; freq.10~50Hz, ampl.250/f²)
Ambient Temperature	-40°C~+85°C
Weight (g)	96.1

Note: Estimated Make Break Charts and Time Current Curves Coming Soon

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Application Notes & Definitions

- Be sure to use a washer to prevent screws from loosening. Tighten the screw so that the torque is in the range specified below. Exceeding the maximum torque can lead to product rupture.

PRODUCT SERIES	PRODUCT MODEL	CONTACT TERMINAL		COIL TERMINAL		MOUNTING
		HOLE OR BOLT	REFERENCE TORQUE	HOLE/BOLT/WIRE/TERMINAL	REFERENCE TORQUE	REFERENCE TORQUE
05903	05903300 05903500	Bolt : M6	3~4.5N.m	terminal	/	2.0~2.8N.m

- Please refer to the drawing for connection polarity.
- Do not use dropped products.
- Avoid installing the product in a strong magnetic field (Close to the transformer or magnet), or near an object with heat radiation.
- Electrical life
  Please use under load capability and life cycle so as not to cause a function failure. (Please also treat the contactor as a product with specified life and replace it when necessary). It is possible to make parts burn around the contactor once operating failure happens. So it is necessary to take layout into account to make sure power shall be cut off within 1 second.
- Do not let particle and oil stain on the main terminal with which the load shall make a reliable contact or it will cause a lot of heat.

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