

DCR100

Direct Current Relay Module

The DCR100 contains 6 Direct Current (DC) relays, each capable of switching up to 10 amps. The DCR100 connects directly to an NMEA 2000® network, so you can turn on and off the relays from any device onboard or remotely running Maretron's N2KView® software. The DCR100 easily handles resistive DC loads like lights, or inductive DC loads like pumps and motors. The DCR100 can also be used to switch AC circuits using external relays. An added benefit of the DCR100 is that it reports the current through each of the six channels. This allows you to determine if loads are drawing too little electrical current such as burnt-out bulbs, or if the loads are starting to draw too much electrical current.



Product Features

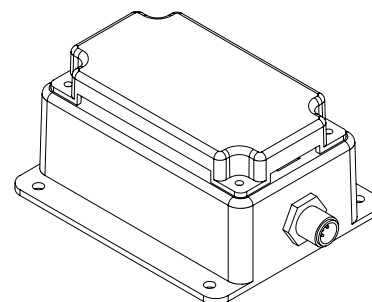
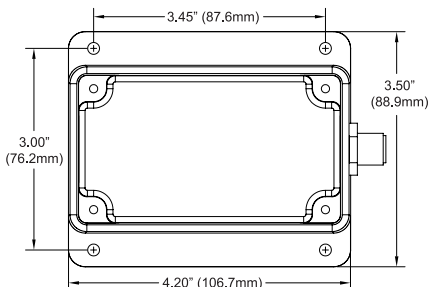
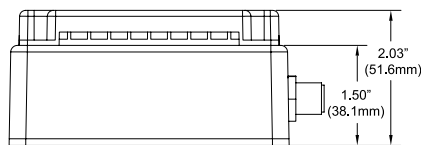
- Six relays for On/Off control over NMEA 2000® Network
- Each relay capable of carrying up to 10 amps
- Individual relay electrical current monitoring
- Automatic relay over current shutdown (shuts down at \approx 12 amps)
- Automatic relay thermal shutdown (over temperature protection)
- Relays switchable using Maretron DSM Series, N2KView®, or N2KView® Mobile
- DCR100 can be configured as an annunciator to activate a buzzer, horn, or strobe light as a result of an alert
- Individual DCR100 channels can be locked into On/Off state
- Individual DCR100 channels can be configured with default power up state (e.g., On/Off/Previous)



N2KView® Screen Shot

PRODUCT

PART NUMBER	DESCRIPTION
DCR100-01	Direct Current Relays



SPECIFICATIONS

PARAMETER	VALUE	COMMENT
Maximum DC Switching Current	10A	Maximum Current Per Channel
DC Switching Voltage	<32 VDC	
Contact Resistance	<10 mΩ	
Current Sense Accuracy	±100mA	

NMEA 2000® PARAMETER GROUP NUMBERS (PGNs)

DESCRIPTION	PGN#	PGN NAME	DEFAULT RATE
Periodic Data PGNs	65284	DC Breaker Current (Maretron Proprietary)	1 time per second
	127501	Binary Switch Bank Status	1 Time/15 seconds and on switch change
	130836	Switch Status Counter (Maretron Proprietary)	1 Time/15 seconds and on switch change
	130837	Switch Status Timer (Maretron Proprietary)	1 Time/15 seconds and on switch change
Response to Requested PGNs	126464	PGN List (Transmit and Receive)	N/A
	126996	Product Information	N/A
	126998	Configuration Information	N/A
Protocol PGNs	059392	ISO Acknowledge	N/A
	059904	ISO Request	N/A
	060928	ISO Address Claim	N/A
	065240	ISO Address Command	N/A
	126208	NMEA Request/Command/Acknowledge	N/A
Maretron Proprietary PGNs	126720	Device Configuration Information	N/A
	130818	Device Label	N/A
	130824	Annunciator	1 time/second

ELECTRICAL

PARAMETER	VALUE	COMMENT
Operating Voltage	9 to 32 Volts	DC Voltage
Power Consumption	150mA	NMEA 2000® Interface
Load Equivalence Number (LEN)	3	NMEA 2000® Spec. (1LEN = 50mA)
Reverse Battery Protection	Yes	Indefinitely
Load Dump Protection	Yes	Energy Rated per SAE J1113

MECHANICAL

PARAMETER	VALUE	COMMENT
Size	3.50" x 4.20" x 2.03" (88.9mm x 106.7mm x 51.6mm)	Including Flanges for Mounting
Weight	13 oz. (368.5 g)	

ENVIRONMENTAL

PARAMETER	VALUE
IEC 60945 Classification	Exposed
Degree of Protection	IP64
Operating Temperature	-25°C to 55°C
Storage Temperature	-40°C to 70°C
Relative Humidity	93%RH @40° per IEC60945-8.2
Vibration	2-13.2Hz @ ±1mm, 13.2-100Hz @ 7m/s² per IEC 60945-8.7
Solar Radiation	Ultraviolet B, A, Visible, and Infrared per IEC 60945-8.10
Corrosion (Salt Mist)	4 times 7days @ 40°C, 95%RH after 2 hour Salt Spray Per IEC 60945-8.12
Electromagnetic Emission	Conducted, Radiated Emission per IEC 60945-9
Electromagnetic Immunity	Conducted, Radiated, Supply, and ESD per IEC 60945-10
Safety Precautions	Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12

CERTIFICATIONS

PARAMETER	COMMENT
NMEA 2000®	Level A
Maritime Navigation and Radio Communication Equipment & Systems	IEC 61162-3
Maritime Navigation and Radio Communication Equipment & Systems	Tested to IEC 60945
FCC and CE Mark	Electromagnetic Compatibility