

# DCR100 *Direct Current Relay Module*

Maretron's 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.

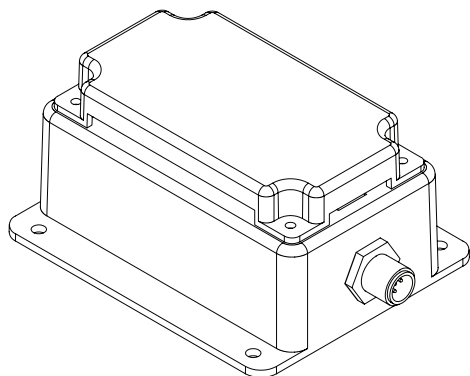
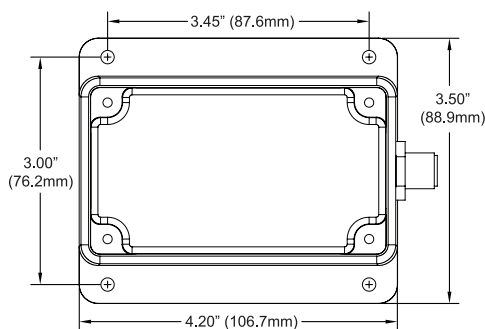
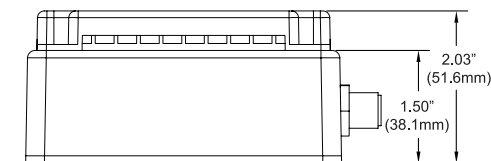
## Products

| PART NUMBER | DESCRIPTION                 |
|-------------|-----------------------------|
| DCR100-01   | Direct Current Relay Module |



- 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 ≈ 12 amps)
- Automatic Relay Thermal Shutdown (Over Temperature Protection)





N2KView Screen Shot

## Specifications

| Parameter                    | Value   | Comment                     |
|------------------------------|---------|-----------------------------|
| Maximum DC Switching Current | 10amp   | Maximum Current Per Channel |
| DC Switching Voltage         | <32 VDC |                             |
| Contact Resistance           | <10 mΩ  |                             |
| Current Sense Accuracy       | ±100 mA |                             |

## Certifications

| Parameter                                                      | Comment                       |
|----------------------------------------------------------------|-------------------------------|
| NMEA 2000                                                      | Level A                       |
| Maritime Navigation and Radiocommunication Equipment & Systems | IEC 61162-3                   |
| Maritime Navigation and Radiocommunication Equipment & Systems | Tested to IEC 60945           |
| FCC and CE Mark                                                | Electromagnetic Compatibility |

## NMEA 2000® Parameter Group Numbers (PGNs)

| Description                | PGN #  | PGN Name                        | Default Rate          |
|----------------------------|--------|---------------------------------|-----------------------|
| Periodic Data PGNs         | 127501 | Binary Switch Bank Status       | Once Every 15 Seconds |
| 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                            | N/A                   |
| Maretron Proprietary PGNs  | 126720 | Configuration                   | N/A                   |

## Electrical

| Parameter                     | Value         | Comment                         |
|-------------------------------|---------------|---------------------------------|
| Operating Voltage             | 9 to 32 Volts | DC Voltage                      |
| Power Consumption             | 150 mA        | NMEA 2000® Interface            |
| Load Equivalence Number (LEN) | 3             | NMEA 2000® Spec. (1LEN = 50 mA) |
| 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"<br>(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 and 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    |