

# › GNRD-0 Series

## Motor Reversing Solid State Relays

### DIN Rail Mount

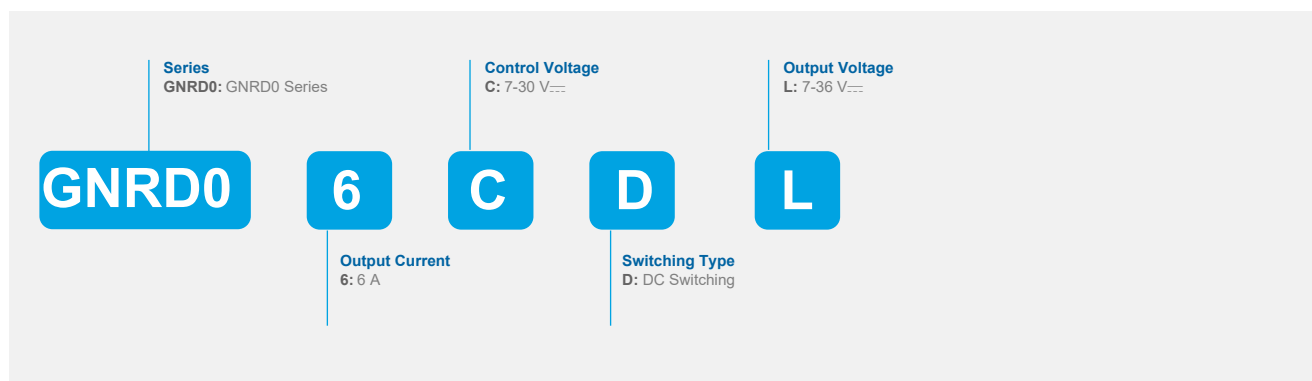
- › For frequent start/stop/reversing operation of DC Motors
- › Output Current of 6 Amps
- › Output Voltage of 7-36 V $\overline{\text{DC}}$
- › Control Voltage of 7-30 V $\overline{\text{DC}}$
- › DC Switching
- › CE and UKCA Recognized



GNRD-0

Product Selection - DC Switching (DC Loads)	
Rated Load Current	6A
Output Voltage	7-36 V $\overline{\text{DC}}$
Control Voltage	
7-30 V $\overline{\text{DC}}$	<b>GNRD06CDL</b>

Part Number System
GNRD-0



Do you need an adapted or customized solution? Contact us on [www.crouzet.com](http://www.crouzet.com)

#### Description:

Crouzet Solid State Relays are designed to be used in almost any application, offering very long life expectancy and are easy to install, easy to use, robust and multipurpose.

For more information about Crouzet's Solid State relays, please visit [www.crouzet.com](http://www.crouzet.com).

Output Characteristics <sup>(1)</sup>	
Description	6A
Maximum Load Current @ Ta=30 °C [Arms]	6
Minimum Load Current [mArms]	0.1
Maximum 1 Cycle Surge Current [Apeak]	60A @100 ms
Maximum On-State Voltage Drop @ Rated Current [Vpeak]	0.4
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.36
Minimum Heat Sink for Rated Current @ 40 °C [°C/W]	No heatsink
Operating Voltage [Vrms]	7-36 V <sub>~</sub>
Transient Voltage [Vpeak] <sup>(2)</sup>	60
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	0.2
Minimum Power Factor	0.45

Input Characteristics <sup>(1)</sup>	
Description	7-30 V <sub>~</sub>
Control Voltage Range	7-30 V <sub>~</sub>
Maximum Reverse Voltage	-30 V <sub>~</sub>
Minimum Turn-On Voltage	7 V <sub>~</sub>
Must Turn-Off Voltage	1 V <sub>~</sub>
Minimum Input Current (for on-state) [mA]	12
Maximum Input Current [mA]	58
Nominal Input Impedance [Ohms]	1000
Maximum Turn-On Time [msec]	0.01
Maximum Turn-Off Time [msec]	0.15

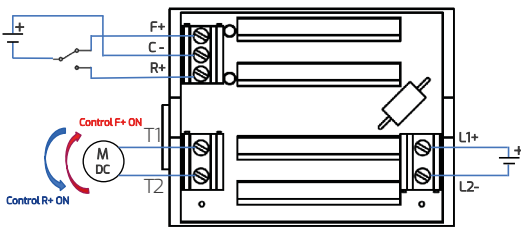
General Characteristics	
Description	6A
Dielectric Strength, Input to Output (50/60 Hz) [V]	2500
Dielectric Strength, Input/Output to Ground (50/60 Hz) [V]	2500
Minimum Insulation Resistance (@ 500 V <sub>~</sub> ) [Ohms]	10 <sup>9</sup>
Maximum Capacitance, Input/Output [pF]	8
Ambient Operating Temperature Range [°C] <sup>(7)</sup>	-40 to 80
Ambient Storage Temperature Range [°C]	-40 to 100
Weight (typical) [g]	110
Housing Material	UL94 V-0
Input Terminal Screw Torque Range [in-lb/Nm]	3-5 / 0.4-0.5
Load Terminal Screw Torque Range [in-lb/Nm]	3-5 / 0.4-0.5
Humidity per IEC60068-2-78 [%]	40-85
LED Input Status Indicator	Green
MTBF (Mean Time Between Failures) at 40 °C ambient temperature [years] <sup>(8)</sup>	15
MTBF (Mean Time Between Failures) at 60 °C ambient temperature [years] <sup>(8)</sup>	10
MTTFd [years]	34

General Notes	
<sup>(1)</sup> All parameters at 25 °C unless otherwise specified	
<sup>(2)</sup> Output will self trigger between 450-600 Vpk not suitable for capacitive loads	
<sup>(7)</sup> AC models operating range is -20 to 80 °C	
<sup>(8)</sup> All parameters at 50 % power rating and 100 % duty cycle (contact tech support for detailed report)	

Diagrams

Wiring

GNRD-0



Recommended Wire Size

TERMINALS	WIRE SIZE		Terminal Screw Torque (N.m)
	SOLID	STRANDED	
Input	12 AWG (4 mm <sup>2</sup> )	14 AWG (2.5 mm <sup>2</sup> )	0.4 - 0.5
Output	12 AWG (4 mm <sup>2</sup> )	14 AWG (2.5 mm <sup>2</sup> )	0.4 - 0.5

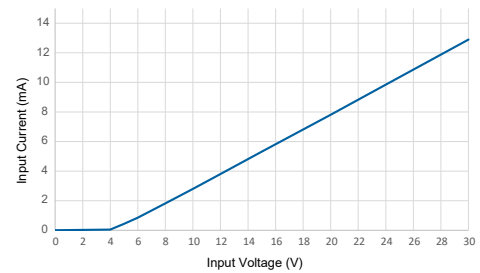
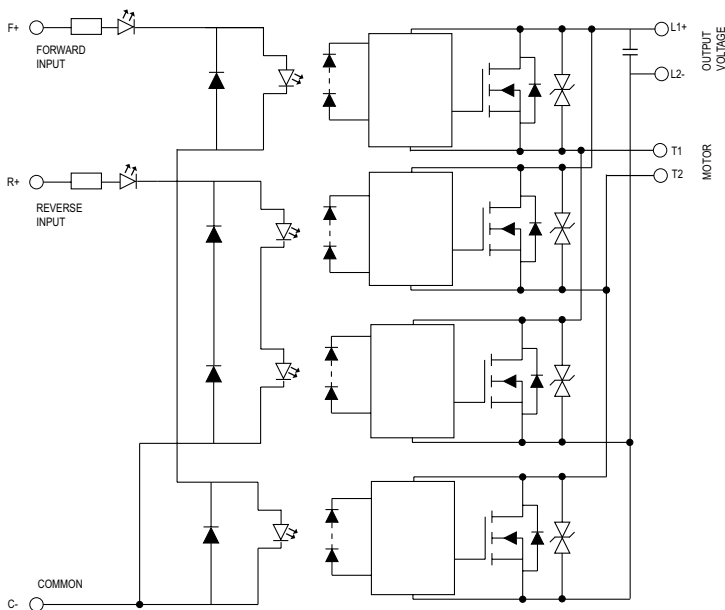
**Warning:** the F+ and R+ switches must never be activated at the same time, an interlock prohibiting the control of both directions of rotation and a time delay at the moment of inversion of control must be provided.

Diagrams

Equivalent Circuit Block

GNRD-0, Series 7-30 V<sub>DC</sub> control, 7-36 V<sub>DC</sub> output; DC Switching (DC Loads)

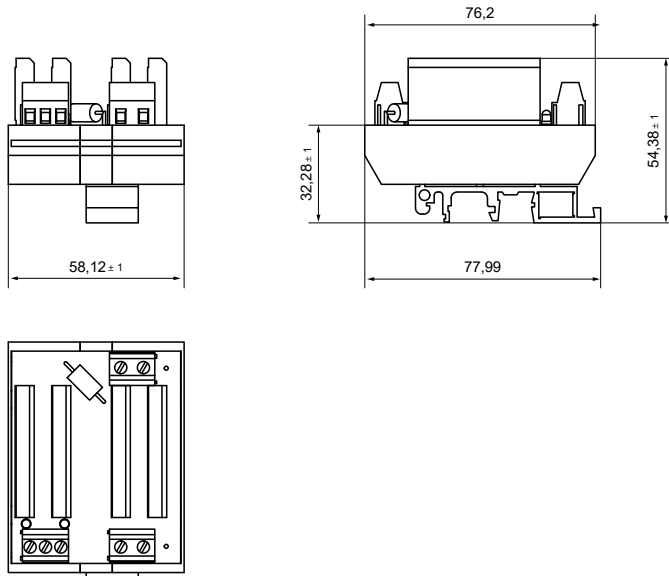
Input Current vs Input Voltage  
Standard Regulated DC inputs



**Diagrams**

**Dimensions (mm)**

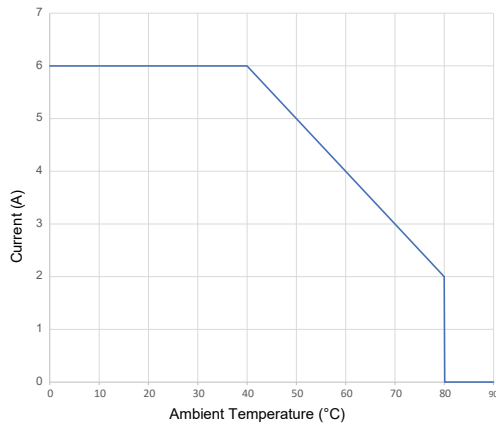
GNRD-0



**Curves**

**Thermal Derating Curves**

GNRD-0



**Standards & Electromagnetic Compatibility Specification**

EN61000-4-4 Immunity to fast transients / bursts

EN61000-4-5 Immunity to surges

Standards



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