› GNRD Mini Series
DIN Mounted Solid State Relays
DIN Rail - DC Output
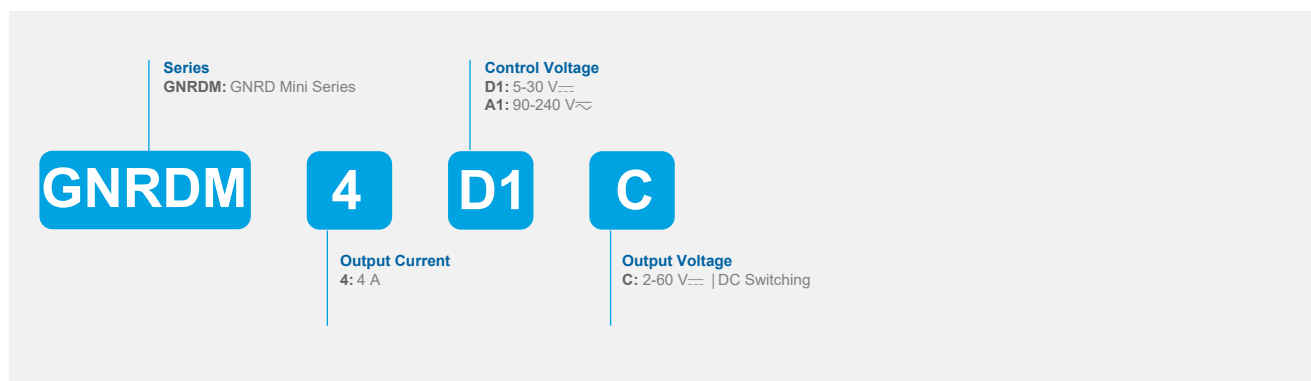
› **Output Current of 4 Amps**
› **Output Voltage of 2-60 V⎓**
› **Control Voltage of 5-30 V⎓, 90-240 V∿**
› **DIN Rail Mount SSR**
› **DC Switching**
› **CE and UKCA Recognized**

GNRD Mini

Product Selection - DC Switching (DC Loads)	
Rated Load Current	4A
Output Voltage	2-60 V⎓
Control Voltage	
5-30 V⎓	**GNRDM4D1C**
90-240 V∿	**GNRDM4A1C**

Part Number System
GNRD Mini Series

Series
GNRDM: GNRD Mini Series

Control Voltage
D1: 5-30 V⎓
A1: 90-240 V∿

GNRDM   **4**   **D1**   **C**

Output Current
4: 4 A

Output Voltage
C: 2-60 V⎓ | DC Switching

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**.

CROUZET

Output Characteristics [1]

Description	4A
Maximum Load Current [Arms]	4 [9]
Minimum Load Current [mArms]	5
1 Second surge current @ Ta=25 °C, [Apeak]	10
Maximum 1 Cycle Surge Current [Apeak]	10
Maximum On-State Voltage Drop @ Rated Current [Vpeak]	1.6
Thermal Resistance Junction to Case (Rjc) [°C/W]	1.66
Minimum Heat Sink for Rated Current @ 40 °C [°C/W]	No heatsink
Operating Voltage [Vrms]	2-60
Transient Voltage [Vpeak] [2]	60
Maximum Off-State Leakage Current @ Rated Voltage [mArms]	1
Minimum Off-State dv/dt @ Maximum Rated Voltage [V/µsec]	200
Minimum Power Factor	0.45 but overvoltage (Varistor) & free-wheel diode protection required

Input Characteristics [1]

Control Voltage Range	5-30 V⎓	90-240 V∿
Part numbers	GNRDM4D1C	GNRDM4A1C
Maximum Reverse Voltage	-30 V⎓	-240 V∿
Minimum Turn-On Voltage	5 V⎓	90 V∿
Must Turn-Off Voltage	1 V⎓	15 V∿
Minimum Input Current (for on-state) [mA]	2	
Maximum Input Current [mA]	30	6
Nominal Input Impedance [Ohms]	1000	41000
Maximum Turn-On Time [msec]	0.2	20
Maximum Turn-Off Time [msec]	0.8	20

General Characteristics

Description	4A
Dielectric Strength, Input to Output (50/60 Hz) [V]	2500
Minimum Insulation Resistance (@ 500 V⎓) [Ohms]	10^9
Maximum Capacitance, Input/Output [pF]	8
Ambient Operating Temperature Range [°C] [7]	-40 → 80
Ambient Storage Temperature Range [°C]	-40 → 100
Weight (typical) [g]	38
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] [8]	62
MTBF (Mean Time Between Failures) at 60 °C ambient temperature [years] [8]	45
MTTFd [years]	285

General Notes

[1] All parameters at 25 °C unless otherwise specified

[2] Output will self trigger between 450-600 Vpk not suitable for capacitive loads

[7] AC models operating range is -20 to 80 °C

[8] All parameters at 50 % power rating and 100 % duty cycle (contact tech support for detailed report)

[9] 4 A at 20 °C; 3.5 A at 40 °C

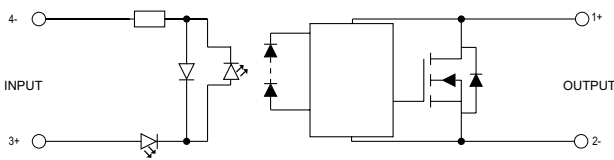## Diagrams

Wiring

GNRD Mini Series

Recommended Wire Size

TERMINALS	WIRE SIZE		Terminal Screw Torque (N.m)
	SOLID	STRANDED	
Input	12 AWG (4 mm²)	14 AWG (2.5 mm²)	0.4 - 0.5
Output	12 AWG (4 mm²)	14 AWG (2.5 mm²)	0.4 - 0.5

① *Protection Equipment : Short circuit protection*

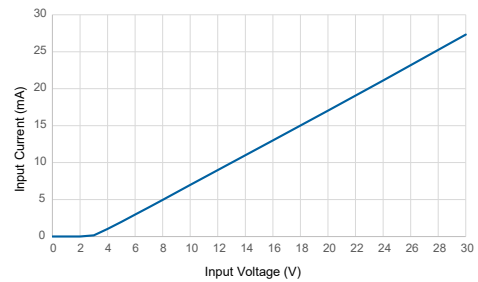**GNRDM4D1C & GNRDM4A1C:** it is recommended to add an overvoltage protection
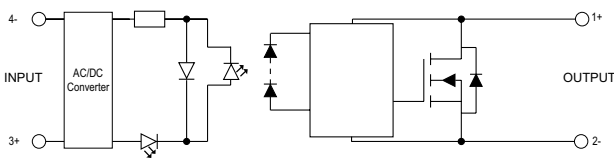
Diagrams

Equivalent Circuit Block

GNRD Mini Series 5-30 V⎓ control; 2-60 V⎓ output

Input Current vs Input Voltage

Standard Regulated DC inputs

GNRD Mini Series 90-240 V∿ control; 2-60 V⎓ output

Input Current vs Input Voltage

Standard Regulated DC inputs

AC

DC
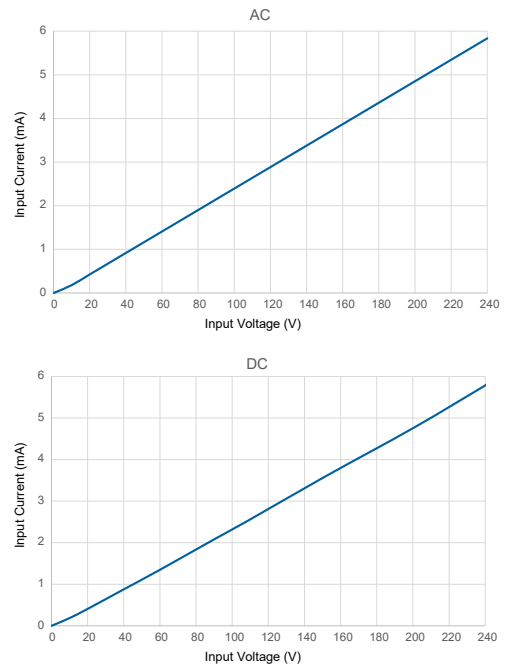
Diagrams
Dimensions (mm)

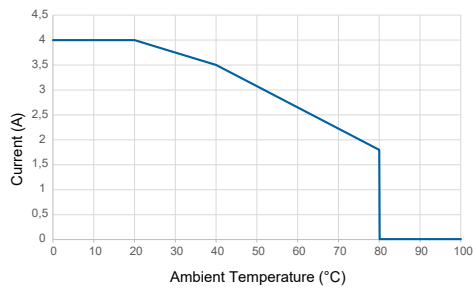GNRD Mini Series
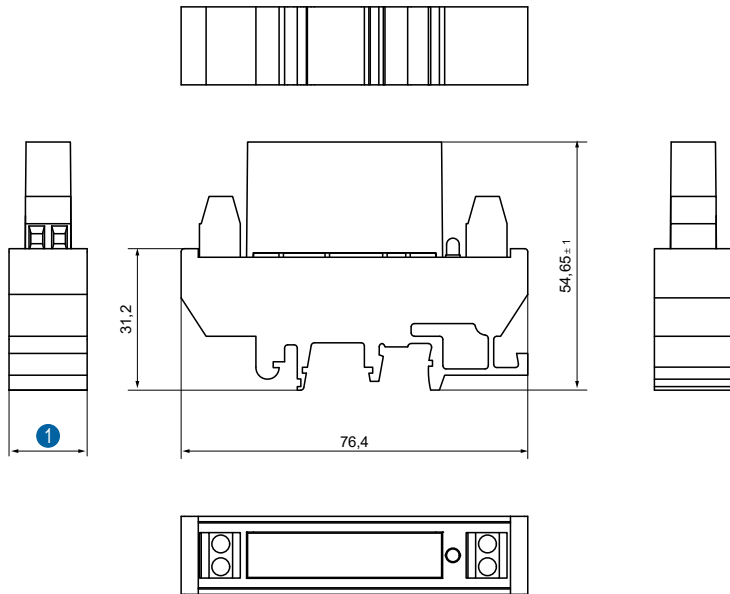
1   **GNRDM4A1C**: 17.2 mm - **GNRDM4D1C**: 12.2 mm

Curves
Thermal Derating Curves

GNRD Mini Series

Standards & Electromagnetic Compatibility Specfification

EN61000-4-4 Immunity to fast transients / bursts
EN61000-4-5 Immunity to surges

Standards

CE   UKCA