chanhvinh.com

06/2022

› GNRD Mini Series

DIN Mounted Solid State Relays

DIN Rail - DC Output

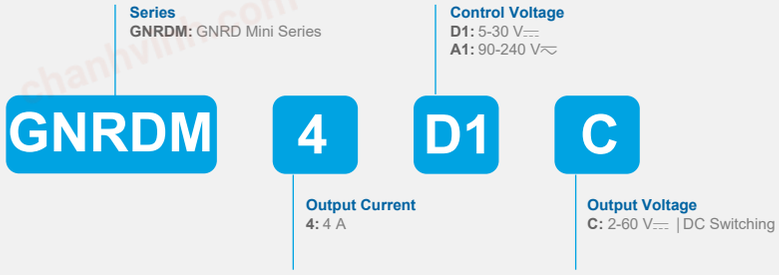
- › Output Current of 4 Amps
- › Output Voltage of 2-60 V⎓
- › Control Voltage of 5-30 V⎓, 90-240 V~
- › DIN Rail Mount SSR
- › DC Switching
- › CE and UKCA Recognized



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



Do you need an adapted or customized solution? Contact us on **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**.

chanhvinh.com

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)

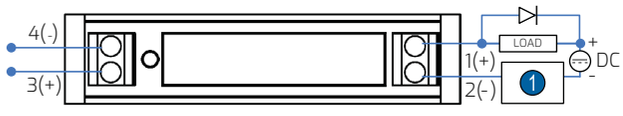
[9]4 A at 20 °C; 3.5 A at 40 °C

chanhvinh.com

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

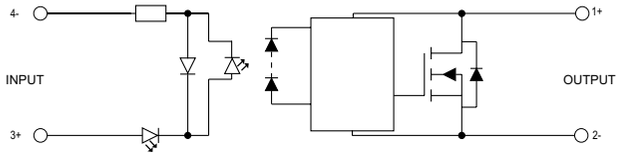
1 *Protection Equipment : Short circuit protection*

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

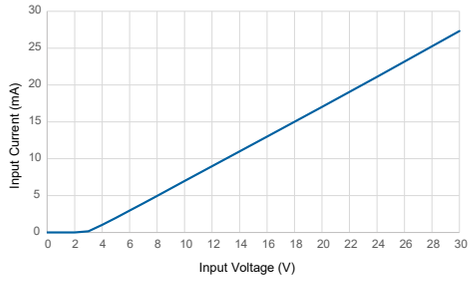
Diagrams

Equivalent Circuit Block

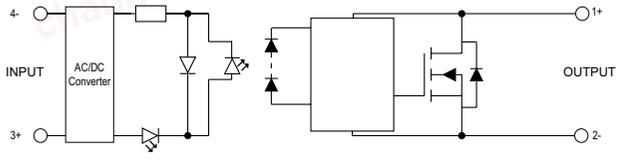
GNRD Mini Series 5-30 V⎓ control; 2-60 V⎓ output



Input Current vs Input Voltage
Standard Regulated DC inputs

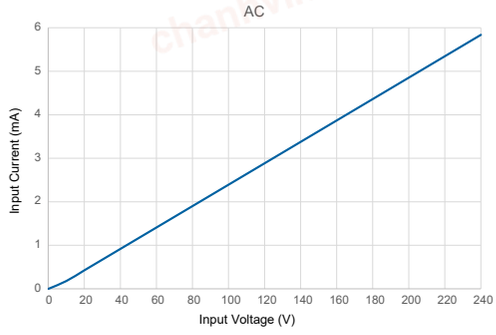


GNRD Mini Series 90-240 V~ control; 2-60 V⎓ output

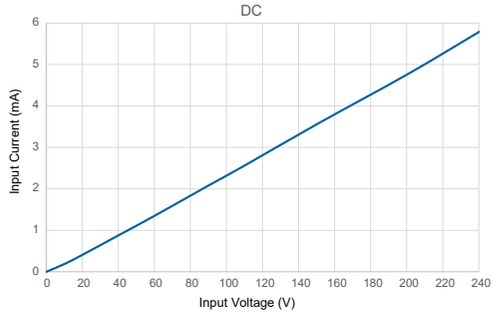


Input Current vs Input Voltage
Standard Regulated DC inputs

AC



DC

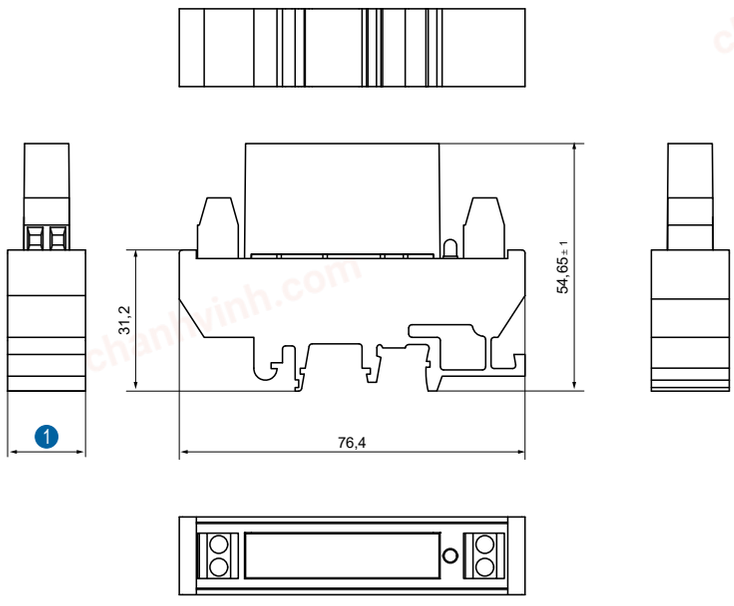


chanhvinh.com

Diagrams

Dimensions (mm)

GNRD Mini Series

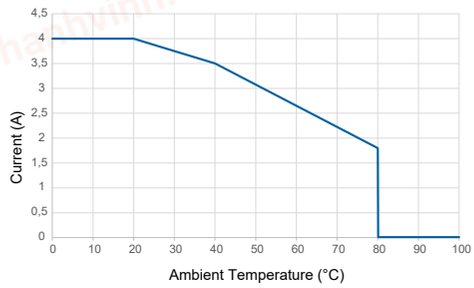


1 ***GNRDM4A1C**: 17.2 mm - **GNRDM4D1C:** 12.2 mm*

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

Warning:

The product information contained in this catalogue is given purely as information and does not constitute a representation, warranty or any form of contractual commitment. Crouzet and its subsidiaries reserve the right to modify their products without notice. It is imperative that we should be consulted over any particular use or application of our products and it is the responsibility of the buyer to establish, particularly through all the appropriate tests, that the product is suitable for the use or application. Under no circumstances will our warranty apply, nor shall we be held responsible for any application (such as any modification, addition, deletion, use in conjunction with other electrical or electronic components, circuits or assemblies, or any other unsuitable material or substance) which has not been expressly agreed by us prior to the sale of our products.