



## Main Feature

1. 40A switching use relay at ambient temperature of 80°C.
2. Compatible Plug-in terminal available.
3. Metal or plastic bracket selection.
4. Standard type contact form SPDT and DPST available for customer's selection.
5. Operating ambient temperature range covers from -40°C to +125°C.
6. Comply with RoHS, REACH and ELV regulations

## Contact Rating

Load Type	GRL (DM/DB)	GRL (D)	GRL-2P (DM)
Rated Load (Resistive)	N.O.: 40A 12VDC	N.O.: 40A 12VDC	40A(20Ax2) 12VDC
	N.C.: 30A 12VDC	N.C.: 30A 12VDC	
Rated Carrying Current	40A	40A	40A(20Ax2)
Max. Allowable Voltage	30VDC	30VDC	30VDC
Max. Allowable Current	40A	40A	40A(20Ax2)
Max. Allowable Power Force	480W	480W	240W
Contact Material	Ag Alloy	Ag Alloy	Ag Alloy
Contact Form	SPST	SPDT	DPST

## Application

Engine Cooling Fan Control, Air-Conditioning Control, Fuel Pump control, Lighting Control

## Performance (at Initial Value)

- Contact Resistance ..... 100 mΩ Max. @1A,6VDC
- Operate Time..... 10 mSec. Max.
- Release Time ..... 10 mSec. Max.
- Dielectric Strength:
  - Between Coil & Contact..... 1,000VAC at 50/60 Hz for one minute
  - Between Contacts ..... 500VAC at 50/60 Hz for one minute
- Insulation Resistance ..... 100 MegaΩ Min. at 500VDC
- Max. On/Off Switching:
  - Electrical..... 6 Cycles per Minute
  - Mechanical ..... 300 Cycles per Minute
- Temperature Range..... -40~+125°C
- Humidity Range ..... 45~80% RH.
- Coil Temperature Rise..... 60°C Max.

- Vibration:
  - Endurance..... 10 to 55 Hz dual amplitude width 2 mm
  - Error Operation ..... 10 to 55 Hz dual amplitude width 2 mm
- Shock:
  - Endurance ..... 1,000 m/S<sup>2</sup>
  - Error Operation ..... 50 m/S<sup>2</sup>
- Life Expectancy:
  - Mechanical ..... 10<sup>7</sup> Operations at No Load condition
  - Electrical ..... 10<sup>5</sup> Operations at Rated Resistive Load
- Weight.....About 36.5g

## Accessories & Sockets

- UC3003.....See Page
- CS3770.....See Page
- UC3001.....See Page

## Safety Standard & File Number

- NIL

## Coil Specification (at 20°C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ( $\Omega \pm 10\%$ )	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
GRL	12	150	80	Abt. 1.8	75% Maximum	5% Minimum	150% (for short time carrying current)
	24	75	320				

## Ordering Information

GRL - S - 1 12 D M H R1

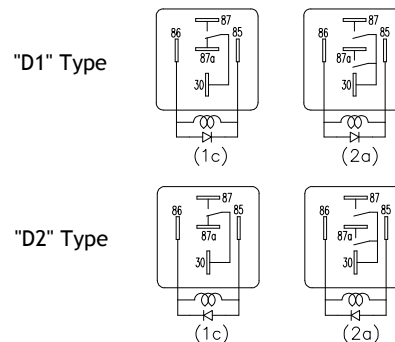
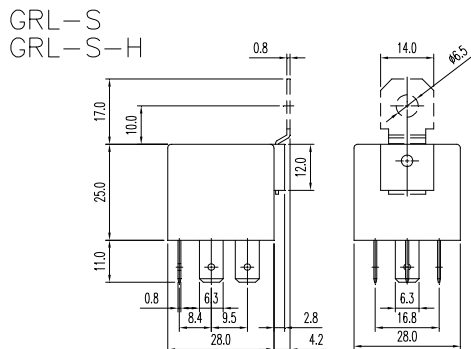
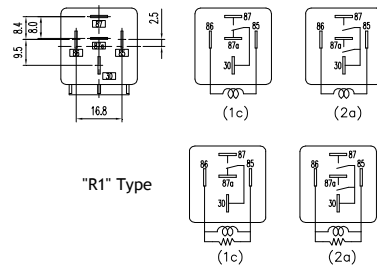
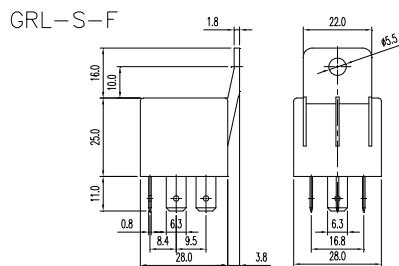
Options:

- Nil:** Standard
- R1:** Coil parallel with 1/2W Resistor  
680 $\Omega$  for Coil Voltage 12VDC  
2700 $\Omega$  for Coil Voltage 24VDC
- D1:** Coil parallel with diode & the Positive pole "+" on #85 Terminal
- D2:** Coil parallel with diode & the Negative pole "-" on #85 Terminal
- Bracket:**
  - Nil:** No Bracket Standard
  - H:** Dust Cover with Metal Bracket
  - F:** Plastic Bracket Cover
- Contact Form:**
  - Nil:** One Form C
  - M:** One Form A
  - B:** One Form B
  - D:** Standard DC
- Coil Voltage:**
  - 12:** 12V, **24:** 24V
- Number of Pole:**
  - 1:** One Pole
  - 2:** Two Poles (Form A only)
- Type of Sealing:**
  - S:** RT I Dust Protected

## Classification

Model	GRL			
Number of Pole	1 Pole			2 Poles
Contact Form	1C	1A	1B	2A
No Bracket Standard	GRL-S-1□□D	GRL-S-1□□DM	GRL-S-1□□DB	GRL-S-2□□DM
Dust Cover Metal Bracket	GRL-S-1□□DH	GRL-S-1□□DMH	GRL-S-1□□DBH	GRL-S-2□□DMH
Plastic Bracket Cover	GRL-S-1□□DF	GRL-S-1□□DMF	GRL-S-1□□DBF	GRL-S-2□□DMF
Coil Additional Parts	Please add your choice Coil Parallel "R1", "D1", "D2" at the back of all above-mentioned part number.			

## Dimension ( $\leq 5\text{mm} \pm 0.2\text{mm}$ , $> 5\text{mm} \pm 0.3\text{mm}$ , the tolerance of PCB thru hole: $+0.1\text{mm}$ )



V.01DS