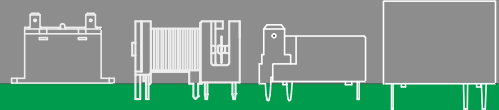


AUTOMOTIVE RELAY – ETR GRL SERIES



■ FEATURES

- New 54A version with Class F insulation
- 40A switching use relay at ambient temperature of 80°C.
- Compatible plug-in terminal available.
- Metal or plastic bracket selection.
- Standard type contact form SPDT and DPST available for customer's selection.
- Operating ambient temperature range covers from -40°C to +125°C.
- Comply with RoHS, REACH and ELV regulations.

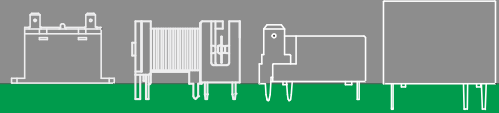
■ SPECIFICATIONS

Contact Resistance	Max. 100mΩ at initial value. @1A,6VDC
Contact Capacity	GRL D/DM/DB: N.O. Contact: 40 Amps at 12VDC L/R=0 N.C. Contact: 30 Amps at 12VDC L/R=0 GRL-2P(DM): 40 Amps (20 Ampsx2) at 12VDC L/R=0 GRL (DM1F): 54A at 30VDC L/R=0
Operate Time	10m Sec. Max. 20m Sec. Max. (DM1F)
Release Time	10m Sec. Max.
Dielectric Strength	Between coil & Contact: 1000VAC at 50/60Hz for one minute 1600VAC at 50/60Hz for one minute (DM1F) Between Contacts: 500VAC at 50/60Hz for one minute 2000VAC at 50/60Hz for one minute (DM1F)
Insulation Resistance	100MΩ Min. at 500VDC

■ COIL SPECIFICATION AT 20°C

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω±10%)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Max. Allowable Voltage (VDC)
GRL	12	150	80	Abt. 1.8	75% Max.	5% Min.	150% (for short time carrying current)
	24	75	320				
GRL (DM1F)	12	100	120	Abt. 1.2	80% Max.	5% Min.	150% (for short time carrying current)
	24	50	480				

AUTOMOTIVE RELAY – ETR GRL SERIES



PART NUMBER SYSTEM

ETR GRL - S - 1 12 D M H R1 Z

Z: RoHS Compliant

Options:

Nil: Standard

R1: Coil parallel with 1/2W resistor
680Ω for Coil Voltage 12VDC
2700Ω 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

1F: 54A/30VDC with Class F insulation
(Form A only)

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

Coil Type:

D: Standard DC Coil

Coil Voltage:

12: 12V, 24: 24V

Number of Pole:

1: One Pole

2: Two Poles (Form A only)

Type of Sealing:

S: Hand Soldered Type

SS: RT II Fluxed Proofed (only DM1F)

SH: RT III Wash Tight (only DM1F)

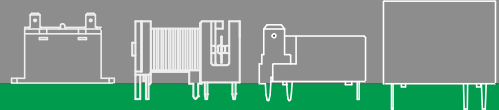
Model Name: GRL

Series Name: ETR

***Marking without: “ETR” & “Z”.**

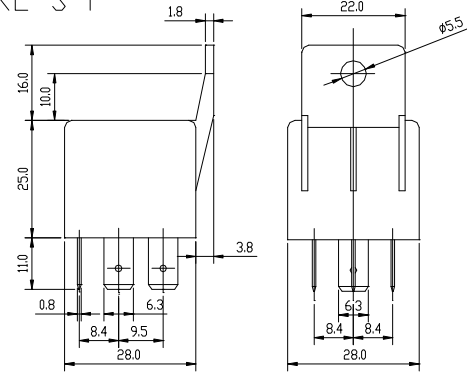


AUTOMOTIVE RELAY - ETR GRL SERIES

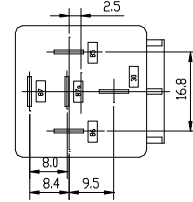


DIMENSIONS ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

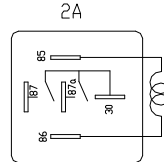
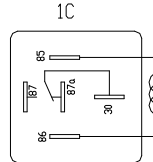
GRL-S-F



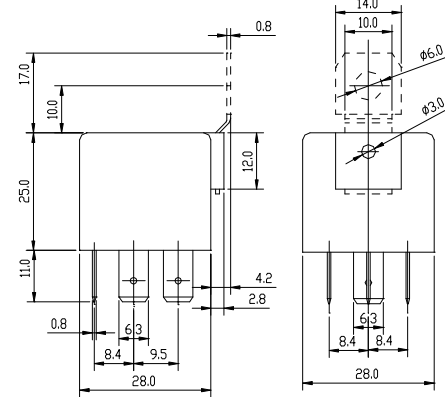
P.C.B LAYOUT
Bottom View



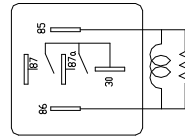
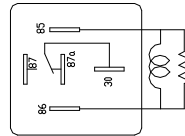
Standard



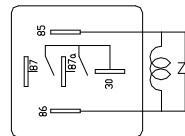
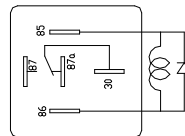
GRL-S / GRL-S-H



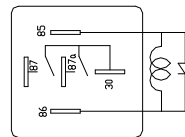
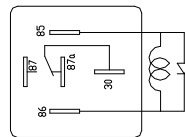
"R1" Type



"D1" Type

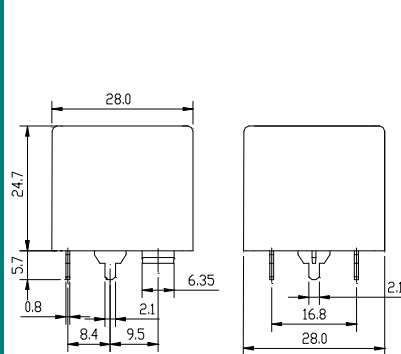


"D2" Type

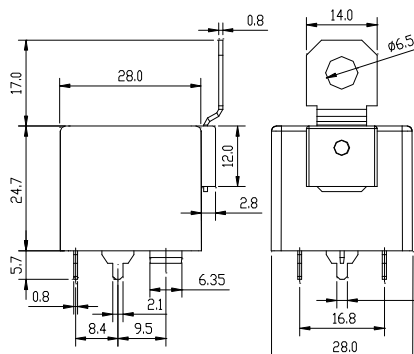


GRL-DM1F

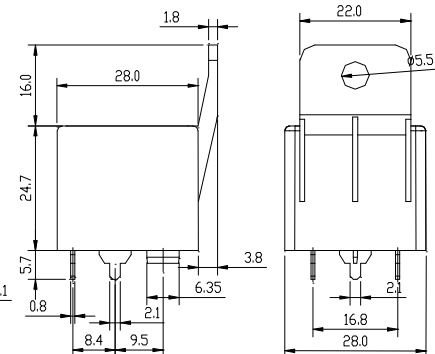
No Bracket Standard



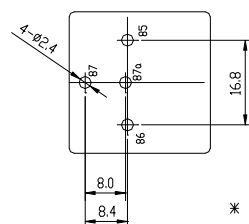
Dust Cover with Metal Bracket



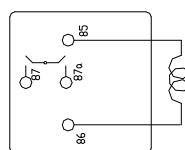
Plastic Bracket Cover



P.C.B Layout (Bottom View)



Wiring Diagram (Bottom View)



* For RT III, There shall not be the slot holt of the plastic support on PCB layout