FEATURES

- 30A to 80A continuous current capacity
- Automotive - oriented design
- Fully standardized QC size and layout
- Plastic cover for rough environment protection

TYPICAL AUTOMOTIVE APPLICATIONS

- Head lights
- Fog lamp
- Signal horn
- Blower motor control
- Starter relay
- Radiator cooling fan
- Power window
- ABS system
- Start bypass relay

CONTACT DATA

HG4185A

Form		1 Form A (1H, 1HJ)	1 Form C (1Z)
Max. Switching Current	Make	120A	NO120A/NC45A
	Break	40A	NO40A/NC30A
Material		Default = AgNi10 (See Page 2 for options and RoHS Compliance)	
Initial Contact Resistance		100 mΩ max. at 0.1A, 6VDC	
Max. Switching Voltage		See Curve 1, current dependent	
Max. Continuous Current		30A	NO30A/NC30A
Min. Load		0.1A, 12VDC	
Service Life	Mechanical	10^7 ops.	
	Electrical	2 x 10^5 ops, see Note 4	

HG4185B

Form		1 Form A (1H, 1HJ)	1 Form C (1Z)
Max. Switching Current	Make	120A	NO120A/NC45A
	Break	60A	NO60A/NC40A
Material		Default = AgCdO (See Page 2 for RoHS Compliant materials)	
Initial Contact Resistance		100 mΩ max. at 0.1A, 6VDC	
Max. Switching Voltage		See Curve 1, current dependent	
Max. Continuous Current		60A	NO60A/NC40A
Min. Load		0.5A, 12VDC	
Service Life	Mechanical	10^7 ops.	
	Electrical	2 x 10^5 ops, see Note 4	

HG4185C

Form		1 Form A (1H)	1 Form C (1Z)
Max. Switching Current	Make	240A	NO240A/NC180A
	Break	80A	NO80A/NC60A
Material		Default = AgSnOInO (See Page 2 for options and RoHS Compliance)	
Initial Contact Resistance		100 mΩ max. at 0.1A, 6VDC	
Max. Switching Voltage		See Curve 2, current dependent	
Max. Continuous Current		80A	NO80A/NC60A
Min. Load		0.5A, 12VDC	
Service Life	Mechanical	10^7 ops.	
	Electrical	10^5 ops, see Note 4	

COIL DATA

Coil Voltage Code	Nominal Voltage (VDC)	Resistance (Ω) ±10%	Must Operate Voltage max. (VDC)	Allowable Voltage (VDC)	Must Release Voltage min. (VDC)
006	6	22	3.6	10.1	0.6
012	12	90	7.2	20.5	1.2
024	24	330	14.3	39.1	2.4

CHARACTERISTICS

Operate Time	7 ms. typical
Release Time	2 ms. typical
Insulation Resistance	100 MΩ, at 500 VDC, 50%RH
Dielectric Strength	500 Vrms, 1 min.
Shock Resistance	20 g, 11ms.
Vibration Resistance	10-40Hz: DA 1.27mm; 40-70Hz: 5 g; 70-100Hz: DA 0.5mm; 100-500Hz: 10 g.
Drop Resistance	1 M height drop on concrete
Power Consumption	1.6W, unsuppressed; 1.81W, with resistor
Ambient Temperature	-40ºC to 125ºC operating; -40ºC to 155ºC storage
Weight	35 g, approx.

ORDERING DESIGNATION

Example: HG4185 C / 012 R - 1H 9 -1 S - P

Model

Rating Code
A: 40A;
B: 60A;
C: 80A

Coil Voltage Code

Paralleled Component
Nil: Nil;
R: Resistor;
D: Diode* (+) 85~86 (-);
DR: Diode Reversed* (-) 85~86 (+)
BD: Bidirectional Diode

Contact Form
1H: 1 Form A;
1HJ**: 1 Form A with Double 87 Terminals;
1Z: 1 Form C

Mounting Version
Nil: Plug-In;
4: PCB;
9: Molded Bracket;
9M1: Metal Bracket;
9M2: Bent Metal Bracket;
9S1: Skirted Cover + Metal Bracket;
9S2: Skirted Cover + Bent Metal Bracket

Version
None: Dust Cover
1: Sealed (Not available for HG4185C nor any Metal Bracket mounting)

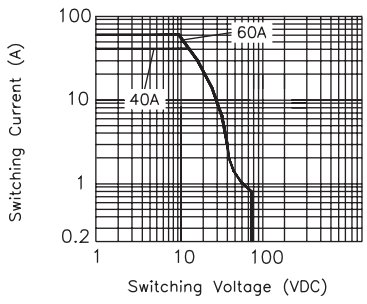
Contact Material
None: Default***
N: AgNi10
A: AgNi0.15
C: AgCdO (not RoHS Compliant - not available with "- P" Option)
S: AgSnOInO

P: RoHS Compliant (Lead-free)

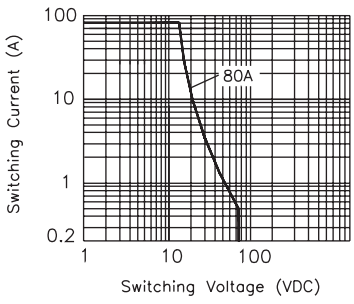
*: See wiring diagrams
**: See wiring diagrams, and available for HG4185A and HG4185B only.
***: See specific default contact material in Contact Data tables

REFERENCE CURVES

1. Power Load Limit of HG 4185A, B



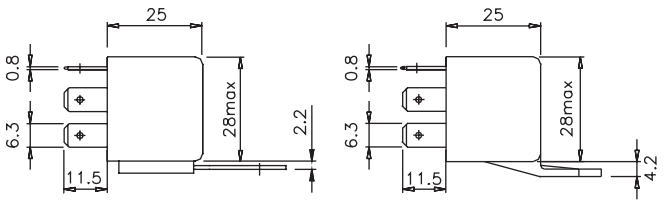
2. Power Load Limit of HG 4185C



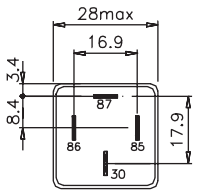
OVERALL DIMENSIONS, OPTIONAL COVERS, TERMINAL LAYOUTS, MOUNTING HOLES AND WIRING DIAGRAMS (mm)

Overall Dimensions, Plug-In Type

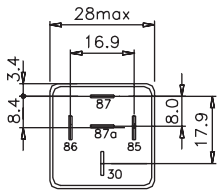
HG4185A, HG4185B



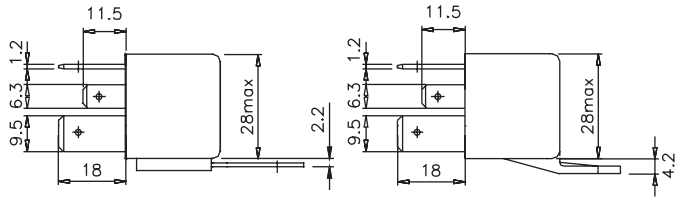
1 Form A (1H)



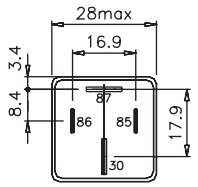
1 Form A (1HJ)
1 Form C (1Z)



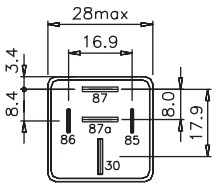
HG4185C



1 Form A (1H)

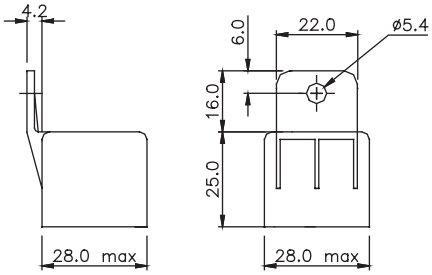


1 Form C (1Z)

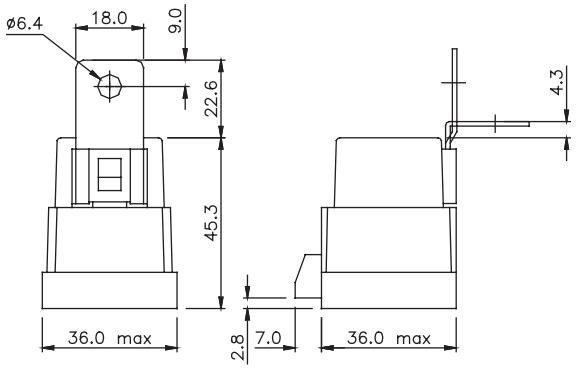


Optional Covers

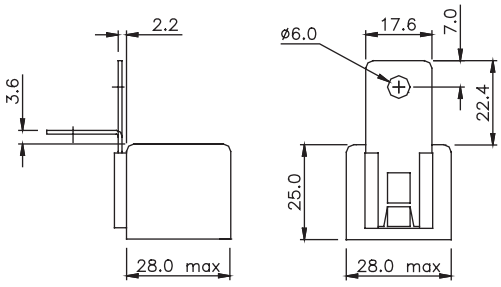
9 – Molded Bracket

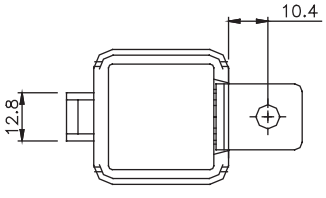


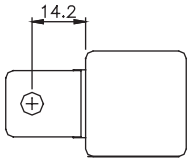
9S1 – Skirted Cover + Metal Bracket
9S2 – Skirted Cover + Bent Metal Bracket



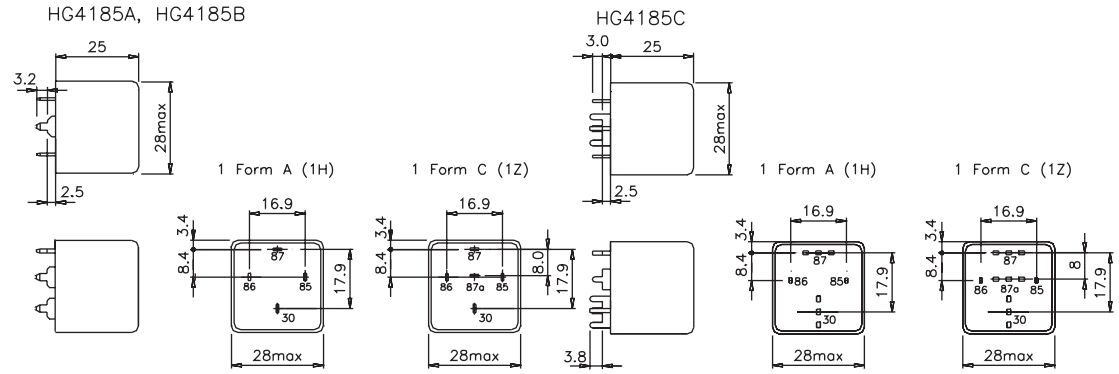
9M1 – Metal Bracket
9M2 – Bent Metal Bracket



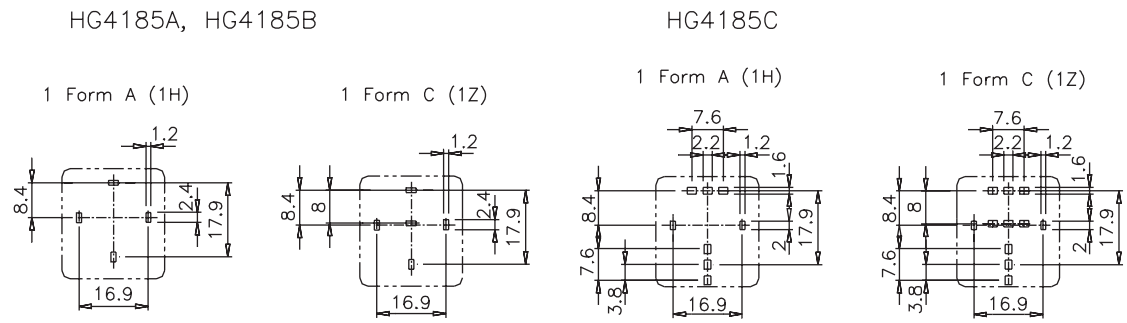




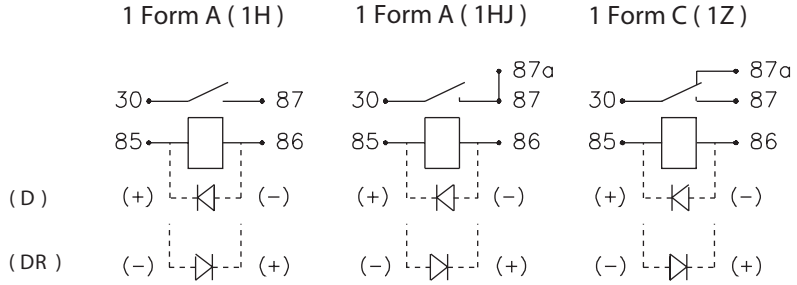
Overall Dimensions, PCB Type



PCB Type Mounting Holes (Bottom View)



Wiring Diagrams



NOTES

1. All parameters, unless otherwise specified, are measured at ambient temperature 23°C.
2. Maximum make current refers to inrush current of lamp load.
3. At ambient temperature of 85°C, maximum allowable voltage should be reduced to 72%.
4. Electrical life obtained at resistive or inductive load at 20A, 15 VDC for HG4185A; 40A, 15VDC for HG4185B; 80A, 15VDC for HG4185C with suitable arc-suppression circuit attached with operating frequency of 1 ops/sec.
5. Custom-made services available with operational quantity. Please let us know your special requirements.
6. Specifications subject to change without prior notice.

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