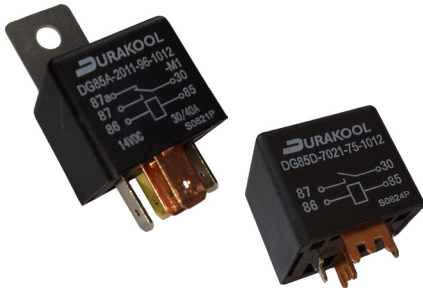


# DG85 series

automotive / industrial relays

# DURAKOOL



- General purpose automotive or industrial relays
- High inrush capabilities
- PCB Mounting option
- Ideal for DC Motor Control
- High continuous DC current capacity- 100A
- Industry standard size and footprint
- DG85F optimised for 24VDC switching
- RoHS Compliant

## Contacts

Contact number & arrangement	SPST-NO (1 Form A); SPDT (1 Form C)					
Contact material	AgNi0.15; AgNi90/10; AgSnOInO; AgCdO					
Max. switching voltage	DC	30VDC (current dependent - see Figs 5 & 6 ); DG85F 24VDC				
		DG85A	DG85B	DG85C	DG85D	DG85F
Max. continuous current	SPST-NO	40A	60A	80A	100A	60A
	SPDT (NO/NC)	40A/30A	60A/40A	80A/60A	-	60A/40A
Max. switching current - make <sup>3</sup> (AgSnOInO)	SPST-NO	120A	120A	240A	240A	120A
	SPDT (NO/NC)	120A/45A	120A/45A	240/180A	-	120A/45A
Max. switching current - break	SPST-NO	40A	60A	80A	100A	60A
	SPDT (NO/NC)	40A/30A	60A/40A	80A/60A	-	60A/40A
Min. switching current (DG85A = AgNi, others AgSnOInO)		0.1A 12VDC	0.5A 12VDC	0.5A 12VDC	0.5A 12VDC	0.5A 12VDC
Contact gap		>0.5mm	>0.5mm	>0.5mm	≤1.0mm	>1.0mm
Initial contact resistance		<100mΩ, max. at 0.1A/6VDC				
<b>Coil</b>						
Rated voltage	DC	6...24V				
Must release voltage		≥0.1Un				
Operating range of supply voltage		See coil table 1				
Rated power consumption	DC	1.6W; 1.81W with resistor; DG85F, 2.3W				
<b>Insulation</b>						
Insulation resistance		100MΩ at 500VDC, 50%RH				
Dielectric strength						
	coil to contact	500Vrms, 1min				
	contact to contact	500Vrms, 1min				
<b>General Data</b>						
Operating time (typical)	ms	7ms				
Release time (typical)	ms	2 ms				
Electrical Life <sup>2</sup>	ops	1 x 10 <sup>5</sup> ; DG85F only: 5 x 10 <sup>4</sup> , 60A/40A, 1 x 10 <sup>5</sup> , 40A/20A (NO/NC Contacts )				
Mechanical life	ops	1 x 10 <sup>7</sup> ; DG85F only: 5 x 10 <sup>5</sup>				
Dimensions	L x W x H	various - see dimensional drawings				
Weight		40g approx. depending on style and mounting				
Ambient temperature	storage	-40 to 155°C				
	operating	-40 to 125°C (derate above 85°C - consult factory)				
Shock resistance		Functional: 20g 11ms; Destructive: 100g				
Vibration resistance		DA 1.27mm 10-40Hz / 40-70Hz:5g / DA 0.5mm 100-500Hz: 10g				

# DG85 series

automotive / industrial relays



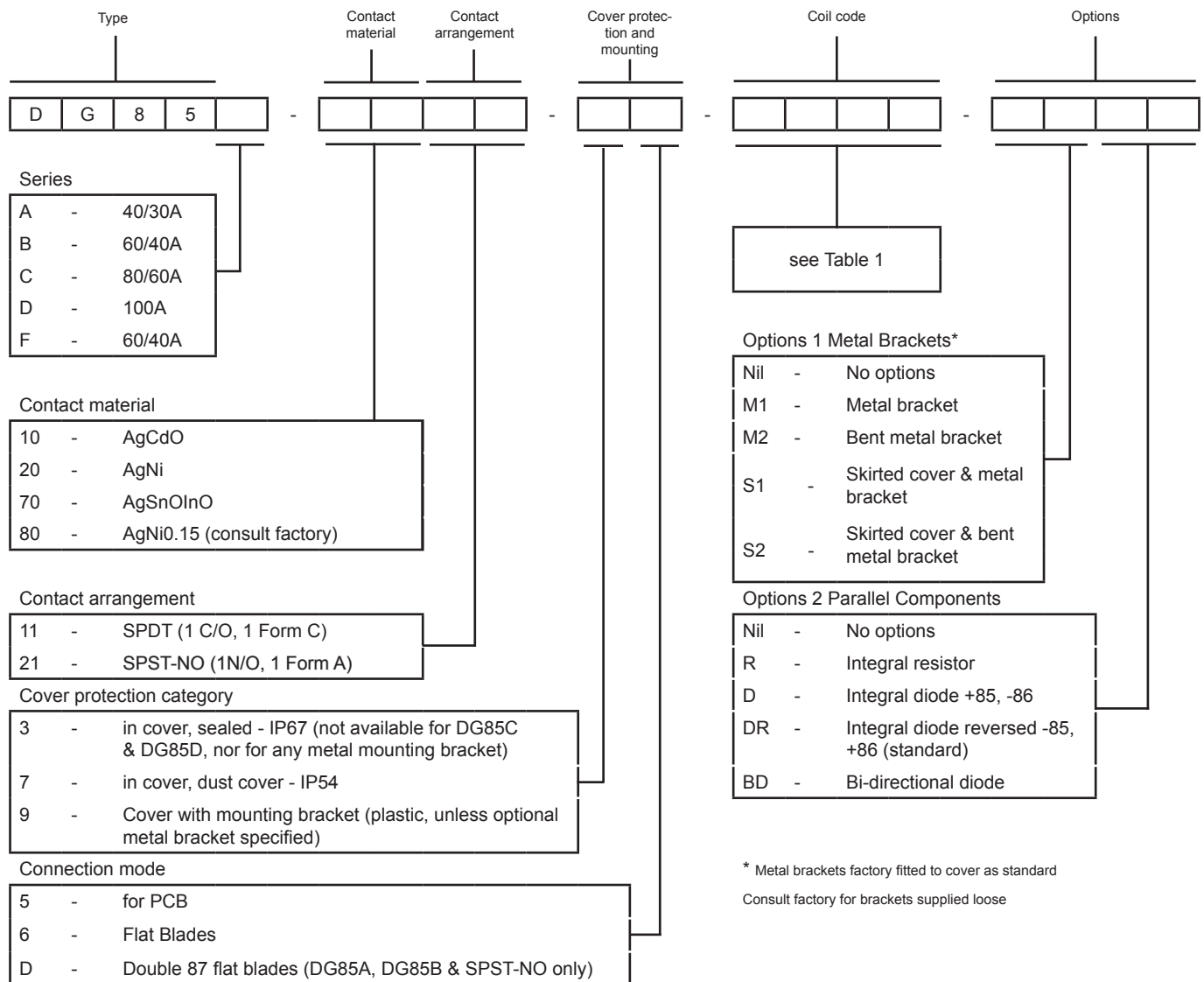
Coil Data

Table 1

Model	Coil voltage code	Nominal voltage (VDC)	Coil resistance ( $\Omega$ ) $\pm 10\%$	Must operate voltage Max. (VDC)	Maximum Allowable voltage (VDC)*	Must release voltage min. (VDC)
DG85A	1006	6	22	3.6	10.1	0.6
DG85B	1012	12	90	7.2	20.5	1.2
DG85C	1024	24	330	14.4	39.1	2.4
DG85D						
DG85F	1006	6	15.6	3.6	6.4	0.6
	1012	12	62.5	7.2	14.8	1.2
	1024	24	250	14.4	28.8	2.4

\* At ambient temperature of 85°C and above, up to maximum ambient temperature of 125°C, maximum allowable voltage should be reduced by 28%

## Ordering codes



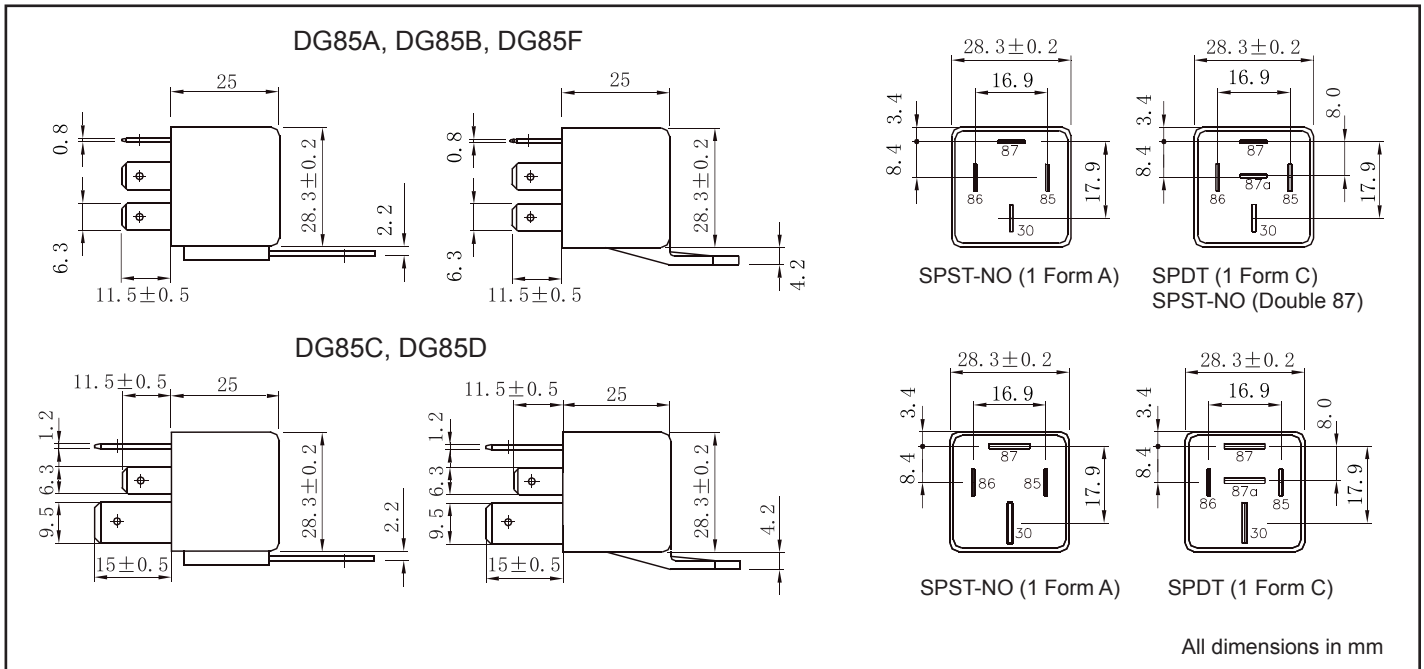
# DG85 series

automotive / industrial relays



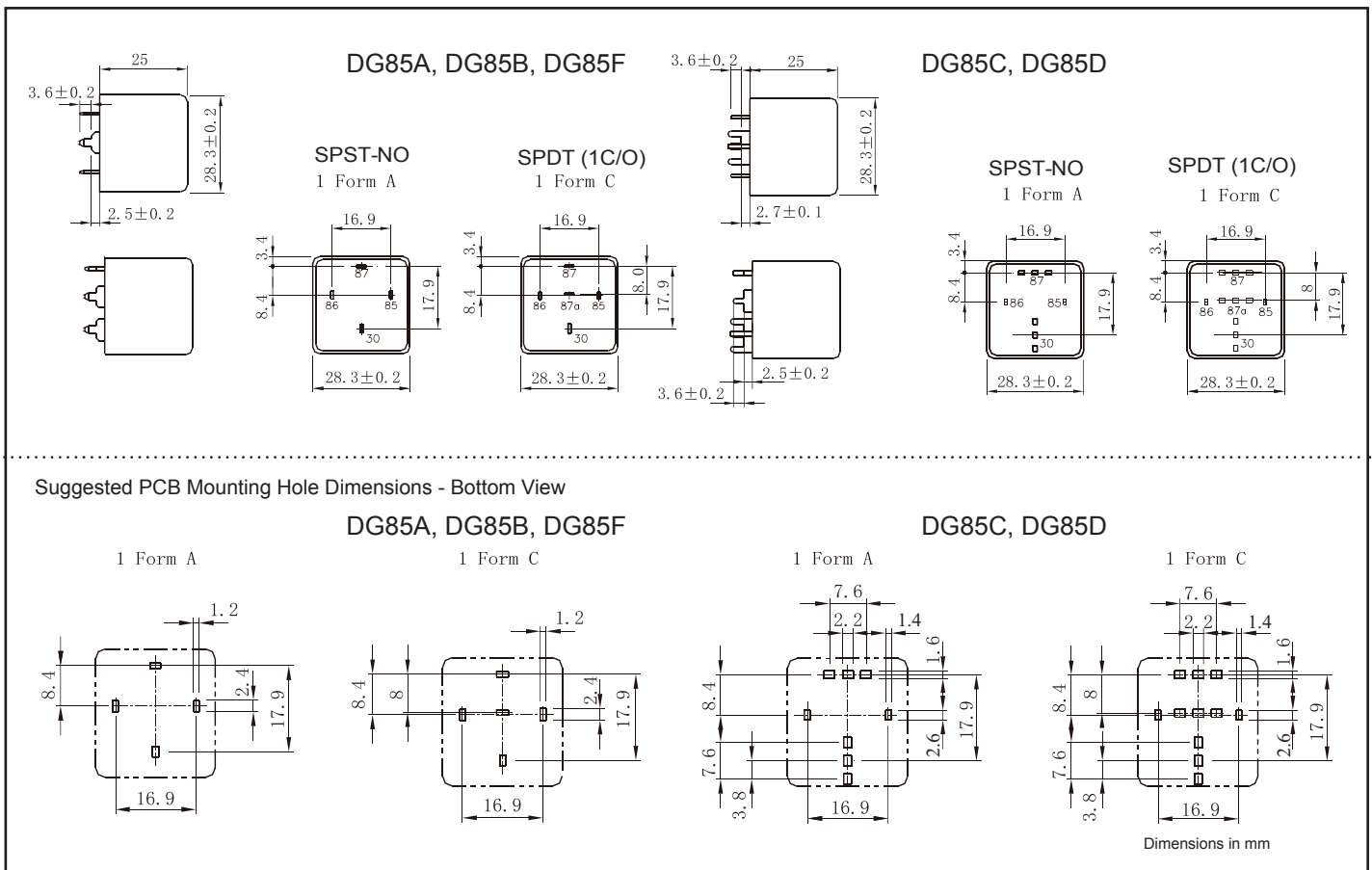
Overall Dimensions - Plug-in Types

Fig. 1



Overall Dimensions and PCB Mounting Hole Dimensions - PCB Types

Fig. 2



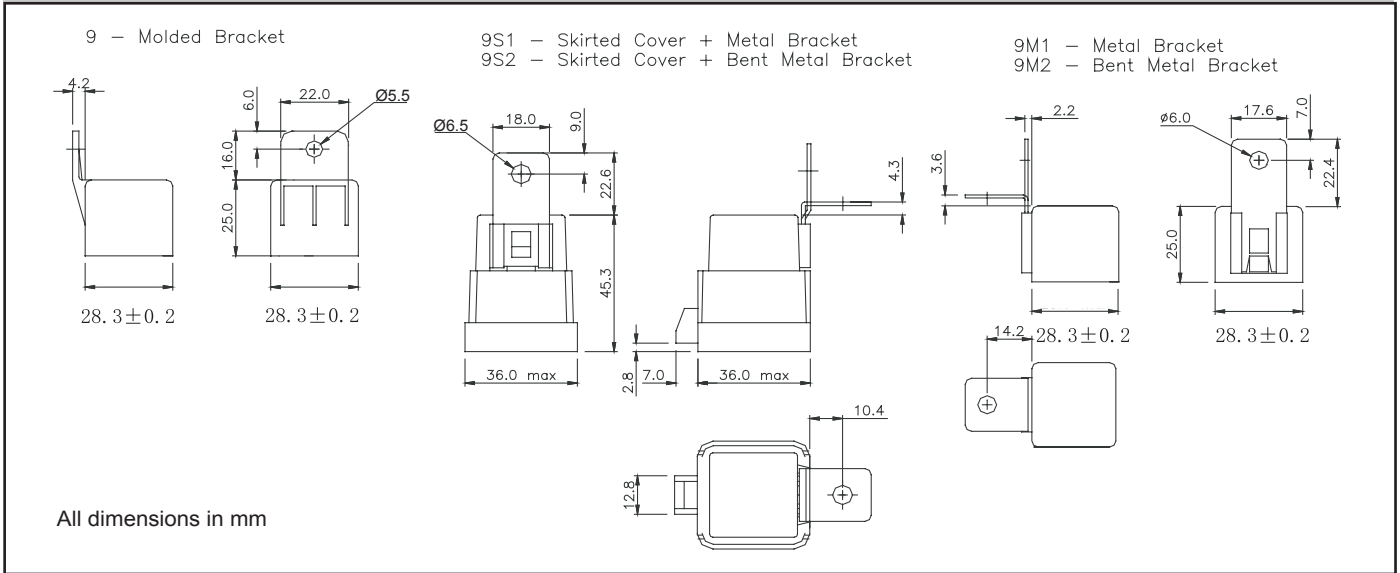
# DG85 series

automotive / industrial relays



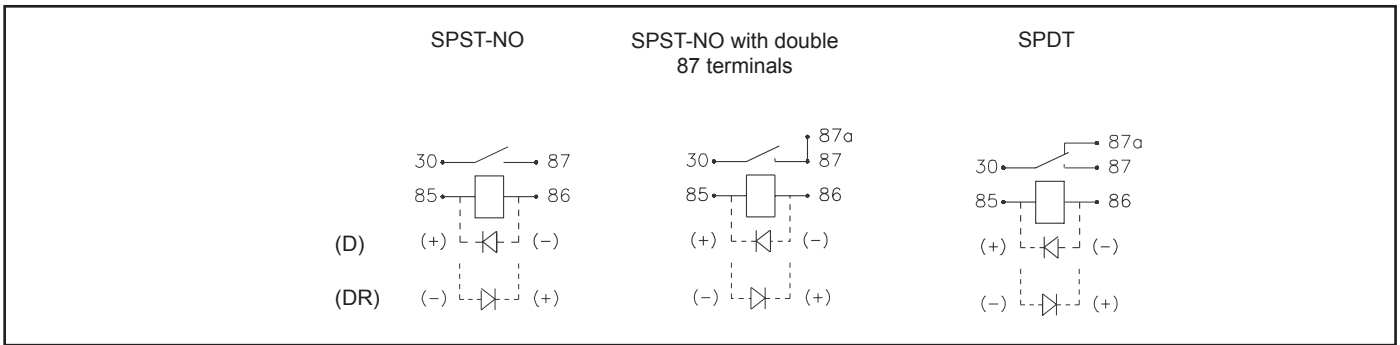
Overall Dimensions - Plug-in types with optional brackets & skirts

Fig. 3



Wiring Diagrams

Fig. 4

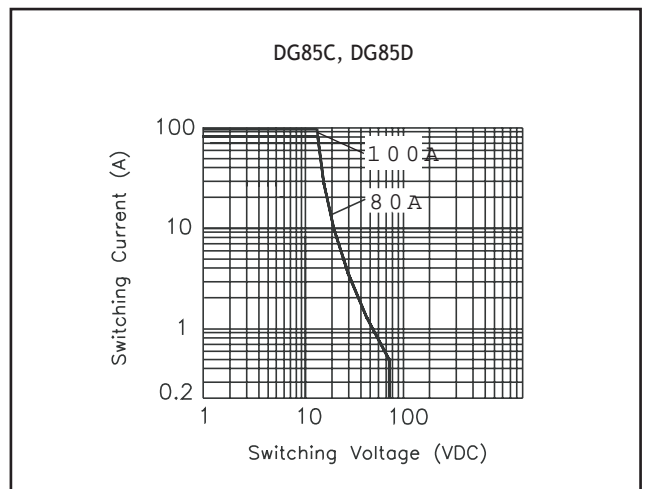
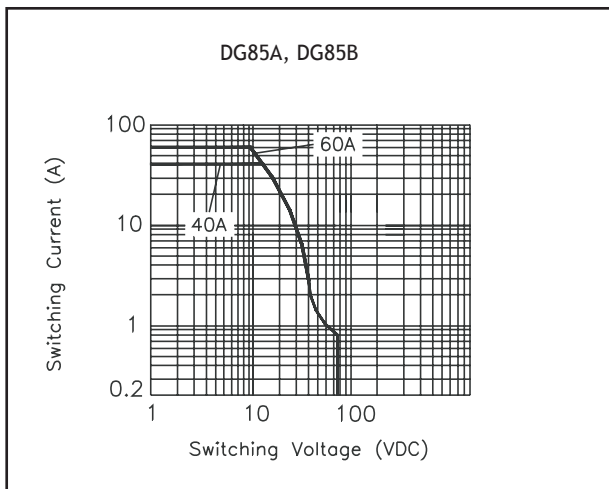


Max. DC resistive load breaking capacity

Fig. 5

Max. DC resistive load breaking capacity

Fig. 6



Notes:

- 1: All parameters, unless otherwise specified, are measured at ambient temperature of 23°C.
- 2: Electrical life obtained at resistive or inductive load at 40A, 15VDC with suitable arc suppression circuit attached and with operating frequency of 1 op/sec.
- 3: Maximum make current refers to lamp load inrush current.