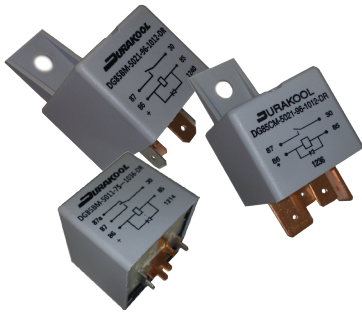


DG85*M series

automotive / industrial relays

DURAKOOL



- General purpose automotive or industrial relays
- High inrush capabilities
- Ideal for DC Motor Control
- High continuous DC current capacity
- Industry standard terminal arrangement
- Optimised for up to 145VDC switching with magnetic arc blowout
- RoHS Compliant

Contacts

| Contact number & arrangement | SPST-NO (1 Form A); SPDT (1 Form C) | | | | | | | | | | | | | | | | |
|--|--|---|--|-------------------------|-----------------------|--|--|---|-------------------------------|----------------|----------------|------------------------|---------------|---------------|----------------------------|---------------------------|--|
| Contact material | AgSnO ² | | | | | | | | | | | | | | | | |
| Max. switching voltage | DC | 145VDC (DG85CM) | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>DG85BM (SPST-NO & SPDT)</th> <th>DG85CM (SPST-NO only)</th> </tr> </thead> <tbody> <tr> <td>Contact rating (through normally open and normally closed contacts)</td> <td>25A @ 36VDC 20A @ 48VDC 15A @ 72VDC 7A @ 110VDC</td> <td>60A @ 36VDC 50A @ 48VDC 40A @ 60VDC 25A @ 72VDC 10A @ 110VDC 5A @ 145VDC</td> </tr> <tr> <td>Max. switching current (3sec)</td> <td>120A @ 12.8VDC</td> <td>150A @ 12.8VDC</td> </tr> <tr> <td>Min. switching current</td> <td>100mA / 12VDC</td> <td>100mA / 12VDC</td> </tr> <tr> <td>Initial contact resistance</td> <td colspan="2"><100mΩ, max. at 0.1A/6VDC</td> </tr> </tbody> </table> | | DG85BM (SPST-NO & SPDT) | DG85CM (SPST-NO only) | Contact rating (through normally open and normally closed contacts) | 25A @ 36VDC 20A @ 48VDC 15A @ 72VDC 7A @ 110VDC | 60A @ 36VDC 50A @ 48VDC 40A @ 60VDC 25A @ 72VDC 10A @ 110VDC 5A @ 145VDC | Max. switching current (3sec) | 120A @ 12.8VDC | 150A @ 12.8VDC | Min. switching current | 100mA / 12VDC | 100mA / 12VDC | Initial contact resistance | <100mΩ, max. at 0.1A/6VDC | |
| | DG85BM (SPST-NO & SPDT) | DG85CM (SPST-NO only) | | | | | | | | | | | | | | | |
| Contact rating (through normally open and normally closed contacts) | 25A @ 36VDC 20A @ 48VDC 15A @ 72VDC 7A @ 110VDC | 60A @ 36VDC 50A @ 48VDC 40A @ 60VDC 25A @ 72VDC 10A @ 110VDC 5A @ 145VDC | | | | | | | | | | | | | | | |
| Max. switching current (3sec) | 120A @ 12.8VDC | 150A @ 12.8VDC | | | | | | | | | | | | | | | |
| Min. switching current | 100mA / 12VDC | 100mA / 12VDC | | | | | | | | | | | | | | | |
| Initial contact resistance | <100mΩ, max. at 0.1A/6VDC | | | | | | | | | | | | | | | | |
| Coil | | | | | | | | | | | | | | | | | |
| Rated voltage | DC | 6...110V | | | | | | | | | | | | | | | |
| Must release voltage | See coil table 1 | | | | | | | | | | | | | | | | |
| Operating range of supply voltage | See coil table 1 | | | | | | | | | | | | | | | | |
| Rated power consumption | DC | 1.7W / 1.8W (DG85BM) / 1.92W (DG85CM) | | | | | | | | | | | | | | | |
| Insulation | | | | | | | | | | | | | | | | | |
| Insulation resistance | 100MΩ at 500VDC, 50%RH, 25°C | | | | | | | | | | | | | | | | |
| Dielectric strength | | | | | | | | | | | | | | | | | |
| | coil to contact | 750Vrms, 1min | | | | | | | | | | | | | | | |
| | contact to contact | 500Vrms, 1min | | | | | | | | | | | | | | | |
| General Data | | | | | | | | | | | | | | | | | |
| Operating time (typical) | mS | ≤ 15mS (excluding bounce and without coil suppression) | | | | | | | | | | | | | | | |
| Release time (typical) | mS | ≤ 15 mS (excluding bounce and without coil suppression) | | | | | | | | | | | | | | | |
| Electrical Life | ops | 1 x 10 ⁵ (at rated load, 10ops/minute) | | | | | | | | | | | | | | | |
| Mechanical life | ops | 1 x 10 ⁶ | | | | | | | | | | | | | | | |
| Dimensions | L x W x H | 35 x 30.5 x 27mm (25mm for DG85BM) | | | | | | | | | | | | | | | |
| Weight | 65g approx. depending on style and mounting | | | | | | | | | | | | | | | | |
| Ambient temperature | storage | -40 to 85°C (Maximum = 155°C) | | | | | | | | | | | | | | | |
| | operating | -40 to 85°C (at nominal coil voltage - see Coil Data, Table 1) | | | | | | | | | | | | | | | |
| Shock resistance | Functional: 30g 8mS; Destructive: 100g | | | | | | | | | | | | | | | | |
| Vibration resistance | 10 - 2000Hz, 4.4g (DG85BM) / 10 - 50Hz, 4.4g (DG85CM) | | | | | | | | | | | | | | | | |

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Coil Data

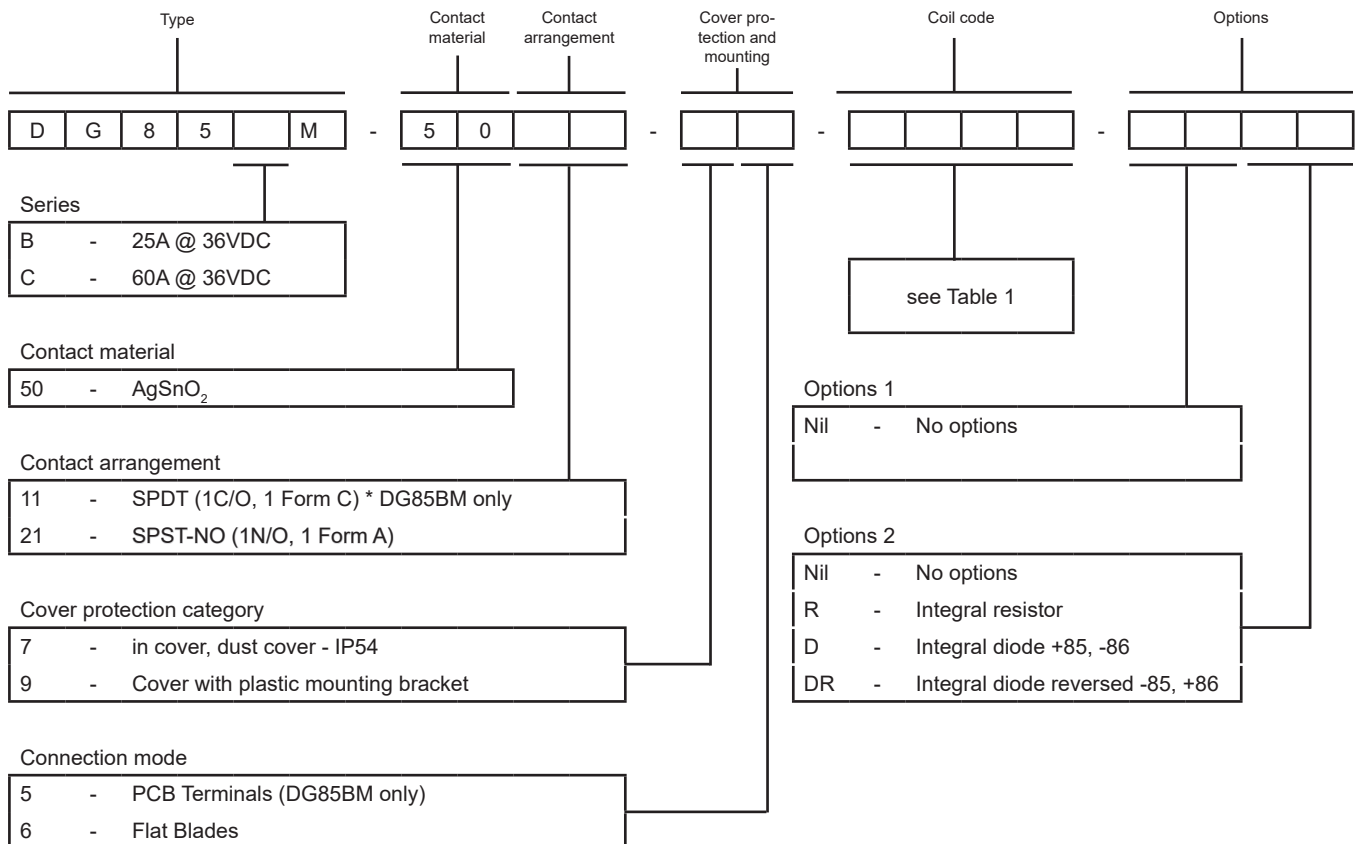
Table 1

| Coil voltage code | Nominal voltage (VDC) | Coil resistance (Ω) $\pm 10\%$ | | Must operate voltage Max. (VDC) | Must release voltage min. (VDC) | Parallel resistor (option) (Ω) $\pm 10\%$ | |
|-------------------|-----------------------|---|-------------------------|---------------------------------|---------------------------------|--|---------------|
| | | DG85CM (SPST-NO) | DG85BM (SPDT & SPST-NO) | | | DG85BM | DG85CM |
| 1006 | 6 | 20 | * | 4.0 | 0.6 | 150 | * |
| 1009 | 9 | 45 | * | 6.0 | 0.9 | 330 | * |
| 1012 | 12 | 75 | 85 | 8.0 | 1.2 | 1000 | 560 |
| 1024 | 24 | 250 | 305 | 16.0 | 2.4 | 2200 | * |
| 1036 | 36 | 650 | 750 | 24.0 | 3.6 | 4700 | * |
| 1048 | 48 | 1100 | 1200 | 32.0 | 4.8 | 10000 | * |
| 1110 | 110 | 5500 | * | 73.2 | 11.0 | not available | not available |

All specifications at 23°C ambient

* Contact factory for availability.

Ordering codes



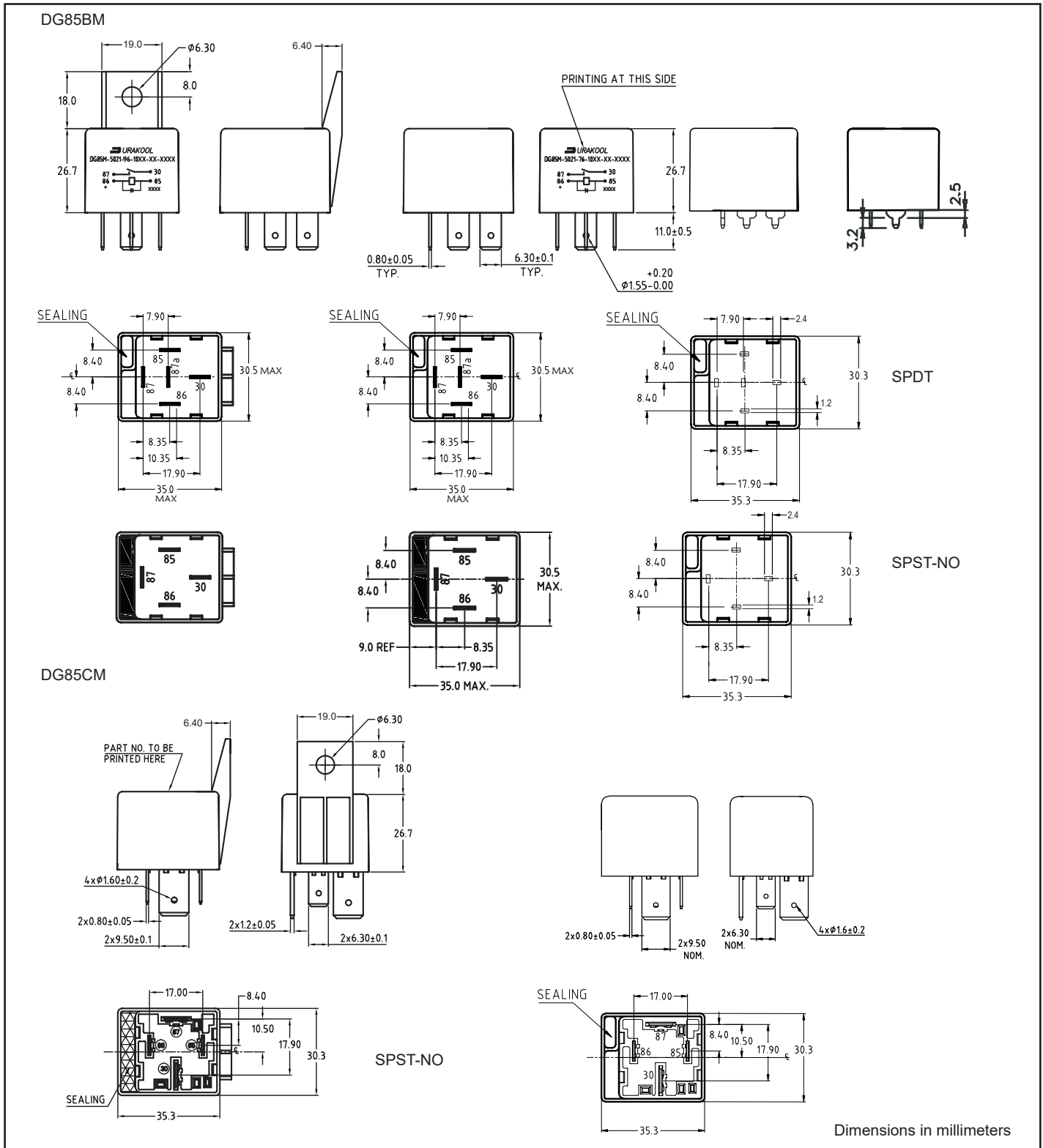
DG85*M series

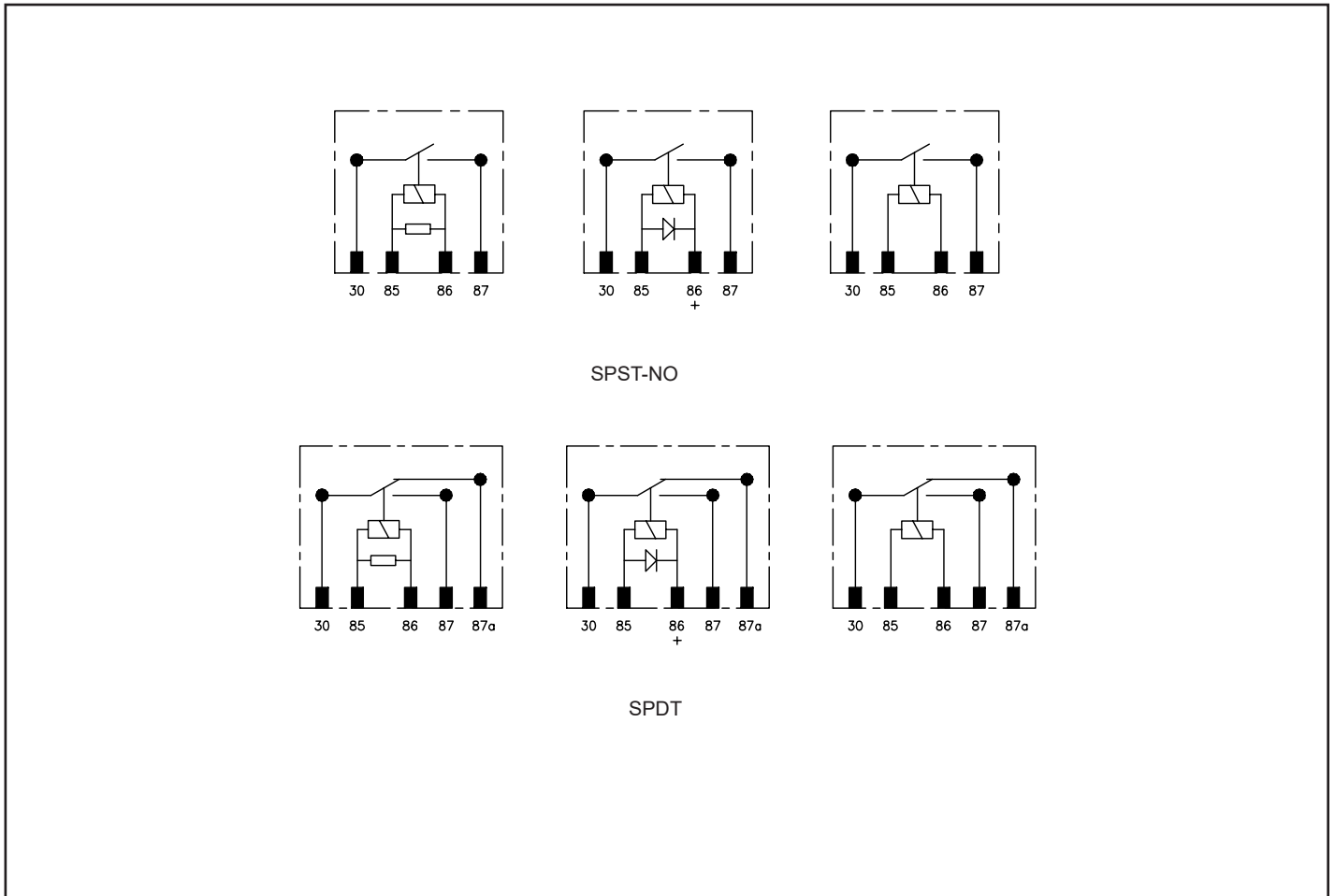
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Overall Dimensions - Plug-in & PCB Mount types

Fig. 1





Specifications are liable to change without notice. E&OE.