

DLR

industrial power relay

DURAKOOL



- High current switching - 6,600VA max.
- Good inrush current resistance
- Wide range AC coils
- DIN Rail mounting options
- Screw, plug-in or PCB terminals
- Applications include heaters, HVAC and motor controls
- RoHS Compliant



Contacts

Contact number & arrangement	SPST-NO (1 Form A); DPST-NO (2 Form A)
Contact material	AgCdO, AgSnO ₂ (Special Order only)
Max. switching voltage	AC/DC 250VAC, 30VDC
Min. breaking capacity	W 0.5W (AgCdO), 1W (AgSnO ₂)
Rated load (resistive - cos φ=1)	AC1 SPST-NO, DPST-NO PCB : 20A/220VAC SPST-NO: 30A/220VAC / DPST-NO: 25A/220VAC
Max. switching power	4,400VA (PCB types); 5,500VA (DPST-NO); 6,600VA (SPST-NO)
Initial resistance	≤ 50mΩ, max. at 1A/24VDC
Max. operating frequency at rated load	AC1 1,800 cycles per hour

Coil

Rated voltage	AC 6...200/240V
	DC 6...100V
Must release voltage	≥0.15Un
Operating range of supply voltage	See coil tables 1 & 2

Insulation

Insulation resistance	≥1000MΩ at 500VDC, 50%RH
Impulse withstand voltage	Between coil and contact: 10,000V
Dielectric strength	coil to contact 4,000Vrms, 1min (50/60Hz)
	contacts of the same pole 2,000Vrms, 1min (50/60Hz)
	contacts of different poles (DPST-NO) 2,000Vrms, 1min (50/60Hz)

General Data

Operating time (typical)	mS	≤ 30
Release time (typical)	mS	≤ 30
Electrical Life	ops	1 x 10 ⁵ at 1,800 ops/hour at rated load (Fig 1.)
Mechanical life	ops	5 x 10 ⁶ at 1,800 ops/hour
Dimensions	L x W x H	various - see drawings (Fig 2.)
Weight		approx. 90g (3.17oz) quick connect (fast-on) type approx. 100g (3.52oz) PCB terminal type approx. 120g (4.23oz) Screw terminal type
Ambient temperature		-40 to 85°C
Shock resistance		approx. 100G mechanical durability, 10G malfunction durability
Vibration resistance		DA 1.5mm 10-55Hz

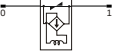
DC Coil Data (at 23°C)

Table 1

Coil Voltage Code	Nominal Voltage (V DC)	Coil Resistance (Ω) $\pm 10\%$	Power Consumption approx. (mW)	Must Operate Voltage max. (V DC)	Must Release Voltage min. (V DC)	Max. Allowable Voltage (V DC)
1006	6	18.9	1.9W 	4.5	0.9	6.6
1012	12	75		9	1.8	13.2
1024	24	303		18	3.6	26.4
1048	48	1220		36	7.2	52.8
1100	100	5260		75	15.0	110.0

AC Coil Data (at 23°C)

Table 2

Coil Voltage Code	Nominal Voltage (V AC)	Rated Coil Current (mA) $\pm 15\%$ -20%	Power Consumption approx. (mW)	Must Operate Voltage max. (V AC)	Must Release Voltage min. (V AC)	Max. Allowable Voltage (V AC)
5012	12	142	1.7 to 2.5VA (60Hz) 	9	0.9	13.2
5024	24	71		18	1.8	26.4
5050	50	34		37.5	3.6	55
5120	100 to 120	17 to 20.4		75	18	132
5230	200 to 240	8.5 to 10.2		150	36	264

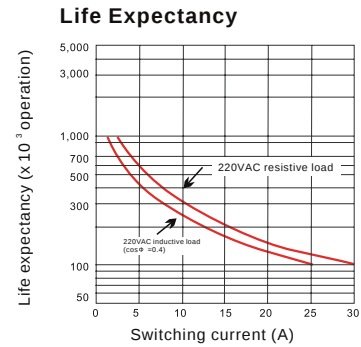
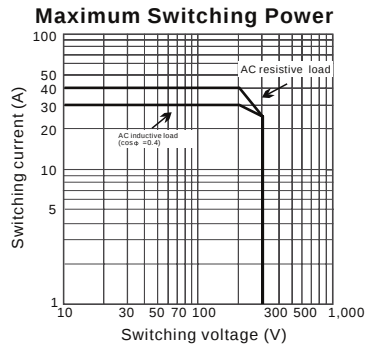
Ordering codes

Type	Contact Material	Contact arrangement	Cover protection and mounting	Coil code	Options																																										
D L R																																															
Contact material <table border="1"> <tr><td>10</td><td>-</td><td>AgCdO</td></tr> <tr><td>30</td><td>-</td><td>AgSnO₂ (special order - contact factory)</td></tr> </table> Contact arrangement <table border="1"> <tr><td>21</td><td>-</td><td>SPST-NO (1 N/O)</td></tr> <tr><td>22</td><td>-</td><td>DPST-NO (2 N/O)</td></tr> </table> Cover protection category <table border="1"> <tr><td>2</td><td>-</td><td>in cover, IP40</td></tr> <tr><td>4</td><td>-</td><td>cover with flange mount, IP40</td></tr> <tr><td>9</td><td>-</td><td>cover with flange and DIN Rail Mount, IP40</td></tr> </table> Connection mode <table border="1"> <tr><td>5</td><td>-</td><td>for PCB</td></tr> <tr><td>6</td><td>-</td><td>6.35mm quick connect blade terminals</td></tr> <tr><td>8</td><td>-</td><td>screw terminals</td></tr> </table> Options <table border="1"> <tr><td>NIL</td><td>-</td><td>No option</td></tr> <tr><td>K</td><td>-</td><td>Test button</td></tr> </table> Coil insulation type <table border="1"> <tr><td>NIL</td><td>-</td><td>Class F (standard)</td></tr> <tr><td>B</td><td>-</td><td>Class B (special order - contact factory)</td></tr> </table>						10	-	AgCdO	30	-	AgSnO ₂ (special order - contact factory)	21	-	SPST-NO (1 N/O)	22	-	DPST-NO (2 N/O)	2	-	in cover, IP40	4	-	cover with flange mount, IP40	9	-	cover with flange and DIN Rail Mount, IP40	5	-	for PCB	6	-	6.35mm quick connect blade terminals	8	-	screw terminals	NIL	-	No option	K	-	Test button	NIL	-	Class F (standard)	B	-	Class B (special order - contact factory)
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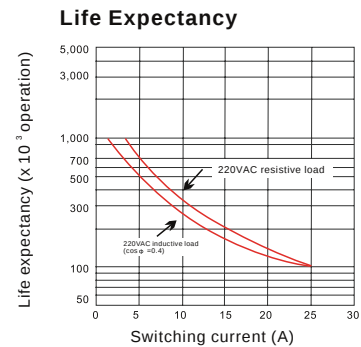
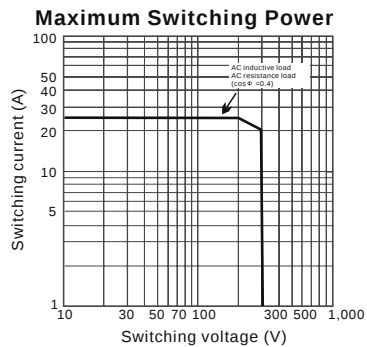
Reference Curves

Fig. 1

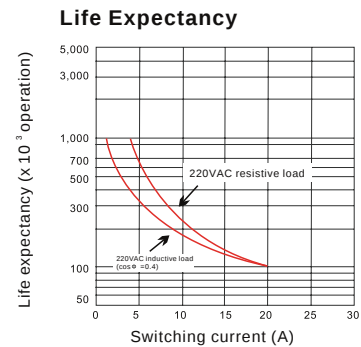
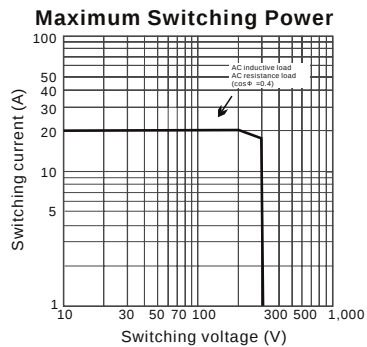
DLR SPST-NO (except PCB)



DLR DPST-NO (except PCB)



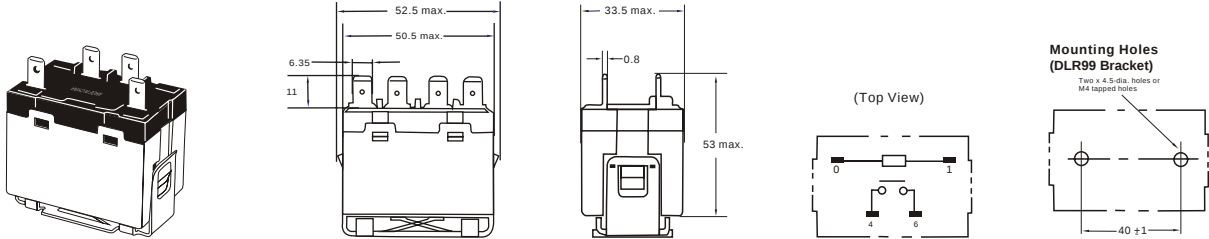
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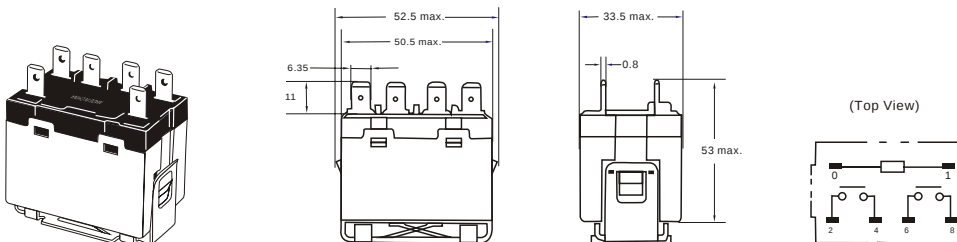
Overall Dimensions and Wiring Diagrams

Fig. 2

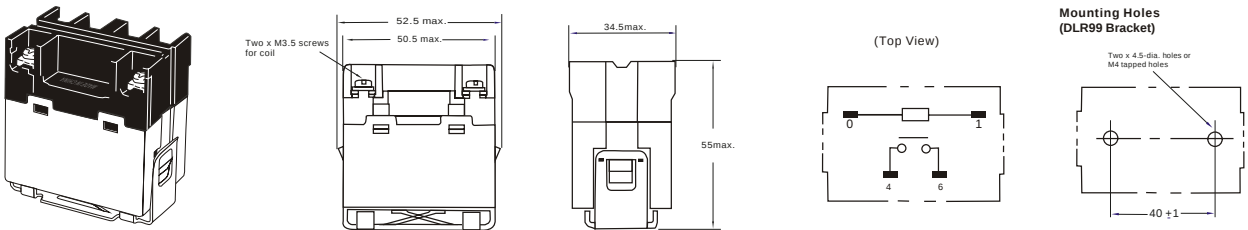
DLR10-2126 / DLR10-2126-K
(shown with DLR99 mounting bracket)



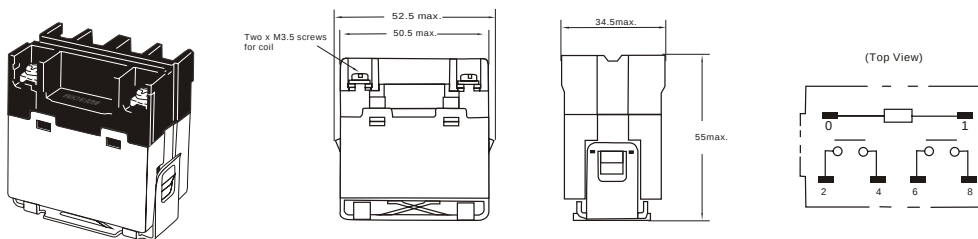
DLR10-2226 / DLR10-2226-K
(shown with DLR99 mounting bracket)



DLR10-2128 / DLR10-2128-K
(shown with DLR99 mounting bracket)



DLR10-2228 / DLR10-2228-K
(shown with DLR99 mounting bracket)

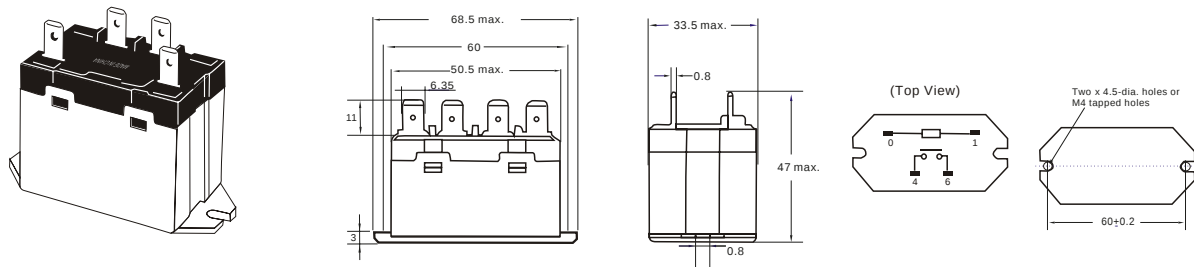


All dimensions in mm

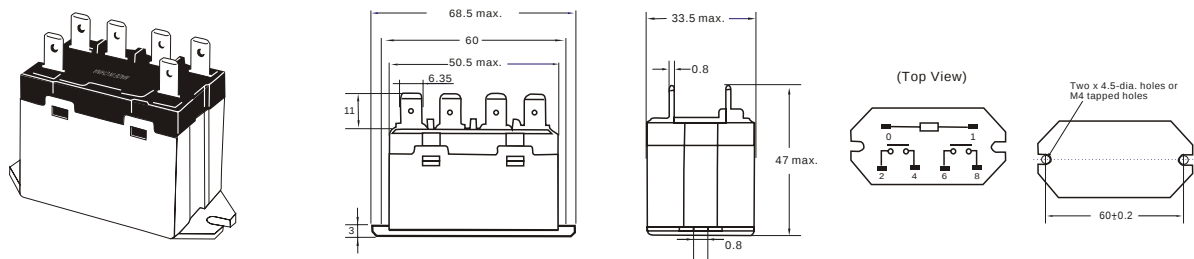
Overall Dimensions and Wiring Diagrams

Fig. 2 (cont.)

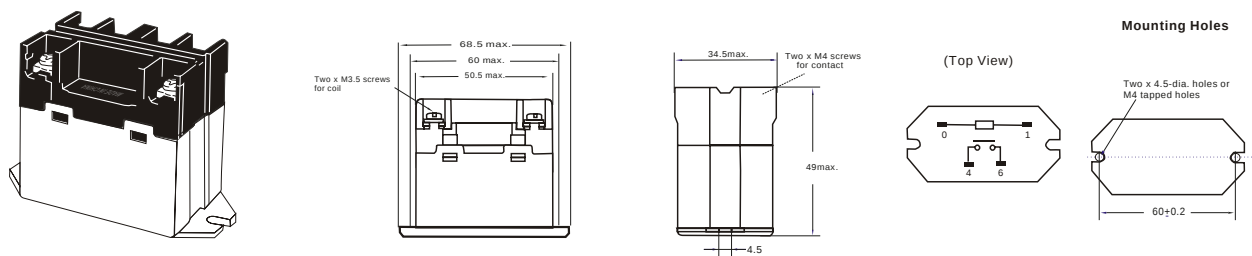
DLR10-2146 / DLR10-2146-K



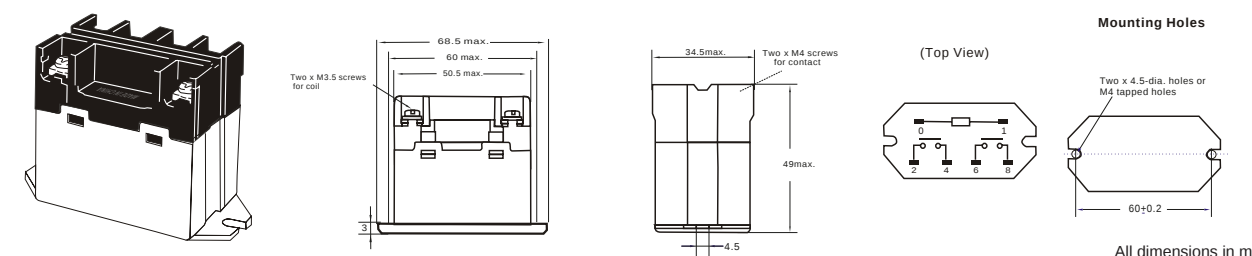
DLR10-2246 / DLR10-2246-K



DLR10-2148 / DLR10-2148-K



DLR10-2248 / DLR10-2248-K

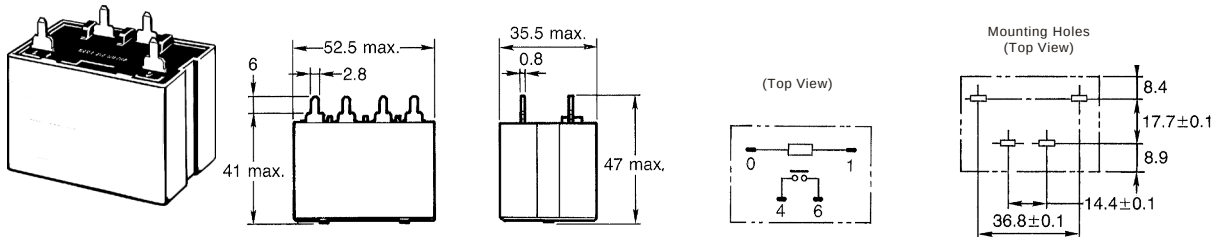


All dimensions in mm

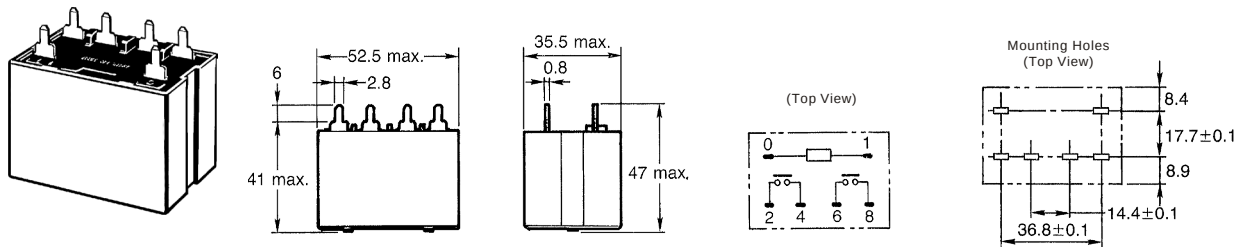
Overall Dimensions and Wiring Diagrams

Fig. 2 (cont.)

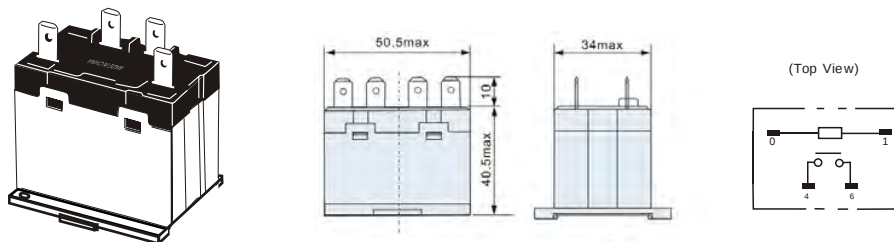
DLR10-2125
(for PCB mounting)



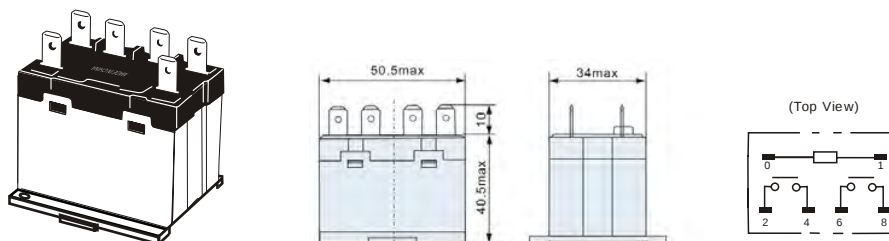
DLR10-2225
(for PCB mounting)



DLR10-2196
(for DIN rail mounting)



DLR10-2296
(for DIN rail mounting)

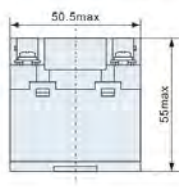
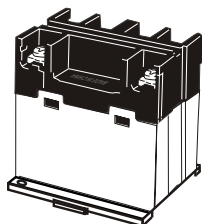


All dimensions in mm

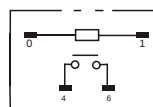
Overall Dimensions and Wiring Diagrams

Fig. 2 (cont.)

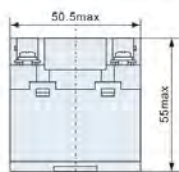
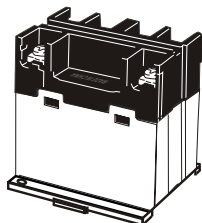
DLR10-2198 / DLR10-2198-K
(for DIN rail mounting)



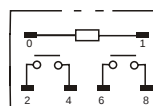
(Top View)



DLR10-2298 / DLR10-2298-K
(for DIN rail mounting)



(Top View)

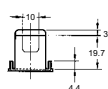
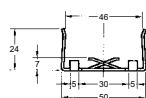
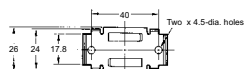
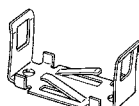


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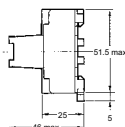
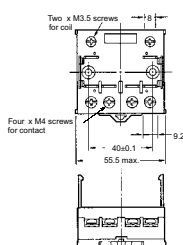
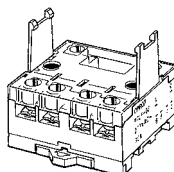
Accessories / Overall Dimensions

Fig. 3

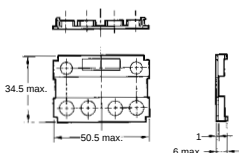
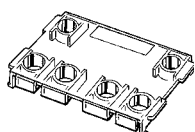
DLR99 Mounting Bracket



DLR7LF-06 DIN Rail Socket



DLR7LF-C Finger protection cover



All dimensions in mm