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DURAKOOL®

DX4 Series
Industrial Plug-in Relay



- Industry standard footprint, now with terminal
- Blades with no holes for better mounting in sockets
- Integral LED (Red for AC, Green for DC coils)
- Locking test lever with press feature (Blue for DC, Red for AC coils)
- Welded (not soldered) coil connections for greater reliability

CE cULus E325835 RoHS Compliant

Contacts

Contact arrangement		4PDT (4C/O)
Contact material		AgNi (90/10)
Max. switching voltage		277VAC, 30VDC
Min. breaking capacity		0.3W
Rated load (resistive - cos φ=1)	AC1	4PDT: 5A/240VAC
	DC1	4PDT: 5A/28VDC
Initial resistance		≤ 100mΩ

Coil

Nominal voltage	DC 6...110V, AC 6...240V
Must release voltage	DC ≥0.1Un, AC ≥0.3Un
Operating range of supply voltage	See tables 1 & 2
Rated power consumption	DC 0.9W, AC 1.2VA

Insulation

Insulation resistance		≥100 MΩ at 500VDC, 50% RH
Dielectric strength	coil to contact	1500V_{rms}, 1min (50Hz), 1mA
	contact to contact	1000V_{rms}, 1min (50Hz), 1mA
	between adjacent contacts	1200V_{rms}, 1min (50Hz), 1mA

General Data

Operating time	typ.	≤15ms
Release time	typ.	≤10ms
Electrical life	ops.	1 x 10^5
Mechanical life	ops.	1 x 10^7

Environmental

Environmental protection		IP40
Ambient temperature	operating	-40 to +70°C
	storage	-55 to +70°C
Shock resistance		10G, 11ms
Vibration resistance		DA 1.0mm 10-55Hz
Dimensions	L x W x H	27 x 21 x 36.5mm
Weight	approx.	≤35g

Ordering Code

D X 4 - 2 0 1 4 - 2 3 - 1 0 1 2 - W T L

- Series
- Contact material
  20: AgNi(90/10)
- Contact arrangement
  14: 4PDT (4/C/O)
- Environmental protection IP40
  2: In cover
- Mounting & terminations
  3: For plug-in sockets only
- Coil code:
  See tables 1 & 2
- Options
  Blank: Without LED & test lever (to special order only)
  WTL: LED indication of coil energization & test lever (standard)

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

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DC Coil Data (Green LED) — Table 1

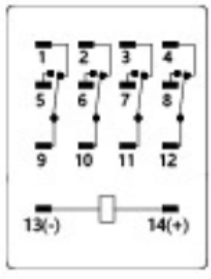
Coil code	Nominal voltage (VDC)	Coil resistance Ω ±10%	Power consumption (mW)	Must operate voltage max. (VDC)	Must release voltage min. (VDC)	Max. allowable voltage (VDC)
1006	6	40	900	4.5	0.6	6.6
1012	12	160	900	9.0	1.2	13.2
1024	24	640	900	18.0	2.4	26.4
1048	48	2600	900	36.0	4.8	52.8
1110	110	13450	900	82.5	11.0	121.0

AC Coil Data at 50/60Hz (Red LED) — Table 2

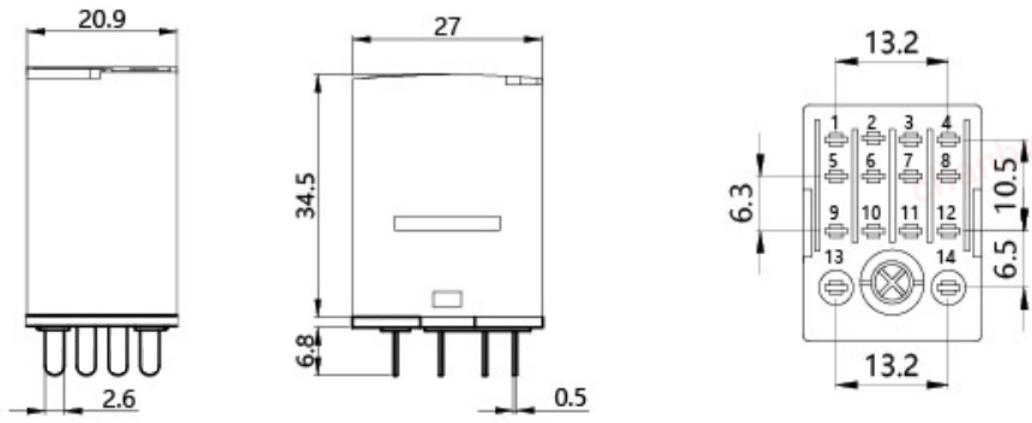
Coil code	Nominal voltage (VAC)	Rated coil current (mA) +15/-20%	Power consumption approx. (VA)	Must operate voltage max. (VAC)	Must release voltage min. (VAC)	Max. allowable voltage (VAC)
3006	6	10.5	1.2	4.8	1.8	6.6
3012	12	42	1.2	9.6	3.6	13.2
3024	24	168	1.2	19.2	7.2	26.4
3048	48	672	1.2	38.4	14.4	52.8
3110	110	3530	1.2	88.0	33.0	121.0
3120	120	4200	1.2	96.0	36.0	132.0
3230	230	15430	1.2	176.0	66.0	242.0

Wiring Diagram — Fig. 1

Bottom View



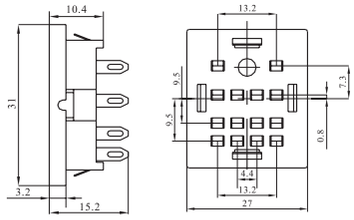
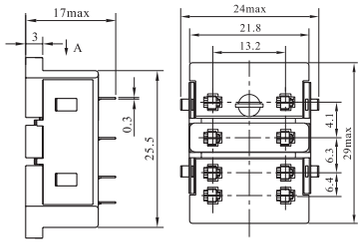
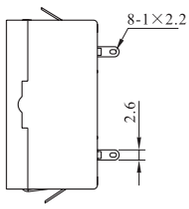
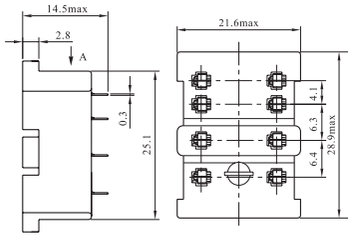
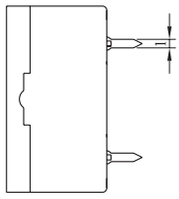
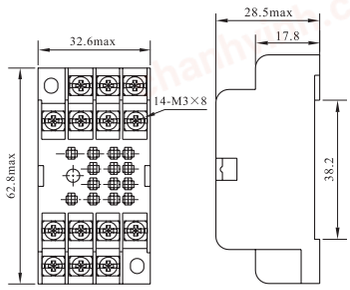
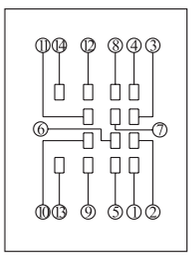
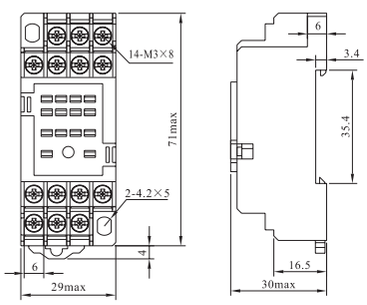
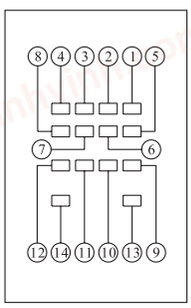
Overall Dimensions mm — Fig. 2



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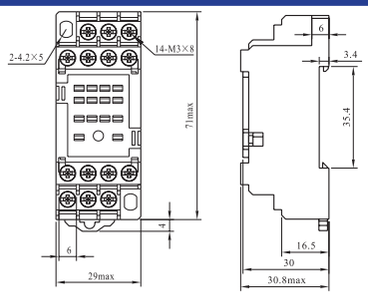
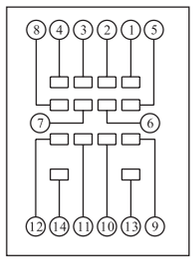
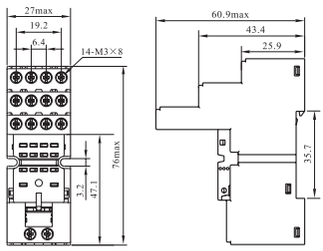
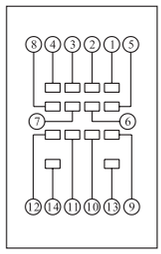
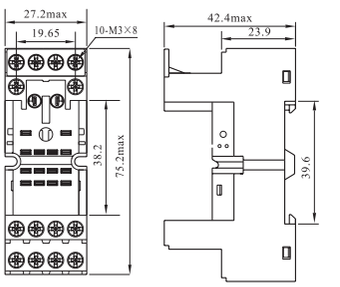
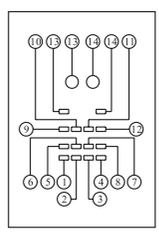
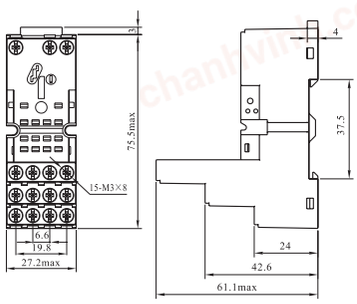
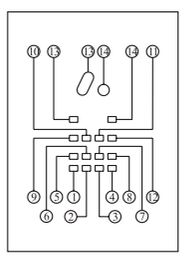
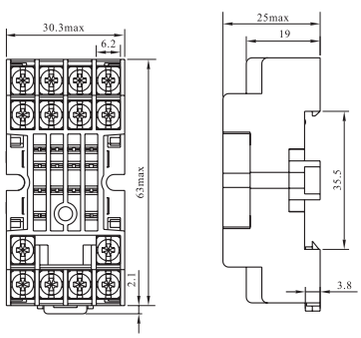
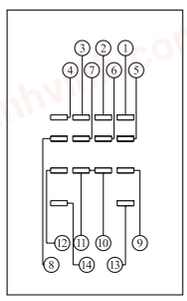
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DX4 Series
Industrial Plug-in Relay

Sockets for the DX4 relay	Parameters	Outline Drawing	Wiring Diagram
 **D18F-4Z-A**	Rated voltage: 250VAC Rated current: 7A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-001RC Module: No		
 **D18F-4Z-A1**	Rated voltage: 250VAC Rated current: 7A Insulation voltage: ≥ 3KV Socket material: PBT (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-001RC Module: No		
 **D18F-4Z-A2**	Rated voltage: 250VAC Rated current: 5A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-001RC Module: No		
 **D18F-4Z-B**	Rated voltage: 250VAC Rated current: 5A Insulation voltage: ≥ 3KV Socket material: PA46-S250F6 (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-001RC Module: No		
 **D18F-4Z-C1-N**	Rated voltage: 250VAC Rated current: 5A Insulation voltage: ≥ 3KV Socket material: PA46-S250F6 (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-006RC Module: No		

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Industrial Plug-in Relay

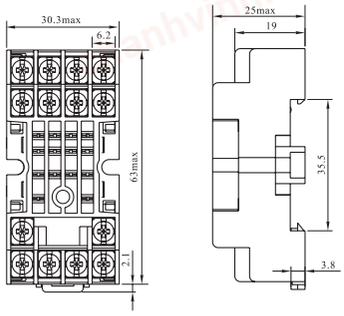
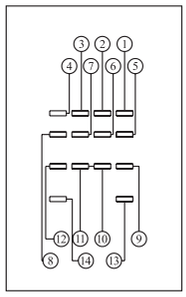
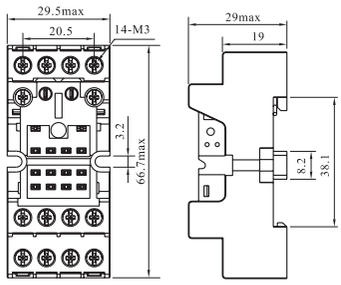
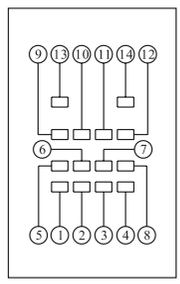
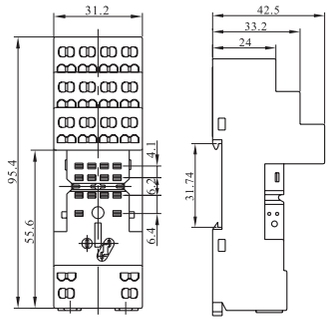
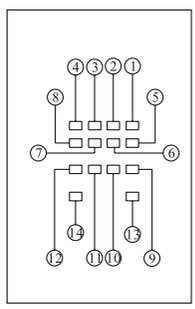
Sockets for the DX4 relay	Parameters	Outline Drawing	Wiring Diagram
 **D18F-4Z-C2-N**	Rated voltage: 250VAC Rated current: 7A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-006RC Module: No		
 **D18F-4Z-C3**	Rated voltage: 300VAC Rated current: 10A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-36MS-B Plastic ejector clip (page 8): JH-36PS-A Module: No		
 **D18F-4Z-C4**	Rated voltage: 300VAC Rated current: 10A Insulation voltage: ≥ 3KV Socket material: PA46-S250F6 (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-36MS-B Plastic ejector clip (page 8): JH-36PS-A Module (pages 5-7): All DM***-BK		
 **D18F-4Z-C5**	Rated voltage: 300VAC Rated current: 10A Insulation voltage: ≥ 3KV Socket material: PA46-S250F6 (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-36MS-B Plastic ejector clip (page 8): JH-36PS-A Module (pages 5-7): All DM***-BK		
 **D18F-4Z-C6**	Rated voltage: 250VAC Rated current: 5A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-505RC Module: No		

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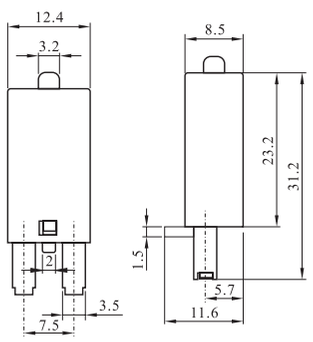
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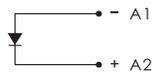
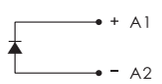
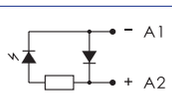
Sockets for the DX4 relay	Parameters	Outline Drawing	Wiring Diagram
 **D18F-4Z-C7**	Rated voltage: 250VAC Rated current: 5A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip JH-36MS-B Module: No		
 **D18F-4Z-C8**	Rated voltage: 300VAC Rated current: 10A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-36MS-B Plastic ejector clip (page 8): JH-36PS-A Module (pages 5-7): All DM***-BK		
 **D18F-4Z-C9**	Rated voltage: 300VAC Rated current: 10A Insulation voltage: ≥ 3KV Socket material: PA66+GF (V1/V0) Contacts spring material: QSn6.5-0.1 Metal retainer clip (page 8): JH-36MS-B Plastic ejector clip (page 8): JH-36PS-A Module (pages 5-7): All DM***-BK		

Modules for Durakool Sockets - Round Pin Plug-in





Notes:
Durakool modules for sockets have a round LED and square shoulders.

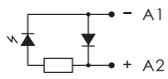
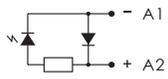
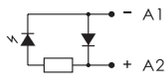
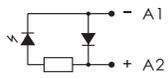
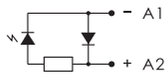
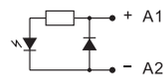
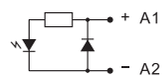
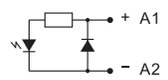
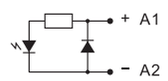
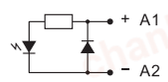
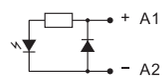
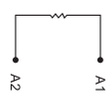
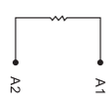
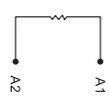
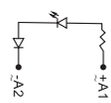
Part No	Socket Types	Circuit	Description
DM21P-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Diode A1-
DM21N-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Diode A1+
DM31R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with diode, 6 - 24VDC, A1-

All accessories are upon request only.

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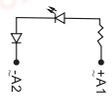
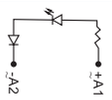
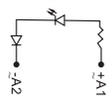
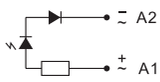
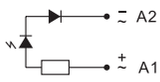
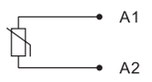
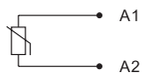
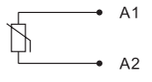
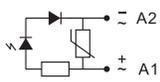
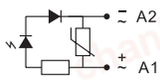
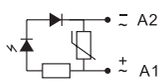
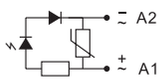
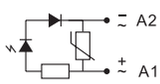
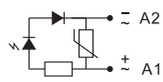
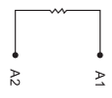
Modules for Durakool Sockets - Round Pin Plug-in

Part No	Socket Types	Circuit	Description
DM31G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with diode, 6 - 24VDC, A1-
DM32R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with diode, 24 - 60VDC, A1-
DM32G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with diode, 24 - 60VDC, A1-
DM33R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with diode, 110 - 230VDC, A1-
DM33G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with diode, 110 - 230VDC, A1-
DM41R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with diode, 6 - 24VDC, A1+
DM41G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with diode, 6 - 24VDC, A1+
DM42R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with diode, 24 - 60VDC, A1+
DM42G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with diode, 24 - 60VDC, A1+
DM43R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with diode, 110 - 230VDC, A1+
DM43G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with diode, 110 - 230VDC, A1+
DM51-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		RC Network, 6 to 24V
DM52-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		RC Network, 24V to 60V
DM53-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		RC Network, 110 to 230V
DM61R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED, 6 - 24VAC/DC

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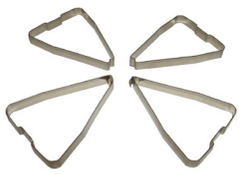
Modules for Durakool Sockets - Round Pin Plug-in

Part No	Socket Types	Circuit	Description
DM61G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED, 6 - 24VAC/DC
DM62R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED, 24 - 60VAC/DC
DM62G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED, 24 - 60VAC/DC
DM63R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED, 110 - 230VAC/DC
DM63G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED, 110 - 230VAC/DC
DM71-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Varistor 24VAC
DM72-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Varistor 115VAC
DM73-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Varistor 230VAC
DM91R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with varistor, 6 - 24VAC/DC
DM91G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with varistor, 6 - 24VAC/DC
DM92R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with varistor, 24 - 60VAC/DC
DM92G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with varistor, 24 - 60VAC/DC
DM93R-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Red LED with varistor, 110 - 230VAC/DC
DM93G-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Green LED with varistor, 110 - 230VAC/DC
DM103-BK	D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9		Resistor 110 - 230VAC

All accessories are upon request only.

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Retaining Springs and Ejector Clips for Durakool Sockets



Matching Socket(s):
D18F-4Z-A/A1/ A2/B

JH-001RC



Matching Socket(s):
D18F-4Z-C1-N/ C2-N

JH-006RC



Matching Socket(s):
D18F-4Z-C3/C4/ C5/C7/C8/C9

JH-36MS-B



Matching Socket(s):
D18F-4Z-C3/C4/ C5/C8/C9

JH-36PS-A



Matching Socket(s):
D18F-4Z-C6

JH-505RC

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