# 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 | 1500$V_{rms}$, 1min (50Hz), 1mA |
| | contact to contact | 1000$V_{rms}$, 1min (50Hz), 1mA |
| | between adjacent contacts | 1200$V_{rms}$, 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.

**DC Coil Data (Green LED)** — Table 1

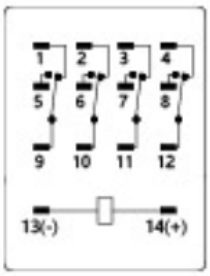
| Coil code | Nominal voltage (VDC) | Coil resistance Ω ±10% | Power consumption (mW) | Must operate voltage max. (VDC) | Must release voltage min. (VDC) | Max. allowable voltage (VDC) |
|---|---|---|---|---|---|---|
| 1006 | 6 | 40 | 900 | 4.5 | 0.6 | 6.6 |
| 1012 | 12 | 160 | 900 | 9.0 | 1.2 | 13.2 |
| 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

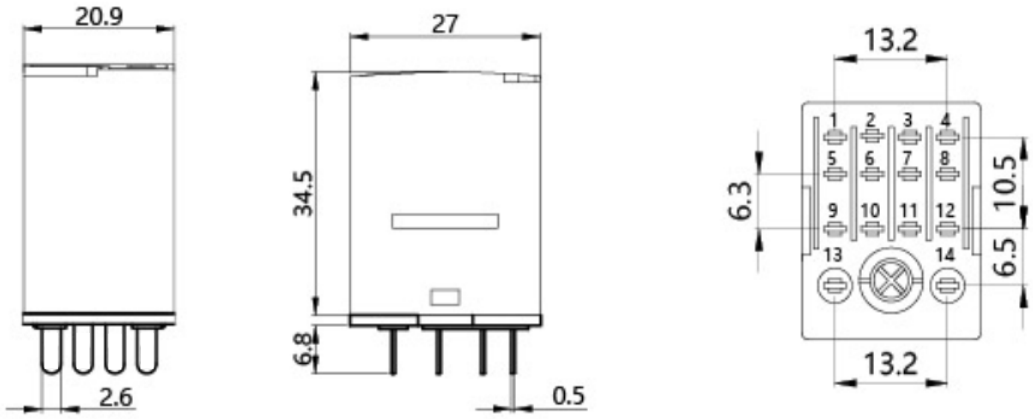
| Coil code | Nominal voltage (VAC) | Rated coil current (mA) +15/-20% | Power consumption approx. (VA) | Must operate voltage max. (VAC) | Must release voltage min. (VAC) | Max. allowable voltage (VAC) |
|---|---|---|---|---|---|---|
| 3006 | 6 | 10.5 | 1.2 | 4.8 | 1.8 | 6.6 |
| 3012 | 12 | 42 | 1.2 | 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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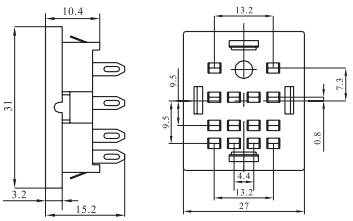
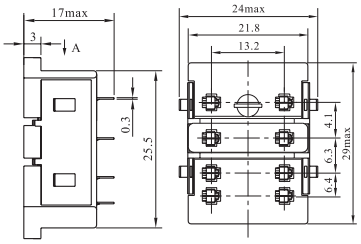
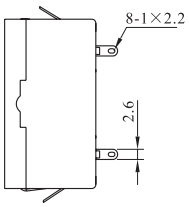
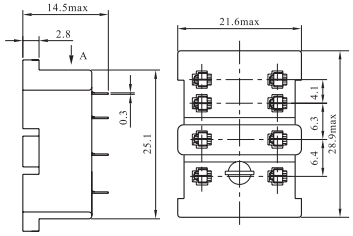
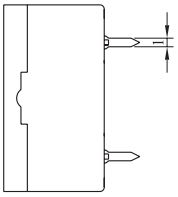
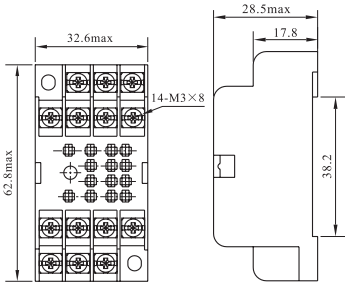
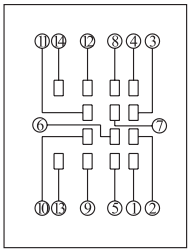
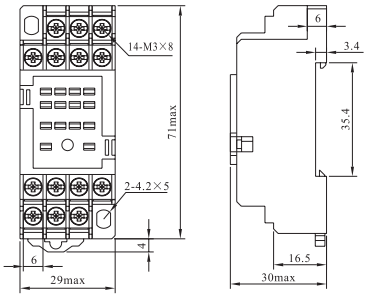
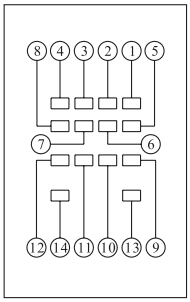
| Sockets for the DX4 relay | Parameters | Outline Drawing | Wiring Diagram |
|---|---|---|---|
|  **D18F-4Z-A** | Rated voltage: 250VAC<br>Rated current: 7A<br>Insulation voltage: ≥ 3KV<br>Socket material: PA66+GF (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip (page 8): JH-001RC<br><br>Module: No |  | |
|  **D18F-4Z-A1** | Rated voltage: 250VAC<br>Rated current: 7A<br>Insulation voltage: ≥ 3KV<br>Socket material: PBT (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip (page 8): JH-001RC<br><br>Module: No |  |  |
|  **D18F-4Z-A2** | Rated voltage: 250VAC<br>Rated current: 5A<br>Insulation voltage: ≥ 3KV<br>Socket material: PA66+GF (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip (page 8): JH-001RC<br><br>Module: No |  |  |
|  **D18F-4Z-B** | Rated voltage: 250VAC<br>Rated current: 5A<br>Insulation voltage: ≥ 3KV<br>Socket material: PA46-S250F6 (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip (page 8): JH-001RC<br><br>Module: No |  |  |
|  **D18F-4Z-C1-N** | Rated voltage: 250VAC<br>Rated current: 5A<br>Insulation voltage: ≥ 3KV<br>Socket material: PA46-S250F6 (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip (page 8): JH-006RC<br><br>Module: No |  |  |



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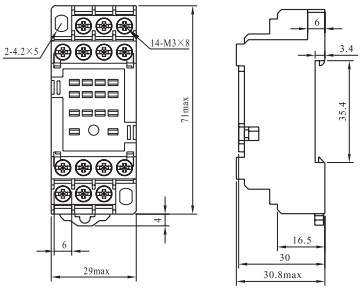
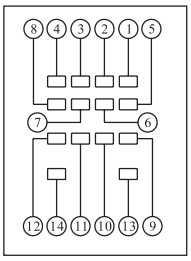
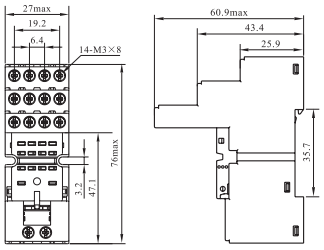
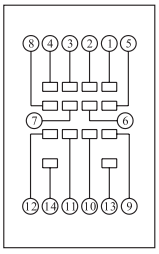
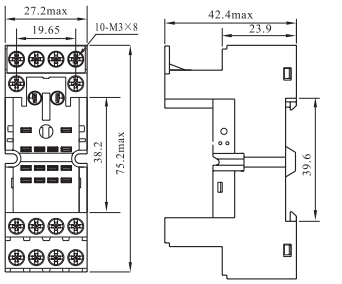
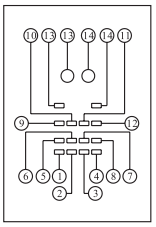
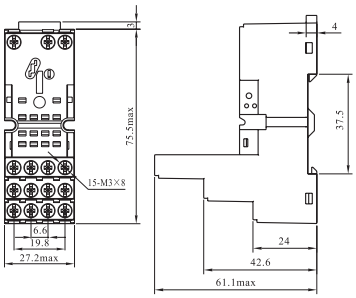
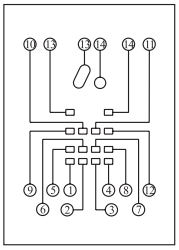
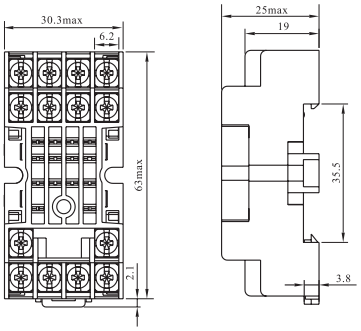
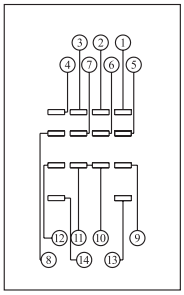
| Sockets for the DX4 relay | Parameters | Outline Drawing | Wiring Diagram |
|---|---|---|---|
|  **D18F-4Z-C2-N** | Rated voltage: 250VAC<br>Rated current: 7A<br>Insulation voltage: ≥ 3KV<br>Socket material: PA66+GF (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip (page 8):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



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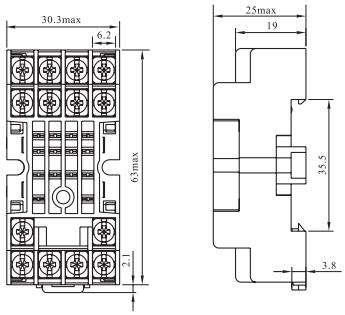
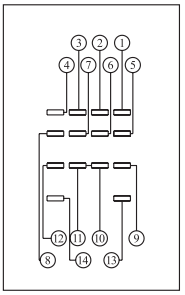
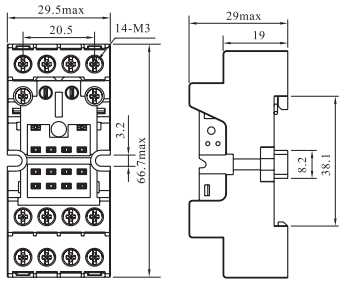
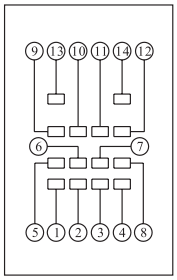
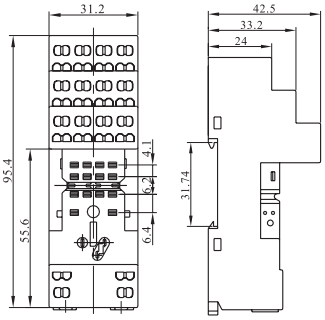
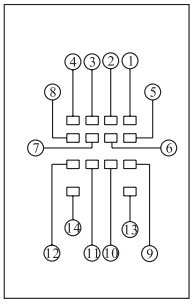
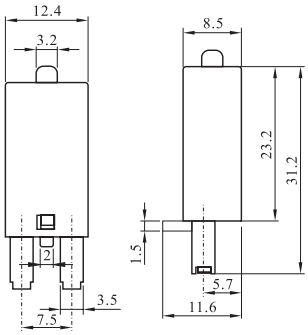
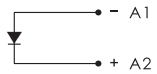
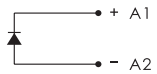
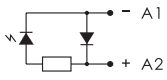
| Sockets for the DX4 relay | Parameters | Outline Drawing | Wiring Diagram |
|---|---|---|---|
|  **D18F-4Z-C7** | Rated voltage: 250VAC<br>Rated current: 5A<br>Insulation voltage: ≥ 3KV<br>Socket material: PA66+GF (V1/V0)<br>Contacts spring material: QSn6.5-0.1<br><br>Metal retainer clip JH-36MS-B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

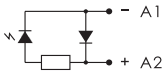
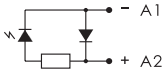
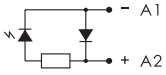
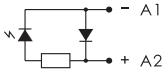
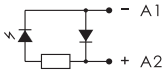
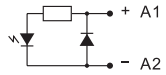
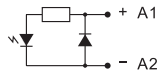
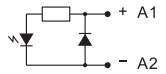
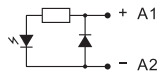
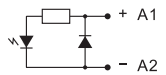
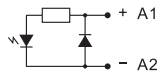
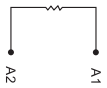
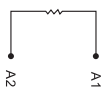
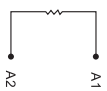
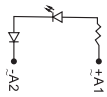
| Part No | Socket Types | Circuit | Description |
|---|---|---|---|
| DM21P-BK | D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9 |  | Diode A1- |
| DM21N-BK | D14F Series -C2, C3, C5, C9; D18F Series -C4, C5, C8, C9 |  | Diode A1+ |
| DM31R-BK | D14F Series -C2, C3, C5, C9; D18F Series -C4,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

All accessories are upon request only.



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

## 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 |

All accessories are upon request only.



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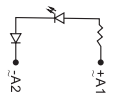
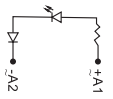
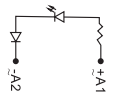
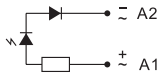
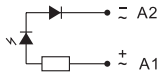
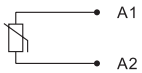
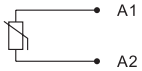
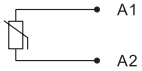
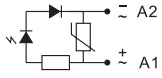
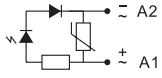
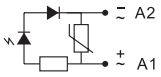
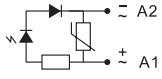
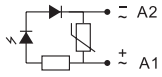
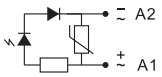
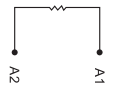
## Modules for Durakool Sockets - Round Pin Plug-in

| 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**

All accessories are upon request only.



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