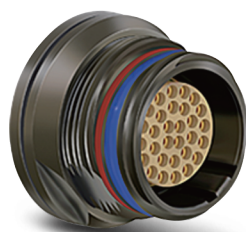




RM-M series

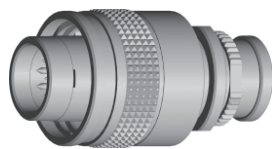
Ratchet-coupling mechanism

- Quick mating: less than 3/4 turn to seat
- Compact design for space savings, Lightweight
- Available solder, PCB and right angle PCB contact
- 360° screening for full EMC shielding
- Oil and fuel resistant and high vibration and shock resistance
- Sealed to IP68 when mated
- Colour coding / keying – Reverse gender configuration

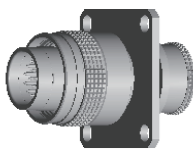


RM-M Series

Plugs

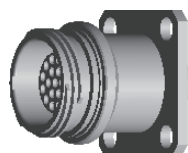


FMN

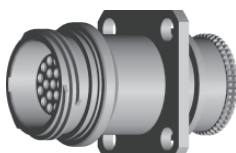


FXN

Receptacles



EDN



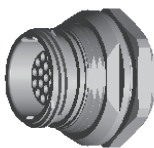
PFN



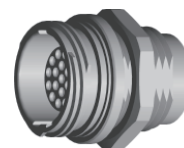
PBN



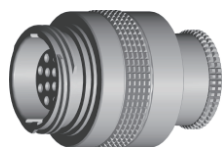
HEN



ECN

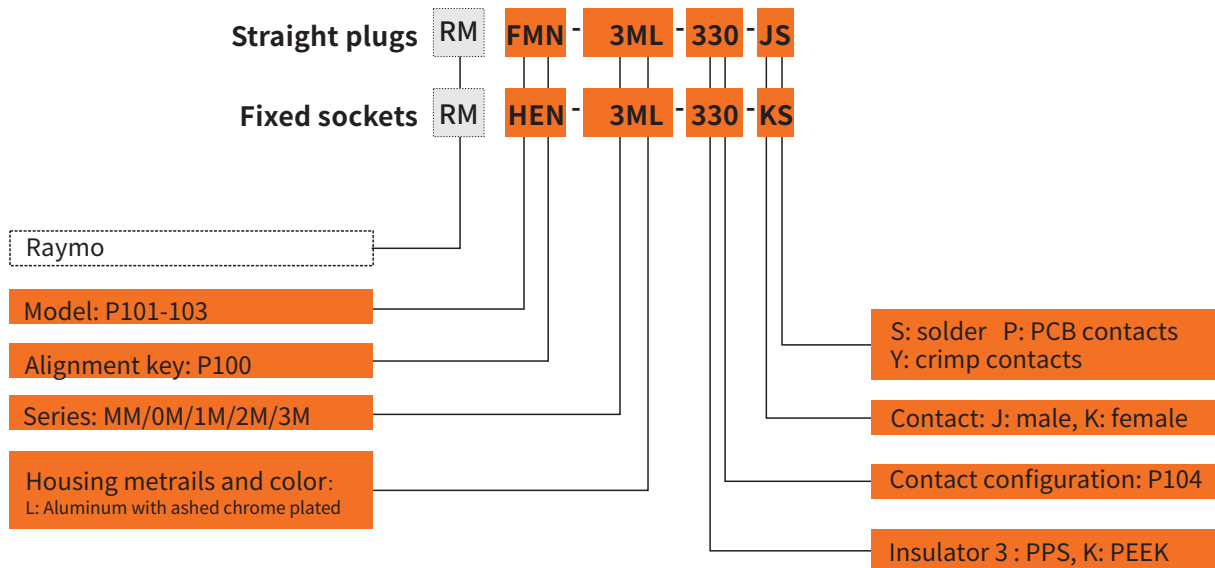


EGN



PMN

Part Numbering System



Part No. Example

Straight plug

RM-FMN-3ML-330JS= straight plug with key (N), 3M series, multipole type with 30 contacts, outer shell in ashed nickel-plated aluminium alloy, PPS insulator, male solder contacts.

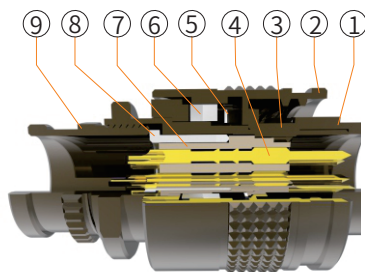
Fixed sockets

RM-HEN-3ML-330-KS= fixed socket, nut fixing, with key (N), 3M series, multipole type with 30 contacts, outer shell in ashed nickel-plated aluminium alloy, PPS, female solder contacts, watertight.

Part Section Showing Internal Components

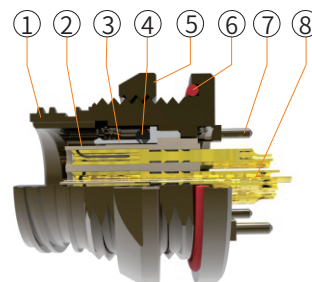
straight plug

- ① Plug sleeve
- ② Outer shell
- ③ Inner sleeve
- ④ Male contacts
- ⑤ Wave gasket
- ⑥ Ratchet mechanism
- ⑦ Insulator
- ⑧ Ground pin
- ⑨ Back nut



Fixed socket

- ① Outer shell
- ② Insulator
- ③ Retaining ring
- ④ Inner
- ⑤ O ring
- ⑥ Hexagonal nut
- ⑦ Outer O ring
- ⑧ Earthing crown



RM-M

Technical Characteristics

Mechanical and Climatical

| Characteristics | Value | Standard |
|---------------------------|--|----------------------|
| Endurance | 3000 cycle | IEC60512-5test9a |
| Humidity | 95% 21 days | IEC 60068-2 |
| Temperature range | -55C° ~ 200C° 30min, 10 cycles | GJB1217A |
| Resistance to vibration | 50-2000 Hz, 37.8 g rms-3 axes; 4h amb | IEC 60512-4 test 6d |
| Shock resistance | 300 g - 3 msec | IEC 60512-4 test 6c |
| Salt spray corrosion test | 96H | IEC 60512-6 test 11f |
| Protection index (mated) | IP68 | IEC 60529 |
| Climatical category | > 10 ¹² Ω, > 10 ¹⁰ Ω | IEC 60512-2 |

Electrical

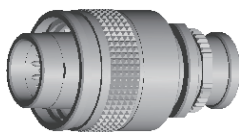
| Characteristics | Value | Standard | |
|----------------------|-----------|----------|---------------|
| Shielding efficiency | at 10 MHz | >75 dB | IEC 60619-1-3 |
| | at 1 GHz | >40 dB | IEC 60619-1-3 |

Alignment Key and Polarized Keying System

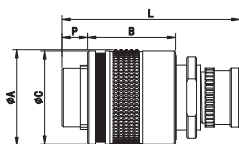
Mseries connector model part numbers are composed of three letters. The LAST LETTER indicates the keys corresponding to a particular contact type. For example, straight plugs with N, P, R, U or W keys, are fitted with male contacts; whereas with S, T, V or X keys, plugs are fitted with female contacts. Sockets with N, P, R, U or W keys, are fitted with female contacts; whereas with S, T, V or X keys, sockets are fitted with male contacts.

RM-M

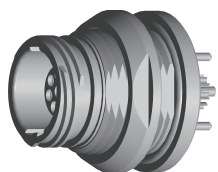
| Front view of a socket | Model | Nb of keys | Angles | | Colour code | Contact type | |
|------------------------|-------|------------|--------|------|-------------|--------------|--------|
| | | | β | γ | | | |
| | **N | 3 | 165° | 30° | blue | male | female |
| | **P | | 150° | 60° | yellow | | |
| | **U | | 130° | 100° | green | | |
| | **S | | 155° | 50° | red | female | male |
| | **T | | 135° | 90° | orange | | |



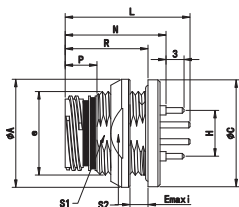
RM-FMN Straight plug, key (N) or keys (P, R, S, T, U, V, W and X)



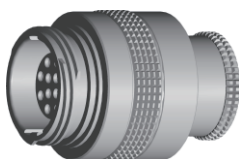
| Reference | | Dimensions(mm) | | | | |
|-----------|--------|----------------|------|------|-----|------|
| Model | Series | A | B | C | P | L |
| RM-FMN | MM | 11.1 | 13.4 | 10.7 | 5.5 | 21.3 |
| RM-FMN | 0M | 13.1 | 13.4 | 12.7 | 3.9 | 24.1 |
| RM-FMN | 1M | 14.6 | 13.4 | 14.2 | 3.9 | 24.1 |
| RM-FMN | 2M | 17.6 | 13.4 | 17.2 | 3.9 | 24.5 |
| RM-FMN | 3M | 19.6 | 13.4 | 19.2 | 3.9 | 24.5 |



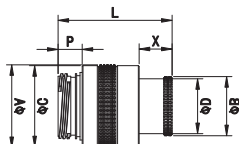
RM-HEN Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) , print circuit, watertight(back panel mount).



| Reference | | Dimensions(mm) | | | | | | | | | | |
|-----------|--------|----------------|------|----------|-----|-------|------|------|-----|------|------|----|
| Model | Series | A | B | e | E | H | L | N | P | R | S1 | S2 |
| RM-HEN | MM | 14 | 13.8 | M10*0.50 | 4.0 | 5.08 | 20.4 | 15.3 | 3.7 | 10.5 | 9.0 | 11 |
| RM-HEN | 0M | 17 | 16.8 | M13*0.75 | 5.0 | 5.08 | 20.8 | 16.8 | 5.3 | 13.8 | 11.5 | 14 |
| RM-HEN | 1M | 18 | 17.8 | M14*1.00 | 5.0 | 7.62 | 20.8 | 16.8 | 5.3 | 13.8 | 12.5 | 16 |
| RM-HEN | 2M | 21 | 20.8 | M17*1.00 | 5.0 | 8.89 | 20.8 | 16.8 | 5.3 | 13.8 | 15.5 | 18 |
| RM-HEN | 3M | 23 | 22.8 | M19*1.00 | 5.0 | 10.16 | 20.8 | 16.8 | 5.3 | 13.8 | 17.5 | 20 |

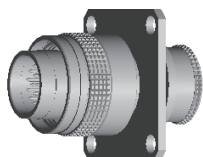


RM-PMN Free socket, key (N) or keys (P, R, S, T, U, V, W and X), with knurled grip.

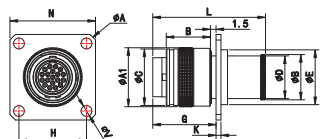


| Reference | | Dimensions(mm) | | | | | | |
|-----------|--------|----------------|------|------|------|------|-----|-----|
| Model | Series | A | B | C | D | L | P | X |
| RM-PMN | MM | 11.1 | 6.4 | 10.7 | 5.6 | 21.4 | 3.7 | 5.8 |
| RM-PMN | 0M | 13.1 | 8.8 | 12.7 | 8.0 | 25.6 | 5.3 | 6.7 |
| RM-PMN | 1M | 14.6 | 10.5 | 14.2 | 9.7 | 25.6 | 5.3 | 6.7 |
| RM-PMN | 2M | 17.6 | 14.0 | 17.2 | 13.0 | 26.0 | 5.3 | 7.1 |
| RM-PMN | 3M | 19.6 | 16.0 | 19.2 | 15.0 | 26.0 | 5.3 | 7.1 |

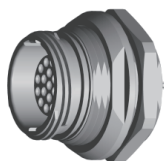
RM-M



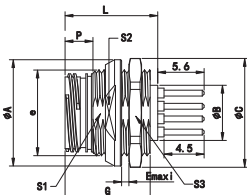
RM-FXN Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) , with knurled grip and MIL-DTL-38999L shell thread.



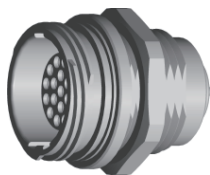
| Reference | | Dimensions(mm) | | | | | | | | | | | |
|-----------|--------|----------------|------|------|------|------|------|------|------|-----|------|------|-----|
| Model | Series | A | A1 | B | C | D | E | G | H | K | L | N | V |
| RM-FXN | MM | 21.5 | 11.1 | 6.4 | 10.7 | 5.6 | 9.5 | 17.0 | 12.0 | 1.5 | 26.1 | 17.0 | 2.7 |
| RM-FXN | 0M | 26.9 | 13.1 | 8.8 | 12.7 | 8.0 | 12.2 | 18.9 | 15.1 | 1.5 | 29.1 | 20.6 | 2.7 |
| RM-FXN | 1M | 31.4 | 14.6 | 10.5 | 14.2 | 9.7 | 13.7 | 18.9 | 18.3 | 1.5 | 29.1 | 23.8 | 3.3 |
| RM-FXN | 2M | 34.6 | 17.6 | 14.0 | 17.2 | 13.0 | 16.7 | 18.9 | 20.6 | 1.5 | 29.5 | 26.1 | 3.3 |
| RM-FXN | 3M | 34.6 | 19.6 | 16.0 | 19.2 | 15.0 | 18.7 | 18.9 | 20.6 | 1.5 | 29.5 | 26.1 | 3.3 |



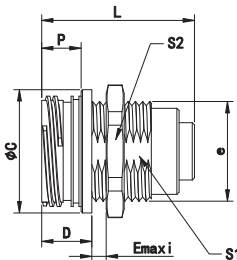
RM-ECN Fixed socket with two nuts, key (N) or keys (P, R, S, T, U, V, W and X)



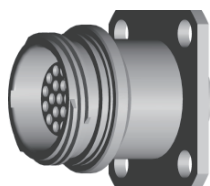
| Reference | | Dimensions(mm) | | | | | | | | | | |
|-----------|--------|----------------|-------|------|-----|----------|------|------|-----|------|------|------|
| Model | Series | A | B | C | E | e | G | L | P | S1 | S2 | S3 |
| RM-ECN | MM | 14 | 2.85 | 13.5 | 5.0 | M10*0.50 | 13.8 | 15.0 | 3.7 | 9.0 | 11.0 | 12.0 |
| RM-ECN | 0M | 17 | 4.72 | 18.2 | 5.0 | M13*0.75 | 16.8 | 18.3 | 5.3 | 11.5 | 14.0 | 16.0 |
| RM-ECN | 1M | 18 | 5.95 | 19.2 | 5.0 | M14*1.00 | 16.8 | 18.3 | 5.3 | 12.5 | 16.0 | 17.0 |
| RM-ECN | 2M | 21 | 8.95 | 21.5 | 4.0 | M17*1.00 | 16.8 | 18.3 | 5.3 | 15.5 | 18.0 | 19.0 |
| RM-ECN | 3M | 23 | 10.95 | 25.0 | 4.0 | M19*1.00 | 16.8 | 18.3 | 5.3 | 17.5 | 20.0 | 22.0 |



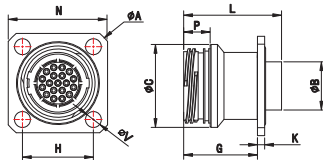
RM-EGN Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X)



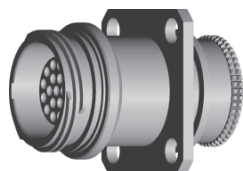
| Reference | | Dimensions(mm) | | | | | | | |
|-----------|--------|----------------|-----|---------|-----|------|-----|------|----|
| Model | Series | C | D | e | E | L | P | S1 | S2 |
| RM-EGN | 0M | 12.7 | 6.8 | M9*0.6 | 5.0 | 16.8 | 5.3 | 8.2 | 11 |
| RM-EGN | 1M | 14.2 | 6.8 | M11*1.0 | 4.5 | 16.8 | 5.3 | 9.5 | 13 |
| RM-EGN | 2M | 17.2 | 7.6 | M14*1.0 | 4 | 15.6 | 5.3 | 12.5 | 17 |



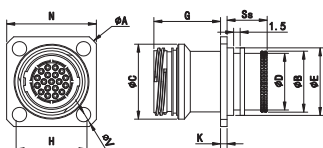
RM-EDN Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X)



| Reference | | Dimensions(mm) | | | | | | | | | | |
|-----------|--------|----------------|-------|------|------|------|-----|------|------|-----|-----|--|
| Model | Series | A | B | C | G | H | K | L | N | P | V | |
| RM-EDN | MM | 18.6 | 4.7 | 10.7 | 10.7 | 9.5 | 1.5 | 17.0 | 14.5 | 3.7 | 2.7 | |
| RM-EDN | 0M | 20.6 | 4.72 | 12.7 | 12.7 | 11.0 | 1.5 | 18.3 | 16.0 | 5.3 | 2.7 | |
| RM-EDN | 1M | 23.8 | 5.95 | 14.2 | 14.2 | 12.9 | 1.5 | 18.3 | 18.4 | 5.3 | 3.3 | |
| RM-EDN | 2M | 26.9 | 8.95 | 17.2 | 17.2 | 15.1 | 1.5 | 18.3 | 20.6 | 5.3 | 3.3 | |
| RM-EDN | 3M | 29.0 | 10.95 | 19.2 | 19.2 | 16.6 | 1.5 | 18.3 | 22.1 | 5.3 | 3.3 | |

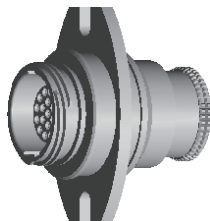


RM-PFN Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X)

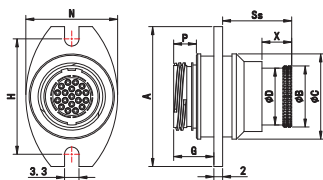


| Reference | | Dimensions(mm) | | | | | | | | | | |
|-----------|--------|----------------|------|------|------|------|------|------|-----|------|------|-----|
| Model | Series | A | B | C | D | E | G | H | K | N | Ss | V |
| RM-PFN | MM | 18.6 | 6.4 | 10.7 | 5.6 | 7.8 | 12.3 | 9.5 | 1.5 | 14.5 | 10.6 | 2.7 |
| RM-PFN | 0M | 20.6 | 8.8 | 12.7 | 8.0 | 10.7 | 12.8 | 11.0 | 1.5 | 16.0 | 11.3 | 2.7 |
| RM-PFN | 1M | 23.8 | 10.5 | 14.2 | 9.7 | 12.4 | 12.8 | 12.9 | 1.5 | 18.4 | 11.3 | 3.3 |
| RM-PFN | 2M | 26.9 | 14.0 | 17.2 | 13.0 | 15.5 | 12.8 | 15.1 | 1.5 | 20.6 | 11.7 | 3.3 |
| RM-PFN | 3M | 29.0 | 16.0 | 19.2 | 15.0 | 17.5 | 12.8 | 16.6 | 1.5 | 22.1 | 11.7 | 3.3 |

RM-M



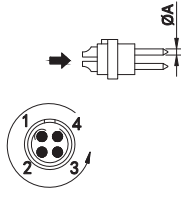
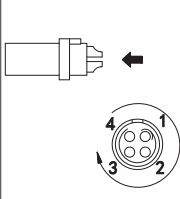





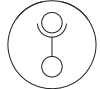







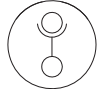





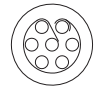


RM-PBN Fixed socket with two nuts, key (N) or keys (P, R, S, T, U, V, W and X)



| Reference | | Dimensions(mm) | | | | | | | | | |
|-----------|--------|----------------|------|------|------|-----|------|------|-----|------|-----|
| Model | Series | A | B | C | D | G | H | N | P | Ss | X |
| RM-PBN | MM | 21.0 | 6.4 | 11.3 | 5.6 | 6.7 | 16.2 | 12.5 | 3.7 | 13.2 | 5.8 |
| RM-PBN | 0M | 27.0 | 8.8 | 14.5 | 8.0 | 8.3 | 21.4 | 16.0 | 5.3 | 15.3 | 6.7 |
| RM-PBN | 1M | 29.0 | 10.5 | 16.5 | 9.7 | 8.3 | 23.4 | 18.0 | 5.3 | 15.3 | 6.7 |
| RM-PBN | 2M | 32.0 | 14.0 | 19.5 | 13.0 | 8.3 | 26.4 | 21.0 | 5.3 | 15.7 | 7.1 |
| RM-PBN | 3M | 35.0 | 16.0 | 21.5 | 15.0 | 8.3 | 29.0 | 23.0 | 5.3 | 15.7 | 7.1 |

RM-M

Technical Characteristics

| | solder male contact  | solder female contact  | Insulator | Contact No. | ØA(MM) | Contact type | | | Test voltage(contact -shell)k/v AC-rms | Test voltage(contact -contact)k/v AC-rms | Rated current /A |
|----|--|--|-----------|-------------|--------|----------------|----------------------|-----------|--|--|------------------|
| | | | | | | Solder contact | PCB straight contact | AWG (Max) | | | |
| MM |  |  | 303 | 3 | 0.5 | ● | ● | 28 | 1.15 | 0.95 | 3.0 |
| |  |  | 304 | 4 | 0.5 | ● | ● | 28 | 0.95 | 0.90 | 2.0 |
| 0M |  |  | 302 | 2 | 0.9 | ● | ● | 22 | 1.45 | 1.00 | 10.0 |
| |  |  | 303 | 3 | 0.9 | ● | ● | 22 | 1.70 | 1.40 | 8.0 |
| |  |  | 304 | 4 | 0.7 | ● | ● | 22 | 1.35 | 0.90 | 7.0 |
| 1M |  |  | 305 | 5 | 0.7 | ● | ● | 22 | 1.25 | 1.00 | 6.5 |
| |  |  | 302 | 2 | 1.3 | ● | ● | 20 | 1.50 | 1.10 | 19.0 |
| |  |  | 303 | 3 | 1.3 | ● | ● | 20 | 1.05 | 0.95 | 15.5 |
| |  |  | 305 | 5 | 0.9 | ● | ● | 22 | 1.30 | 1.30 | 9.0 |
| |  |  | 307 | 7 | 0.7 | ● | ● | 22 | 1.45 | 1.20 | 7.0 |
| |  |  | 308 | 8 | 0.7 | ● | ● | 22 | 1.30 | 1.10 | 5.0 |

- First choice alternative
- Special order alternative

RM-M

Technical Characteristics

| | | solder male contact | solder female contact | Insulator | Contact No. | ØA(MM) | Contact type | | | Test voltage(contact -shell)k/v AC-rms | Test voltage(contact -contact)k/v AC-rms | Rated current /A |
|----|--|---------------------|-----------------------|-----------|-------------|--------|----------------|----------------------|----------|--|--|------------------|
| | | | | | | | Solder contact | PCB straight contact | AWG(Max) | | | |
| 2M | | | 304 | 4 | 1.3 | ● | ● | 20 | 1.55 | 1.35 | 15.5 | |
| | | | 308 | 8 | 0.9 | ● | ● | 22 | 1.95 | 1.10 | 10.0 | |
| | | | 310 | 10 | 0.9 | ● | ● | 22 | 1.80 | 1.20 | 8.0 | |
| | | | 312 | 12 | 0.7 | ● | ● | 22 | 1.65 | 1.15 | 7.0 | |
| | | | 319 | 19 | 0.7 | ● | ● | 22 | 1.20 | 1.00 | 4.0 | |
| 3M | | | 322 | 22 | 0.7 | ● | ● | 22 | 1.25 | 1.15 | 4.0 | |
| | | | 330 | 30 | 0.7 | ● | ● | 22 | 1.10 | 1.00 | 3.5 | |

- First choice alternative
- Special order alternative

RM-M