



STINGRAY

Magnetic Connectors



STINGRAY

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The Stingray 7 product series is optimised for body-worn applications.

Stingray 7 series offers compact, low profile, metal shelled connectors that withstand exposure to moisture, dust, dirt and chemicals typically encountered by First Responders, Security and Military personnel.

Designed to meet the requirements of DEF-STAN 23-012, the magnetic, non-keyed coupling system has no moving parts and allows the connector to be easily mated without the need for pre-alignment and eliminates the need to operate any mechanical coupling mechanisms.

The magnetic technology allows the connector to quickly disconnect making it ideal for connection between non-tethered equipment, such as helmet to torso, and therefore protects users from potential injury due to cable snagging. MOLLE and wall mount modular accessories allow for mounting of either gender to MOLLE loops or equipment.



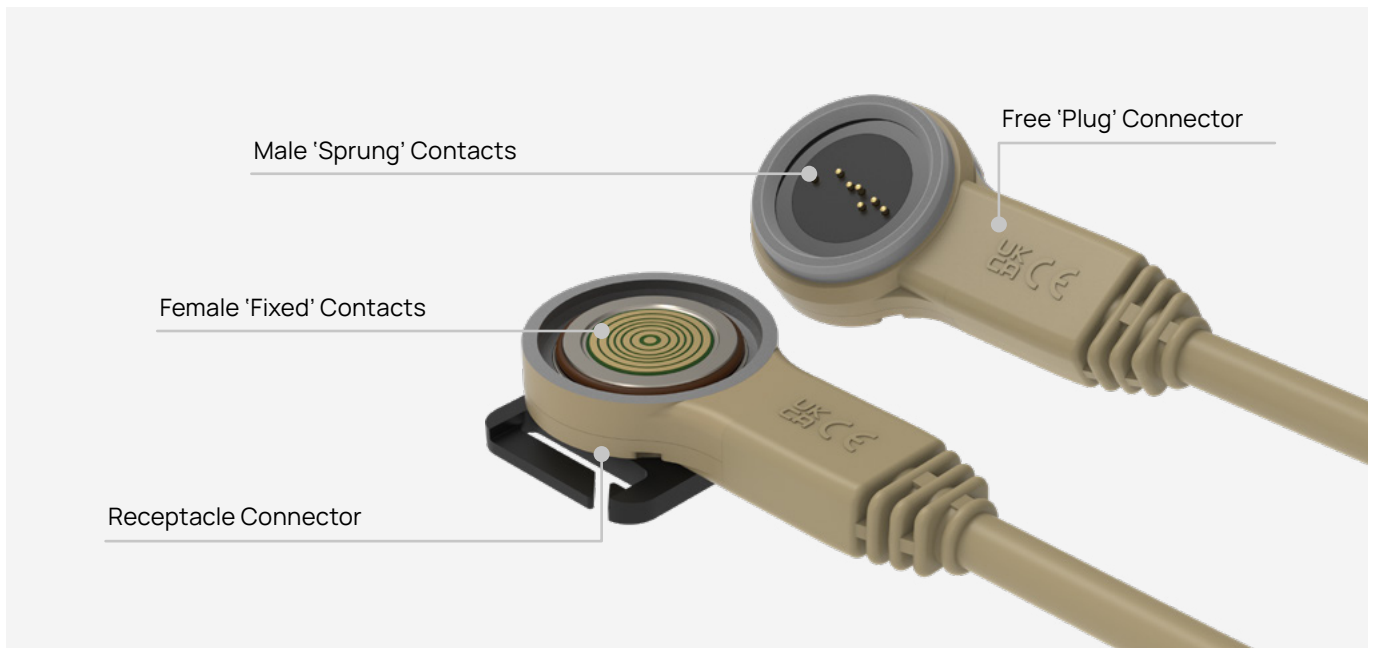
Contents

| | |
|-----------------------------------|---------|
| Features and Benefits | 04 |
| Part Numbering | 06 |
| Performance Data | 07 |
| Cable Mount Connectors | 08 - 13 |
| Panel Mount Connectors | 14 - 17 |
| Termination Details | 18 |
| Accessories - Stowage Receptacles | 19 |
| Accessories - Protective Caps | 20 - 21 |
| Cable Assemblies | 22 - 23 |
| Assembly Instructions | 24 |
| Sales Contacts | 25 |



Features and Benefits

| Features | Benefits |
|--|--|
| Quick disconnect in all angles of separation | Ideal for non-tethered equipment and protects users and equipment from damage due to cable snagging |
| Non-keyed, magnetic 'blind' mating | Does not require pre-alignment when mating, the cable exit angle is infinitely variable and can be set and adjusted by the user |
| Metal housings with low-impedance shell to shell conductivity | 360° EMI Shielding |
| 5A current rating on power contacts | High power performance for battery charging |
| Modular mounting system including MOLLE loop attachment option | The Mounting System can be changed by the user and the MOLLE loop mounting plate is optimised for mounting on vests and load bearing harnesses |
| 10,000+ mating cycles | Increased connector life before replacement |
| Either connector gender can be mounted | Provides design flexibility and allows two signals to be co-located |
| IP68 sealing mated and unmated | High degree of sealing prevents ingress of dust and moisture |
| First-mate, last-break contact | Allows hot-swapping of equipment and signals (i.e. interface is passive until the connector is fully mated) |
| Low profile with the cable exit within the height of the connector | Cable runs parallel to the body eliminating loops and preventing snagging |
| 90Ω USB 2.0 Pair | 'Plug & Play' USB performance |
| Optional termination method | Available with solder or IDC termination |
| Low-profile interface with sprung contacts | Less wear and easy to clean |

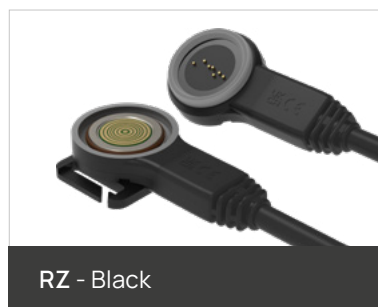
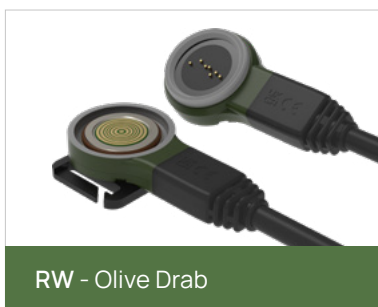


Mounting Options

Both Male and Female connectors can be supplied as mounted receptacle or Free Plug and Stingray 7 features a modular mounting system to enable users to fit either MOLLE or Wall Mount plates.



Colour Options



Part Numbering

Connectors

| | Series | Gender | Wiring Protocol | Shell Style | Finish* | Shell Size | No. of Contacts |
|---------------|--------|---|--|---|--|------------|-----------------|
| Cable Mount | WM | X | XXX- | XX | RX | 2 | 7 |
| | WM | M - Male (Sprung contact) F - Female (Fixed PCB) | 000 - Solder 001 - IDC with 28 awg USB 002 - IDC with 26 awg USB | 00 - Wall mount 01 - Supplied without mounting feature 04 - MOLLE loop mount 06 - Free connector | RZ - Black RW - Olive-drab RD - Sand | 2 | 7 |
| Panel Mount** | WM | X | 004- | XX | RZ | 2 | 7 |
| | WM | M - Male (Sprung contact) F - Female (Fixed PCB) | 004 - PC Tails | 00 - Wall mount 07 - Jam-nut mount PCB | RZ - Black | 2 | 7 |

*Cable mount types are cast aluminium and coated with epoxy.

**Panel mount types are black silver plated machined aluminium and available only in black colour.

Protective Caps

| Series | Gender | Style | Finish | Shell Size | Attachment | Eyelet |
|--------|--|-------|--|------------|---|--|
| WM | X | -PC | -RX | -2 | -X | -X |
| WM | F - Cap for male M - Cap for female | PC | RZ - Black RW - Olive-drab RD - Sand | 2 | 0 - None supplied 1 - Terylene cord 2 - Wire rope | 0 - None supplied 1 - Small 2 - Large 3 - Crimp ferrule |

Stowage Receptacles

| Series | Gender | Style | Finish | Shell Size |
|--------|--|---------------------------------|--|------------|
| WM | X | -SRX | -RX | -2 |
| WM | F - Stowage for male M - Stowage for female | SR0 - Wall Mount SR4 - MOLLE | RZ - Black RW - Olive-drab RD - Sand | 2 |

Performance Data

Electrical

| | |
|---------------------------|-----------------------------|
| Current Rating | 5A per contact (5 contacts) |
| Voltage Rating | 8 - 36V |
| Data Protocol | USB 2.0 |
| Contact Resistance | < 20mΩ |
| Shell to Shell Continuity | < 20mΩ |
| Insulation Resistance | 100MΩ @ 100VDC |
| DWV | 200VDC |

Mechanical

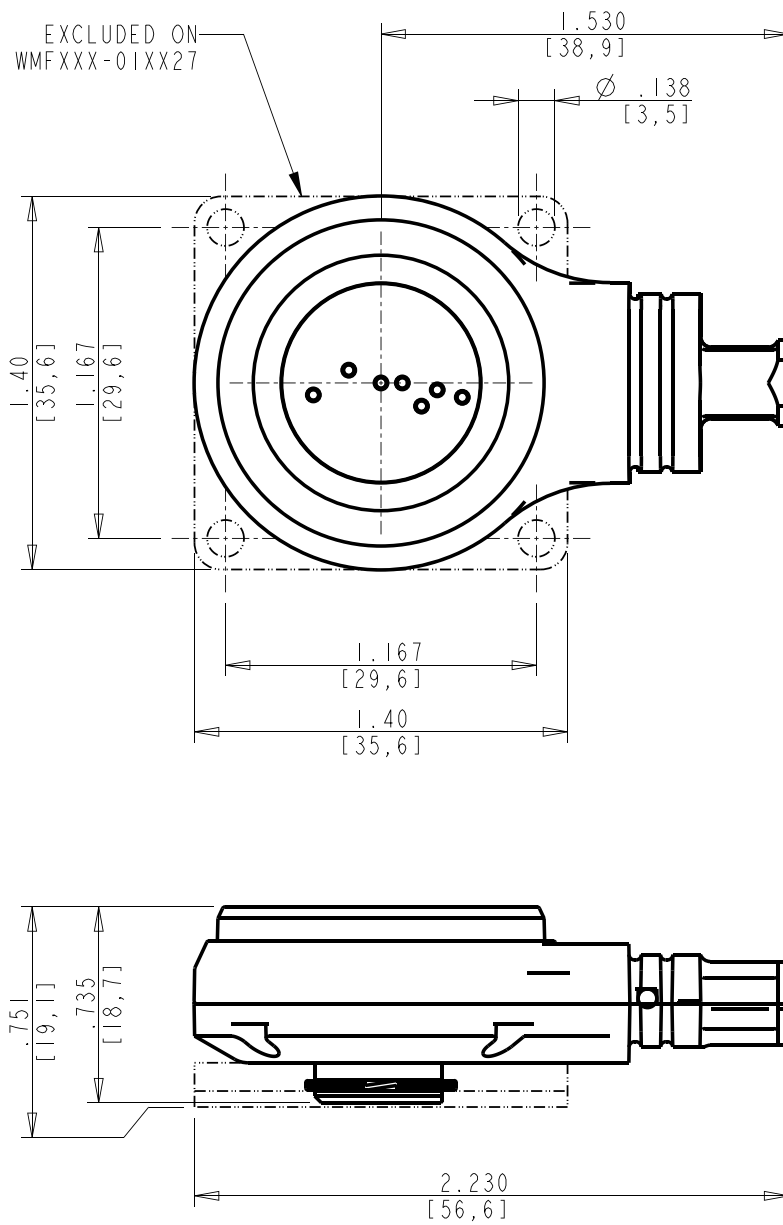
| | |
|-------------------------|---|
| Mating Durability | >10,000 |
| Vibration | General Vibration, Method 514.6 Annex E of MIL-STD-810G, Procedure I, Figure 514.6E-1 |
| Shock | Procedure I of Method 516.6, Procedure I of MIL-STD-810G, 40g, 11ms |
| Separation Force, Axial | 43 N |
| Separation Force, Peel | 7 N |

Environmental

| | |
|----------------------|------------------|
| Sealing | IP68, 2 hr at 2m |
| Operating Temp | -55°C/+85°C |
| Storage Temp | -55°C/+125°C |
| RoHS/REACH Compliant | Yes |

Wall Mount Male

WMMXXX-00RX27

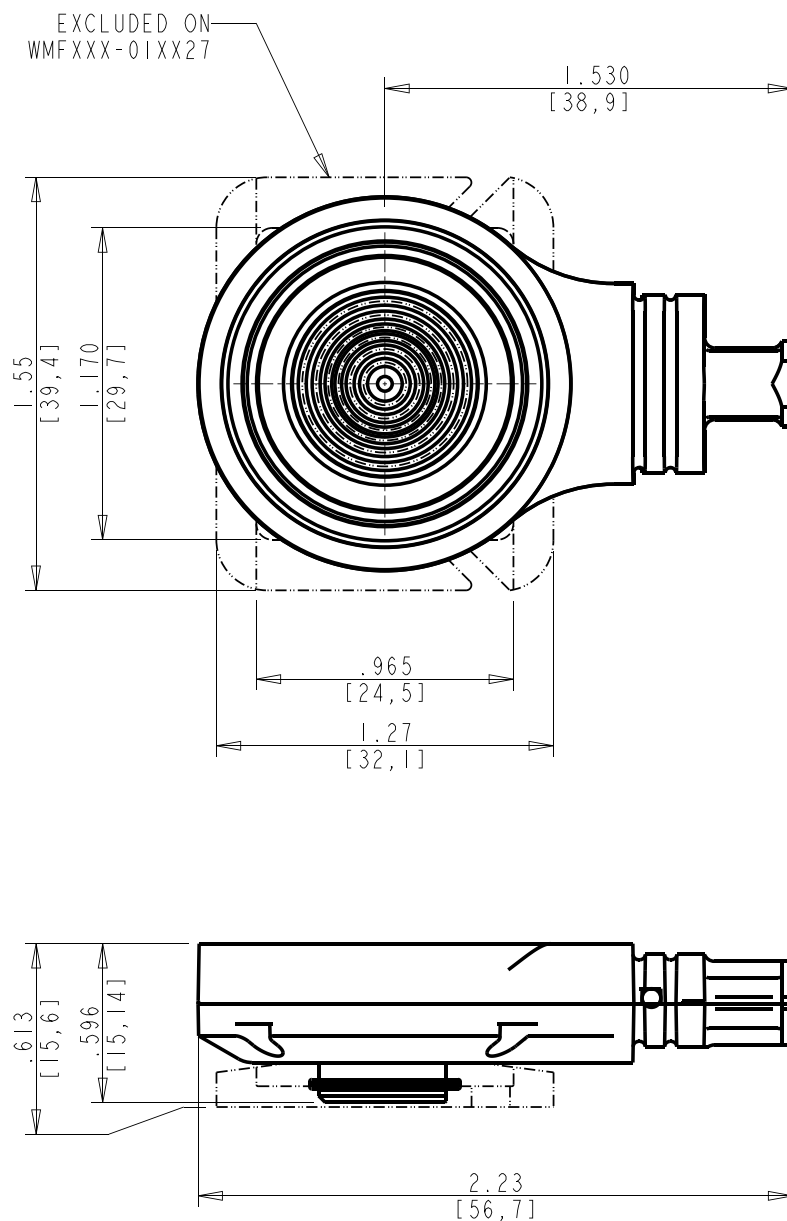


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Cable Mount Connectors

MOLLE Loop Female

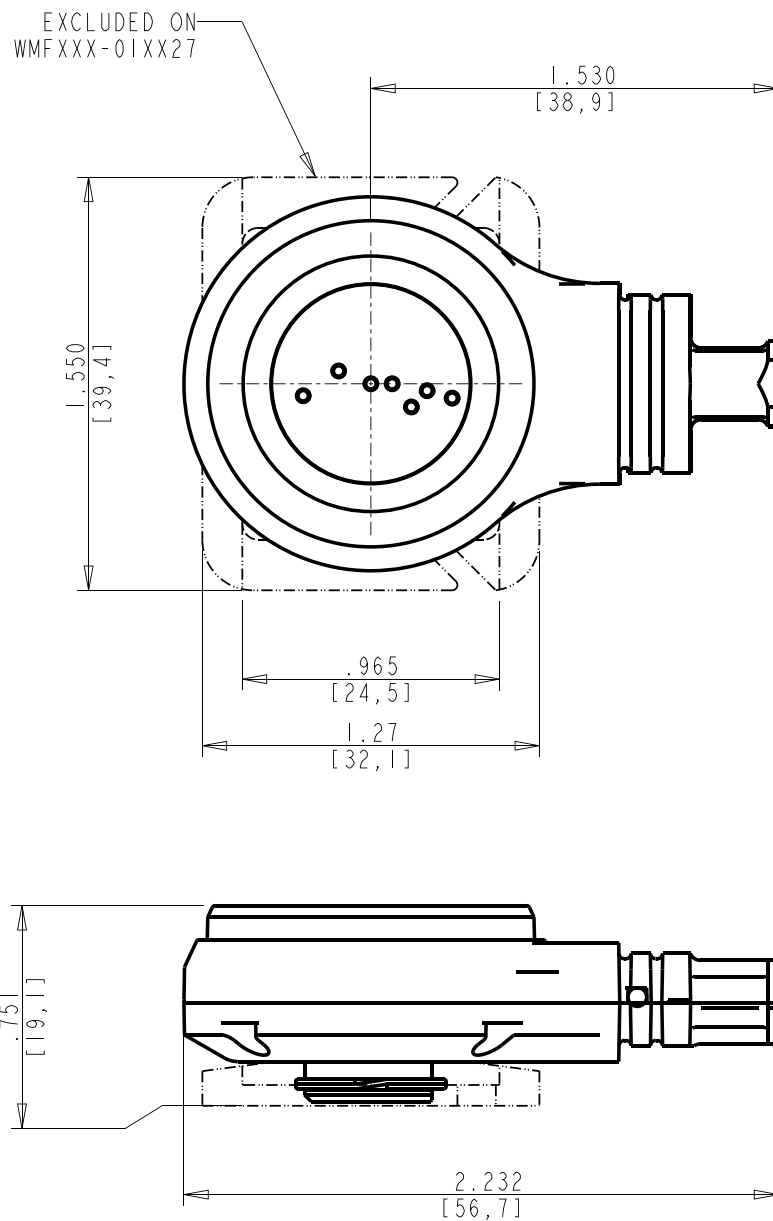
WMFXXX-04RX27



All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

MOLLE Loop Male

WMMXXX-04RX27

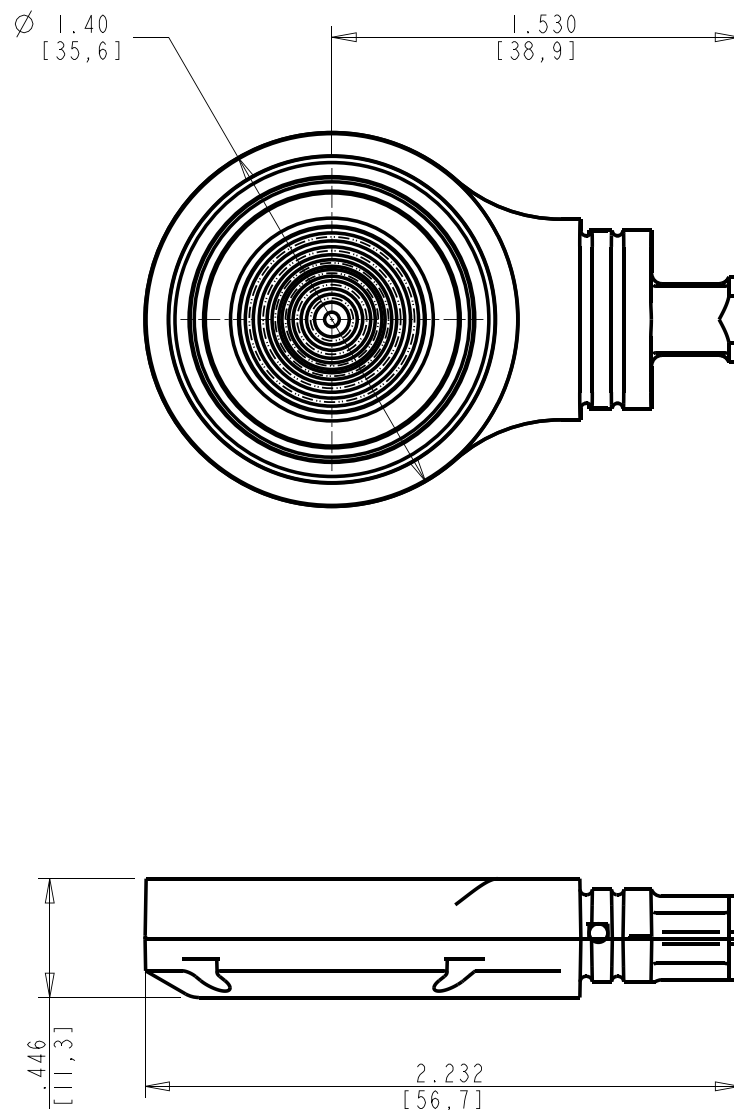


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Cable Mount Connectors

Free Female

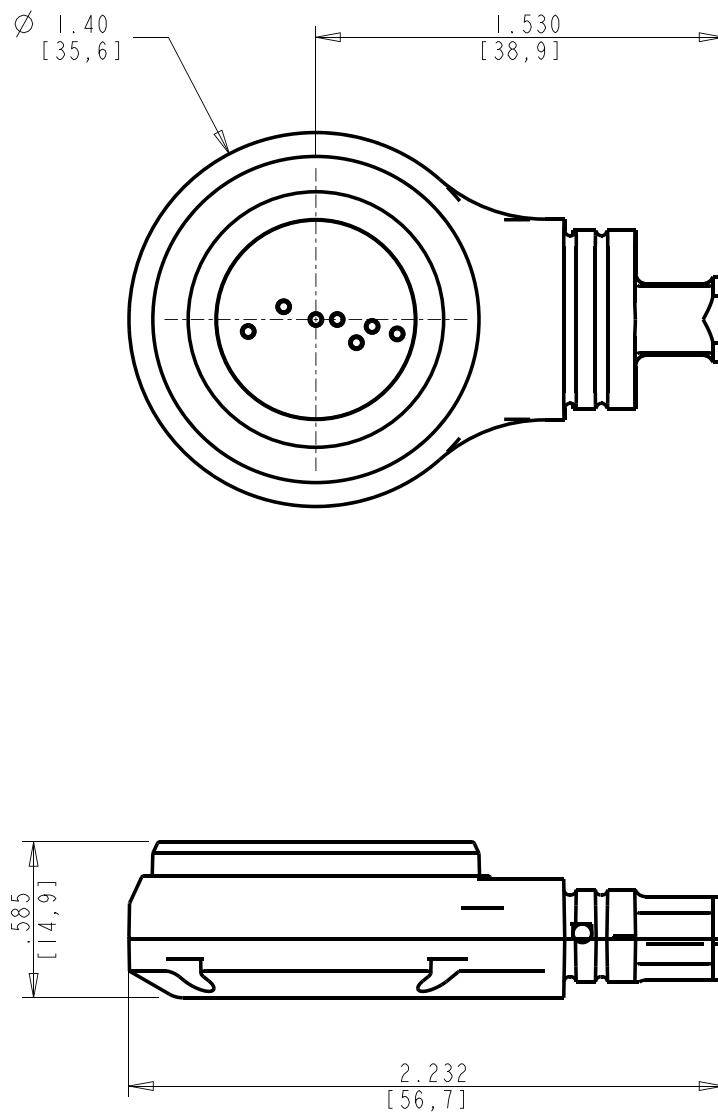
WMFXXX-06RX27



All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Free Male

WMMXXX-06RX27

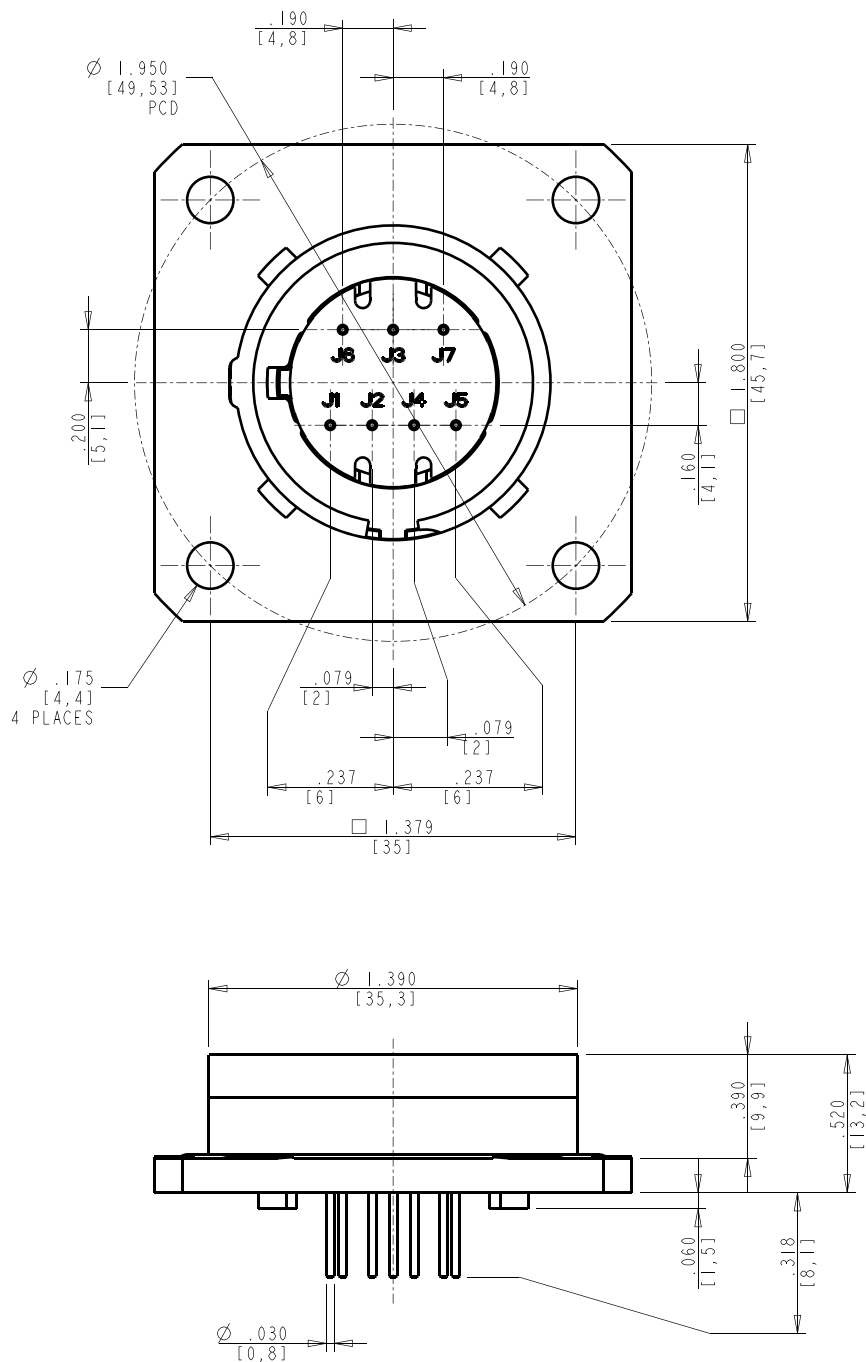


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Panel Mount Connectors

Wall Mount Female

WMF004-00RZ27

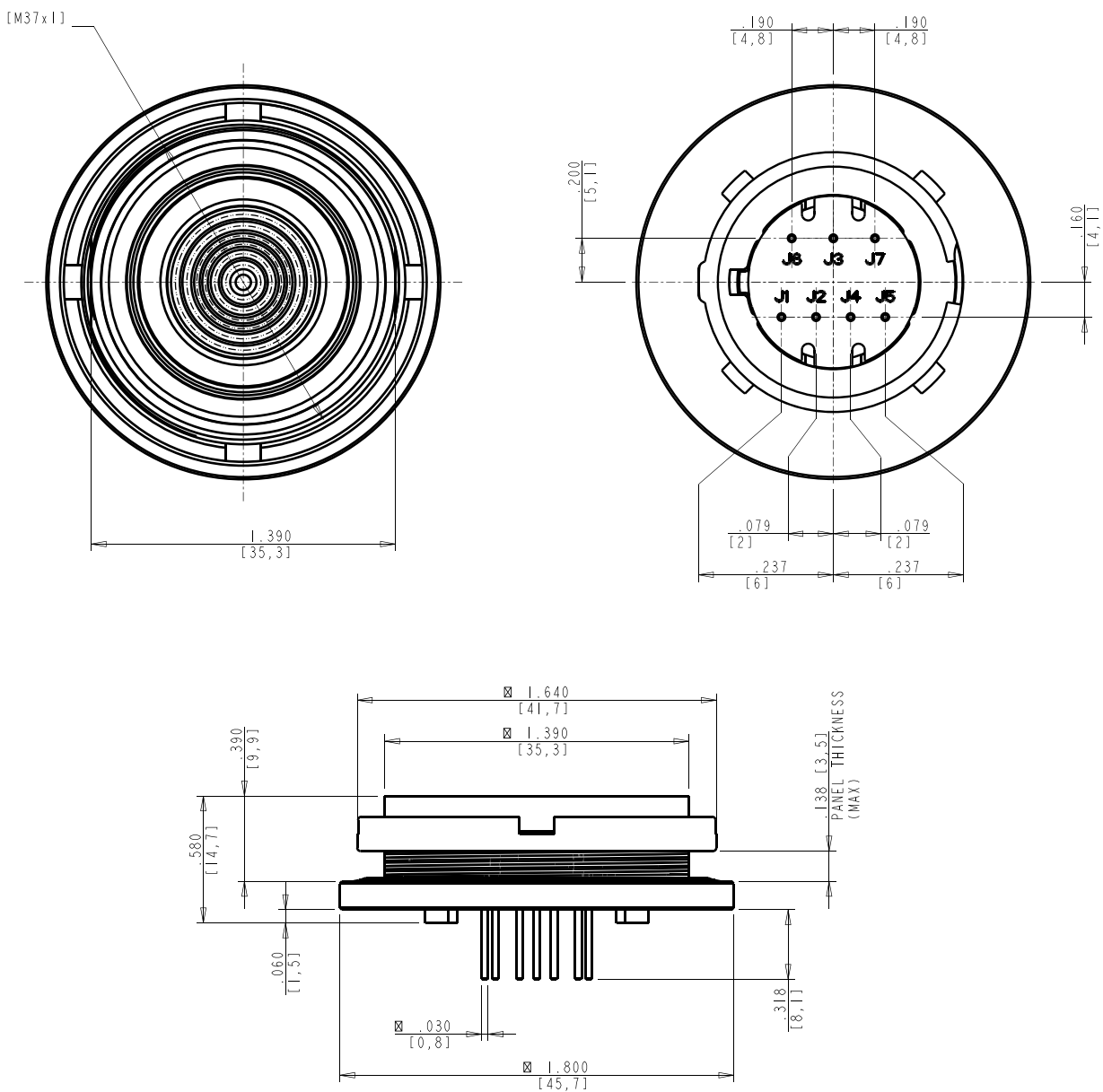


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Panel Mount Connectors

Jam Nut Female

WMF004-07RZ27

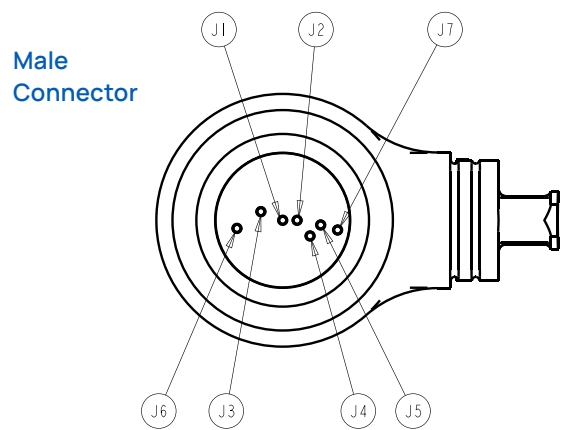
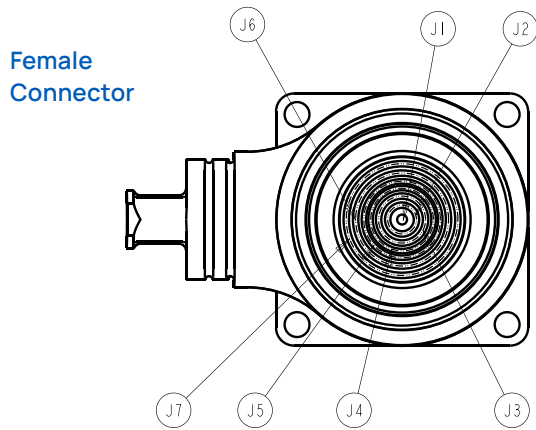


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Termination Details

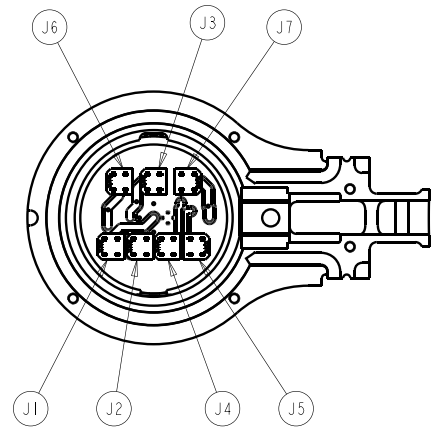
Contact Positions

(Front face of connector shown)



Terminal Positions

(Common to both male and female connectors)



| Contact Terminal | J1 | J2 | J3 | J4 | J5 | J6 | J7 |
|----------------------|--------------------|----|------------------------|----|-----------------|----|----|
| Signal Type | 5A Power/Signal | | Data USB 2.0 or Signal | | 5A Power/Signal | | |
| Insulation Diameter | 0.055" / 1.4mm MAX | | | | | | |
| Conductor Size - 001 | 22 AWG | | 28 AWG | | 22 AWG | | |
| Conductor Size - 002 | | | 26 AWG | | | | |

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

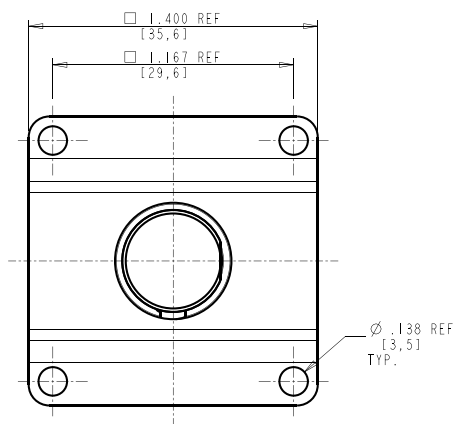
Accessories

Stowage Receptacles

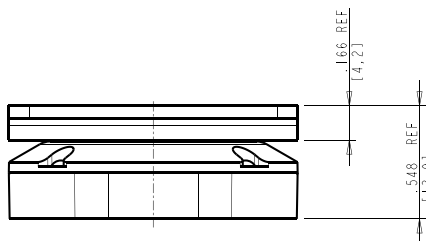
Wall Mount



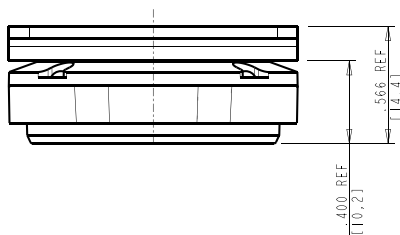
Wall Mount
WMX-SRO-X-X-2



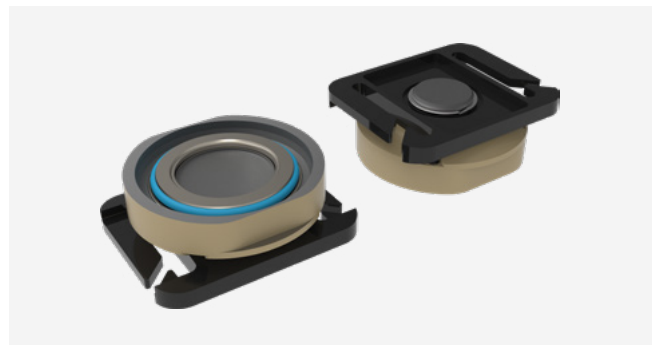
Female
WMF-SRO-X-X-2



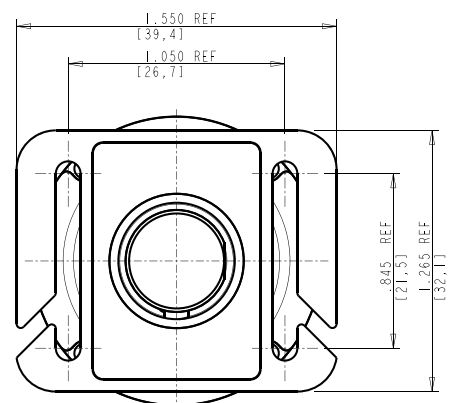
Male
WMM-SRO-X-X-2



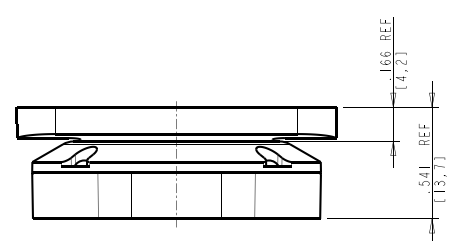
MOLLE Mount



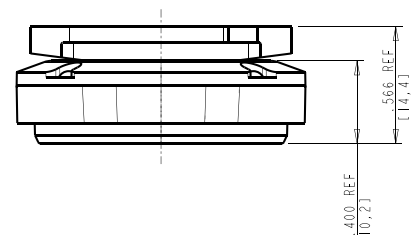
MOLLE Mount
WMX-SR4-X-X-2



Female
WMF-SR4-X-X-2



Male
WMM-SR4-X-X-2



All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

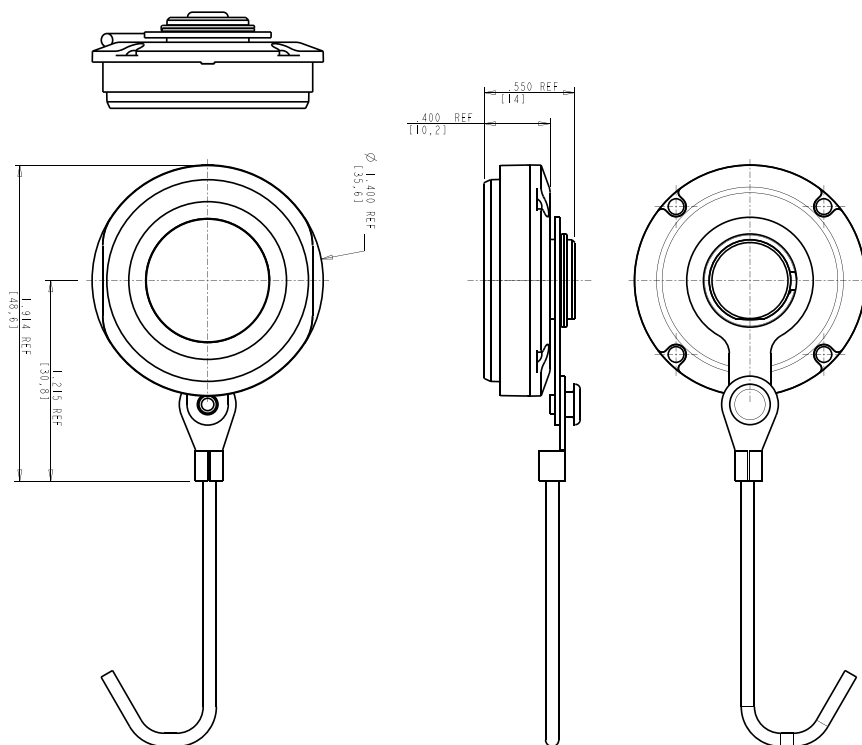
Accessories

Protective Caps



Male

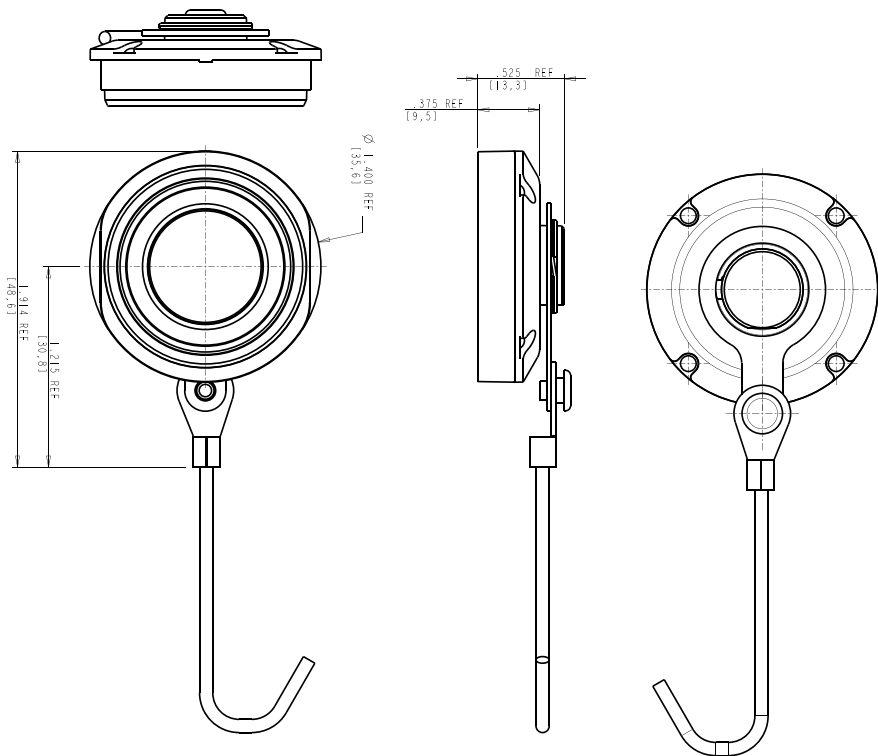
WMM-PC-RX-2-X-X



All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Female

WMF-PC-RX-2-X-X



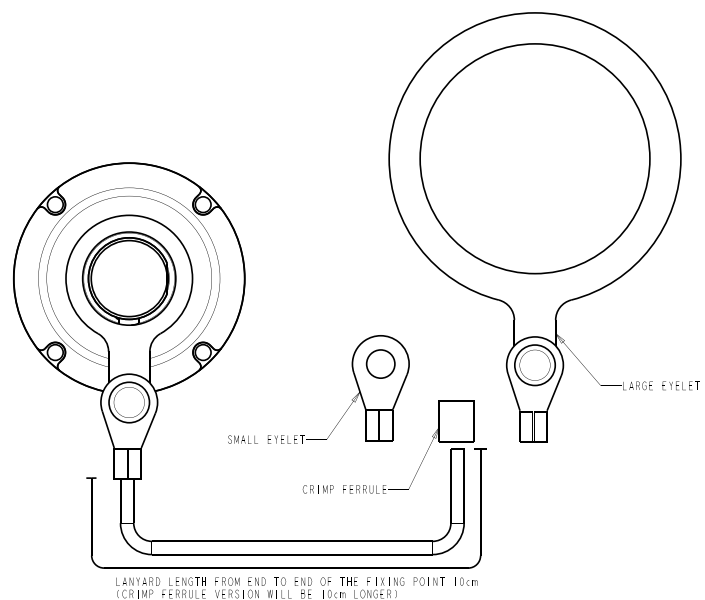
Eyelet Types

Small Eyelet

Suitable for M3 screws for use on WMXXXX-00RX27 and WMXXXX-02RX27.

Large Eyelet

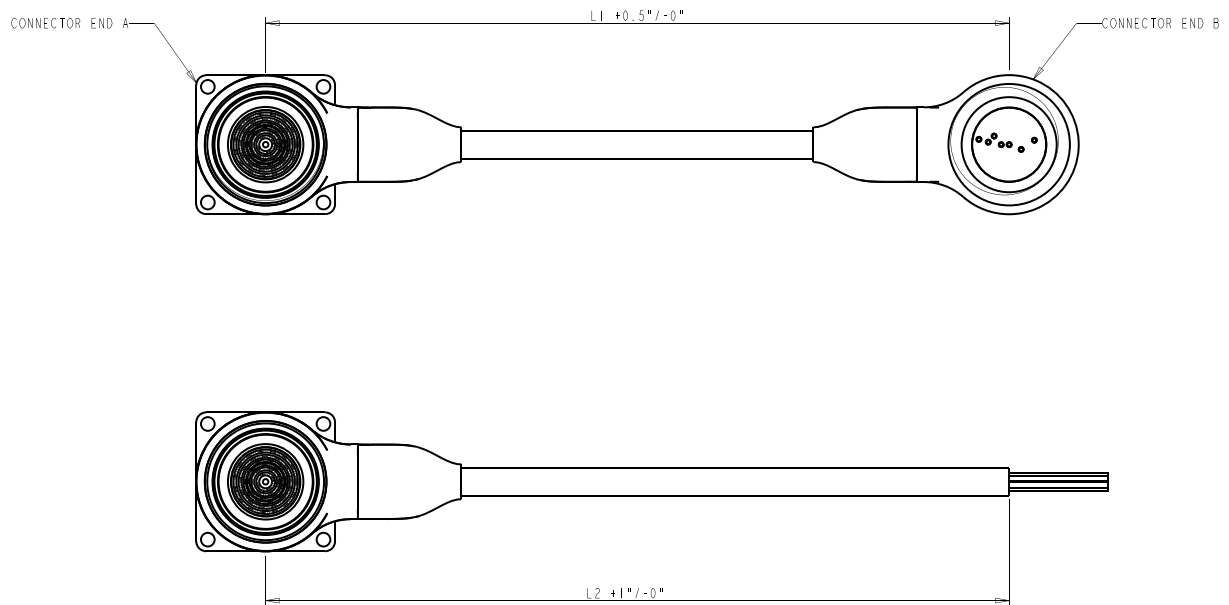
For use with WMXXXX-07RX27.



All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Cable Assemblies

Stingray are also available as overmoulded cable assemblies.



Part Numbering

Example: CAWMA01B04000-020

| Series | Connector End A | Connector End B | Wiring Protocol | Length (Inches) |
|--------|------------------------------------|------------------------------------|--|--|
| CAWM | AXX | BXX | XXX | -XXX |
| CAWM | From Connector End A table (right) | From Connector End B table (right) | 000 - Solder termination 001 - IDC terminals with 28 awg USB 002 - IDC terminals with 26 awg USB | Cable length between connector centres e.g. 002 = 2 inches 200 = 200 inches 1 inch = 25.4mm |

All dimensions are in inches and are for reference only. Figure enlarged scale.

| Olive Drab | Black | Desert Sand |
|---------------------|---------------------|---------------------|
| Connector End A | | |
| A01 - WMFXXX-00RW27 | A11 - WMFXXX-00RZ27 | A21 - WMFXXX-00RD27 |
| A02 - WMFXXX-04RW27 | A12 - WMFXXX-04RZ27 | A22 - WMFXXX-04RD27 |
| A03 - WMFXXX-06RW27 | A13 - WMFXXX-06RZ27 | A23 - WMFXXX-06RD27 |
| A04 - WMFXXX-01RW27 | A14 - WMFXXX-01RZ27 | A24 - WMFXXX-01RD27 |
| A05 - WMMXXX-00RW27 | A15 - WMMXXX-00RZ27 | A25 - WMMXXX-00RD27 |
| A06 - WMMXXX-04RW27 | A16 - WMMXXX-04RZ27 | A26 - WMMXXX-04RD27 |
| A07 - WMMXXX-06RW27 | A17 - WMMXXX-06RZ27 | A27 - WMMXXX-06RD27 |
| A08 - WMMXXX-01RW27 | A18 - WMMXXX-01RZ27 | A28 - WMMXXX-01RD27 |
| Connector End B | | |
| B00 - Unterminated | B00 - Unterminated | B00 - Unterminated |
| B01 - WMFXXX-00RW27 | B11 - WMFXXX-00RZ27 | B21 - WMFXXX-00RD27 |
| B02 - WMFXXX-04RW27 | B12 - WMFXXX-04RZ27 | B22 - WMFXXX-04RD27 |
| B03 - WMFXXX-06RW27 | B13 - WMFXXX-06RZ27 | B23 - WMFXXX-06RD27 |
| B04 - WMFXXX-01RW27 | B14 - WMMXXX-01RZ27 | B24 - WMFXXX-01RD27 |
| B05 - WMMXXX-00RW27 | B15 - WMMXXX-00RZ27 | B25 - WMMXXX-00RD27 |
| B06 - WMMXXX-04RW27 | B16 - WMMXXX-04RZ27 | B26 - WMMXXX-04RD27 |
| B07 - WMMXXX-06RW27 | B17 - WMMXXX-06RZ27 | B27 - WMMXXX-06RD27 |
| B08 - WMMXXX-01RW27 | B18 - WMMXXX-01RZ27 | B28 - WMMXXX-01RD27 |

Please note: RZ and RW connector finishes will be supplied with Black overmould and cable with a Black jacket, RD connector finishes will be supplied with Desert Sand overmould and cable with a Desert Sand jacket.



Assembly Instructions

Guide to assembly documents available on request.

The following documents are available on request or from our website to provide additional information regarding the termination and assembly of Stingray 7 connectors.

| Document title | Description |
|----------------|---|
| 123GB-0938 | Cable Termination Stingray Connectors 7-Way |
| 1GB-0077-XX | Recommended Cable 5x22awg+USB2.0 (28awg) |
| 1GB-0078-XX | Recommended Cable 5x22awg+USB2.0 (26awg) |

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STINGRAY

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MILITARY & AEROSPACE

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