



STINGRAY

Magnetic Connectors



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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.



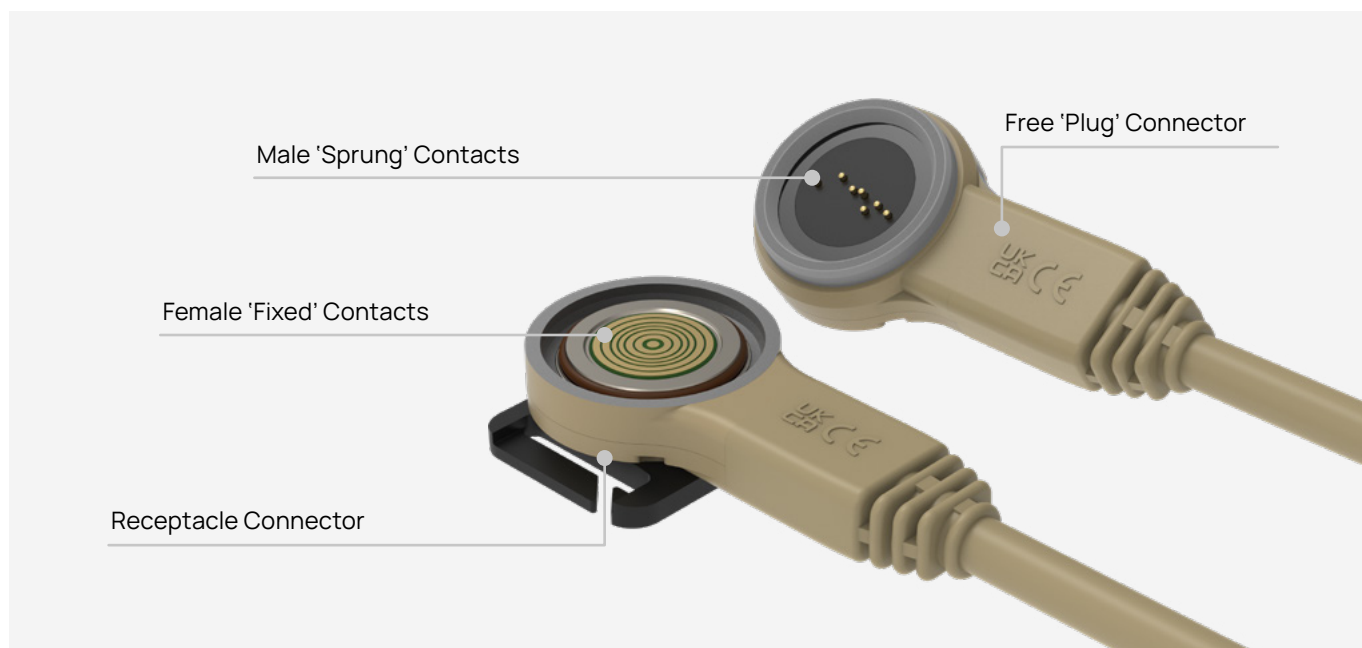
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Features and Benefits

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

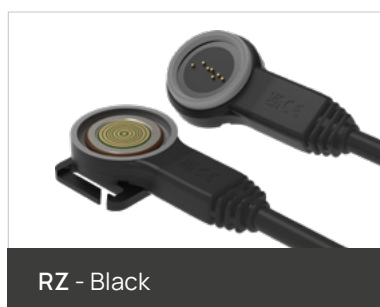
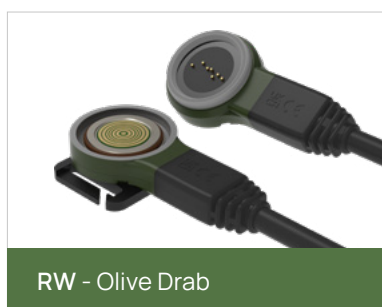


Mounting Options

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
	WM	X	004-	XX	RZ	2	7
Panel Mount**	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

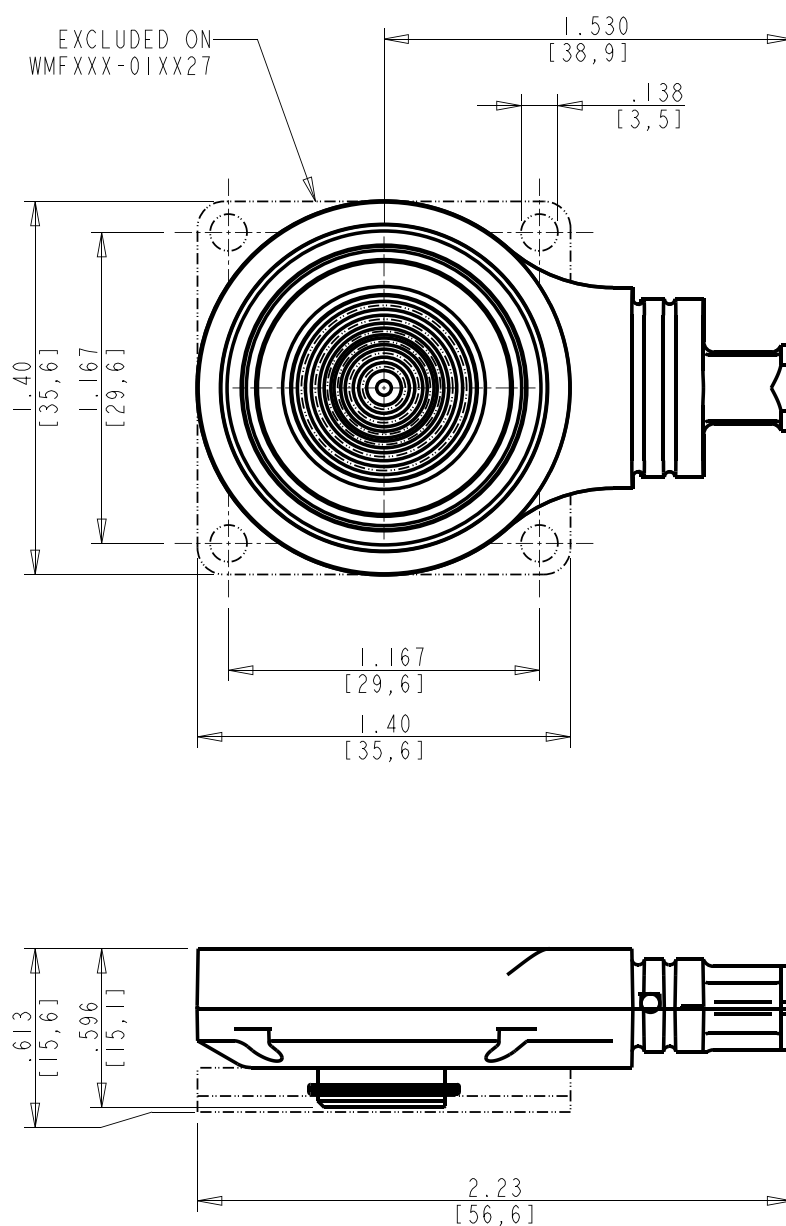
Environmental

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

Cable Mount Connectors

Wall Mount Female

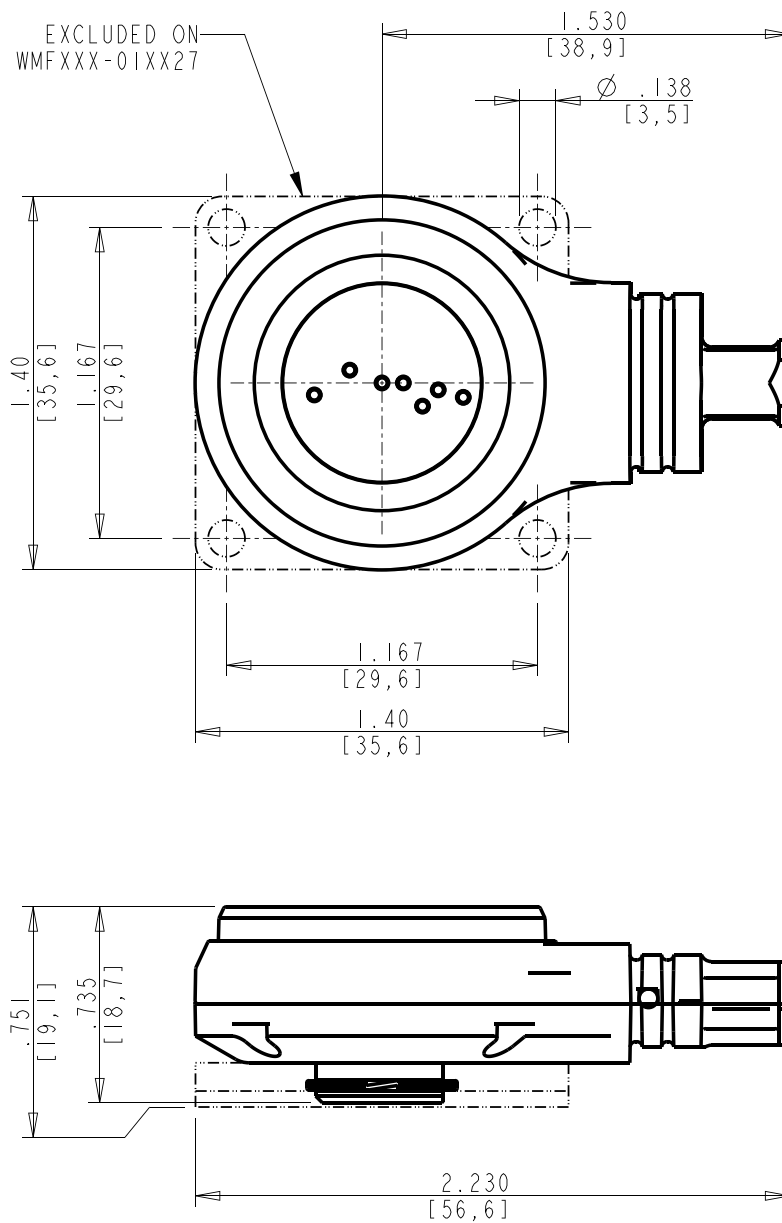
WMFXXX-00RX27



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

Wall Mount Male

WMMXXX-00RX27

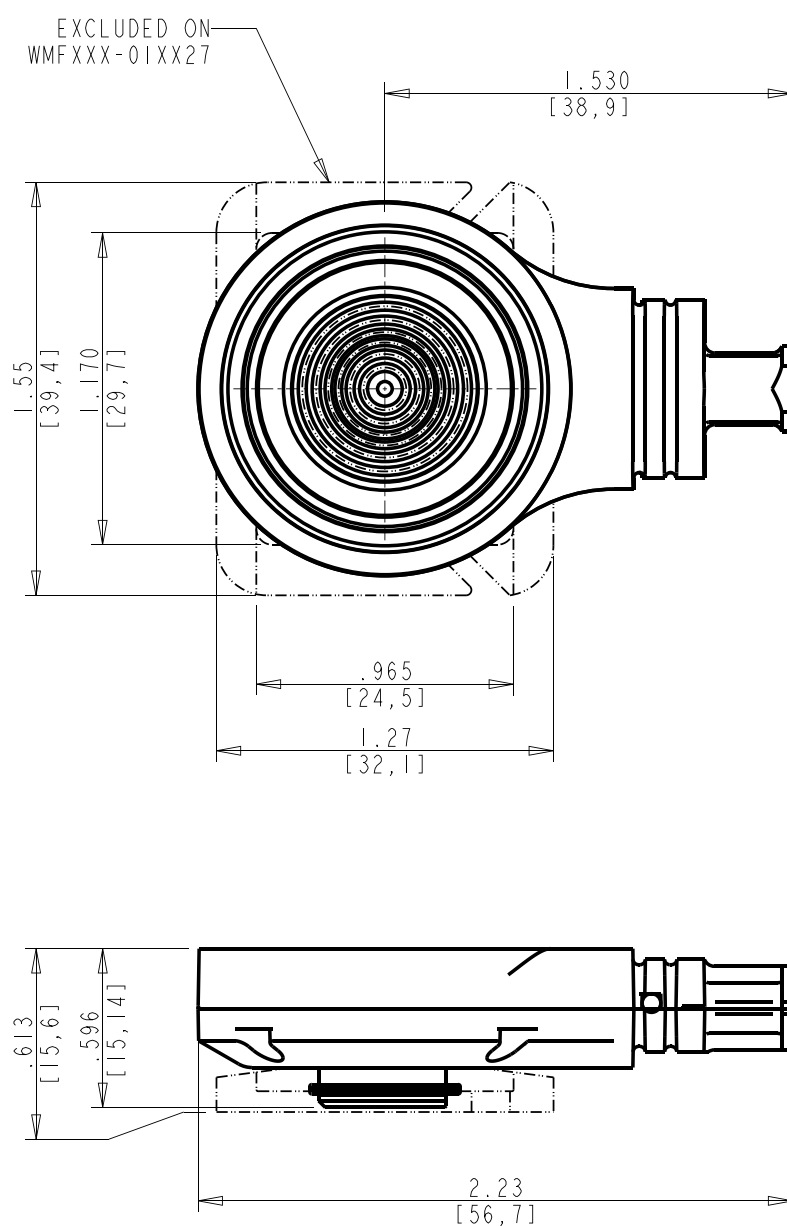


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Cable Mount Connectors

MOLLE Loop Female

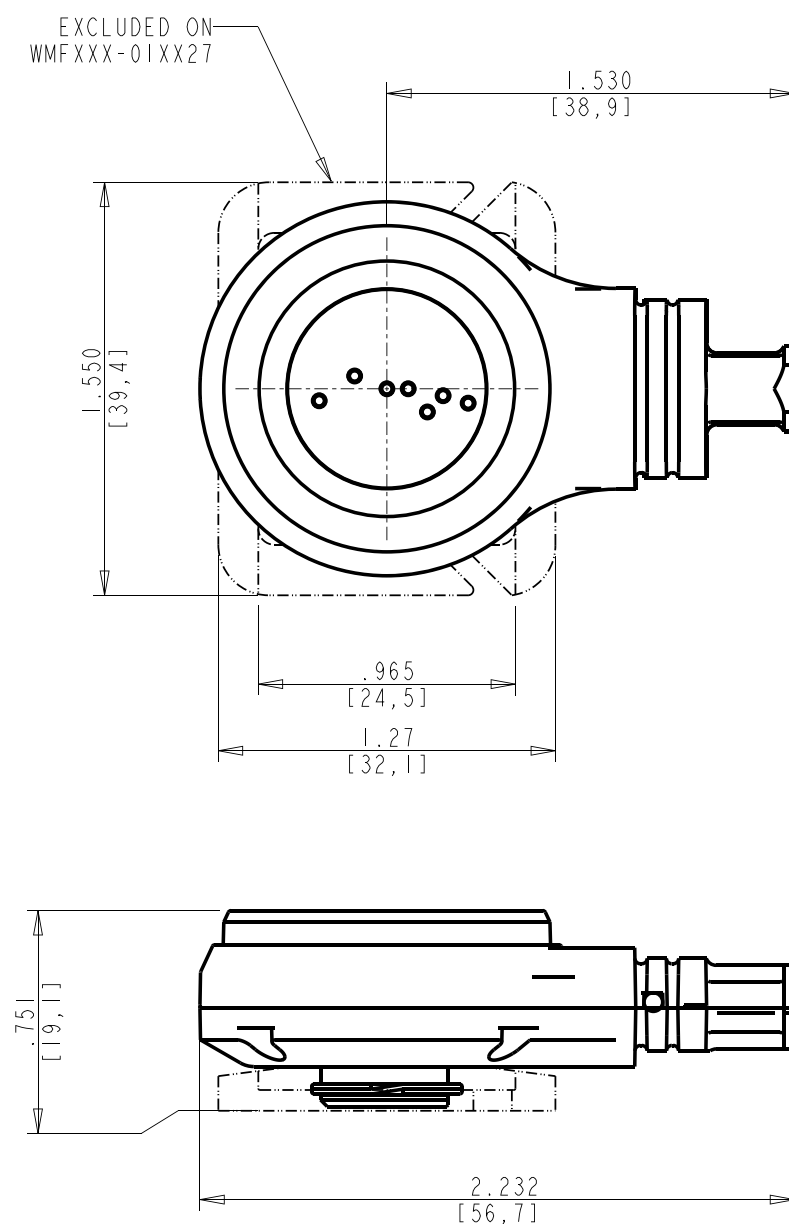
WMFXXX-04RX27



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

MOLLE Loop Male

WMMXXX-04RX27

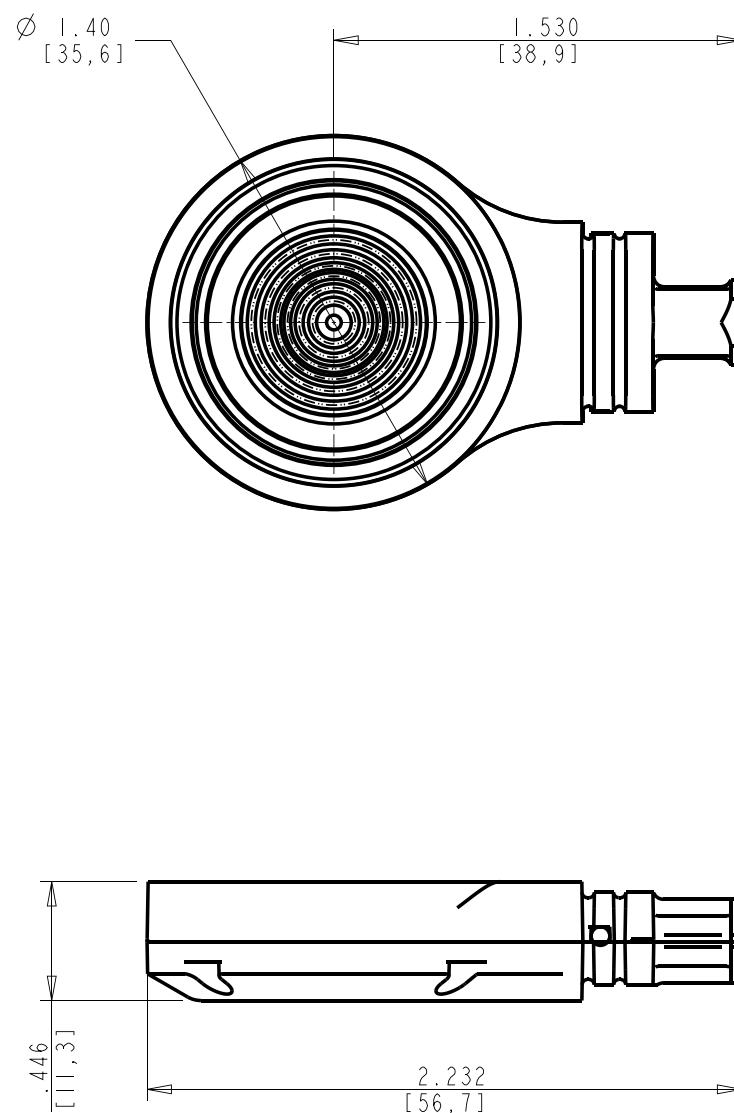


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Cable Mount Connectors

Free Female

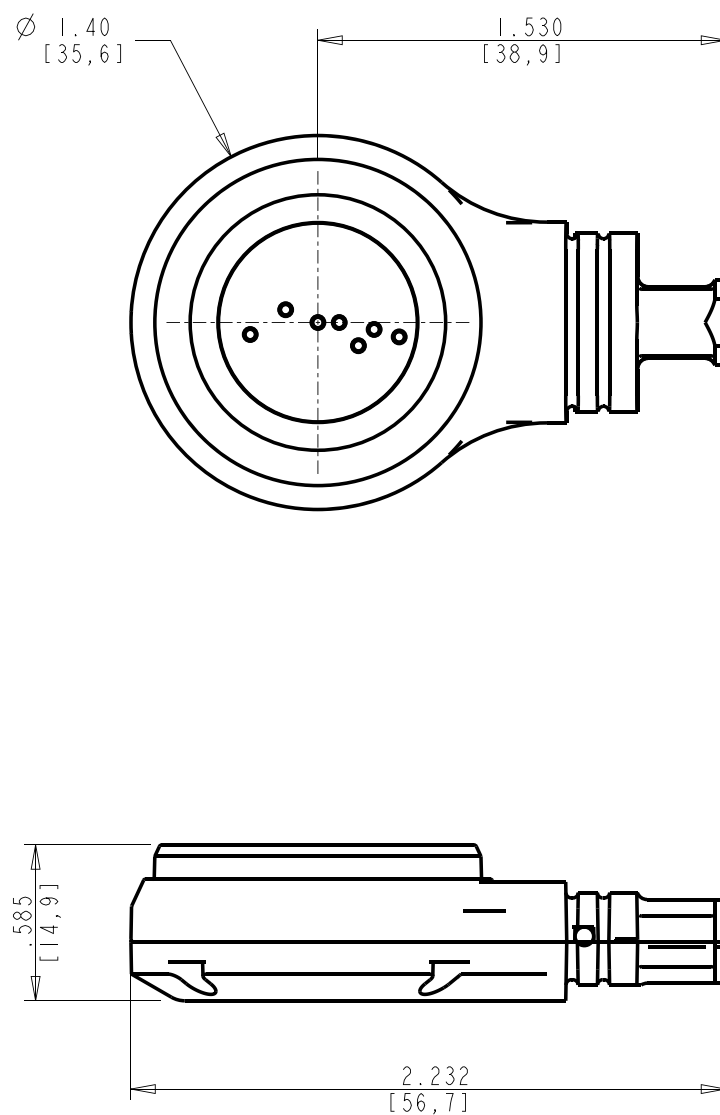
WMFXXX-06RX27



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.

Wall Mount Female

Visit amphenol.co.uk for more information | 14

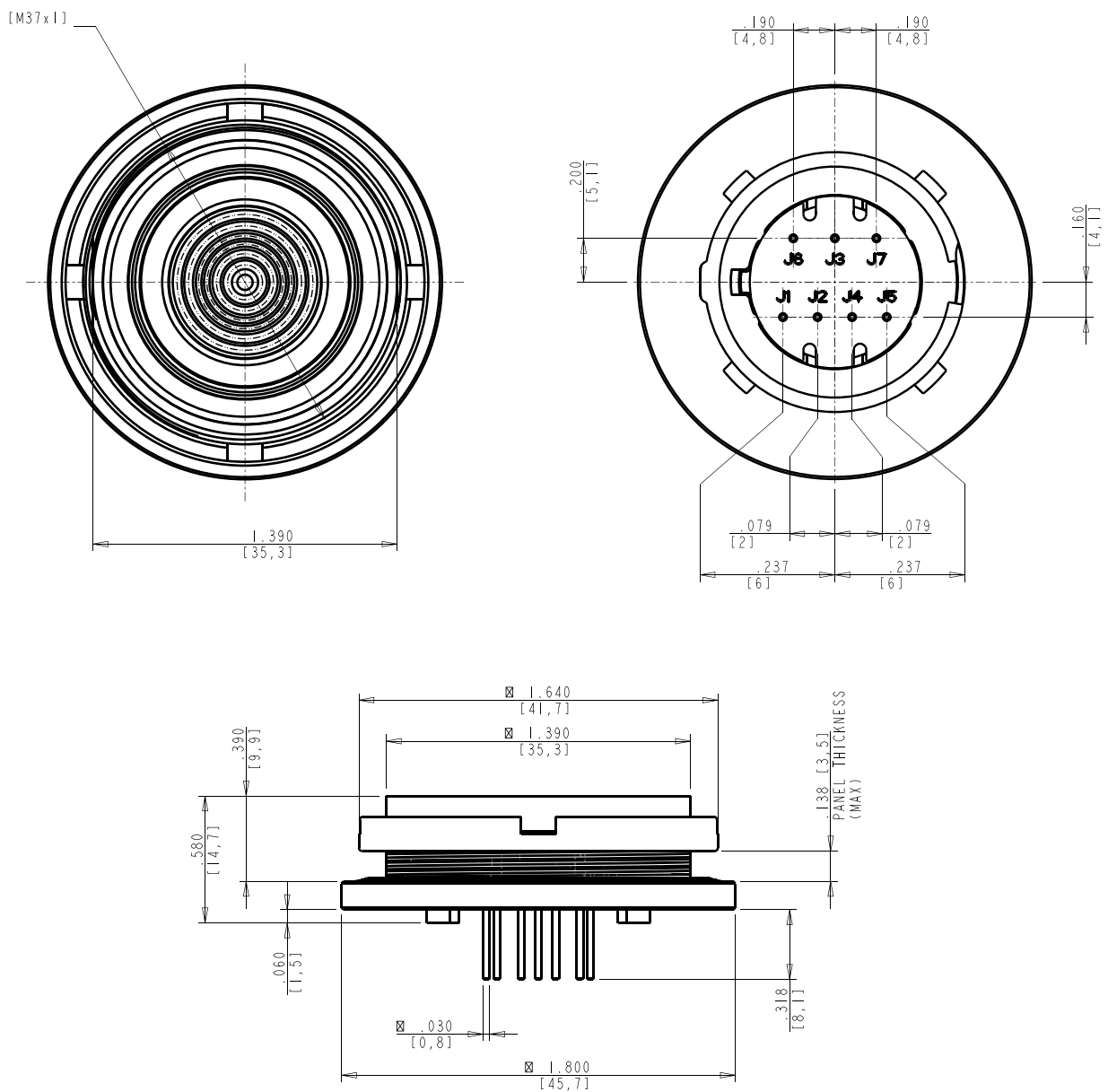
WMM004-00RZ27



Panel Mount Connectors

Jam Nut Female

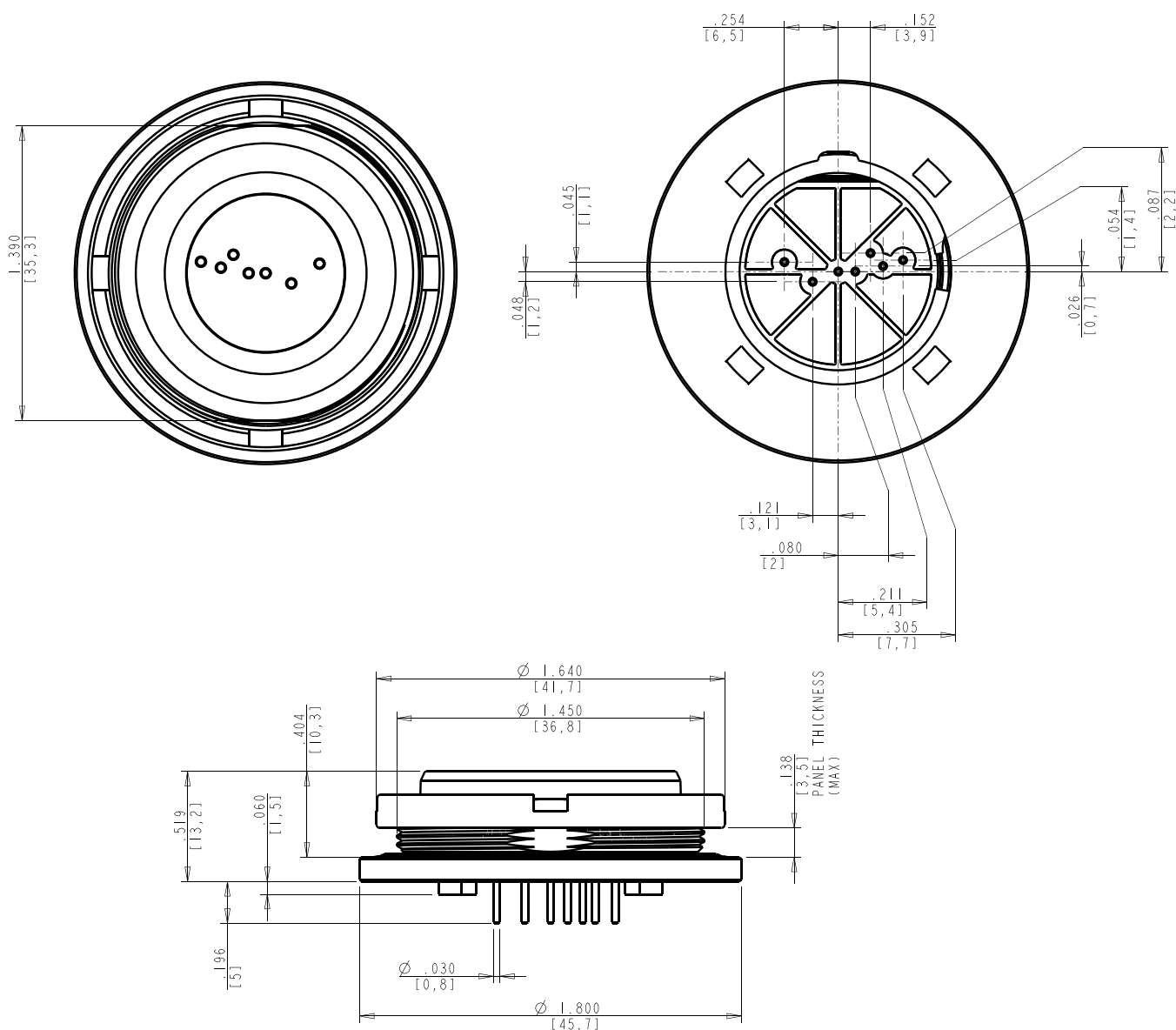
WMF004-07RZ27



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

Jam Nut Male

WMM004-07RZ27

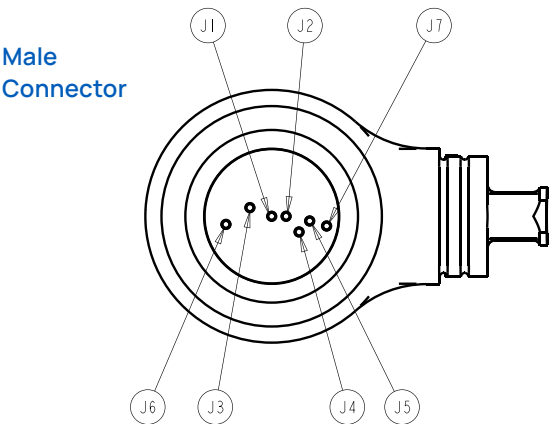
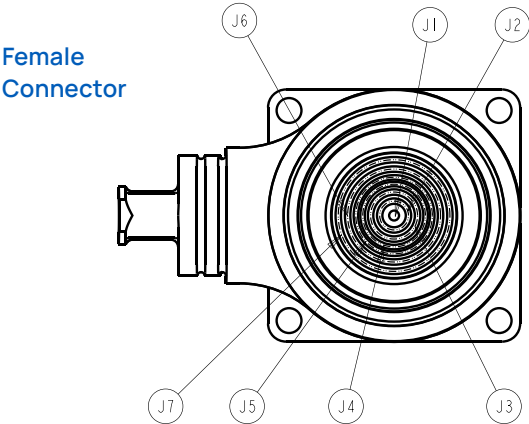


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Termination Details

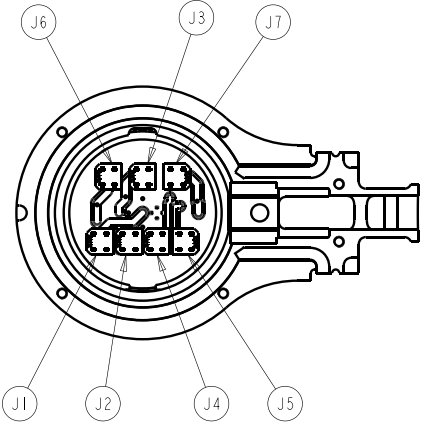
Contact Positions

(Front face of connector shown)



Terminal Positions

(Common to both male and female connectors)



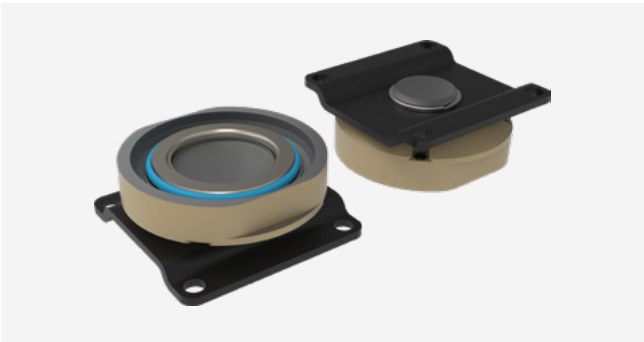
Contact Terminal	J1	J2	J3	J4	J5	J6	J7
Signal Type	5A Power/Signal			Data USB 2.0 or Signal		5A Power/Signal	
Insulation Diameter	0.055" / 1.4mm MAX						
Conductor Size - 001	22 AWG			28 AWG		22 AWG	
Conductor Size - 002				26 AWG			

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

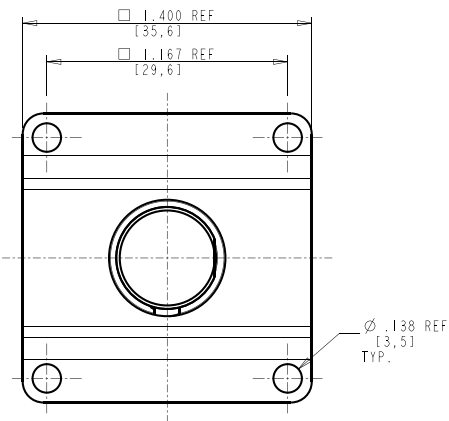
Accessories

Stowage Receptacles

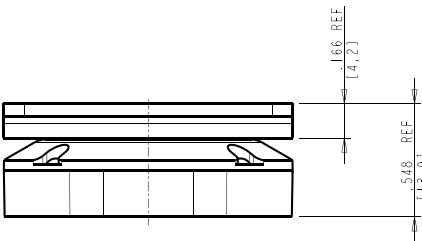
Wall Mount



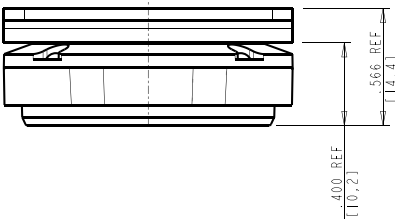
Wall Mount
WMX-SRO-X-X-2



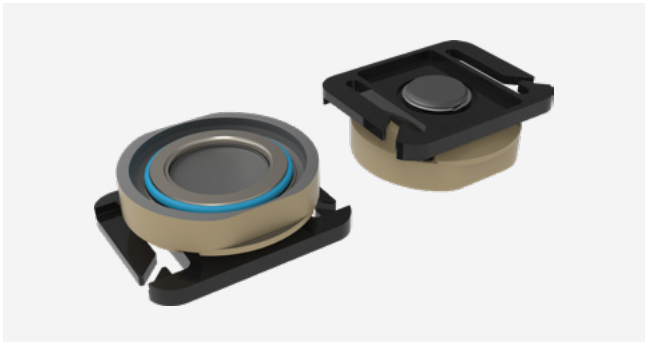
Female
WMF-SRO-X-X-2



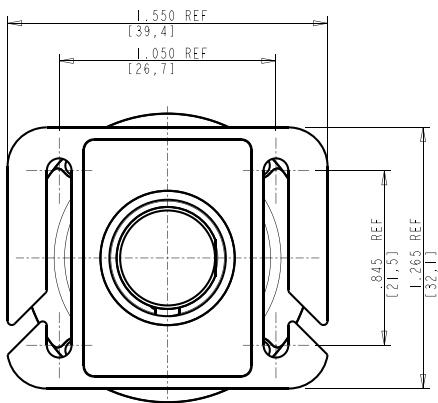
Male
WMM-SRO-X-X-2



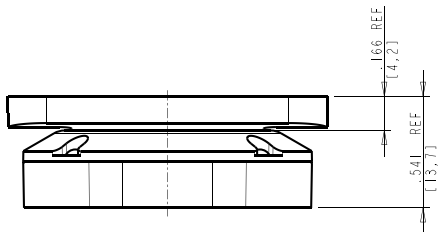
MOLLE Mount



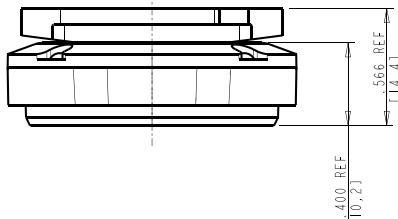
MOLLE Mount
WMX-SR4-X-X-2



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.

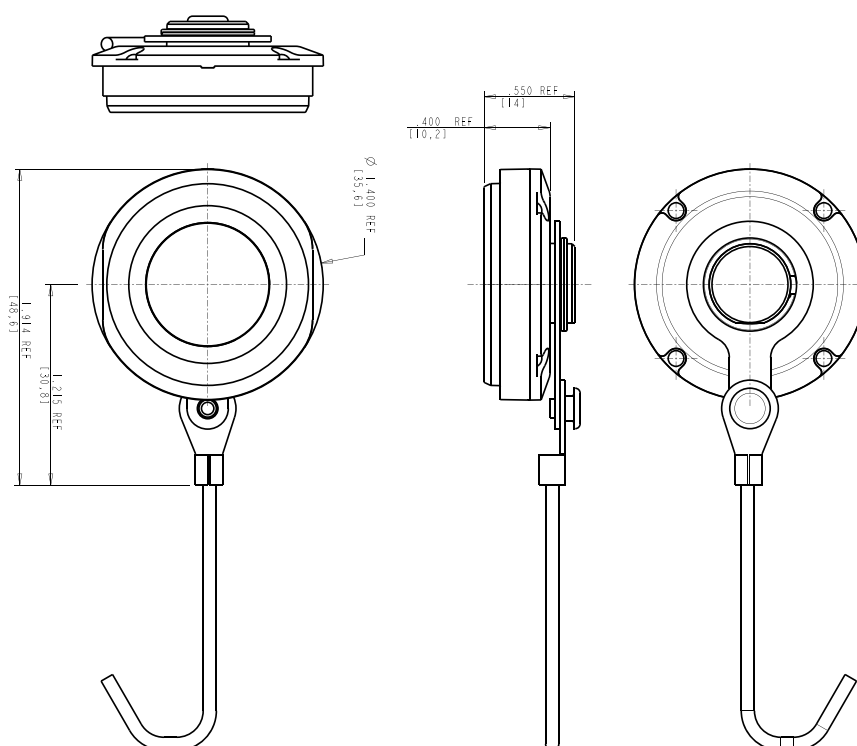
Accessories

Protective Caps



Male

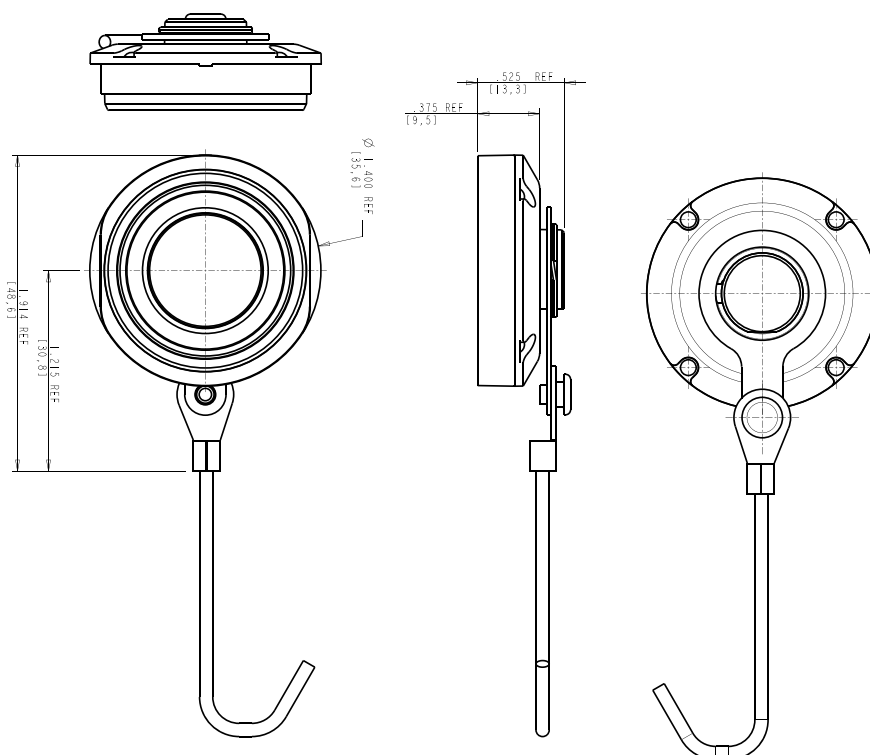
WMM-PC-RX-2-X-X



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

Female

WMF-PC-RX-2-X-X



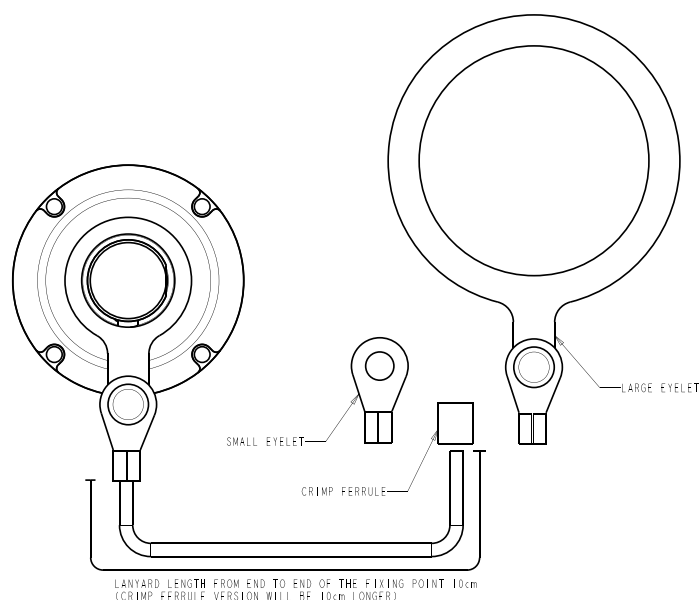
Eyelet Types

Small Eyelet

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

Large Eyelet

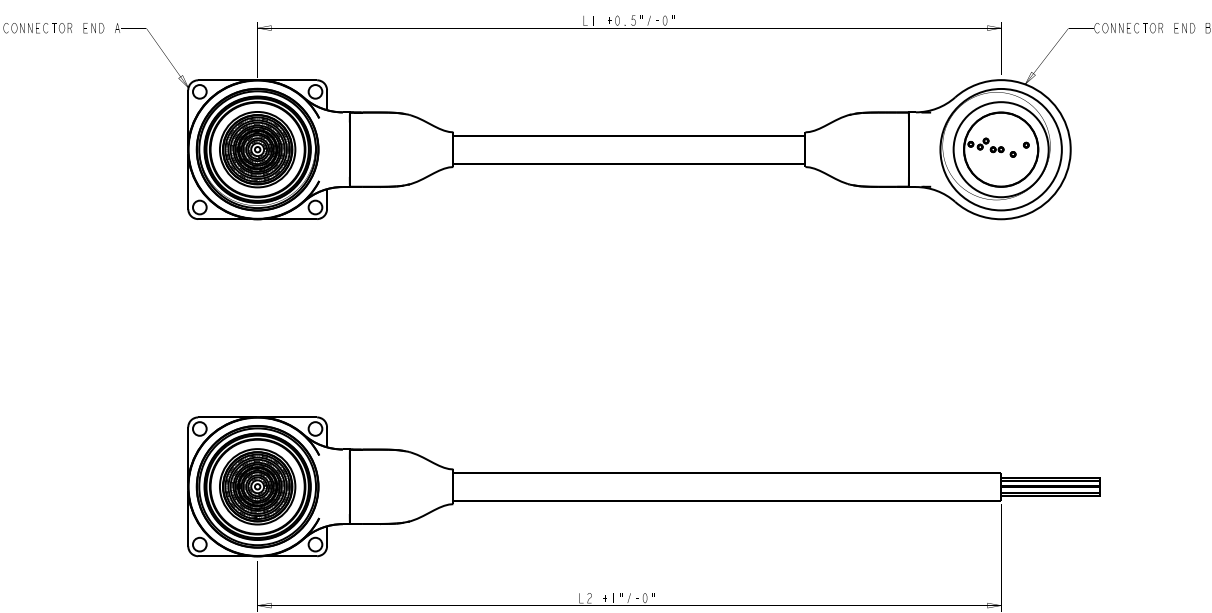
For use with WMXXXX-07RX27.



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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 <i>(right)</i>	From Connector End B table <i>(right)</i>	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	Recommnded Cable 5x22awg+USB2.0 (28awg)
1GB-0078-XX	Recommnded Cable 5x22awg+USB2.0 (26awg)

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STINGRAY

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MILITARY & AEROSPACE

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