



# STINGRAY MAGNETIC CONNECTORS



# STINGRAY

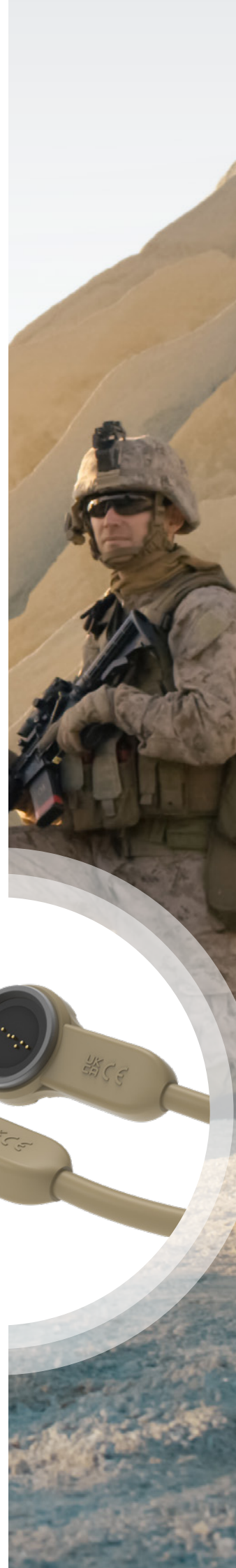
## MAGNETIC CONNECTORS

### 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.





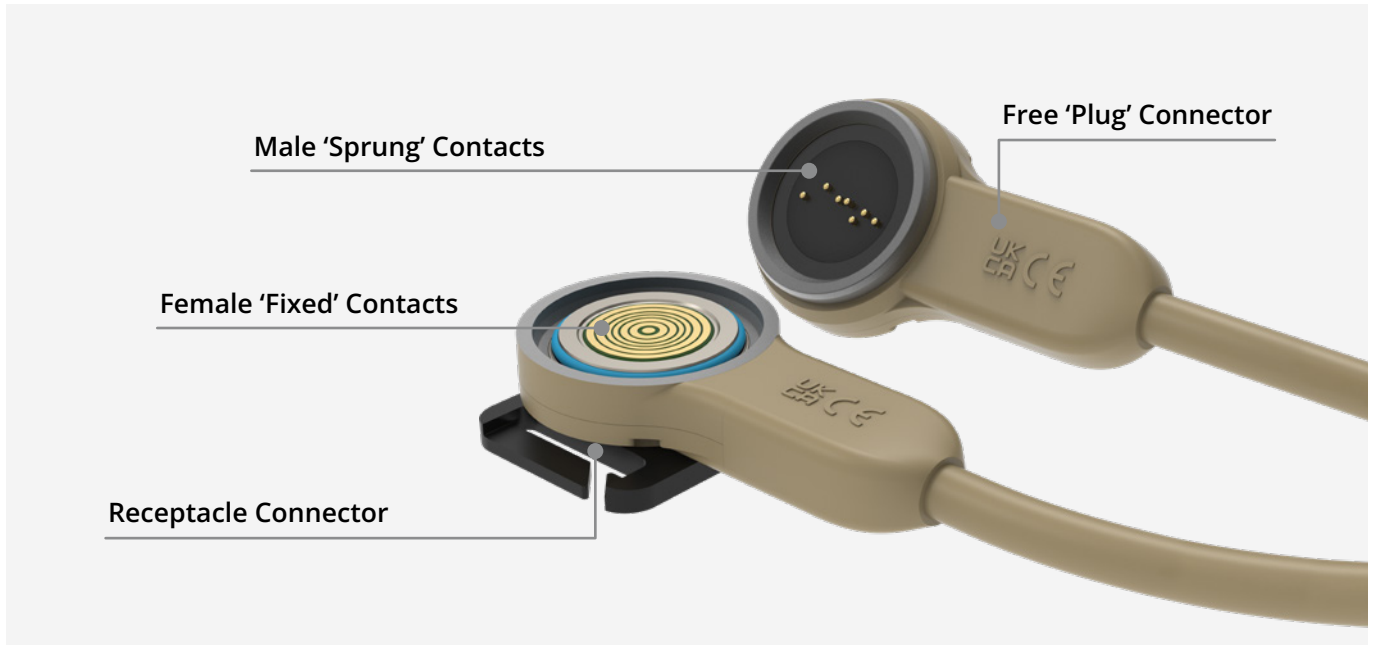


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## FEATURES AND BENEFITS

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

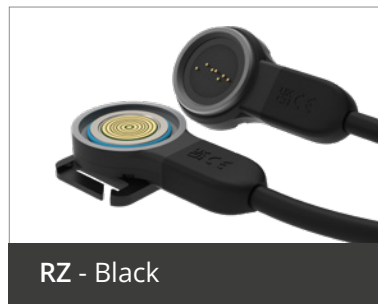


## MOUNTING OPTIONS

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
WM	X	XXX-	XX	RX	X	X
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 02 - Box-mount PCB 04 - MOLLE loop mount 06 - Free connector 07 - Jam-nut mount PCB	RZ - Black RW - Olive-drab RD - Sand	2	7

Please note that equipment mount styles 02, 07 are in development and the designs are still being finalised. This catalogue will be updated to provide dimensional and performance details once the design work is completed.

## ACCESSORIES

### PROTECTIVE CAPS

SERIES	GENDER	STYLE	FINISH	SHELL SIZE	ATTACHMENT	EYELET
WM	X	-PC	-RX	-X	-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	-X
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

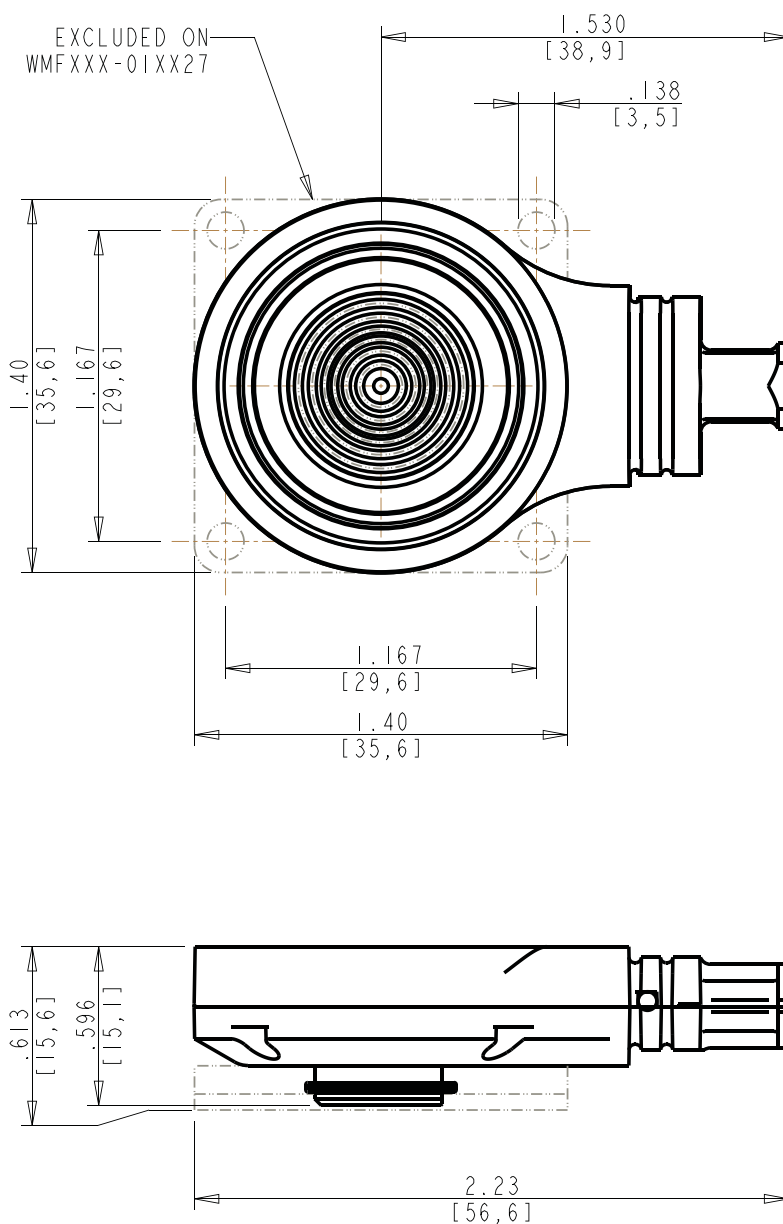
MECHANICAL	
Mating Durability	>10,000
Vibration	General Vibration, Method 514.6 Annex E of MIL-STD-810G, Procedure I, Figure 514.6E-1
Shock	Procedure I of Method 516.6, Procedure I of MIL-STD-810G, 40g, 11ms
Separation Force, Axial	43 N
Separation Force, Peel	7 N

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.

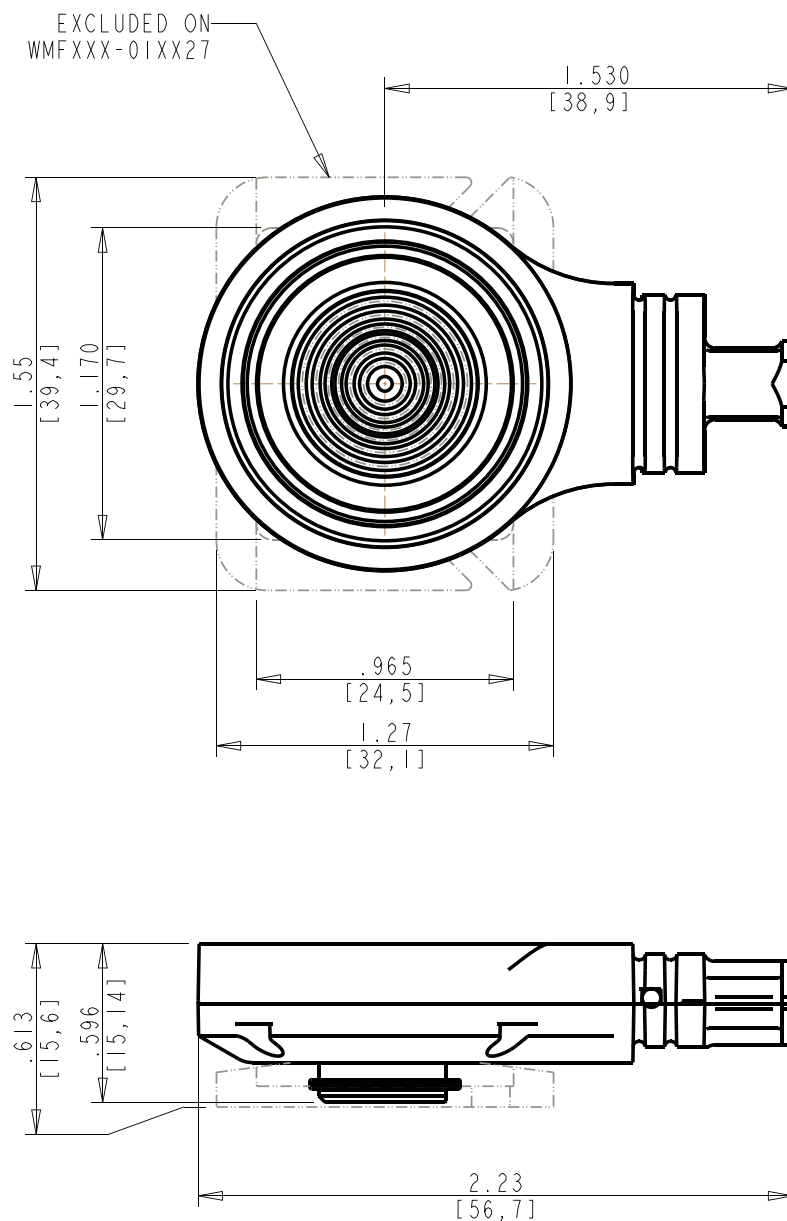




# CABLE MOUNT CONNECTORS

## MOLLE LOOP FEMALE

WMFXXX-04RX27

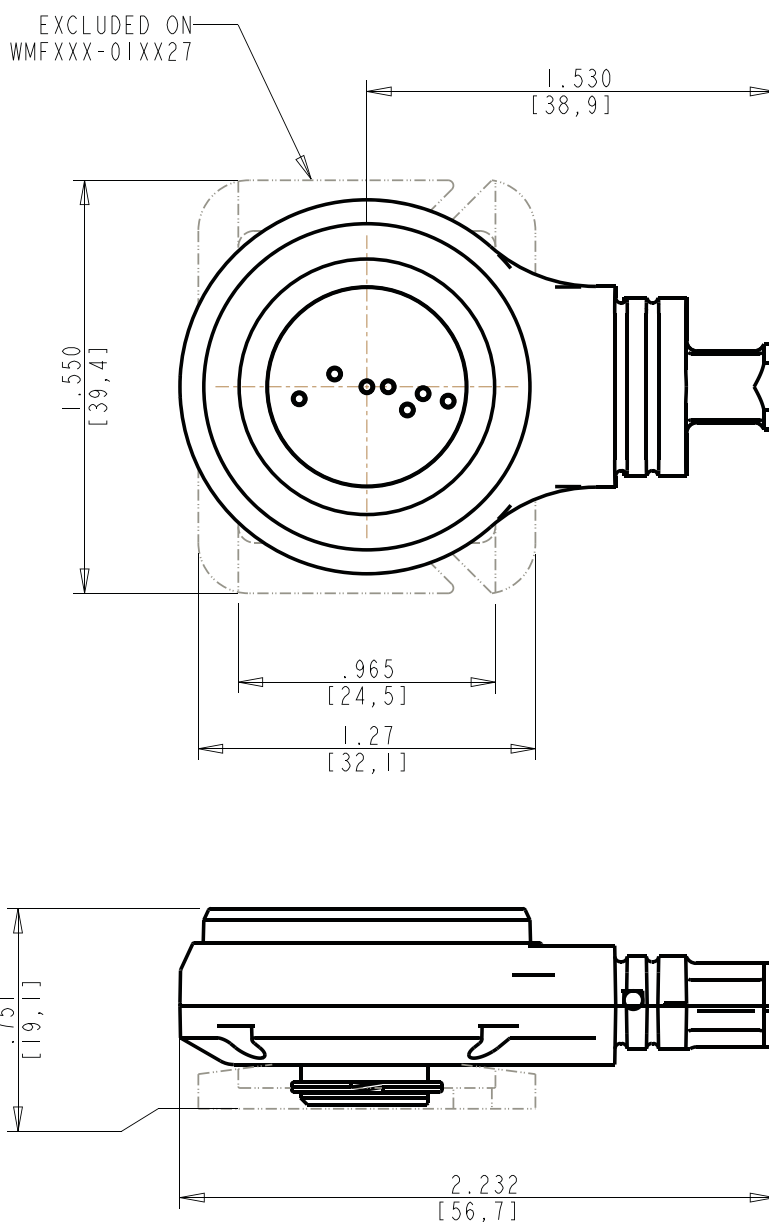


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

# CABLE MOUNT CONNECTORS

## MOLLE LOOP MALE

WMMXXX-04RX27

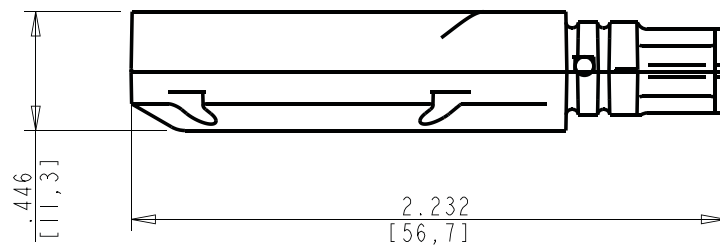
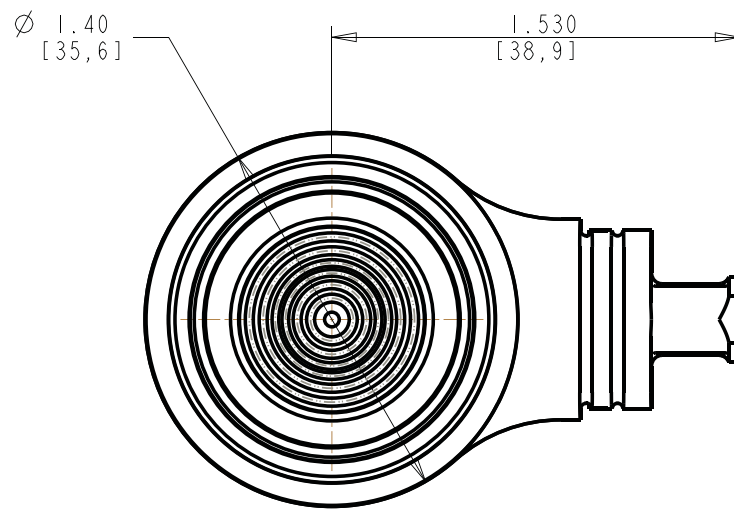


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

# CABLE MOUNT CONNECTORS

## FREE FEMALE

WMFXXX-06RX27

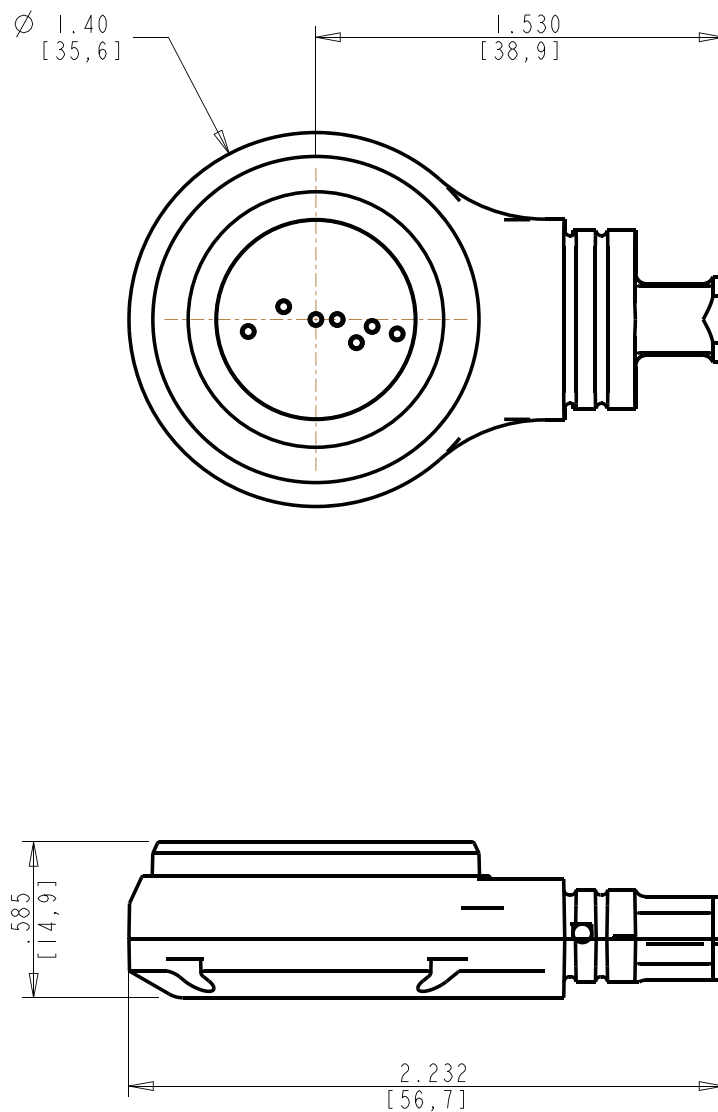


All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

# CABLE MOUNT CONNECTORS

## FREE MALE

WMMXXX-06RX27



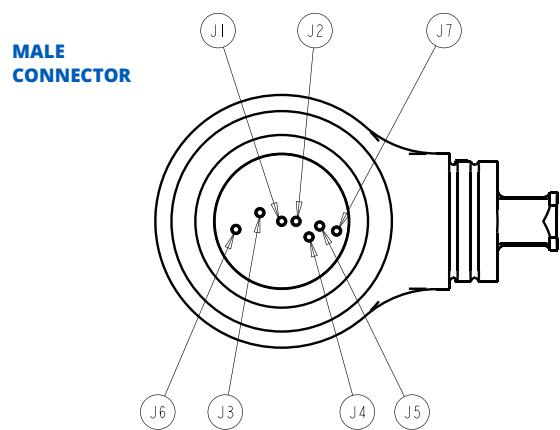
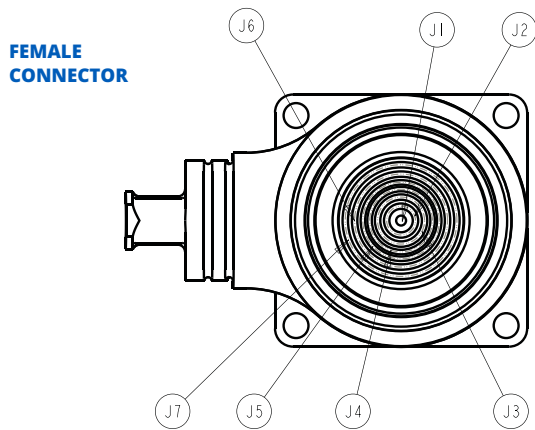
All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.



# TERMINATION DETAILS

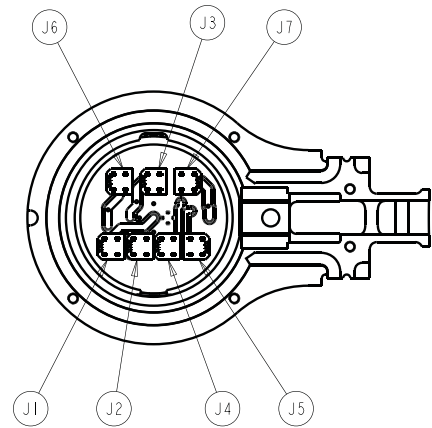
## CONTACT POSITIONS

(Front face of connector shown)



## TERMINAL POSITIONS

(Common to both male and female connectors)



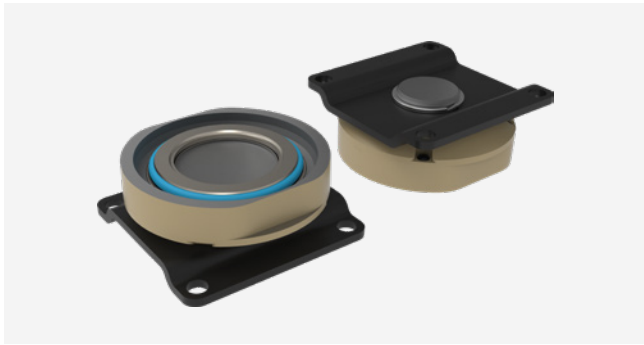
CONTACT TERMINAL	J1	J2	J3	J4	J5	J6	J7
Signal Type	5A Power/Signal		Data USB 2.0 or Signal		5A Power/Signal		
Insulation Diameter	0.055" / 1.4mm MAX						
Conductor Size - 001	22 AWG		28 AWG		22 AWG		
Conductor Size - 002			26 AWG				

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

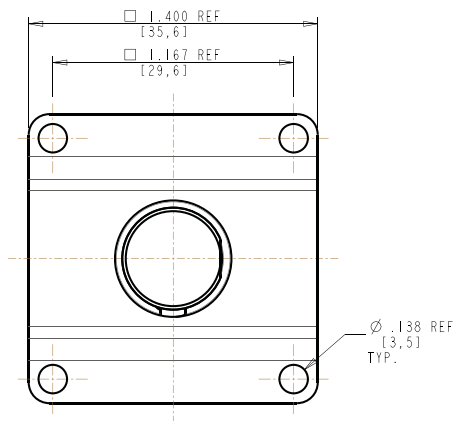
# ACCESSORIES

## STOWAGE RECEPTACLES

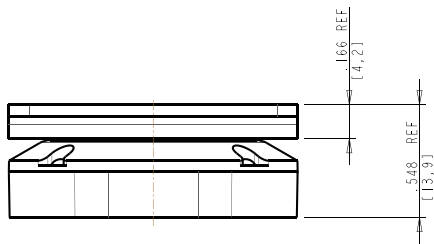
### WALL MOUNT



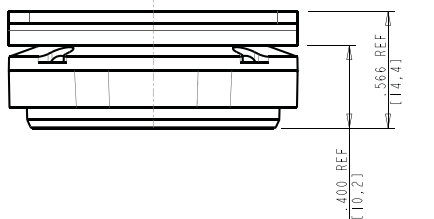
**WALL MOUNT**  
WMX-SRO-X-X-2



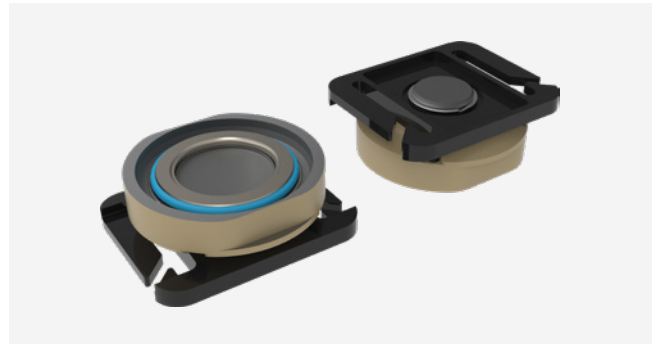
**FEMALE**  
WMF-SRO-X-X-2



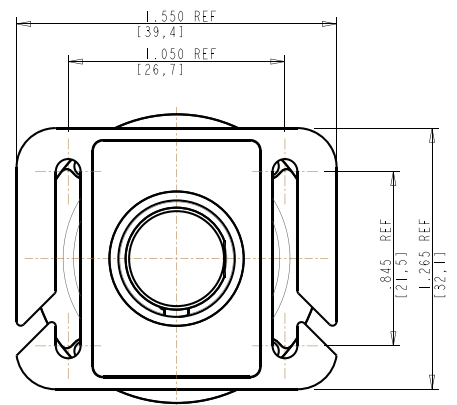
**MALE**  
WMM-SRO-X-X-2



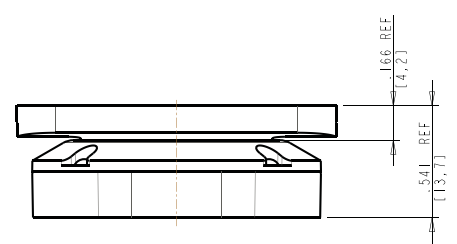
### MOLLE MOUNT



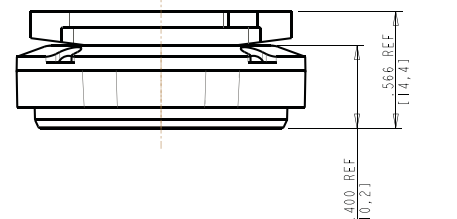
**MOLLE MOUNT**  
WMX-SR4-X-X-2



**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.

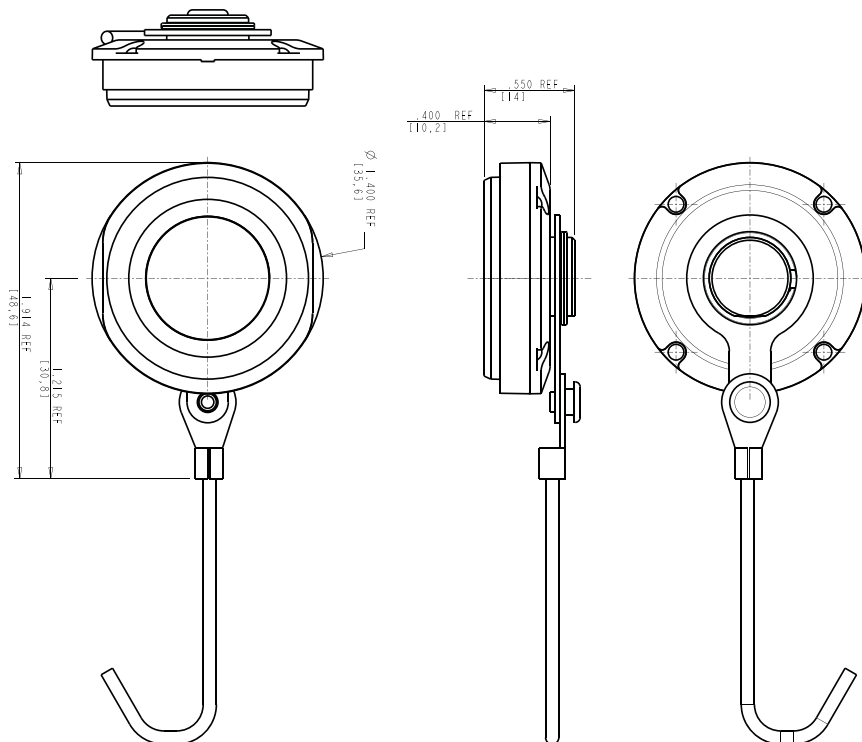
# ACCESSORIES

## PROTECTIVE CAPS



### MALE

WMM-PC-RX-2-X-X



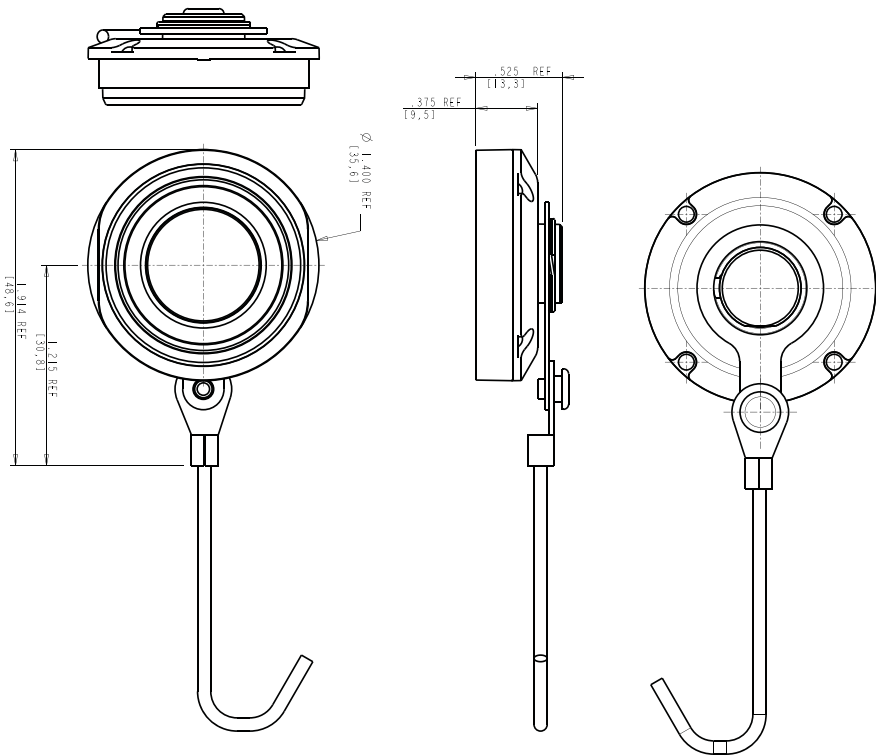
All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

# ACCESSORIES

## PROTECTIVE CAPS

### FEMALE

WMF-PC-RX-2-X-X



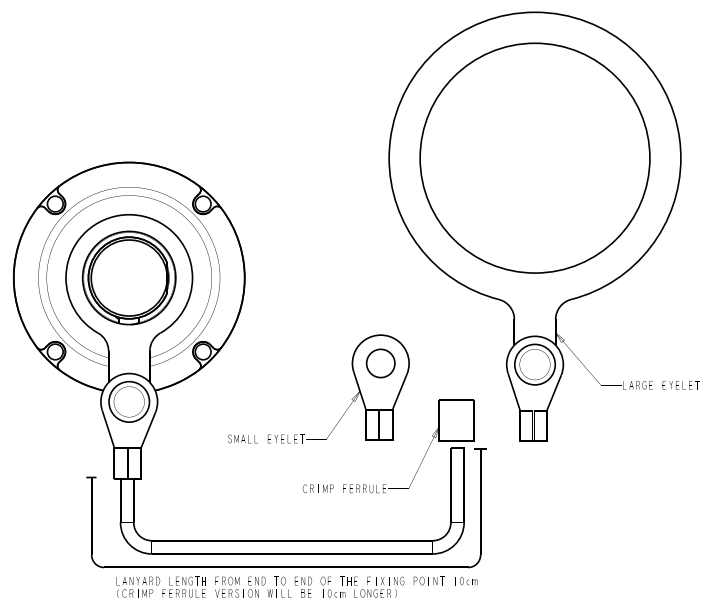
### EYELET TYPES

#### Small Eyelet

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

#### Large Eyelet

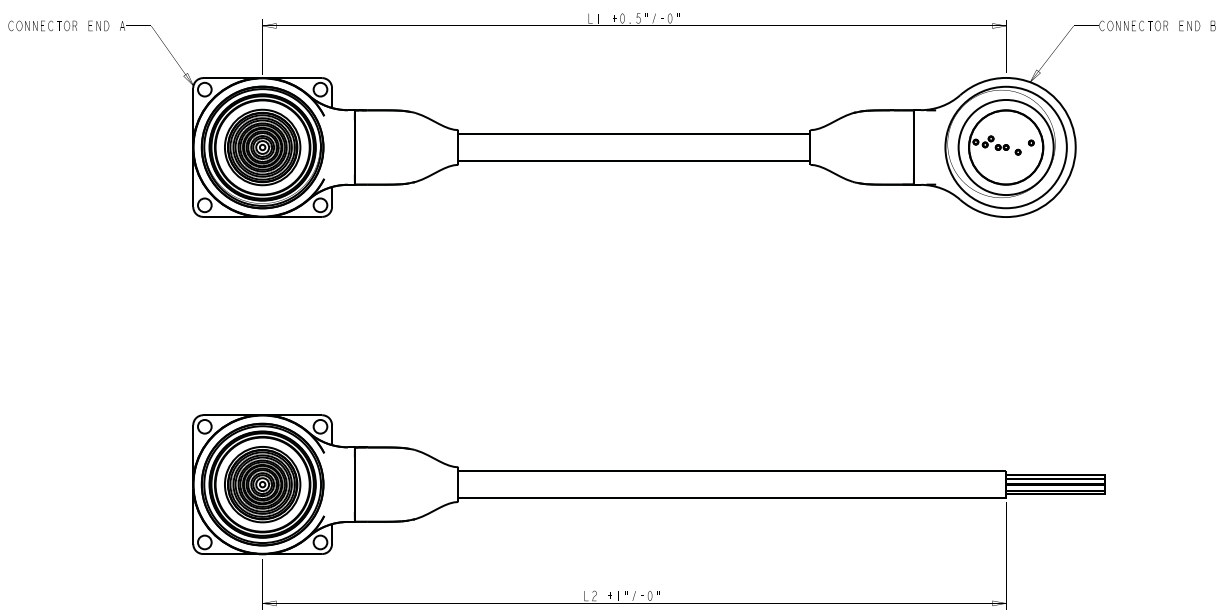
For use with WMXXXX-07RX27.



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



# CABLE ASSEMBLIES

OLIVE DRAB	BLACK	DESERT SAND
<b>Connector End A</b>		
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
<b>Connector End B</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.





# SALES CONTACTS

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# STINGRAY

**Amphenol LTD**  
MILITARY & AEROSPACE

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