STINGRAY 7

Body-worn Magnetic Connector

Amphenol LTD
MILITARY & AEROSPACE

Key Features:

- Quick disconnect in most angles of separation
- Self-aligned magnetic mating
- Metal housings for EMI Shielding
- 5A current rating on power contacts
- MOLLE loop attachment option
- 5000+ mating cycles
- Non-keyed rotatable mating
- Either connector gender can be mounted
- Modular mounting attachment system
- IP68 sealing
- First-mate, last-break contact
- Low profile
- 90Ω USB Pair
- Easy termination using IDC terminals

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.

Stingray 7 is supplied with a last-mate, first break ‘sense’ contact as standard. This can be used in conjunction with the system design to support ‘hot-swapping’ of circuits. It has also been optimised for USB 2.0 data transmission and provides a 90Ω USB data pair while all other contacts are rated at 5A allowing fast charging of batteries.

The attachment of the connector ‘lid’ is common between connector genders meaning that either the female connector with annular rings or male connector with sprung contacts can be cable or equipment mounted. This provides a level of ‘keying’ in that two signals could safely be transmitted via two co-located Stingray connectors providing they are different genders.

Stingray 7 features a modular system on the cable mount connectors that allows different mounting plates to be fitted to a common feature on the connector housing. Initially the connector can be supplied with either Box-Mount or MOLLE loop versions but other options could be could be introduced on request. Alternatively the connector could be supplied without a mounting plate for the customer to integrate directly into their own system.

The connector is easily terminated and uses simple colour coded IDC terminals that do not require stripping of individual conductors. The cable shield can be terminated to the connector housing using standard products and tooling and Stingray 7 can also be supplied as an overmoulded cable harness.

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STINGRAY 7 | Technical Data

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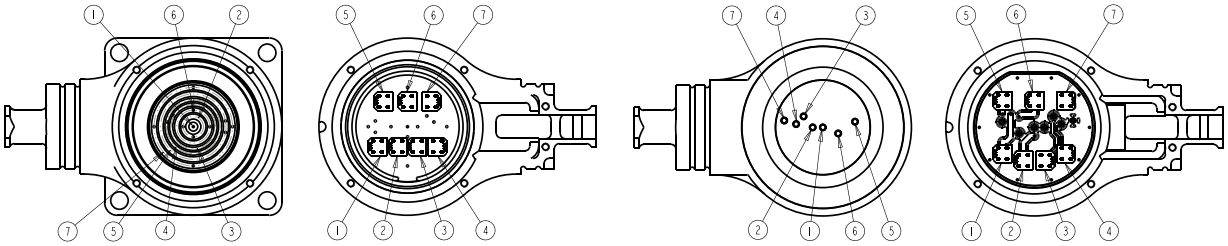
Part Number

Example: WMM002-06RD27: Male Free connector, 26 awg USB 2.0, Desert Sand finish.

Series	Contact Gender	Wiring Protocol	Shell Style	Finish	Shell Size	No Of Contacts
WM	**X** M – Male (sprung contact) F – Female (fixed PCB)	**XXX-** 001: 28 AWG USB 2.0 22 AWG power 002: 26 AWG USB 2.0 22 AWG power	**XX** 00 - Wall Mount 01 - Without mounting feature 02 - Box-mount PCB 04 - MOLLE Loop Mount 06 - Free Connector 07 - Jam-nut mount PCB	**XX** RZ - Black RW - Olive-drab RD - Desert Sand	**X** 2	**X** 7

Wiring Schedule: For dimensions please request Amphenol drawings WMFXXX-XXXX27-CPD and WMMXXX-XXXX27-CPD



	Connector Type	Terminal						
		1	2	3	4	5	6	7
Colour	WMXXX-XXXX27	Blue	Orange	Green	White	Red	Brown	Black
Usage	WMXXX-XXXX27	POWER 5A		DATA USB 2.0		POWER 5A		
Insulation Diameter	WMXXX-XXXX27	1.4mm / 0.055” maximum						
Conductor Size	WM001-XXXX27	22 AWG		28 AWG		22 AWG		
	WM002-XXXX27			26 AWG				

Please note that the maximum diameter of the cable bundle with jacket removed and screen/shield folded back shall not exceed 4.0 mm / 0.160”

Performance Data

Electrical	Current rating	5A per contact
	Voltage rating	8 – 36V
	Data protocol	USB 2.0
	Contact resistance	< 20mΩ
	Shell to Shell continuity	≤4mΩ
	Insulation Resistance	100MΩ @ 100VDC
	DWV	200VDC

Mechanical	Mating durability	>5000
	Vibration	General Vibration, Method 514.6 Annex E of MIL-STD-810G, Procedure I, Figure 514.6E-1
	Separation force, axial	43 N
	Separation force, peel	7 N
	Rotations	>1000

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

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