

# STINGRAY 7

## Body-worn Magnetic Connector

### 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 introduced on request. Alternatively the connector could be supplied without a mounting plate for the customer to integrate directly into their own system.

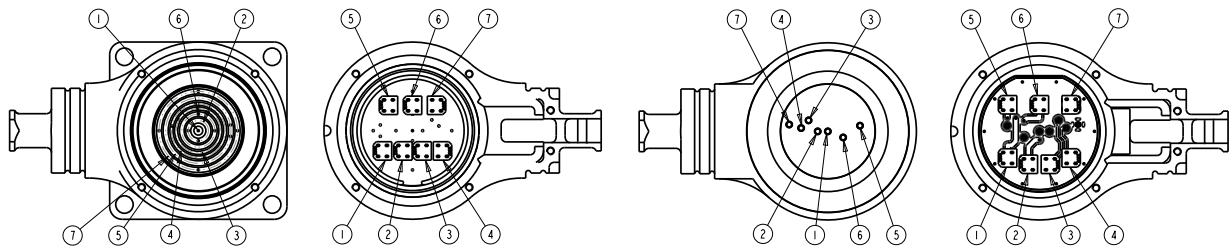
The connector is easily terminated and uses simple colour coded IDC terminals that do not require stripping of individual conductors. The cable shield can be terminated to the connector housing using standard products and tooling and Stingray 7 can also be supplied as an overmoulded cable harness.

## 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 |
|-----------|------------------------------|-------------------------------------|--|---|------------|----------------|
| <b>WM</b> | <b>X</b>                     | <b>XXX-</b>                         | <b>XX</b>  | <b>XX</b>   | <b>X</b>   | <b>X</b>       |
|           | M – Male<br>(sprung contact) | 001: 28 AWG USB 2.0<br>22 AWG power | 00 - Wall Mount<br>01 - Without mounting feature<br>02 - Box-mount PCB<br>04 - MOLLE Loop Mount<br>06 - Free Connector<br>07 - Jam-nut mount PCB | RZ - Black<br>RW - Olive-drab<br>RD - Desert Sand | 2          | 7              |
|           | F – Female<br>(fixed PCB)    | 002: 26 AWG USB 2.0<br>22 AWG power |  |   |            |                |

**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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