

whirlwind®

W5 48 Pin MASS Connector System Technical Data - Crimp Type

Specifications

Materials and Finishes:

- Contacts: Copper alloy, hard gold plate over nickel under plate per MIL-G-45204
- Insulators: Low temperature elastomer
- "O" Rings and Seals: Low temperature elastomer
- Shells and Covers: All aluminum alloy, black finish, chain-stainless steel

Mechanical Data:

- Operating Temperature:
-40 C to +105 C
-40 F to +221 F

- Contacts: #20 AWG Crimp type (7.5 Amp rating)
- Contact Retention: 20 lbs. minimum
- Connector Engagement and Separation Forces: 15 lbs. maximum
- Polarization: Hermaphroditic

Electrical Data:

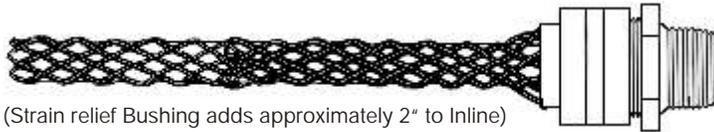
- Operating Voltage: 500 VDC or 400 VAC rms max
- Insulation Resistance: 2500 megohm minimum
- Contact Resistance: 6 milliohms maximum

The W5RP is a 48 contact addition to the virtually indestructible whirlwind Mass Connector family. This new design uses crimp type, replaceable pins and sockets. Like all Mass connectors, the W5RP has equal numbers of both pins and sockets within the resilient rubber insert. This arrangement allows two identical contact inserts to mate, requiring only a panel mount or inline housing to complete the assembly. Housings are made from machined aluminum and the threaded locking ring ensures positive connection even under adverse conditions. When mating two inline connectors, one locking ring is merely unscrewed to expose threads, which are gripped by the other locking ring.

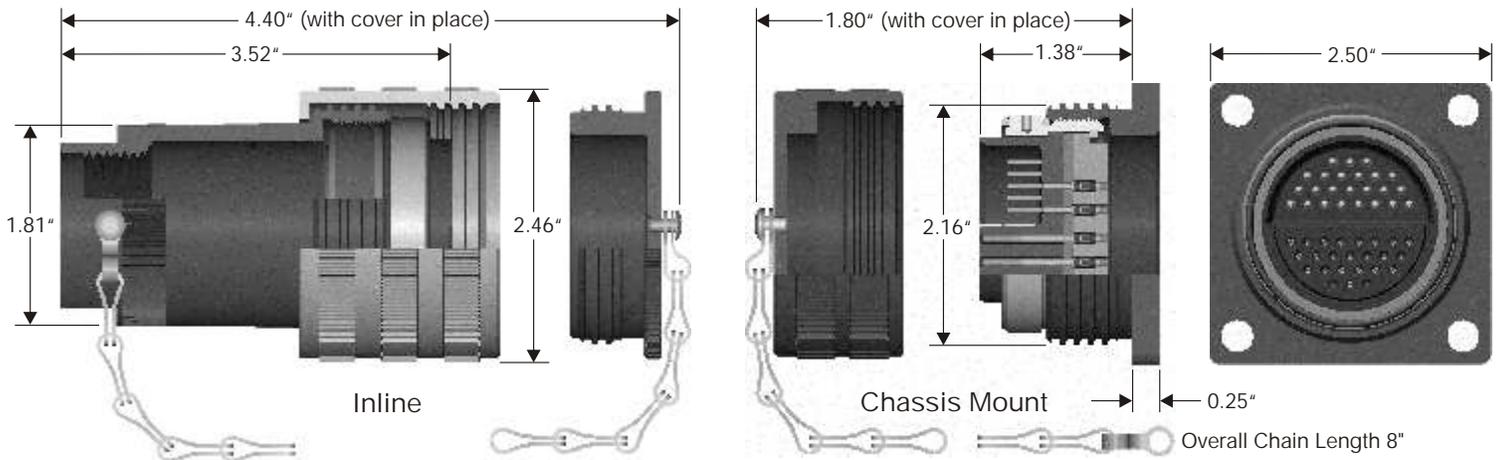
To properly mate Mass connectors, unscrew the locking rings to expose the inserts, align the inserts and push together using only hand pressure and then screw the locking ring on to secure the connection.

Due to the unique hermaphroditic design the usual connector designations of male and female do not apply, therefore Mass connectors are specified as Outputs and Inputs. An Output wired connector must mate with an Input connector configuration. The whirlwind wiring standard is odd numbered cable pairs attached to pins and even numbered cable pairs attached to sockets in the Output connector. Input wiring has odd pairs attached to sockets and even pairs attached to pins. For example, channel one is on pins in the Output connector and mates with channel one on sockets in the Input connector, which maintains color coding throughout the system. For planning system layout, whirlwind standard starts at the stage box and designates the first connector as an Output.

Cables with Mass connectors at both ends require one end to be wired as an Output and the other wired as Input. Each wire must connect to a pin at one end and the same numbered socket at the other.

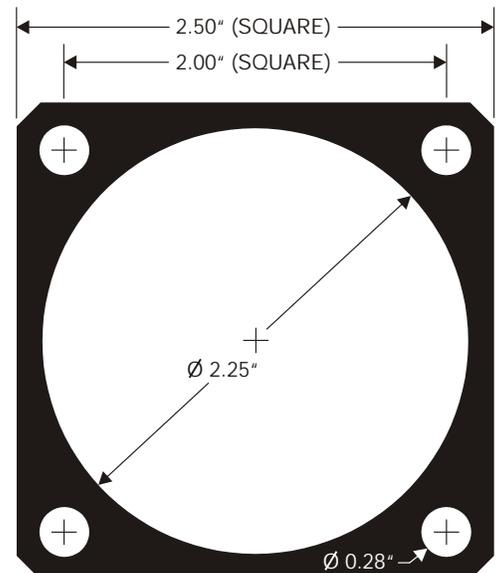


(Strain relief Bushing adds approximately 2" to Inline)



Parts

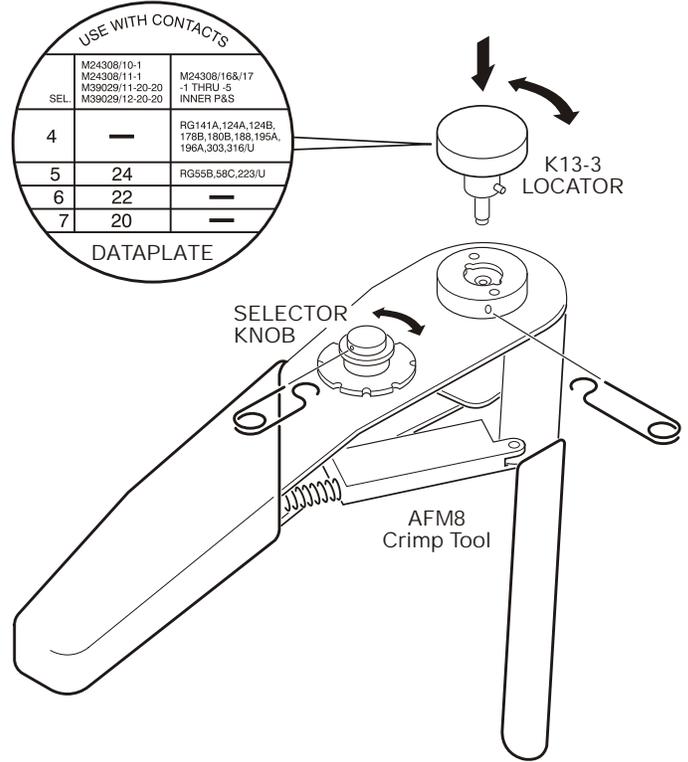
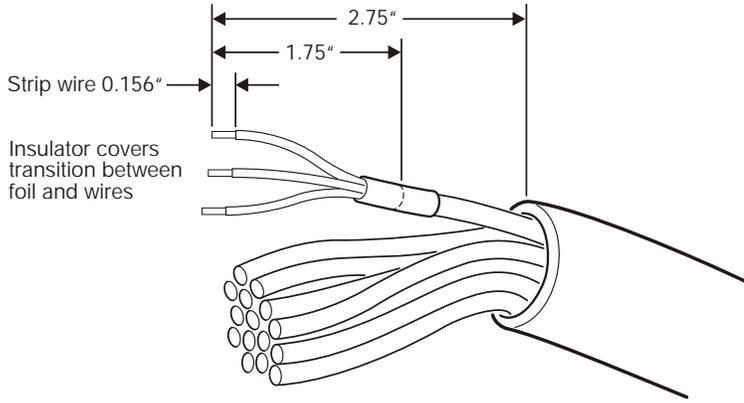
W5CRP	Mass 48 Pin Chassis Connector	1
M48/84CH	Mass Chassis Flange Black	1
M48/84CHCAP	Mass Chassis Dust Cap	1
M48R-INS	Mass Removable Crimp Insert	16
PT1-16CL-PVC	1/16" Clear PVC Tube Cut to 1.5" Length	16
PT1-8BK	1/8" Black Shrink Tube Cut to 0.5" Length	27
M1RPIN	Mass Gold Pins Male	27
M1RSKT	Mass Gold Sockets Female	1
W5 PIN OUT	Wiring Diagram for Mass 48/84	1
W5IRP	Mass 48 Pin Inline Connector	1
M48-IL	Mass 48 Inline Shell with Black Coupling Nut	1
M48/84ILCAP	Mass Inline Dust Cap	16
M48R-INS	Mass 48 Removable Crimp Insert	16
M48G	Strain Relief for W5 inline	1
PT1-16CL-PVC	1/16" Clear PVC Tube Cut to 1.5" Length	27
PT1-8BK	1/8" Black Shrink Tube Cut to 0.5" Length	27
SPLIT RING	Split ring 3/4" for cap and chain assembly	1
M1RPIN	Mass Gold Pins Male	
M1RSKT	Mass Gold Sockets Female	
W5 PIN OUT	Wire Diagram for Mass 48/84	



HOLE CUTOUT ACTUAL SIZE

Input

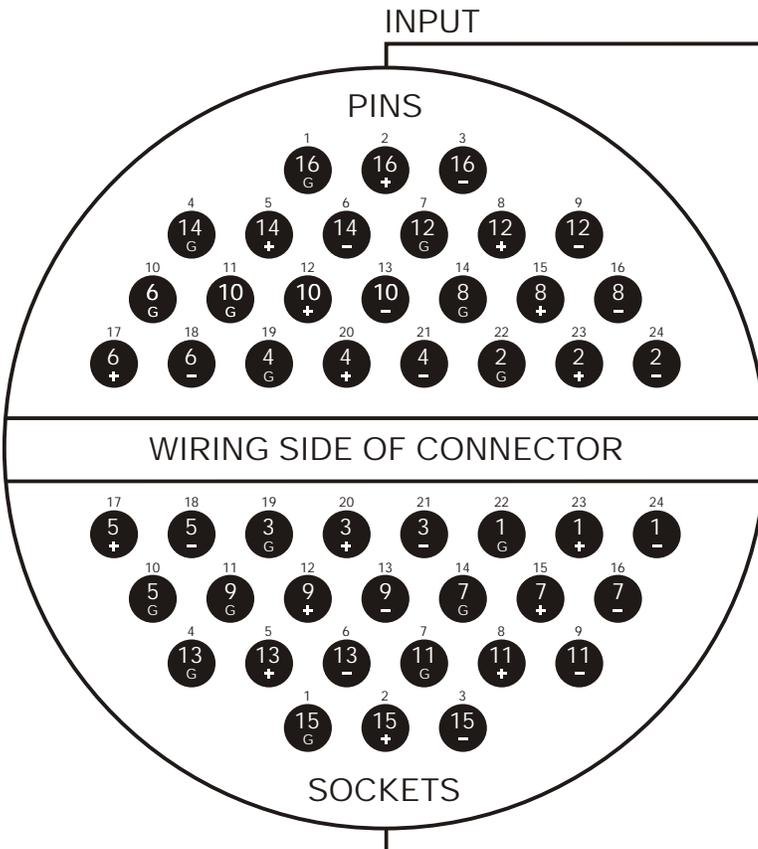
W5 48 Pin MASS Connector System Technical Data - Crimp Type



The W5RP is a rear insert, rear release crimp type connector. Contacts are loaded into the insert body and removed from the rear (wiring side) of the housing. To prepare the wires for use follow the diagram for removing the jacket and the foil shield from the cable pair. Be careful not to nick and do not tin the ends of the wire being stripped. Insulate the drain wires with the clear PVC tubing and use the heat shrink tubing over the foil of each pair.

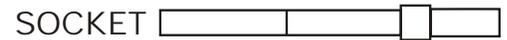
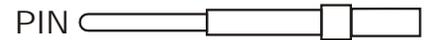
The whirlwind M1R-Tool Kit contains the required tools to attach the contacts to the wires and to load or remove them from the insert housing. The crimp tool body is a mil spec Daniels AFM8 with a K13-3 contact locator. The contact insertion/extraction tool is an AMP 91067-2.

Before attaching contacts to the wires, the selector knob on the top of the crimp tool must be set for the proper gauge. Setting 5 is for 24 AWG such as whirlwind multipair cable and setting 6 is for 22 AWG such as Belden 8451 and 1266A.



16 Pair Color Code

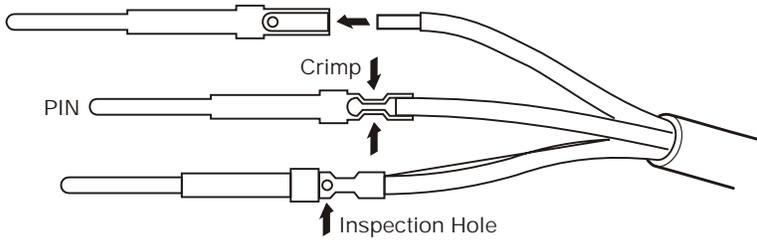
XLR Pair #	Pin 3 -	Pin 2 +	Pin 1 G
16	GREEN	YELLOW	
14	GREEN	WHITE	
12	RED	BROWN	
10	RED	BLUE	
8	RED	WHITE	
6	BLACK	BROWN	
4	BLACK	BLUE	
2	BLACK	WHITE	



1	BLACK	RED	
3	BLACK	GREEN	
5	BLACK	YELLOW	
7	BLACK	ORANGE	
9	RED	GREEN	
11	RED	YELLOW	
13	RED	ORANGE	
15	GREEN	BLUE	
XLR Pair #	Pin 3 -	Pin 2 +	Pin 1 G

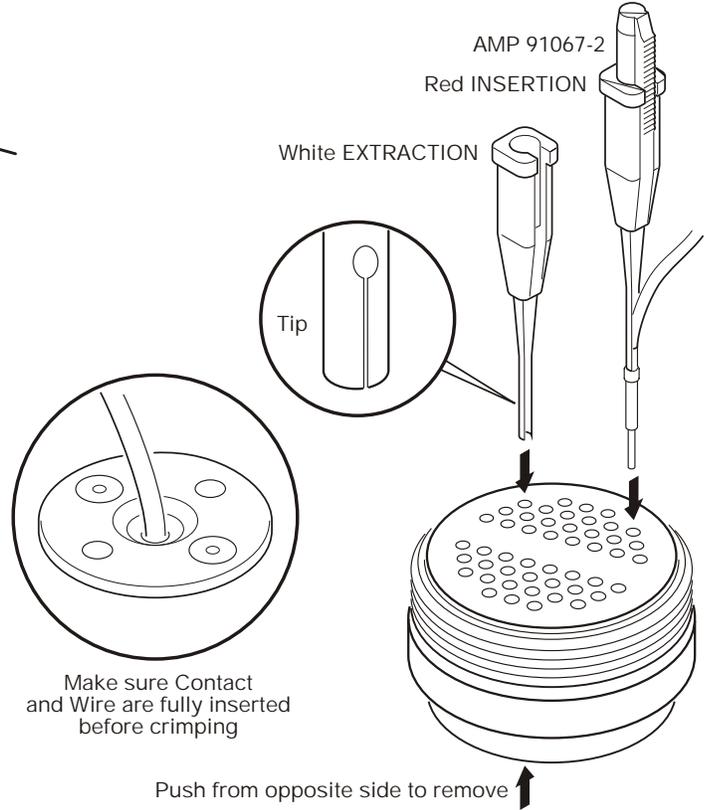
Output

W5 48 Pin MASS Connector System Technical Data - Crimp Type



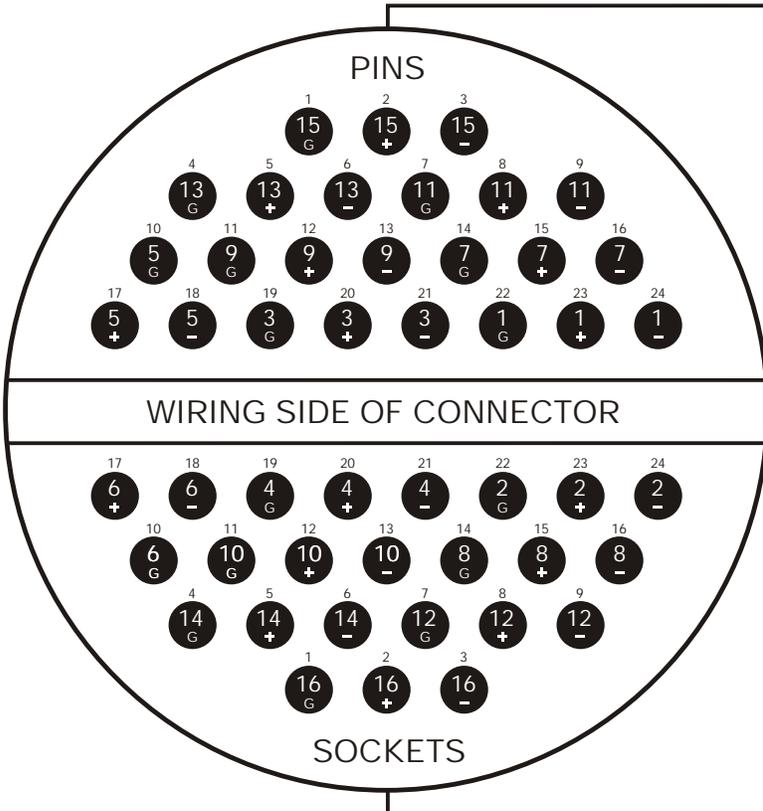
Check for proper wire strip length by pushing wire into a contact and looking to see the wire strands through the hole in the side. Load the contact into the crimp tool locator and push the wire into place. Squeeze the handles while making sure that the wire stays in the wire hole. The crimper is a full cycle ratcheting type and can only be released by completing the cycle, at which point the crimp contact will pull freely from the tool. Inspect the connection and continue, following the color code to apply pins and sockets to the proper wire pairs.

Load the pins and sockets into the insert housing according to the pin out color code. Contacts are inserted into the hard plastic wafer and pushed into place with the red handled end of the insertion tool or small needle nose pliers. Fully inserted contacts are locked in place by spring metal retention clips embedded in the plastic wafer. In the event a contact must be removed from the insert use the white handled, extraction end of the contact tool. Carefully slip the tool into the plastic wafer until the small hole in the end of the extractor is even with the surface of the wafer. Do not force the tool in as it is easily deformed. Only when the tool is properly seated will the spring fingers release, allowing the contact to be removed. If the wire is still attached, gently pull the wire to remove it. If the wire is broken, push the contact from the rubber face side with an opposite contact until it is exposed in the back.

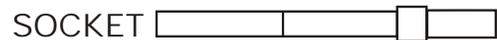
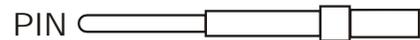


OUTPUT

16 Pair Color Code



XLR Pair #	Pin 3 -	Pin 2 +	Pin 1 G
15	GREEN	BLUE	
13	RED	ORANGE	
11	RED	YELLOW	
9	RED	GREEN	
7	BLACK	ORANGE	
5	BLACK	YELLOW	
3	BLACK	GREEN	
1	BLACK	RED	



2	BLACK	WHITE	
4	BLACK	BLUE	
6	BLACK	BROWN	
8	RED	WHITE	
10	RED	BLUE	
12	RED	BROWN	
14	GREEN	WHITE	
16	GREEN	YELLOW	
XLR Pair #	Pin 3 -	Pin 2 +	Pin 1 G