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Mini-Change[®] Connectors

BradConnectivity Product Overview



- **Nano-Change**

- M8 Circular Connector



- **Micro-Change**

- M12 Circular Connector
- Ultra-Lock



- **Mini-Change**

- 7/8" to 1-1/8" Circular Connector

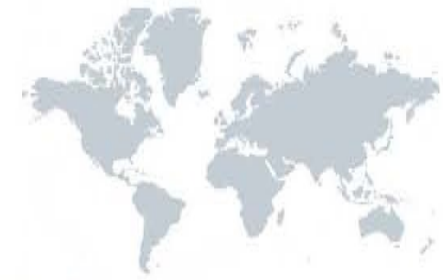


- **M23**

- M23 Signal and Power Connector



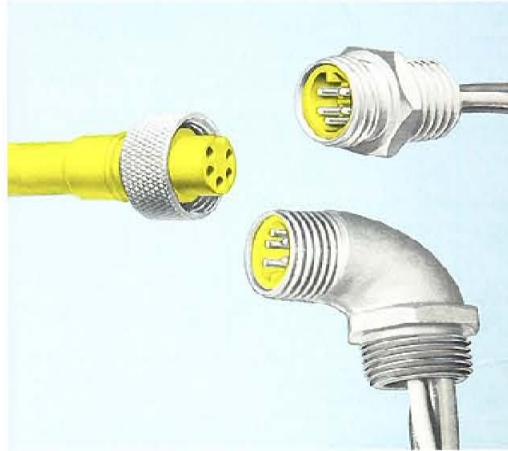
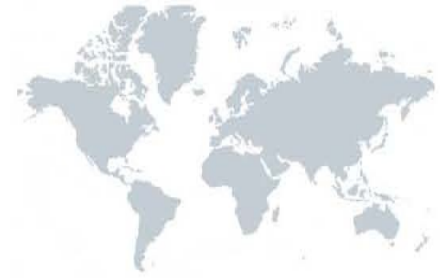
Mini-Change Connectors



- **Broadest product offering in the market**
 - 2 through 19 pole offering
 - Large range of cordsets, receptacles, cable types, and molded distribution boxes
- **High quality and reliability**
- **Strong brand recognition**



Mini-Change - Background

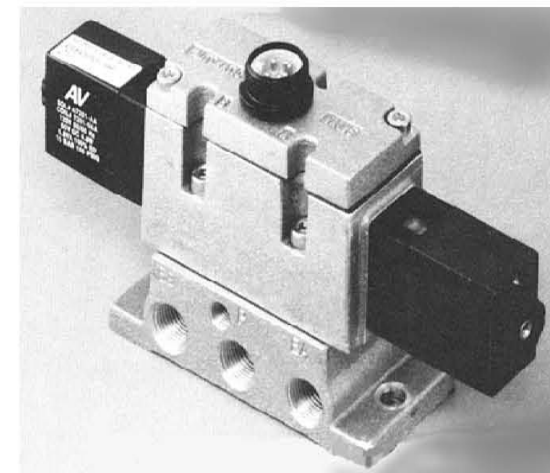


- **The Mini-Change connector was created by the Brad Harrison Co. in 1968. It was developed for the automotive industry which was looking for a way to quick-connect limit switches and pneumatic valves.**
- **Because of our strong market presence and reputation for quality, these connectors came to be known as “Brads”, *whether it was our connector or not!***

Mini-Change has been traditionally used with:



- 18 & 30 mm Tubular Proximity Switches
- Limit Switches
- Rectangular Proximity & Photoelectric Sensors
- Solenoid Operated Valves
- Lighting
- Fractional H.P. Motors



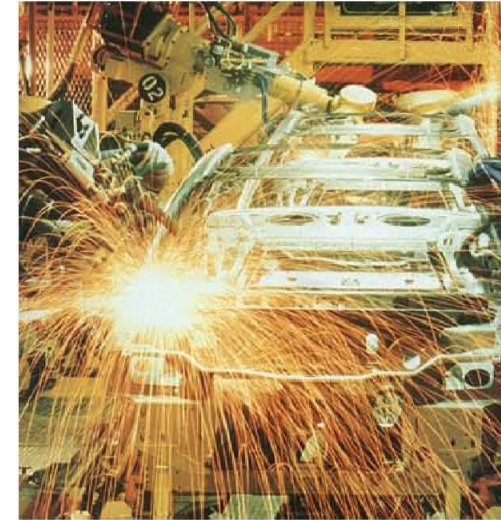
New Mini-Change applications include:



- **Pumps**
- **Solar Panels**
- **Industrial Heaters**
- **Commercial & Industrial LED light displays**
- **Linear Position Transducers**
- **Float Switches on Commercial Sump Pumps**
- **Industrial Refrigeration Systems**
- **Load Cells**
- **Power connector to street-light accessories**

Markets for Mini-Change include:

- Automated Assembly Equipment
- Packaging Equipment
- Material Handling Equipment
- Food & Beverage
- Non-automotive, on-vehicle
- Process Industry

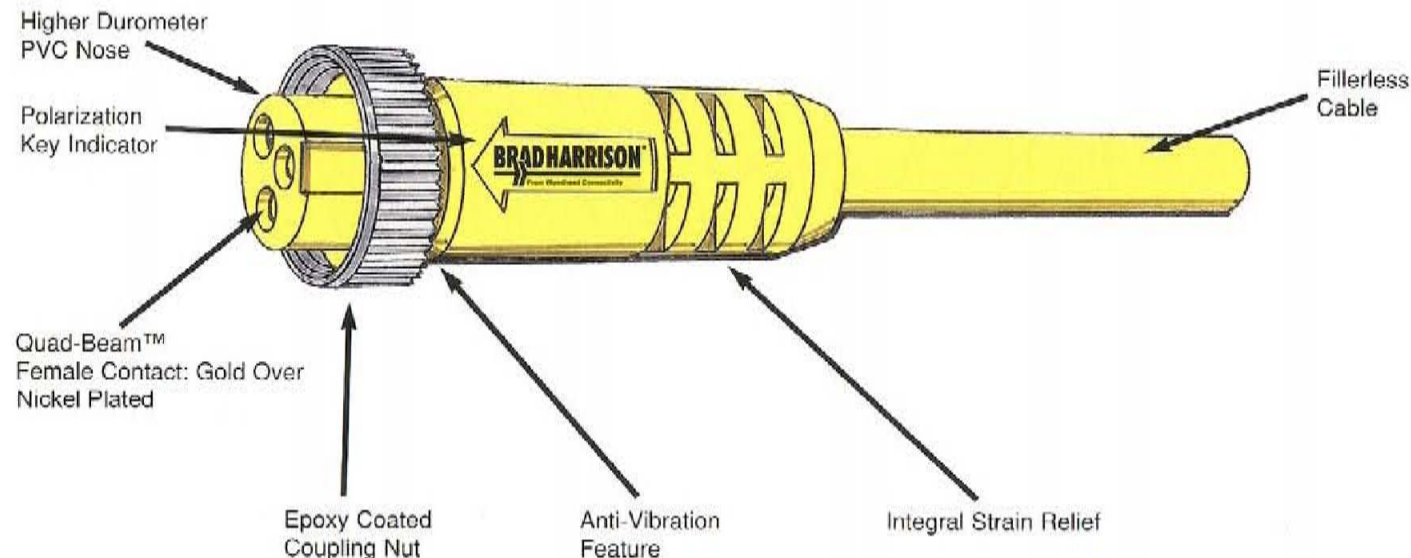


Mini-Change Connectors

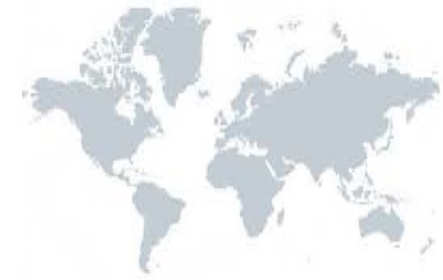
Features & Benefits



- Brad Harrison Mini-Change connectors were designed to meet the demanding requirements of industrial control networks. Though most Mini-Change applications do not involve such systems, the features and benefits described next apply to all Mini-Change connectors.



Mini-Change Connectors



Feature

- **Patented, Quad-Beam™ Socket Contact with stainless steel sleeve**
- **Gold over nickel plated contacts**
- **Molded key indicator**
- **Integral strain relief**
- **Sealed to an IP67, NEMA 6P rating.**

Benefit

- **Maintains consistent pressure on the male pin to ensure optimum conductivity**
- **High performance, long lasting plating that maintains low resistance through many mate/unmate cycles**
- **Easy to locate key and mate connector quickly.**
- **Provides 100 pounds minimum cable strain relief. Radiates stress in side-load conditions.**
- **Protection against the entry of water during submersion at a limited depth.**

Mini-Change Connectors



Feature

- Epoxy Coated Zinc Die Cast Coupling Nut
- Anti-vibration guard on coupling nut
- 2 through 10, 12 and 19 poles available

Benefit

- Provides up to 500 hours of corrosion resistance in a salt spray test. Weld slag will not adhere.
- Prevents the coupling nut from backing-off, even under extreme vibration
- Wide range of applications

Mini-Change Connectors Available Sizes

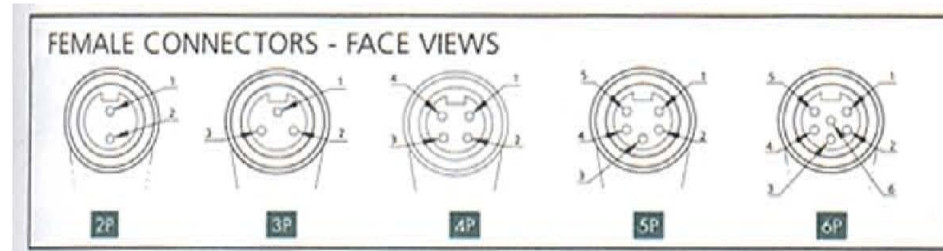


- 2 through 6 pole, 13A to 8A rating, 1" diameter coupling nut.
- 6, 7 & 8 pole, 8A or 7A rating, 1-1/8" diameter coupling nut.
- 9,10,12 & 19 pole 7A to 3A rating, 1-1/4" diameter coupling nut.

Mini-Change Connectors Mating Compatibility



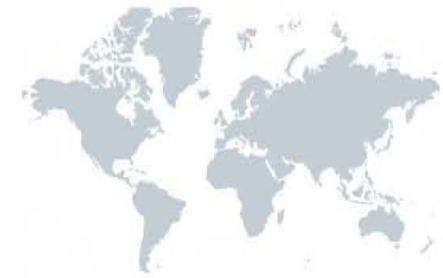
- **Plugs and receptacles will only mate with another connector of the same size and number of poles.**



- **Note: 6-pole A-size will not mate with 6-pole B-size. Whenever a customer requests a 6 pole Mini for an existing application, confirm the correct size required. For all *new* applications, direct them to the A-size.**



Mini-Change Connectors Mating Compatibility



- **Standard Mini-Change molded cordsets have coupling nuts with *internal* threads. Receptacles have *external* mating threads.**

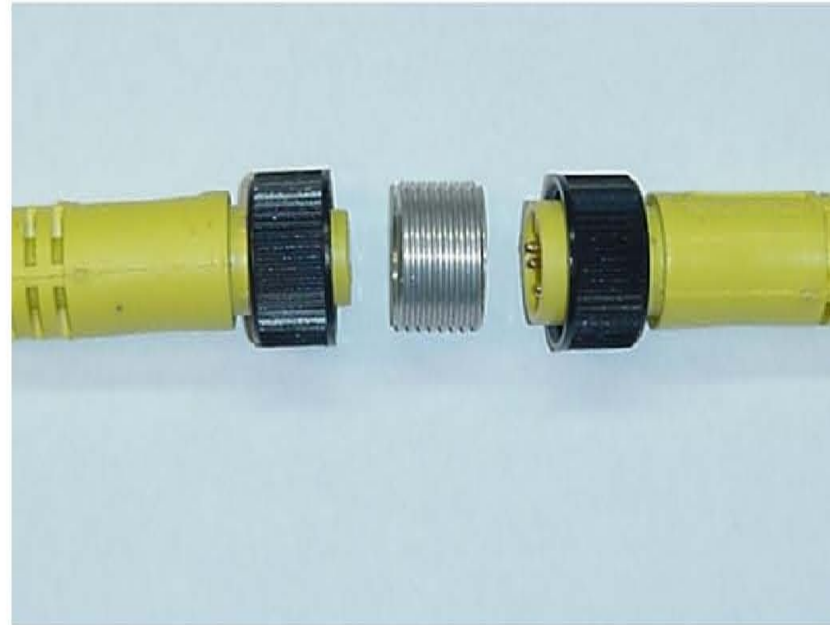
Note: The exception is on Mini-Change connectors used in sensor-bus systems, such as Device Net, where all male connectors (cordsets and receptacles) have external mating threads, females have internal.



Mini-Change Connectors Mating Compatibility



- **Standard Mini-Change male and female cordsets can be mated together. To do so requires the use of a threaded adapter (p 88) because both ends have internally threaded coupling nuts.**



Mini-Change Connectors Standard Cordsets



- Available in both male and female, single and double-ended, straight and 90 degree versions.
- Most are available from stock in 3', 6', 12', 15', 20' & 30' lengths.

Mini-Change Connectors Standard Cordsets



The standard cable used for all Mini-Change is 16 gauge UL Type STOOW. It has an oil-resistant yellow PVC outer jacket and insulation (p 42).

Other cables offered include:

- 18 gage PVC cable is available on 3, 4 and 5 pole versions. US and IEC color rotation (p 52 and 64).
- 18 gauge TPE jacketed cable is available on 3 & 5 pole versions (p 56). This cable is cut, abrasion, and weld slag resistant and rated for continuous flexing.
- 16 gauge, UL TC rated with yellow TPE jacket. Available on 3, 4, 5, 6, 9, 10 & 12 pole. This cable is cut, abrasion, and weld slag resistant and rated for continuous flexing.

Mini-Change Connectors Cordset Options



- **Type 303 stainless steel coupling nut (p 40). For corrosive environments. Add the suffix “1” to the part number.**
- **Type 316 stainless steel coupling nut. For extremely corrosive environments. Add the suffix “8” to the part number. (A-size only at this time)**
- **Gray, Nylon coupling nut (p 40). Add the suffix “2” to the part number. (A-size only)**

Mini-Change Connectors Standard Receptacles

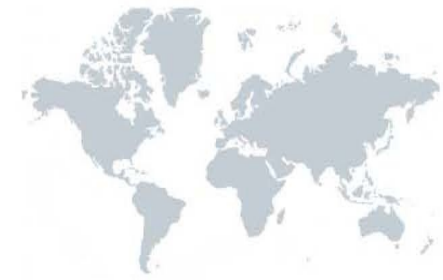


- Available in male or female, with straight shells for all sizes, 90 degree shells for 2 through 6 pole, A-size.
- Receptacles have 1/2"-14NPT (National Pipe Tapered) mounting threads and use a standard 1/2" conduit lock-nut (not supplied) for mounting.

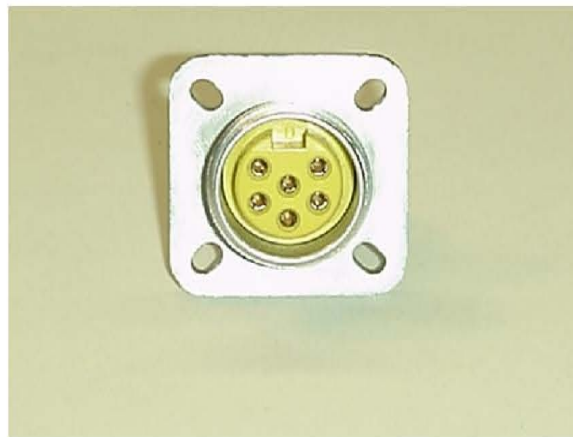


- On the IEC receptacles (p 66) a PG 13.5 mounting thread is used. This was done to match the thread pattern used on European limit switches and photo-eyes.

Mini-Change Connectors Standard Receptacles



- **Flange Mount receptacles are offered in 2 through 6 pole, A -size (page 46). They are mounted using 4 screws (not supplied). These are used where locknut mounting is not practical.**



- **Standard, stock lead length is 12” and 6 ft.(or 2 meters on some versions). Steer customers toward the 6 ft. version when they request leads longer than 1 ft.**

Mini-Change Connectors

Receptacle Options



- Type 303 stainless steel shell (p 46, 76 & 82) available on straight receptacles (with 1/2" NPT mount thread). Add a suffix "1" to the part number.
- Type 316 stainless steel shell. For extremely corrosive environments. (A-size only) Add a suffix "8" to the part number.
- Gray, Nylon shell available on 2 through 6 pole, A-size, straight receptacles (with 1/2" NPT mount thread) (p 46). Add a suffix "2" to the part number

Mini-Change Connectors Accessories

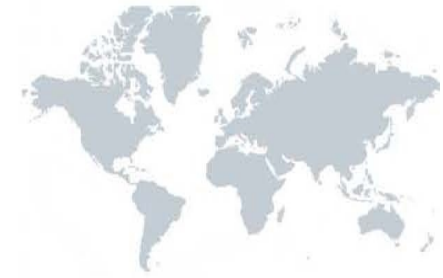


Attachable Connectors

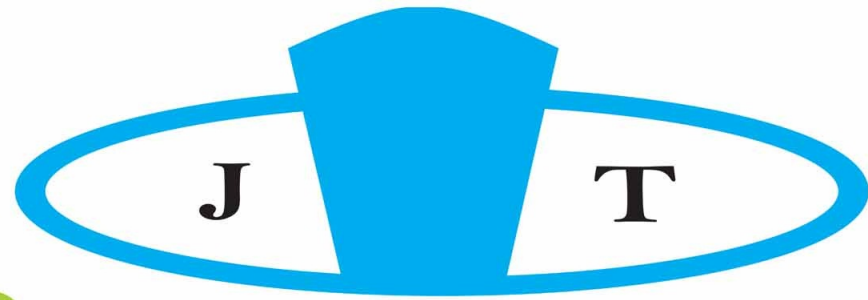


- **For field replacement of a damaged, molded connector or when the customer has his own cable.**
- **Male connector available with external or internal thread coupling nut**
- **Available in 3, 4 & 5 pole straight versions**

Mini-Change Connectors Accessories



- **Closure caps are available for both receptacles and cordsets (p 88). Stainless steel versions are offered for A-size Mini-Change. A nylon version is available for A-size receptacles (only).**
- **Male and Female connectors for use with 1/2" liquid-tight conduit are available in 2 through 6 pole, A-size (p 88).**



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