



For over 35 years, Brad Harrison products have been the standard for innovation and superior engineering in quick disconnect systems. What began as a safe, fast and efficient alternative to hard wiring has expanded into industry's broadest line of quick-disconnect solutions, designed to reduce time, expense and maintenance on the job.

The diverse Brad Harrison family ranges from time-saving Multi-Port Interconnection Systems that help consolidate control system wiring, to Mini-Change® and Micro-Change® industrial connectors, capable of meeting industry's highest standards for signal integrity.

Around the globe, across industries, in the toughest industrial settings imaginable, top-performing Brad Harrison quick-disconnect systems consistently earn their reputation of quality, durability and superior performance.

### **Mini-Change Connectors**

The ultimate in simplified wiring and maintenance. Used in conjunction with 18mm and 30mm tubular proximity sensors, limit switches, rectangular proximity sensors, and solenoids.

### **Micro-Change Connectors**

Specially engineered to withstand harsh industrial environments, Micro-Change connectors are the answer to today's demanding automation requirements. Used in conjunction with 12mm and 18mm tubular photoelectric sensors, and modular controls.

### **Nano-Change® Connectors**

Small and mighty, Nano-Change connectors facilitate fast, simple and error-free maintenance in all types of industrial settings. Used in conjunction with miniature (8mm or smaller) proximity sensors, photoelectric sensors, and other control components.

### **Brad® Power Connection Systems**

Modular, flexible, scalable and code-compliant quick-connect wiring solutions that offer lower installed cost and faster commissioning of industrial machinery. Flexibility and low cost is achieved by eliminating the need for conduit to run power to industrial machinery. Using Brad Power products allow a trunk/feeder line to be installed along the machine's structure with convenient access points for power to be dropped to field devices such as motors, lights, heaters and other electrical devices. Brad Power systems offer quick and easy installations without the tools, threading, pipe bending and wire pulling involved in installing conduit.

## MINI-CHANGE® CORDSETS/ RECEPTACLES

- #16 AWG yellow ST00W cable – U.S. color code
- Oil-resistant PVC jacket
- Low-resistance contact design with gold over palladium nickel plating.



### Single and Double-Ended Cordsets

	2P	3P	4P	5P	6P
<b>FEMALE FACE VIEW</b>					
<b>COLOR CODES</b>	1 – WHITE 2 – BLACK	1 – GREEN (GRND) 2 – BLACK 3 – WHITE	1 – BLACK 2 – RED 3 – WHITE 4 – GREEN (GRND)	1 – WHITE 2 – RED 3 – GREEN (GRND) 4 – ORANGE 5 – BLACK	1 – WHITE 2 – RED 3 – GREEN (GRND) 4 – ORANGE 5 – BLACK 6 – BLUE
<b>VOLTAGE</b>	600VAC/DC	600VAC/DC	600VAC/DC	600VAC/DC	600VAC/DC
<b>CURRENT</b>	13A	13A	10A	8A	8A
<b>CONDUCTOR</b>	#16/2	#16/3	#16/4	#16/5	#16/6

### Female Single-Ended Cordsets with 3' #16 AWG ST00W cable

CONFIGURATION	2P	3P	4P	5P	6P
STRAIGHT (FIG. 1)	102000A01F030	103000A01F030	104000A01F030	105000A01F030	106000A01F030
90° (FIG. 2)	102001A01F030	103001A01F030	104001A01F030	105001A01F030	106001A01F030
MATING MALE RECEPTACLE (FIG. 5)	1R2006A20A120	1R3006A20A120	1R4006A20A120	1R5006A20A120	1R6006A20A130

### Male Single-Ended Cordsets with 3' #16 AWG ST00W cable

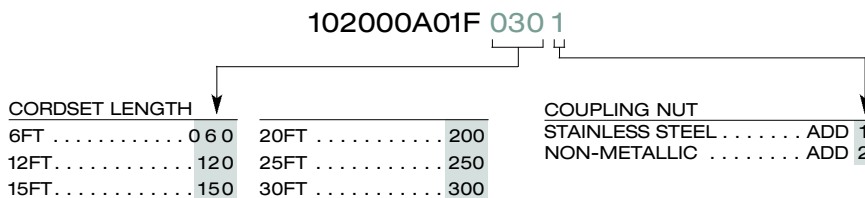
CONFIGURATION	2P	3P	4P	5P	6P
STRAIGHT (FIG. 3)	102002A01F030	103002A01F030	104002A01F030	105002A01F030	106002A01F030
90° (FIG. 4)	102003A01F030	103003A01F030	104003A01F030	105003A01F030	106003A01F030
MATING FEMALE RECEPTACLE (FIG. 5)	1R2004A20A120	1R3004A20A120	1R4004A20A120	1R5004A20A120	1R6004A20A130

### Female/Male Double-Ended Cordsets with 3' #16 AWG ST00W cable

CONFIGURATION	2P	3P	4P	5P	6P
STRAIGHT/STRAIGHT (FIG. 1/3)	112020A01F030	113020A01F030	114020A01F030	115020A01F030	116020A01F030
90°/STRAIGHT (FIG. 2/3)	112021A01F030	113021A01F030	114021A01F030	115021A01F030	116021A01F030
STRAIGHT/90° (FIG. 1/4)	112022A01F030	113022A01F030	114022A01F030	115022A01F030	116022A01F030
90°/90° (FIG. 2/4)	112023A01F030	113023A01F030	114023A01F030	115023A01F030	116023A01F030

NOTE: FOR MATING TWO CORDSETS, USE THREADED UNION #55-0426

Options: Use the following chart to modify your part's specifications.



UL SP MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS. FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

SPECIFICATIONS

MECHANICAL

- CONNECTOR FACE: PVC - UL STD 94 - V0
- MOLDED BODY: PVC - UL STD 94 - V0
- COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY E-COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC GRAY NYLON 6/6
- CABLE: YELLOW, #16 AWG, PVC JACKET, PVC CONDUCTOR INSULATION OVER 65 X #34 COPPER STRANDING, UL ST00W CSA ST
- CABLE DIAMETER: 2P - 0.37" (9.4mm)  
3P - 0.41" (10.4mm)  
4P - 0.42" (10.7mm)  
5P - 0.50" (12.7mm)  
6P - 0.54" (13.7mm)

ELECTRICAL

- VOLTAGE RATING: 600VAC/DC
- AMPERAGE: 2P - 13A  
3P - 13A  
4P - 10A  
5P - 8A  
6P - 8A

ENVIRONMENTAL

- PROTECTION: IP 68 NEMA 6P
- AMBIENT OPERATING TEMP: -4 TO 221° F (-20 TO 105° C)

Connector Dimensions

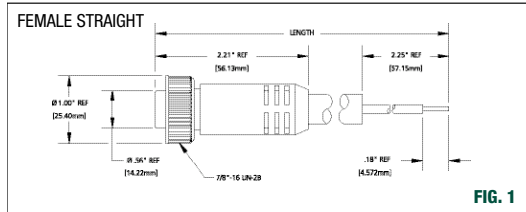


FIG. 1

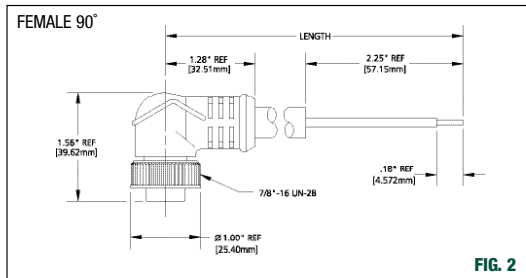


FIG. 2



FIG. 3

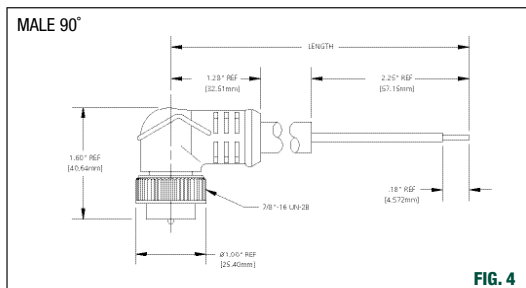


FIG. 4

Receptacle Dimensions

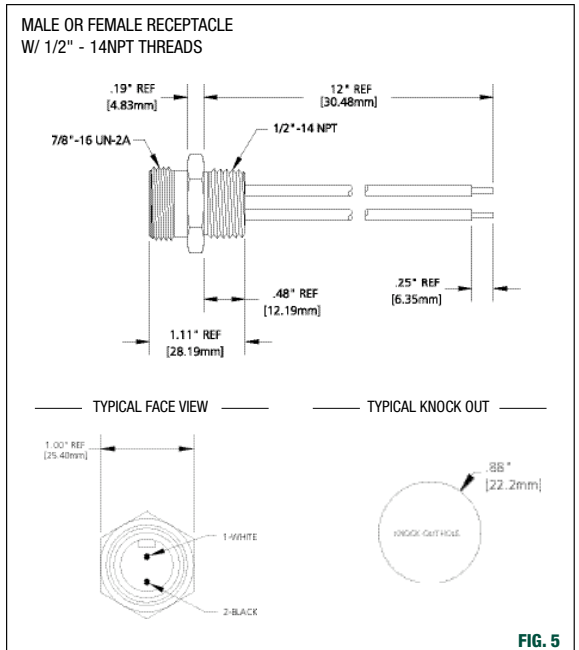


FIG. 5

## MINI-CHANGE® CONNECTORS/ RECEPTACLES

- Allows easy field conversion to quick disconnect
- Male with internal or external threads – female with internal threads
- Secure screw terminals #15 AWG to #24 AWG – compatible with existing Mini-Change



### Field-Attachable Connectors

	3P	4P	5P
<b>FEMALE FACE VIEW</b>			
<b>VOLTAGE</b>	600VAC/DC	600VAC/DC	600VAC/DC
<b>CURRENT</b>	13A	10A	8A
<b>CABLE RANGE</b>	0.20-0.48" O.D. (5-12mm)	0.20-0.48" O.D. (5-12mm)	0.20-0.48" O.D. (5-12mm)
<b>CONFIGURATION</b>	<b>3P</b>	<b>4P</b>	<b>5P</b>
FEMALE STRAIGHT W/ INTERNAL THREADS (FIG. 1)	1A3000-34	1A4000-34	1A5000-34
MATING MALE RECEPTACLE (FIG. 4)	1R3006A20A120	1R4006A20A120	1R5006A20A120
MALE STRAIGHT W/ EXTERNAL THREADS (FIG. 2)	1A3006-34	1A4006-34	1A5006-34
MATING FEMALE RECEPTACLE (FIG. 5)	1R3000A20A120	1R4000A20A120	1R5000A20A120
MALE STRAIGHT W/ INTERNAL THREADS (FIG. 3)	1A3002-34	1A4002-34	1A5002-34
MATING FEMALE RECEPTACLE (FIG. 6)	1R3004A20A120	1R4004A20A120	1R5004A20A120

NOTE: ADD SUFFIX "8" FOR STAINLESS STEEL. EX: 1A3000-34 BECOMES 1A3000-348



MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS.  
FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

SPECIFICATIONS

**MECHANICAL**

CONNECTOR FACE: POLYURETHANE  
 BODY: POLYAMIDE PA6  
 CONTACT: GOLD-PLATED BRASS  
 COUPLING NUT: NICKEL-PLATED BRASS  
 GROMMET: NEOPRENE  
 CABLE RANGE O.D.: 0.20-0.48" (5.0-12.0mm)  
 ACCEPTABLE WIRE GAUGE RANGE: #24 AWG (0.25mm<sup>2</sup>) - #15 AWG (2.0mm<sup>2</sup>)

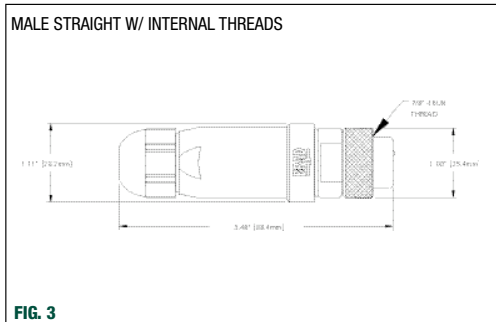
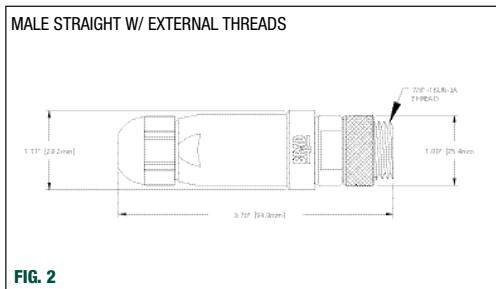
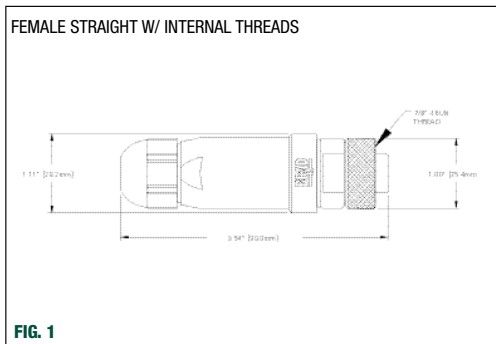
**ELECTRICAL**

VOLTAGE RATING: 600 VAC/DC  
 AMPERAGE: 3P - 13A  
 4P - 10A  
 5P - 8A

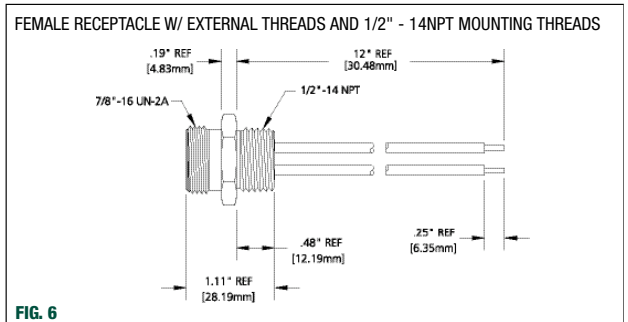
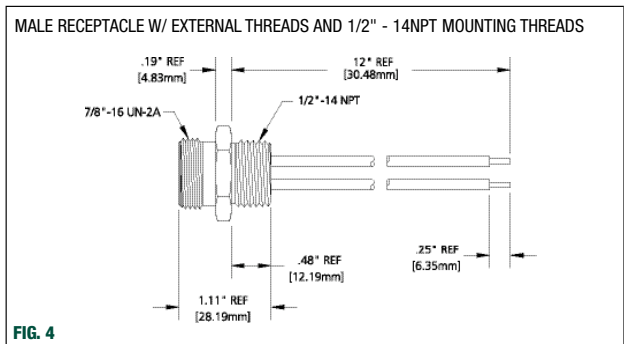
**ENVIRONMENTAL**

PROTECTION: IP 68  
 AMBIENT OPERATING TEMP: -40 TO 176° F (-40 TO 80° C)

Connector Dimensions



Receptacle Dimensions



NOTE: SEE PAGE 228 FOR ADDITIONAL RECEPTACLES

## MINI-CHANGE® ACCESSORIES

- Closure caps for receptacles, connectors and Multi-Port distribution blocks
- Threaded unions for mating (2) cordsets
- Female and male plugs for liquid tight conduit terminations
- 90° adapters with (1) male and (1) female plug



### Closure Caps and Threaded Unions

DESCRIPTION	2P TO 6P (A SIZE)
ALUMINUM CLOSURE CAP WITH INTERNAL THREADS FOR USE WITH RECEPTACLES & MULTIPORTS (FIG. 1)	65-0086
ALUMINUM CLOSURE CAP WITH EXTERNAL THREADS FOR USE WITH CORDSETS (FIG. 2)	65-0085
ALUMINUM THREADED UNION FOR MATING TWO CORDSETS (FIG. 3)	55-0426

NOTE: FOR STAINLESS STEEL, ADD "SS" TO PART NUMBER. EX: 65-0086 BECOMES 65-0086SS

### Connectors with 6' long #16 AWG PVC leads for 1/2" liquid tight conduit

CONFIGURATION	2P	3P	4P	5P
<b>FEMALE FACE VIEW</b>				
<b>COLOR CODES</b>	1 – WHITE 2 – BLACK	1 – GREEN (GRND) 2 – BLACK 3 – WHITE	1 – BLACK 2 – WHITE 3 – RED 4 – GREEN (GRND)	1 – WHITE 2 – RED 3 – GREEN (GRND) 4 – ORANGE 5 – BLACK
FEMALE (FIG. 4)	40718	40925	41132	41344
MALE (FIG. 4)	40780	41037	51149	41593

FOR RECEPTACLE MOUNTING HARDWARE, SEE PAGE 160.

### 90° Adapters with (1) male plug and (1) female plug

CONFIGURATION	2P	3P	4P	5P
90° (FIG. 5)	40761	41048	41212	41481



MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS.  
FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

**SPECIFICATIONS**

**MECHANICAL**

CLOSURE CAPS W/ INTERNAL THREADS: GRAY ANODIZED ALUMINUM  
CLOSURE CAPS W/ EXTERNAL THREADS: BLACK ANODIZED ALUMINUM  
THREADED UNION: GRAY ANODIZED ALUMINUM

**LIQUID-TIGHT CONNECTORS**

CONNECTOR BODY: ZINC PLATED STEEL  
COUPLING NUT: GRAY ANODIZED ALUMINUM  
CLAMP NUT: ZINC PLATED STEEL  
INSERT: PVC - UL STD 94 - V0  
90° ADAPTER CONNECTOR BODY: YELLOW PVC  
COUPLING NUTS: ZINC DIECAST W/ BLACK EPOXY  
INSERT: PVC - UL STD 94 - V0

**ELECTRICAL**

LIQUID-TIGHT CONNECTORS AND 90° ADAPTORS

VOLTAGE RATING: 600V  
CURRENT: 2P - 13A  
3P - 10A  
4P - 8A  
5P - 8A

**ENVIRONMENTAL**

PROTECTION: IP67, NEMA 4  
AMBIENT OPERATING TEMP: -4 TO 221° F (-20 TO 105° C)

**Accessory Dimensions and Details**

ALUMINUM CLOSURE CAPS W/ INTERNAL THREADS

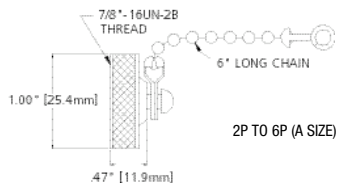


FIG. 1

ALUMINUM CLOSURE CAPS W/ EXTERNAL THREADS

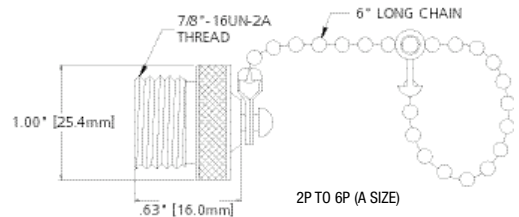


FIG. 2

THREADED UNIONS FOR MATING (2) CORDSETS

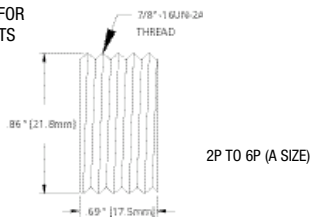


FIG. 3

FEMALE & MALE CONNECTORS FOR 1/2" LIQUID TIGHT CONDUIT W/ #16 AWG PVC LEADS 6'

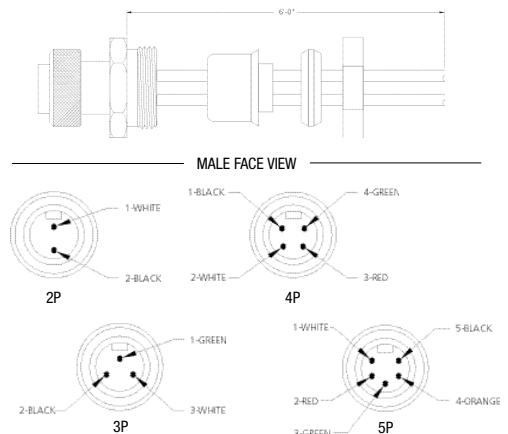


FIG. 4

90° ADAPTER

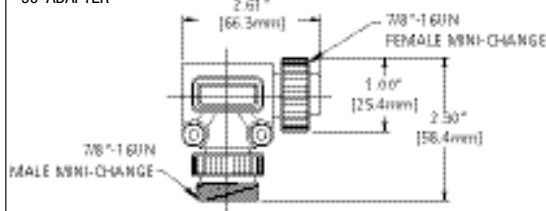


FIG. 5



**MINI-CHANGE® RECEPTACLE CATALOG NUMBER MATRIX**

Use these Catalog Number Matrices to generate a custom or existing part number. From each grouping of specifications choose the corresponding code to create a single 13 character alpha/numeric part number for ordering. Below is an example of a properly constructed Receptacle part number and how it translates to an actual part.

**1R3006A20A1201**

3 pole male straight receptacle with 12" leads, 16 AWG, PVC, U.S. color code, optional stainless steel shell

**1R 3 006 A20 A 120 1**

**LENGTH**  
 1ST DIGIT 10 x LENGTH  
 2ND DIGIT 1 x LENGTH  
 3RD DIGIT .1 x LENGTH

**UNIT OF MEASURE**

A INCHES  
 F FEET

NOTE: USE FEET FOR LENGTH GREATER THAN 12 INCHES

**WIRE TYPE**

A16 18 AWG PVC UL 1015 IEC DC COLOR CODE 4P  
 A17 18 AWG PVC UL 1061 AUTO COLOR CODE 3P-5P  
 A20 16 AWG PVC UL 1015 U.S. COLOR CODE 2P-12P  
 A24 16 AWG PVC UL 1015 AUTO COLOR CODE 3P & 5P  
 A25 18 AWG PVC UL 1015 IEC AC COLOR CODE 3P & 5P

**RECEPTACLE TYPE**

004 FEMALE STRAIGHT, 1/2" - 14NPT MOUNTING THREAD  
 005 FEMALE 90°, 1/2" - 14NPT MOUNTING THREAD 2-6 POLE A-SIZE ONLY  
 006 MALE STRAIGHT, 1/2" - 14NPT MOUNTING THREAD  
 007 MALE 90°, 1/2" - 14NPT MOUNTING THREAD 2-6 POLE A-SIZE ONLY  
 D06 MALE STRAIGHT, PG13.5 MOUNTING THREAD, 3-5 POLE ONLY  
 G04 FEMALE STRAIGHT FLANGE MOUNT 2-6 POLE A-SIZE ONLY  
 G06 MALE STRAIGHT FLANGE MOUNT 2-6 POLE A-SIZE ONLY

**NUMBER OF POLES**

X 2-9 POLE  
 1 10 POLE C-SIZE ONLY  
 2 12 POLE C-SIZE ONLY

**PRODUCT FAMILY**

FIRST CHARACTER

1 2 TO 6 POLE (A-SIZE)  
 2 6 TO 8 POLE (B-SIZE)  
 3 9, 10, 12 POLE (C-SIZE)

SECOND CHARACTER

R RECEPTACLE

**OPTIONAL SHELL MATERIAL (FOR RECEPTACLE TYPE 004 AND 006 ONLY)**

BLANK

1 ZINC DIECAST, EPOXY COAT  
 STAINLESS STEEL, TYPE 303  
 2 NON-METALLIC NYLON 6/6  
 (2P - 6P, A-SIZE ONLY)

MINI-CHANGE® CORDSET CATALOG NUMBER MATRIX

Below is an example of a properly constructed Connector part number and how it translates to an actual part.

113020A01F2001

Mini-Change 3 pole female straight to male straight double-ended cordset with 20' of 16 AWG, ST00W-A, U.S. color code, stainless steel coupling nut

11 3 020 A01 F 200 1

PRODUCT FAMILY FIRST CHARACTER	PRODUCT FAMILY SECOND CHARACTER	NUMBER OF POLES	CONNECTOR TYPE	CABLE TYPE	UNIT OF MEASURE	LENGTH	COUPLING NUT
1	2 TO 6 POLE 1" COUPLER A-SIZE	X	000	A01	F	10 x LENGTH	BLANK
2	6 TO 8 POLE 1 1/4" COUPLER B-SIZE	1	001	A02		1 x LENGTH	1
3	9, 10, 12 POLE 1 1/4" COUPLER C-SIZE	2	002	A03		.1 x LENGTH	2
			003	A05			
			020	A06			
			021	A07			
			022	B13			
			023	C01			
				K02			

# BRAD HARRISON® PASSIVE MEDIA

## MICRO-CHANGE® SINGLE KEY M12 CORDSETS/ RECEPTACLES

- #22 AWG yellow PVC cables – DC color code
- Oil-resistant PVC jacket for all types of heavy-duty industrial environments
- Highly reliable low-resistance contact design with gold over nickel plating



### Single-Ended Cordsets

	3P	4P	5P
<b>FEMALE FACE VIEW</b>			
<b>COLOR CODES</b>	1 – BROWN 2 – NOT USED 3 – BLUE 4 – BLACK 5 – NOT USED	1 – BROWN 2 – WHITE 3 – BLUE 4 – BLACK 5 – NOT USED	1 – BROWN 2 – WHITE 3 – BLUE 4 – BLACK 5 – GRAY
<b>VOLTAGE</b>	250VAC/DC	250VAC/DC	250VAC/DC
<b>CURRENT</b>	4A	4A	4A
<b>CONDUCTOR</b>	#22-3	#22-4	#22-5

### Female Single-Ended Cordsets with 2 meters of #22 AWG PVC cable

CONFIGURATION	3P	4P	5P
STRAIGHT (FIG. 1)	803000A09M020	804000A09M020	805000A09M020
90° (FIG. 2)	803001A09M020	804001A09M020	805001A09M020
MATING MALE RECEPTACLE (FIG. 5)	8R3006A18A120	8R4006A18A120	8R5006A18A120

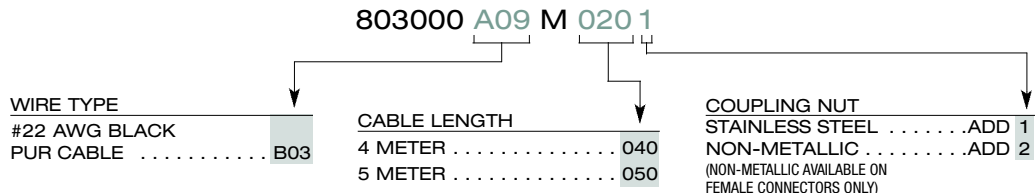
### Male Single-Ended Cordsets with 2 meters of #22 AWG PVC cable

CONFIGURATION	3P	4P	5P
STRAIGHT (FIG. 3)	803006A09M020	804006A09M020	805006A09M020
90° (FIG. 4)	803007A09M020	804007A09M020	805007A09M020
MATING FEMALE RECEPTACLE (FIG. 6)	8R3A00A18A120	8R4A00A18A120	8R5A00A18A120

### Female/Male Double-Ended Cordsets with 2 meters of #22 AWG PVC cable

CONFIGURATION	3P	4P	5P
STRAIGHT/STRAIGHT (FIG. 1/3)	883030A09M020	884030A09M020	885030A09M020
90°/STRAIGHT (FIG. 2/3)	883031A09M020	884031A09M020	885031A09M020
STRAIGHT/90° (FIG. 1/4)	883032A09M020	884032A09M020	885032A09M020
90°/90° (FIG. 2/4)	883033A09M020	884033A09M020	885033A09M020

Options: Use the following chart to modify your part's specifications.



MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS. FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

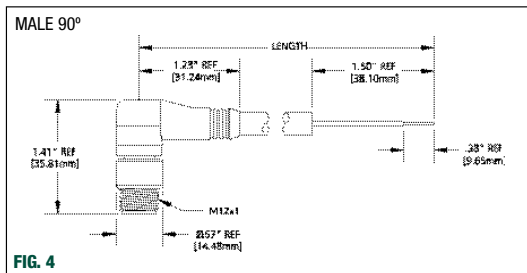
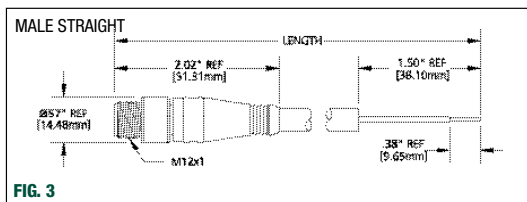
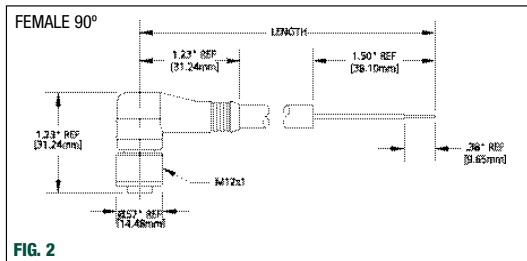
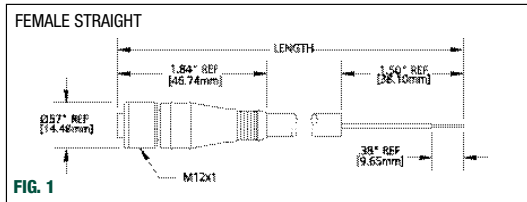
SPECIFICATIONS

- MECHANICAL**  
 CONNECTOR FACE: NYLON 6/6  
 MOLDED BODY: PVC  
 O-RING: NITRILE RUBBER  
 COUPLING NUT: ZINC DIECAST W/ BLACK EPOXY COAT, OPTIONAL STAINLESS STEEL TYPE 303 OR NON-METALLIC BLACK DELRIN  
 CABLE: YELLOW #22 AWG PVC JACKET AND PVC CONDUCTOR INSULATION OVER 26 X #36 COPPER STRANDING, 300V, UL STYLE 2661, CSA AWM I/II A/B, OPTIONAL 80% METALLIC BRAID  
 OUTSIDE DIAMETER: WITHOUT BRAID    WITH BRAID  
 3P - 0.18" (4.6mm)    3P - 0.23" (5.8mm)  
 4P - 0.20" (5.1mm)    4P - 0.25" (6.4mm)  
 5P - 0.23" (5.8mm)    5P - 0.26" (6.6mm)

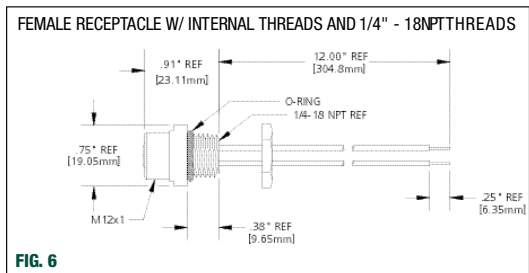
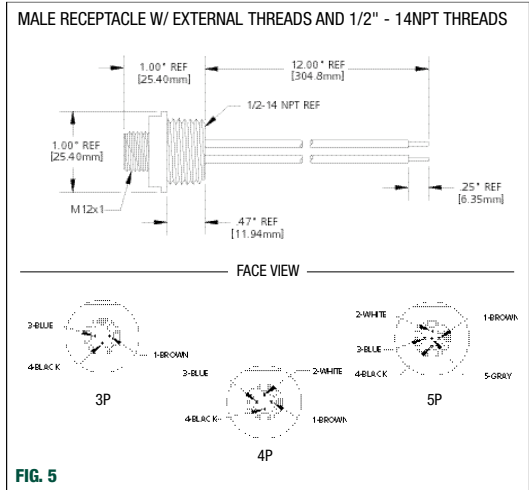
- ELECTRICAL**  
 VOLTAGE RATING: 250 VAC/DC  
 AMPERAGE: 3P - 4A  
 4P - 4A  
 5P - 4A

- ENVIRONMENTAL**  
 PROTECTION: IP 68, NEMA 6P  
 AMBIENT OPERATING TEMP: -4 TO 221° F (-20 TO 105° C)

Connector Dimensions



Receptacle Dimensions



## MICRO-CHANGE® SINGLE KEY M12 CONNECTORS/ RECEPTACLES

- Secure screw terminal connection accepts up to #18 AWG conductors
- Easy field conversion to quick-disconnect design
- For use with all standard single key M12 receptacles and cordsets



### Field-Attachable Connectors Single key M12

	4P	5P
<b>FEMALE FACE VIEW</b>		
<b>MALE FACE VIEW</b>		
<b>VOLTAGE</b>	250VAC/300VDC	30VAC/36VDC
<b>CURRENT</b>	4A	4A

### Female Connectors PG 7 cable fitting (0.098 - 0.26" OD [2.5 - 6.5mm] cable)

CONFIGURATION	4P	5P
STRAIGHT (FIG. 1)	8A4000-31	8A5000-31
90° (FIG. 2)	8A4001-31	8A5001-31
MATING MALE RECEPTACLE (FIG. 3)	8R4006A18A120	8R5006A18A120

### Female Connectors PG 9 cable fitting (0.16 - 0.32" OD [4.1 - 8.1mm] cable)

CONFIGURATION	4P	5P
STRAIGHT (FIG. 1)	8A4000-32	8A5000-32
MATING MALE RECEPTACLE (FIG. 3)	8R4006A18A120	8R5006A18A120

### Male Connectors PG 7 cable fitting (0.098 - 0.26" OD [2.5 - 6.5mm] cable)

CONFIGURATION	4P	5P
STRAIGHT (FIG. 4)	8A4006-31	8A5006-31
90° (FIG. 5)	8A4007-31	8A5007-31
MATING FEMALE RECEPTACLE (FIG. 6)	8R4A00A18A120	8R5A00A18A120

### Male Connectors PG 9 cable fitting (0.16 - 0.32" OD [4.1 - 8.1mm] cable)

CONFIGURATION	4P	5P
STRAIGHT (FIG. 4)	8A4006-32	8A5006-32
MATING FEMALE RECEPTACLE (FIG. 6)	8R4A00A18A120	8R5A00A18A120

### Closure Caps

CONFIGURATION	4P	5P
METALLIC CLOSURE CAP WITH INT. THREADS	80011	80011
METALLIC CLOSURE CAP WITH EXT. THREADS	80015	80015
NON-METALLIC CLOSURE CAP WITH EXT. THREADS	80013	80013

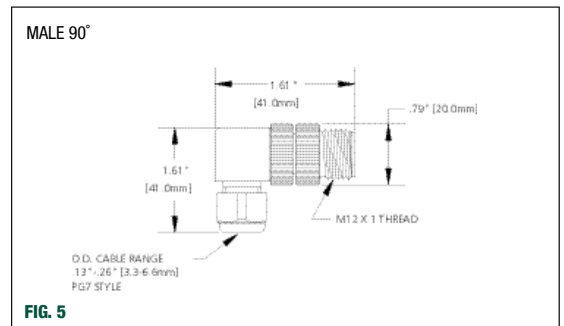
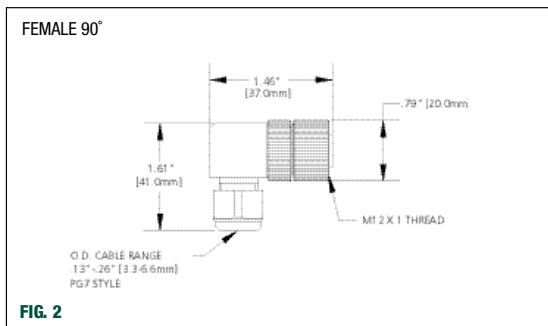
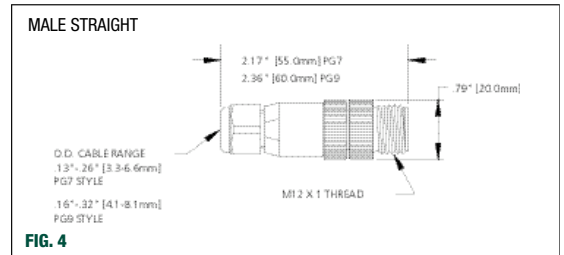
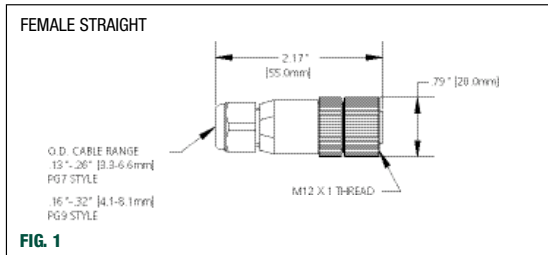


MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS.  
FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

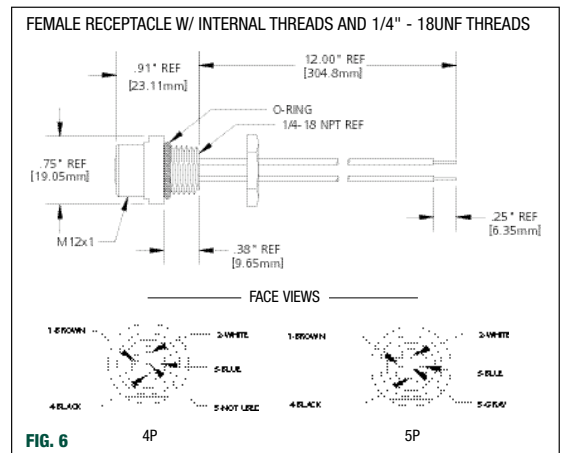
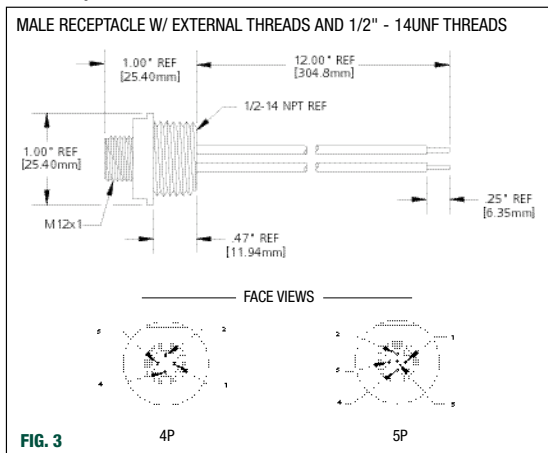
**SPECIFICATIONS**

<b>MECHANICAL</b>		
CONNECTOR FACE:	POLYAMIDE	
MOLDED BODY:	POLYAMIDE	
CONTACT:	SILVER PLATED BRASS	
COUPLING NUT:	NICKEL PLATED BRASS	
GROMMET:	NITRILE RUBBER	
MAXIMUM CONDUCTOR SIZE:	18 AWG	
<b>ELECTRICAL</b>		
VOLTAGE RATING:	4P - 250VAC	300VDC
	5P - 30VAC	36VDC
AMPERAGE:	4P - 4A	
	5P - 4A	
<b>ENVIRONMENTAL</b>		
PROTECTION:	IP 68	
AMBIENT OPERATING TEMP:	-13 TO 194° F (-25 TO 90 °C)	

**Connector Dimensions**



**Receptacle Dimensions**



**MICRO-CHANGE® RECEPTACLE CATALOG NUMBER MATRIX**

Below is an example of a properly constructed receptacle part number and how it translates to an actual part.

**8R3006A18A1201**

Micro-Change single key, 3 pole male straight receptacle, 1/2"-14 NPT mounting threads with 12 inch leads, 22 AWG, PVC, DC color code, with stainless steel shell.

**8R 3 006 A18 A 120 1**

<b>PRODUCT FAMILY</b>	7R	DUAL KEY, 1/2"-20 UNF MATING THREAD	<b>UNIT OF MEASURE</b>	A	INCHES	<b>LENGTH</b>	1ST DIGIT	10 x LENGTH
	8R	SINGLE KEY, M12 MATING THREAD		F	FEET (DUAL-KEY ONLY)		2ND DIGIT	1 x LENGTH
<b>NUMBER OF POLES</b>	X	2-6 POLE AVAILABLE FOR DUAL KEY	M	METERS (SINGLE-KEY ONLY)	3RD DIGIT	.1 x LENGTH		
		3-5 POLE AVAILABLE FOR SINGLE KEY						
<b>RECEPTACLE TYPE</b>	006	MALE STRAIGHT 1/2"-14 NPT MOUNTING THREADS, SINGLE AND DUAL KEY	<b>WIRE TYPE</b>	DUAL KEY				
	A06	MALE STRAIGHT 1/4"-18 NPT MOUNTING THREADS, DUAL KEY ONLY		A17	18 AWG, PVC AC COLOR CODE			
	E06	MALE STRAIGHT M 14 X 1 MOUNTING THREADS, SINGLE KEY ONLY	A19	22 AWG, PVC AC COLOR CODE				
	A00	FEMALE STRAIGHT 1/4"-18 NPT MOUNTING THREADS, SINGLE AND DUAL KEY	SINGLE KEY					
	B00	FEMALE STRAIGHT BACK PANEL MOUNT, SINGLE AND DUAL KEY	A16	18 AWG, PVC DC COLOR CODE				
			A18	22 AWG, PVC DC COLOR CODE				
<b>OPTIONAL SHELL MATERIAL</b>	BLANK	STANDARD MATERIAL						
	1	STAINLESS STEEL						





## NANO-CHANGE® M8 CORDSETS/ RECEPTACLES

- #24 AWG yellow PVC cable
- Oil-resistant high-flex PUR jacket available
- Threaded coupling to withstand harsh industrial environments



### Single and Double-Ended Cordsets Threaded couplers

	3P	4P	5P
<b>FEMALE FACE VIEW</b>			
<b>COLOR CODES</b>	1 – BROWN 2 – NOT USED 3 – BLUE 4 – BLACK	1 – BROWN 2 – WHITE 3 – BLUE 4 – BLACK	1 – BROWN 2 – WHITE 3 – BLUE 4 – BLACK 5 – GRAY
<b>VOLTAGE</b>	60VAC/75VDC	60VAC/75VDC	60VAC/75VDC
<b>CURRENT</b>	4A	4A	3A
<b>CONDUCTOR</b>	#24-3	#24-4	#24-5

### Female Single-Ended Cordsets With 2 meters of PVC cable

CONFIGURATION	3P	4P	5P
STRAIGHT (FIG. 1)	403000A10M020	404000A10M020	405000A10M020
90° (FIG. 2)	403001A10M020	404001A10M020	405001A10M020
MATING MALE RECEPTACLE (FIG. 5)	4R3P06A27C300	4R4P06A27C300	4R5P06A27C300

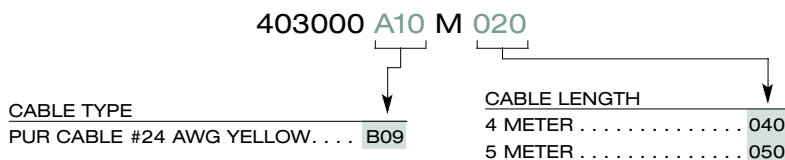
### Male Single-Ended Cordsets With 2 meters of PVC cable

CONFIGURATION	3P	4P	5P
STRAIGHT (FIG. 3)	403006A10M020	404006A10M020	405006A10M020
90° (FIG. 4)	403007A10M020	404007A10M020	405007A10M020
MATING FEMALE RECEPTACLE (FIG. 6)	4R3P00A27C300	4R4P00A27C300	4R5P00A27C300

### Female/Male Double-Ended Cordsets With 2 meters of PVC cable

CONFIGURATION	3P	4P	5P
STRAIGHT/STRAIGHT (FIG. 1/3)	443030A10M020	444030A10M020	445030A10M020
90°/STRAIGHT (FIG. 2/3)	443031A10M020	444031A10M020	445031A10M020
STRAIGHT/90° (FIG. 1/4)	443032A10M020	444032A10M020	445032A10M020
90°/90° (FIG. 2/4)	443033A10M020	444033A10M020	445033A10M020

Options: Use the following chart to modify your part's specifications.



MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS. FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

SPECIFICATIONS

- MECHANICAL**  
 CONNECTOR FACE: PUR  
 MOLDED BODY: PUR  
 O-RING: VITON  
 COUPLING NUT: NICKEL-PLATED BRASS  
 CABLE: YELLOW, PVC CABLE JACKET, #24 AWG, UL STYLE 2661  
 OPTION: YELLOW, HIGH-FLEX PUR CABLE JACKET, #24 AWG, UL STYLE 20233
- |                   |               |               |
|-------------------|---------------|---------------|
| OUTSIDE DIAMETER: | PVC           | PUR           |
| 3/C               | 0.17" (4.3mm) | 0.18" (4.6mm) |
| 4/C               | 0.18" (4.6mm) | 0.18" (4.6mm) |
| 5/C               | 0.20" (5.1mm) | 0.20" (5.1mm) |
- ELECTRICAL**  
 VOLTAGE RATING: 60VAC/75VDC  
 AMPERAGE: 3P - 4A  
 4P - 4A  
 5P - 3A
- ENVIRONMENTAL**  
 PROTECTION: NEMA 6P, IP 68  
 AMBIENT OPERATING TEMP: -4-221°F (-20-105°C) - PVC  
 -4-176°F (-20-80°C) - PUR

Connector Dimensions

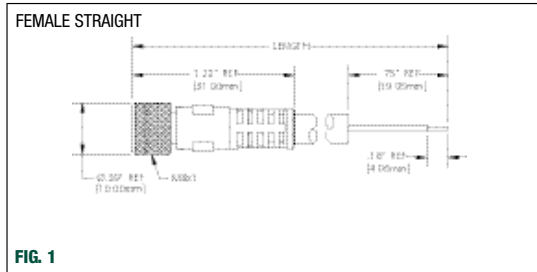


FIG. 1

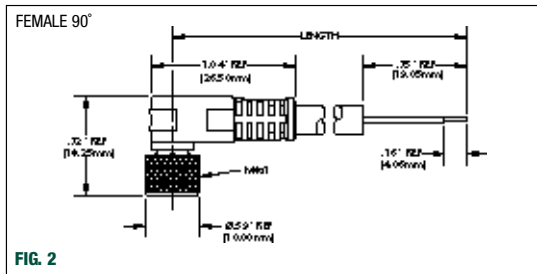


FIG. 2

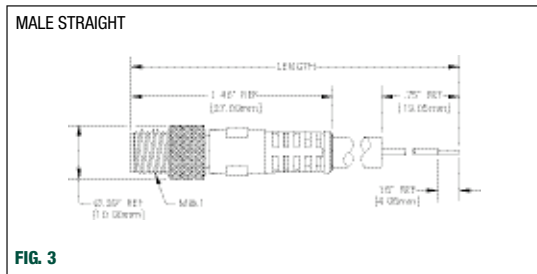


FIG. 3

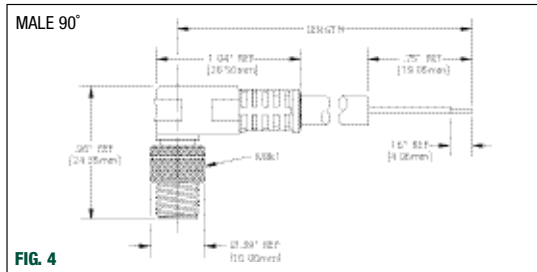


FIG. 4

Receptacle Dimensions

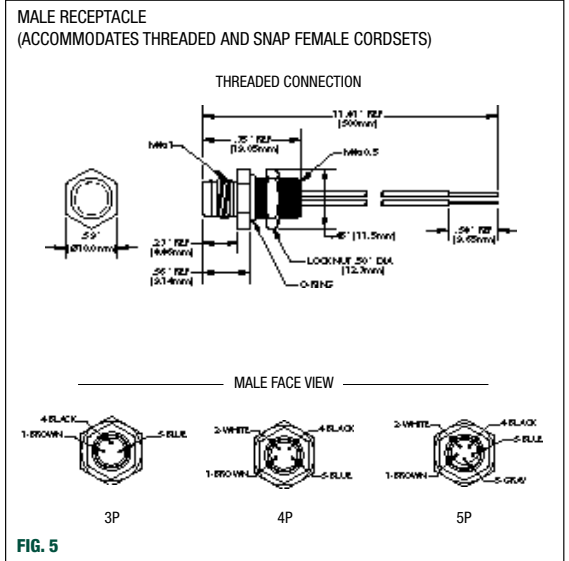


FIG. 5

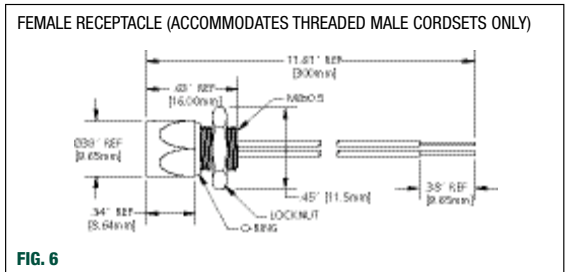


FIG. 6

## NANO-CHANGE® M8 CONNECTORS/ RECEPTACLES

- Allows easy field conversion to quick-disconnect
- Solder connections
- Male and female in both straight and 90° versions



### M8 Field-Attachable Connectors

	3P	5P
<b>FEMALE FACE VIEW</b>		
<b>MALE FACE VIEW</b>		
<b>VOLTAGE</b>	60VAC/75VDC	60VAC/75VDC
<b>CURRENT</b>	4A	4A

### Female Field-Attachable Connectors 3.5-5.0mm (0.137-0.196" OD) cable fitting

CONFIGURATION	3P	5P
STRAIGHT (FIG. 1)	N03FA03124	N04FA03124
90° (FIG. 2)	N03FA04124	N04FA04124
MATING MALE RECEPTACLE	4R3P06A27C300	4R4P06A27C300

### Male Field-Attachable Connectors 3.5-5.0mm (0.137-0.196" OD) cable fitting

CONFIGURATION	3P	5P
STRAIGHT (FIG. 3)	N03MA03124	N04MA03124
90° (FIG. 4)	N03MA04124	N04MA04124
MATING FEMALE RECEPTACLE	4R3P00A27C300	4R4P00A27C300



MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS.  
FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

**SPECIFICATIONS**

**MECHANICAL**  
 CONNECTOR FACE: PA  
 BODY: PA  
 COUPLING NUT: NICKEL-PLATED BRASS  
 TERMINATION: SOLDER LUGS; ACCEPTS  
 CONDUCTOR TO #20 AWG

**ELECTRICAL**  
 VOLTAGE RATING: 60VAC/75VDC  
 AMPERAGE: 4A

**ENVIRONMENTAL**  
 PROTECTION: IP 67  
 AMBIENT OPERATING TEMP: 32 TO 185° F (0 TO 85° C)

**Connector Dimensions**

FEMALE STRAIGHT W/ INTERNAL THREAD

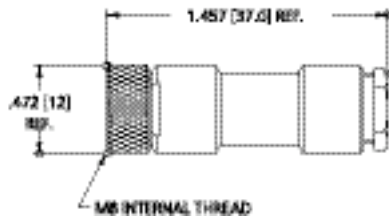


FIG. 1

MALE STRAIGHT W/ EXTERNAL THREAD

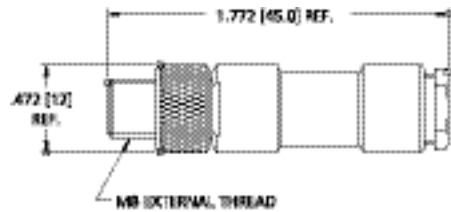


FIG. 3

FEMALE 90° W/ INTERNAL THREAD

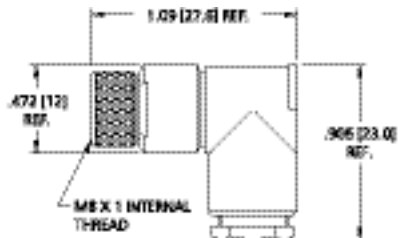


FIG. 2

MALE 90° W/ EXTERNAL THREAD

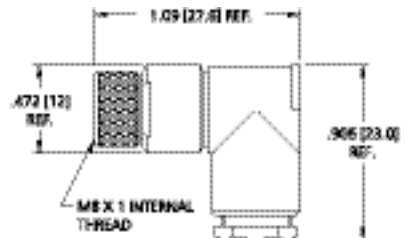


FIG. 4





NOTE: RECEPTACLE DRAWINGS ARE FOUND ON PAGE 237.

## TRUNK/FEEDER CORDSETS/ RECEPTACLES

Brad® Power cordsets for trunk and feeder circuits offer durable components for the layout of a scalable wiring system for power distribution. Available in 3 and 4 pole configurations with dual rated 10 AWG cable, Trunk/Feeder cordsets provide flexibility for electrical power applications up to 30A, 600VAC/DC. Multiple key options enable differentiated circuits on trunk/feeder lines.

Brad Power tees are key components for establishing a modular, scalable trunk and drop wiring topology. Tees with a drop connector provide an access point for branch circuits to field devices, while tees with a trunk connector split the main feeder circuit into sub-segments. Multiple key options enable differentiated circuits on trunk/feeder lines.

### Connectors

	SINGLE KEY 3P	SINGLE KEY 4P	ALTERNATIVE KEY 3P	ALTERNATIVE KEY 4P
<b>FEMALE FACE VIEW</b>				
<b>COLOR CODES</b>	1 – BLACK 2 – GREEN/YELLOW 3 – WHITE	1 – BLACK 2 – GREEN/YELLOW 3 – RED 4 – WHITE	1 – BLACK 2 – GREEN/YELLOW 3 – WHITE	1 – BLACK 2 – GREEN/YELLOW 3 – RED 4 – WHITE
<b>VOLTAGE</b>	600VAC/VDC	600VAC/VDC	600VAC/VDC	600VAC/VDC
<b>CURRENT</b>	30A	25A	30A	25A

### Female Single-Ended Cordsets with 0.5 meters of 10 AWG cable

CONFIGURATION	SINGLE KEY 3P	SINGLE KEY 4P	ALTERNATIVE KEY 3P	ALTERNATIVE KEY 4P
STRAIGHT (FIG. 1)	C03000A48M010	C04000A48M010	C03100A48M010	C04100A48M010
90° (FIG. 2)	C03001A48M010	C04001A48M010	C03101A48M010	C04101A48M010
1/2-NPT MATING MALE RECEP. (FIG. 5)	CR3006A30M003	CR4006A30M003	CR3106A30M003	CR4106A30M003
3/4-NPT MATING MALE RECEP. (FIG. 5)	CR3C06A30M003	CR4C06A30M003	CR3D06A30M003	CR4D06A30M003

### Male Single-Ended Cordsets with 0.5 meters of 10 AWG cable

CONFIGURATION	SINGLE KEY 3P	SINGLE KEY 4P	ALTERNATIVE KEY 3P	ALTERNATIVE KEY 4P
STRAIGHT (FIG. 3)	C03006A48M010	C04006A48M010	C03106A48M010	C04106A48M010
90° (FIG. 4)	C03007A48M010	C04007A48M010	C03107A48M010	C04107A48M010
1/2-NPT MATING FEMALE RECEP. (FIG. 6)	CR3000A30M003	CR4000A30M003	CR3100A30M003	CR4100A30M003
3/4-NPT MATING FEMALE RECEP. (FIG. 6)	CR3C00A30M003	CR4C00A30M003	CR3D00A30M003	CR4D00A30M003

### Female/Male Double-Ended Cordsets with 0.5 meters of 10 AWG cable

CONFIGURATION	SINGLE KEY 3P	SINGLE KEY 4P	ALTERNATIVE KEY 3P	ALTERNATIVE KEY 4P
STRAIGHT/STRAIGHT (FIG. 1/3)	CC3030A48M010	CC4030A48M010	CC3130A48M010	CC4130A48M010
90°/STRAIGHT (FIG. 2/3)	CC3031A48M010	CC4031A48M010	CC3131A48M010	CC4131A48M010
STRAIGHT/90° (FIG. 1/4)	CC3032A48M010	CC4032A48M010	CC3132A48M010	CC4132A48M010
90°/90° (FIG. 2/4)	CC3033A48M010	CC4033A48M010	CC3133A48M010	CC4133A48M010

### Accessories tees and reducing adapters

DESCRIPTION	SINGLE KEY 3P	SINGLE KEY 4P	ALTERNATIVE KEY 3P	ALTERNATIVE KEY 4P
TRUNK TEES	TC30C30-001	TC40C40-001	TC31C31-001	TC41C41-001
TEES WITH DROP CONNECTORS	TC30130-001	TC40140-001	TC31130-001	TC41140-001
REDUCERS TO FEMALE DROP	1C3030-001	1C4030-001	1C3130-001	1C4130-001

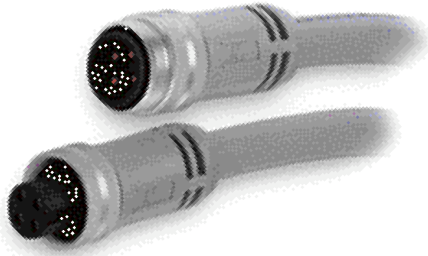
Options: Use the following chart to modify your part's specifications.

C03006A48M 005

CABLE LENGTH	↓
0.5 METERS . . . . .	005
10 METERS . . . . .	100



MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS. FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.



## SPECIFICATIONS

<b>MECHANICAL</b>	
CONNECTOR FACE:	GRAY PVC
BODY:	BLACK PVC
COUPLING NUT:	ANODIZED ALUMINUM
CONTACT:	SOLID COPPER ALLOY
CABLE:	GRAY PVC, 10 AWG, DUAL RATED UL TC/OPEN WIRING AND ST00W
OUTSIDE DIAMETER:	10/3 0.700" 10/4 0.755"
<b>ELECTRICAL</b>	
VOLTAGE RATING:	600VAC/DC
AMPERAGE:	30A (3P), 25A (4P)

## Connector Dimensions

FEMALE STRAIGHT W/ INTERNAL THREAD

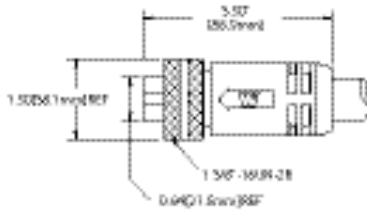


FIG. 1

MALE STRAIGHT W/ EXTERNAL THREAD

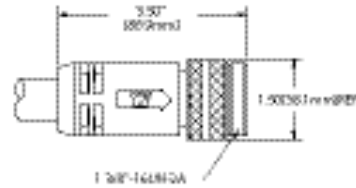


FIG. 3

FEMALE 90° W/ INTERNAL THREAD

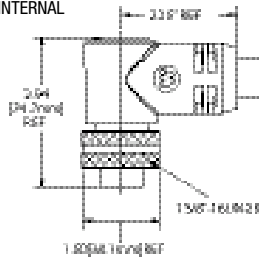


FIG. 2

MALE 90° W/ EXTERNAL THREAD

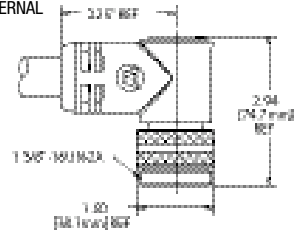


FIG. 4



## Tee and Reducer Specifications

<b>MECHANICAL</b>		<b>TRUNK/FEEDER</b>	<b>DROP/BRANCH</b>
CONNECTOR BODY:	GRAY PVC	GRAY PVC	BLACK PVC
INSERT:	BLACK PVC	BLACK PVC	BLACK PVC
RECEPTACLE SHELL:	ANODIZED ALUMINUM	ANODIZED ALUMINUM	ZINC DIECAST, BLACK E-COAT
CONTACT:	COPPER	COPPER	GOLD OVER NICKEL-PLATED
<b>ELECTRICAL</b>			
VOLTAGE:	600VAC/DC	600VAC/DC	600VAC/DC
MAX INPUT CURRENT:	25A (4P), 30A (3P)	25A (4P), 30A (3P)	-
MAX DROP CURRENT:	25A (4P), 30A (3P)	25A (4P), 30A (3P)	15A

## Receptacle Dimensions (specification information on page 243)

FEMALE RECEPTACLE

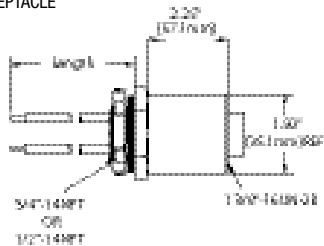


FIG. 5

MALE RECEPTACLE

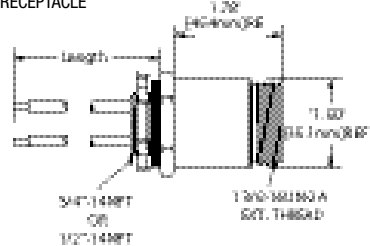


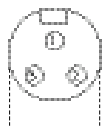
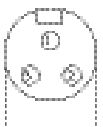
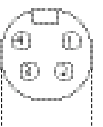

FIG. 6

## DROP/BRANCH CORDSETS/ RECEPTACLES

Brad Power cordsets for drop and branch circuits feature a compact mini style connector, which allows for the quick connection of field devices to trunk/feeder circuits. Available in 3 and 4 pole configurations with 14 or 16 AWG cable, drop/branch circuits can be wired quickly and easily for applications up to 15A, 600VAC/DC.

As the termination point at motors and devices, Brad Power receptacles offer a quick connect interface to your device or cabinet. Accessories such as closure caps maintain sealing integrity and provide convenient “stop points” for expandable power systems. Multiple key options enable differentiated circuits on trunk/feeder lines. 1/2-14NPT mounting thread.

### Connectors

	3P/14 AWG	3P/16 AWG	4P/14 AWG	4P/16 AWG
<b>FEMALE FACE VIEW</b>				
<b>COLOR CODES</b>	1 – GREEN (GRND) 2 – BLACK 3 – WHITE	1 – GREEN (GRND) 2 – BLACK 3 – WHITE	1 – BLACK 2 – WHITE 3 – RED 4 – GREEN (GRND)	1 – BLACK 2 – WHITE 3 – RED 4 – GREEN (GRND)
<b>VOLTAGE</b>	600VAC/VDC	600VAC/VDC	600VAC/VDC	600VAC/VDC
<b>CURRENT</b>	15A	13A	15A	10A

### Female Single-Ended Cordsets

CONFIGURATION	3P/14 AWG	3P/16 AWG	4P/14 AWG	4P/16 AWG
STRAIGHT (FIG. 1)	103000A46M010	103000A45M010	104000A46M010	104000A45M010
90° (FIG. 2)	103001A46M010	103001A45M010	104001A46M010	104001A45M010
MATING MALE RECEP. (FIG. 6)	1R3006A28A120G	1R3006A20A120G	1R4006A28A120G	1R4006A20A120G

### Male Single-Ended Cordsets

CONFIGURATION	3P/14 AWG	3P/16 AWG	4P/14 AWG	4P/16 AWG
STRAIGHT (FIG. 3)	103006A46M010	103006A45M010	104006A46M010	104006A45M010
90° (FIG. 4)	103007A46M010	103007A45M010	104007A46M010	104007A45M010
MATING FEMALE RECEP. (FIG. 5)	1R3000A28A120G	1R3000A20A120G	1R4000A28A120G	1R4000A20A120G

### Female/Male Double-Ended Cordsets

CONFIGURATION	3P/14 AWG	3P/16 AWG	4P/14 AWG	4P/16 AWG
STRAIGHT/STRAIGHT (FIG. 1/3)	113030A46M010	113030A45M010	114030A46M010	114030A45M010
90°/STRAIGHT (FIG. 2/3)	113031A46M010	113031A45M010	114031A46M010	114031A45M010
STRAIGHT/90° (FIG. 1/4)	113032A46M010	113032A45M010	114032A46M010	114032A45M010
90°/90° (FIG. 2/4)	113033A46M010	113033A45M010	114033A46M010	114033A45M010

### Receptacles and Accessories

CONFIG.	MOUNT. THREAD	3P/14 AWG	3P/16 AWG	4P/14 AWG	4P/16 AWG	CLOSURE CAP
FEMALE (FIG. 5)	1/2-14NPT	1R3000A28A120G	1R3000A20A120G	1R4000A28A120G	1R4000A20A120G	65-0085
MALE (FIG. 6)	1/2-14NPT	1R3006A28A120G	1R3006A20A120G	1R4006A28A120G	1R4006A20A120G	65-0086

Options: Use the following chart to modify your part's specifications.

for cordsets **103000A46M** **005**

↓

CABLE LENGTH

0.5 METERS . . . . . 005

10 METERS . . . . . 100

for receptacles **1R3000A28A** **120** **G**

↓

CABLE LENGTH

1 INCH . . . . . 010

12 INCHES . . . . . 120

**SPECIFICATIONS**

- MECHANICAL**  
 CONNECTOR FACE: GRAY PVC  
 BODY: BLACK PVC  
 COUPLING NUT: ZINC DIECAST WITH BLACK EPOXY COATING  
 CONTACT: COPPER ALLOY WITH GOLD OVER NICKEL PLATING  
 CABLE: GRAY PVC, 14 AWG AND 16 AWG, DUAL RATED UL TC/OPEN WIRING AND STOOW  
 OUTSIDE DIAMETER: 14/3 0.555", 14/4 0.585", 16/3 0.395", 16/4 0.430"
- ELECTRICAL**  
 VOLTAGE RATING: 600VAC/DC  
 AMPERAGE: 10A (16 AWG), 15A (14 AWG)

**Connector Dimensions**

FEMALE STRAIGHT W/ INTERNAL THREAD

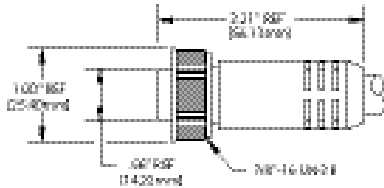


FIG. 1

MALE STRAIGHT W/ EXTERNAL THREAD

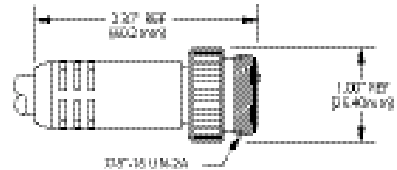


FIG. 3

FEMALE 90° W/ INTERNAL THREAD

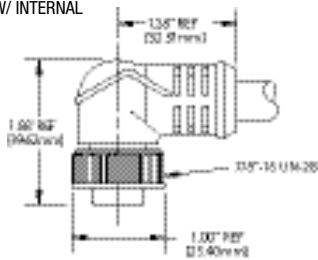


FIG. 2

MALE 90° W/ EXTERNAL THREAD

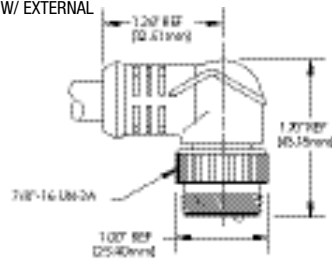
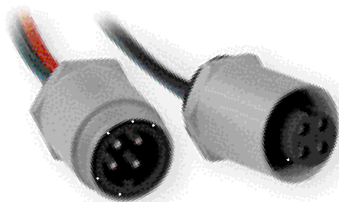


FIG. 4



**Receptacle Dimensions**

FEMALE RECEPTACLE

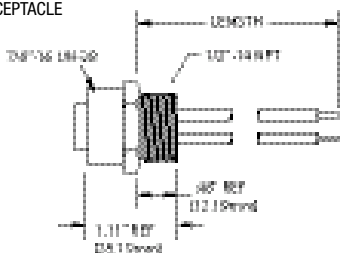


FIG. 5

MALE RECEPTACLE

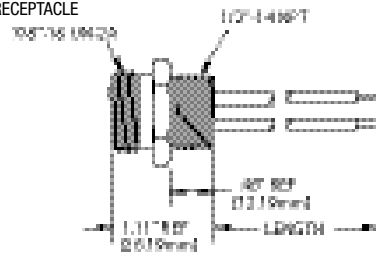


FIG. 6

**Receptacle Specifications**

- |  |  |                     |
|--|--|---------------------|
| <b>MECHANICAL</b>                            | <b>DROP/BRANCH</b>                           | <b>TRUNK/FEEDER</b> |
| INSERT: BLACK PVC                            | INSERT: BLACK PVC                            | BLACK PVC           |
| RECEPTACLE SHELL: ZINC-DIECAST, BLACK E-COAT | RECEPTACLE SHELL: ZINC-DIECAST, BLACK E-COAT | ANODIZED ALUMINUM   |
| CONTACT: GOLD OVER NICKEL PLATED             | CONTACT: GOLD OVER NICKEL PLATED             | COPPER ALLOY        |
| WIRE INSULATION: PVC                         | WIRE INSULATION: PVC                         | PVC                 |
| WIRE GAUGE: 14AWG AND 16AWG                  | WIRE GAUGE: 14AWG AND 16AWG                  | 10AWG               |
| <b>ELECTRICAL</b>                            | <b>ELECTRICAL</b>                            | <b>ELECTRICAL</b>   |
| AMPERAGE: 10A/600V (16AWG)                   | AMPERAGE: 10A/600V (16AWG)                   | 25A/600V (4P)       |
| 13A/600V (14AWG)                             | 13A/600V (14AWG)                             | 30A/600V (3P)       |