



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

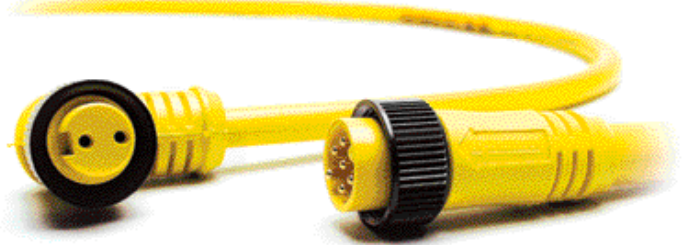
Small and mighty, Nano-Change connectors facilitate fast, simple and error-free maintenance in all types of industrial settings. Used in conjunction with miniature (8mm or smaller) proximity sensors, photoelectric sensors, and other control components.

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
FEMALE FACE VIEW					
COLOR CODES	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
VOLTAGE	600VAC/DC	600VAC/DC	600VAC/DC	600VAC/DC	600VAC/DC
CURRENT	13A	13A	10A	8A	8A
CONDUCTOR	#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

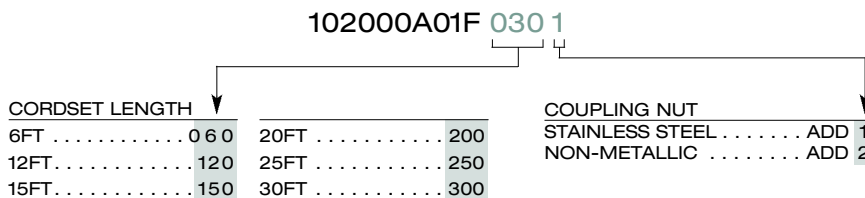
CONFIGURATION	2P	3P	4P	5P	6P
STRAIGHT (FIG. 3)	102002A01F030	103002A01F030	104002A01F030	105002A01F030	106002A01F030
90° (FIG. 4)	102003A01F030	103003A01F030	104003A01F030	105003A01F030	106003A01F030
MATING FEMALE RECEPTACLE (FIG. 5)	1R2004A20A120	1R3004A20A120	1R4004A20A120	1R5004A20A120	1R6004A20A130

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

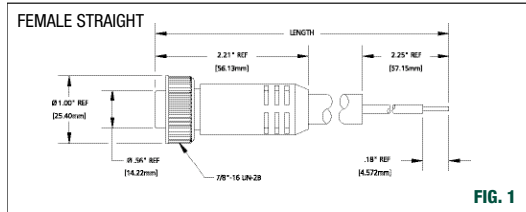


FIG. 1

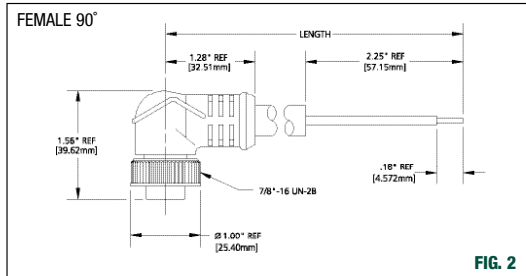


FIG. 2

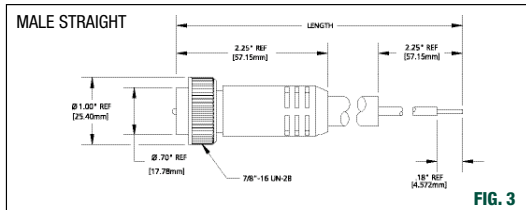


FIG. 3

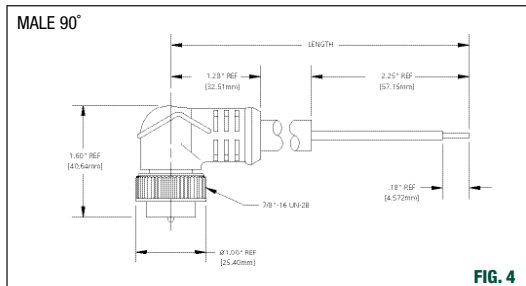


FIG. 4

Receptacle Dimensions

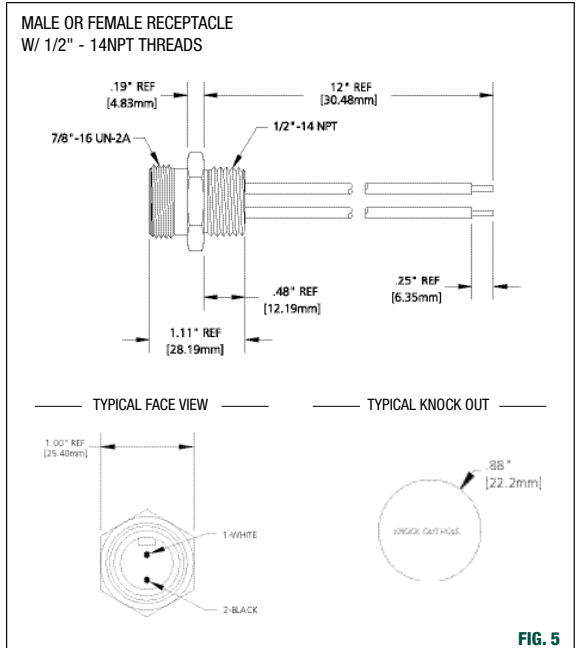


FIG. 5

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
FEMALE FACE VIEW			
VOLTAGE	600VAC/DC	600VAC/DC	600VAC/DC
CURRENT	13A	10A	8A
CABLE RANGE	0.20-0.48" O.D. (5-12mm)	0.20-0.48" O.D. (5-12mm)	0.20-0.48" O.D. (5-12mm)
CONFIGURATION	3P	4P	5P
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 (0.25mm²) - #15 AWG (2.0mm²)

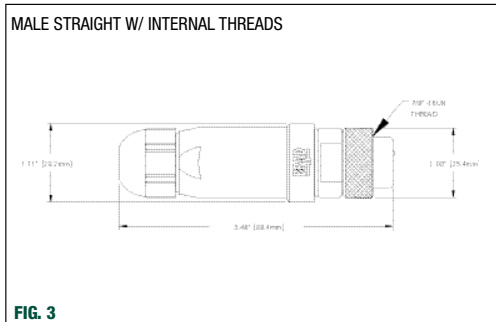
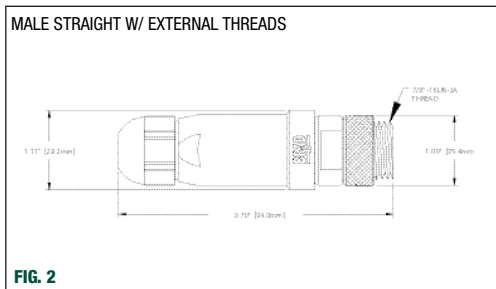
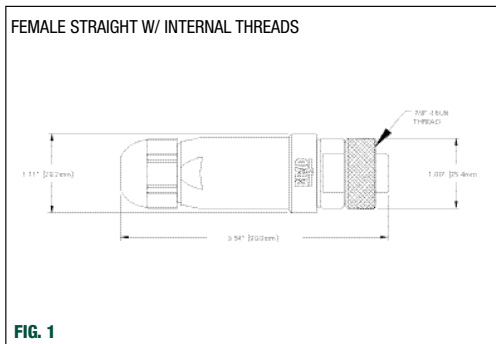
ELECTRICAL

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

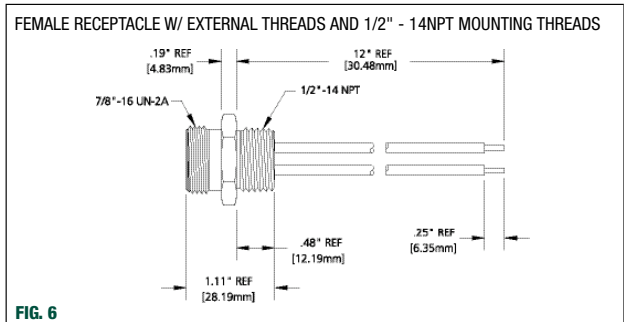
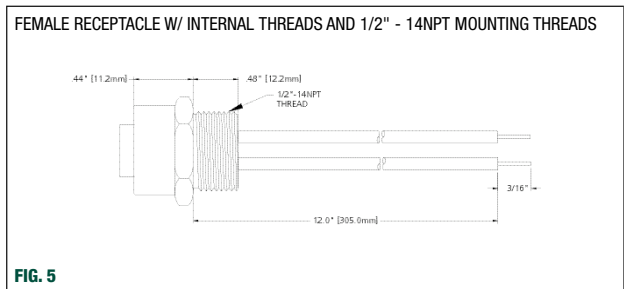
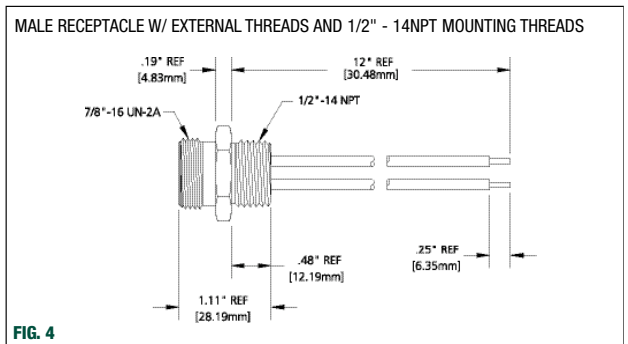
ENVIRONMENTAL

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

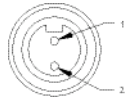
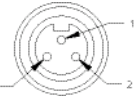

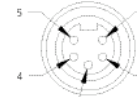


Closure Caps and Threaded Unions

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
FEMALE FACE VIEW				
COLOR CODES	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

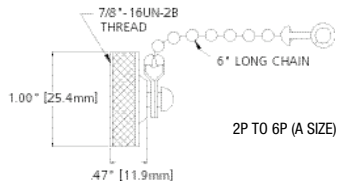


FIG. 1

ALUMINUM CLOSURE CAPS W/ EXTERNAL THREADS

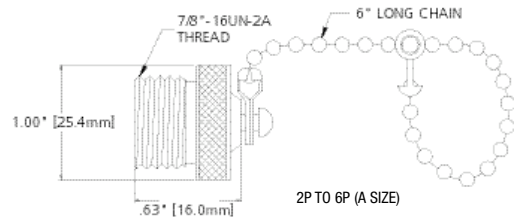


FIG. 2

THREADED UNIONS FOR MATING (2) CORDSETS

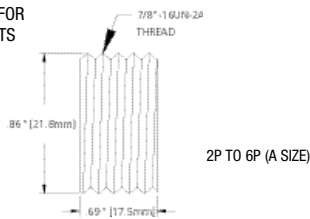


FIG. 3

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

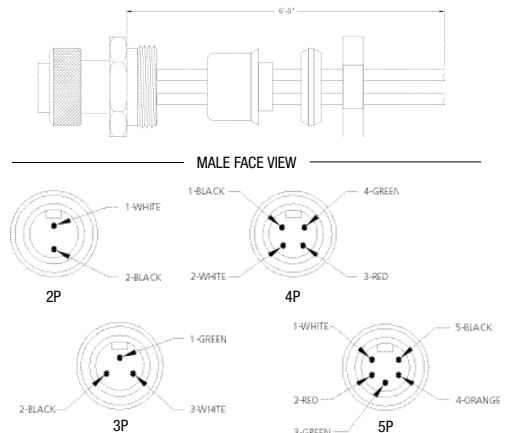


FIG. 4

90° ADAPTER

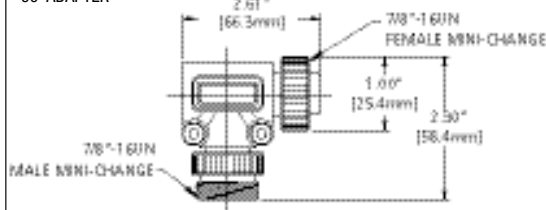


FIG. 5

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
 2

ZINC DIECAST, EPOXY COAT
 STAINLESS STEEL, TYPE 303
 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	3	020	A01	F	20	1
2 TO 6 POLE 1" COUPLER A-SIZE	6 TO 8 POLE 1 1/4" COUPLER B-SIZE	2-9 POLE	SINGLE-ENDED CORDSET	16 AWG TYPE ST00W U.S. COLOR CODE 2P-12P	FEET	10 x LENGTH	ZINC DIECAST, EPOXY COAT
9, 10, 12 POLE 1 1/4" COUPLER C-SIZE		10 POLE C-SIZE ONLY	DOUBLE-ENDED CORDSET	16 AWG TYPE ST00W AUTO COLOR CODE 3P&5P		1 x LENGTH	STAINLESS STEEL, TYPE 303
		12 POLE C-SIZE ONLY		18 AWG PVC JACKET AUTO COLOR CODE 3P-5P		.1 x LENGTH	NON-METALLIC NYLON 6/6 (2P - 6P, A-SIZE ONLY)
				18 AWG PVC JACKET IEC DC COLOR CODE 4P			
				18 AWG PVC JACKET IEC AC COLOR CODE 3P			
				20 AWG PVC JACKET IEC AC COLOR CODE 5P			
				18 AWG PUR COIL CORD AUTO COLOR CODE 3P&5P			
				16 AWG TYPE S00 AUTO COLOR CODE 3P-5P			
				18 AWG TPE JACKET AUTO COLOR CODE 3P&5P			

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
FEMALE FACE VIEW			
COLOR CODES	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
VOLTAGE	250VAC/DC	250VAC/DC	250VAC/DC
CURRENT	4A	4A	4A
CONDUCTOR	#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

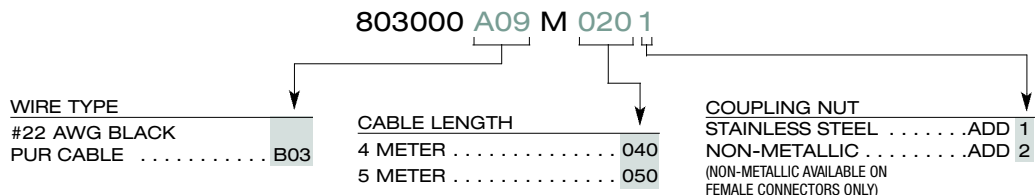
Male Single-Ended Cordsets with 2 meters of #22 AWG PVC cable

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.

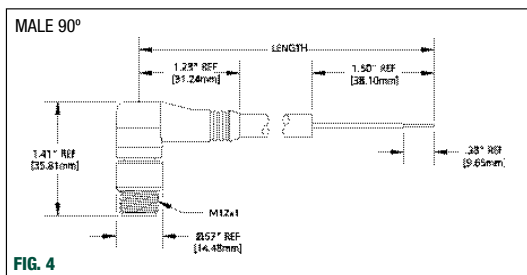
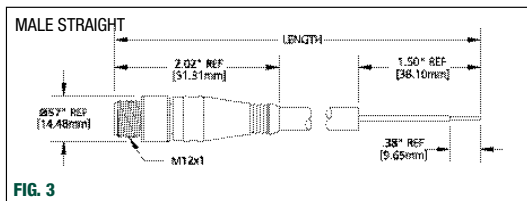
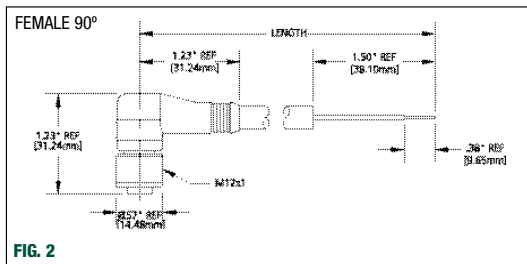
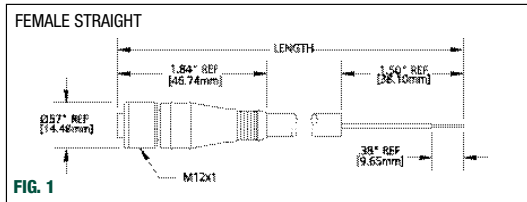


MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS. FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

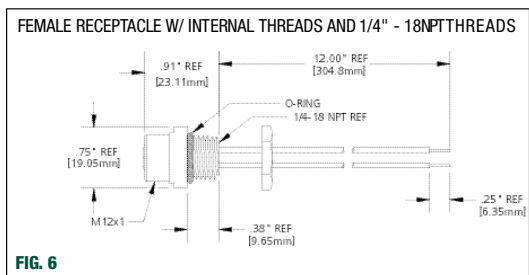
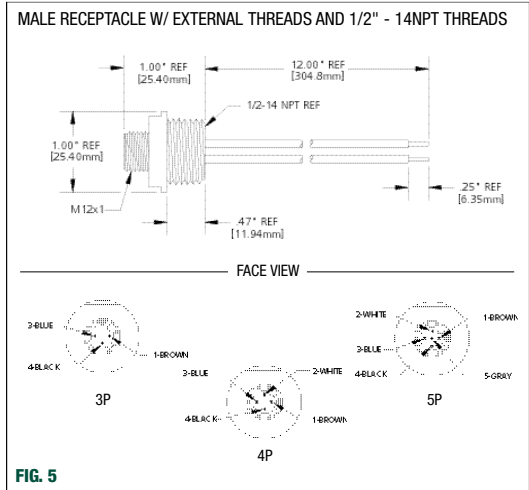
SPECIFICATIONS

- 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
FEMALE FACE VIEW		
MALE FACE VIEW		
VOLTAGE	250VAC/300VDC	30VAC/36VDC
CURRENT	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

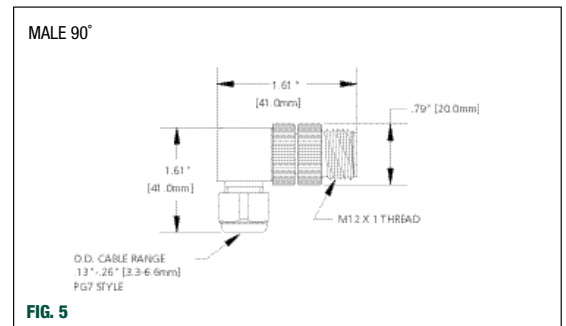
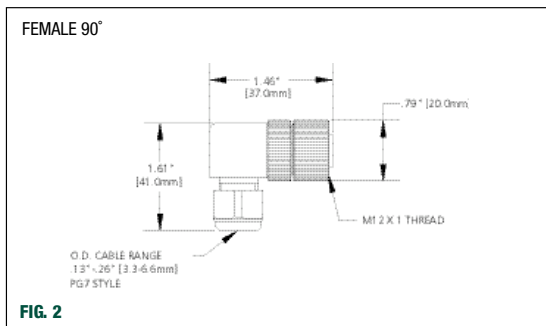
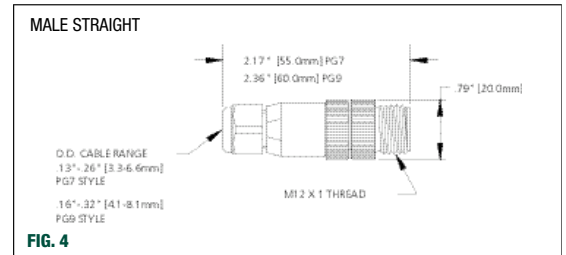
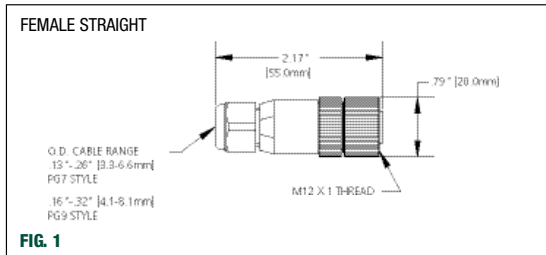


MOST WOODHEAD PRODUCTS HAVE U.L. AND/OR CSA APPROVALS.
FOR A LISTING OF APPROVALS BY PART NUMBER, SEE PAGES 262-269.

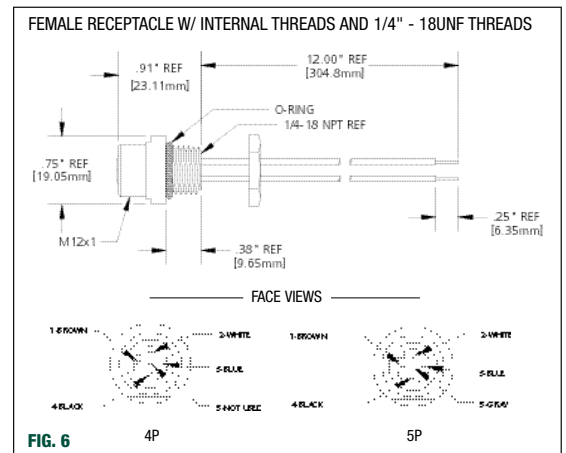
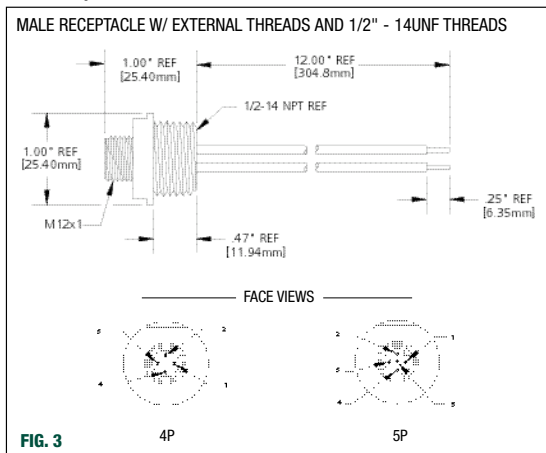
SPECIFICATIONS

MECHANICAL		
CONNECTOR FACE:	POLYAMIDE	
MOLDED BODY:	POLYAMIDE	
CONTACT:	SILVER PLATED BRASS	
COUPLING NUT:	NICKEL PLATED BRASS	
GROMMET:	NITRILE RUBBER	
MAXIMUM CONDUCTOR SIZE:	18 AWG	
ELECTRICAL		
VOLTAGE RATING:	4P - 250VAC	300VDC
	5P - 30VAC	36VDC
AMPERAGE:	4P - 4A	
	5P - 4A	
ENVIRONMENTAL		
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

PRODUCT FAMILY	7R	DUAL KEY, 1/2"-20 UNF MATING THREAD	RECEPTACLE TYPE	006	MALE STRAIGHT 1/2"-14 NPT MOUNTING THREADS, SINGLE AND DUAL KEY	UNIT OF MEASURE	A	INCHES	LENGTH	1ST DIGIT	10 x LENGTH
	8R	SINGLE KEY, M12 MATING THREAD		A06	MALE STRAIGHT 1/4"-18 NPT MOUNTING THREADS, DUAL KEY ONLY		F	FEET (DUAL-KEY ONLY)		2ND DIGIT	1 x LENGTH
NUMBER OF POLES	X	2-6 POLE AVAILABLE FOR DUAL KEY 3-5 POLE AVAILABLE FOR SINGLE KEY	E06	MALE STRAIGHT M 14 X 1 MOUNTING THREADS, SINGLE KEY ONLY	M	METERS (SINGLE-KEY ONLY)	3RD DIGIT	.1 x LENGTH			
			A00	FEMALE STRAIGHT 1/4"-18 NPT MOUNTING THREADS, SINGLE AND DUAL KEY							
			B00	FEMALE STRAIGHT BACK PANEL MOUNT, SINGLE AND DUAL KEY							
					WIRE TYPE						
					DUAL KEY						
					A17	18 AWG, PVC AC COLOR CODE					
					A19	22 AWG, PVC AC COLOR CODE					
					SINGLE KEY						
					A16	18 AWG, PVC DC COLOR CODE					
					A18	22 AWG, PVC DC COLOR CODE					
					OPTIONAL SHELL MATERIAL						
					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
FEMALE FACE VIEW			
COLOR CODES	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
VOLTAGE	60VAC/75VDC	60VAC/75VDC	60VAC/75VDC
CURRENT	4A	4A	3A
CONDUCTOR	#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

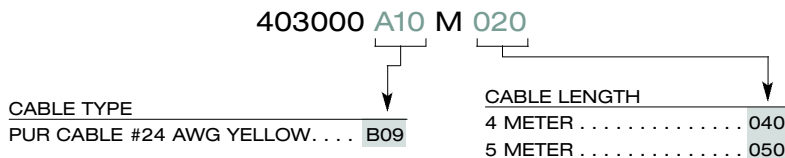
Male Single-Ended Cordsets With 2 meters of PVC cable

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

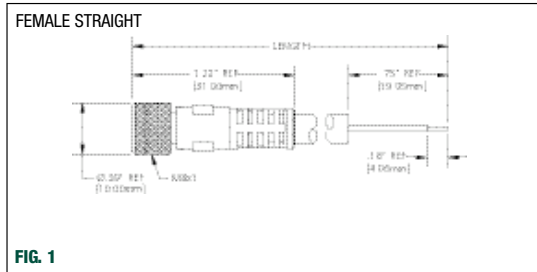


FIG. 1

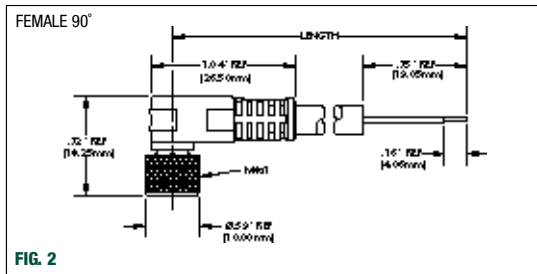


FIG. 2

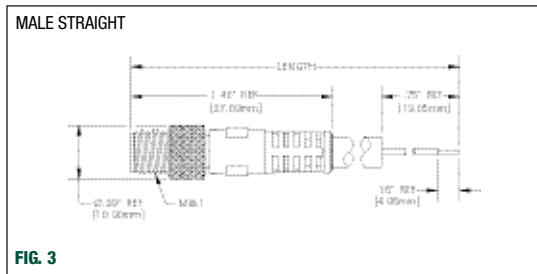


FIG. 3

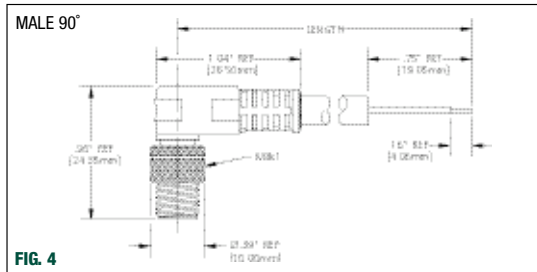


FIG. 4

Receptacle Dimensions

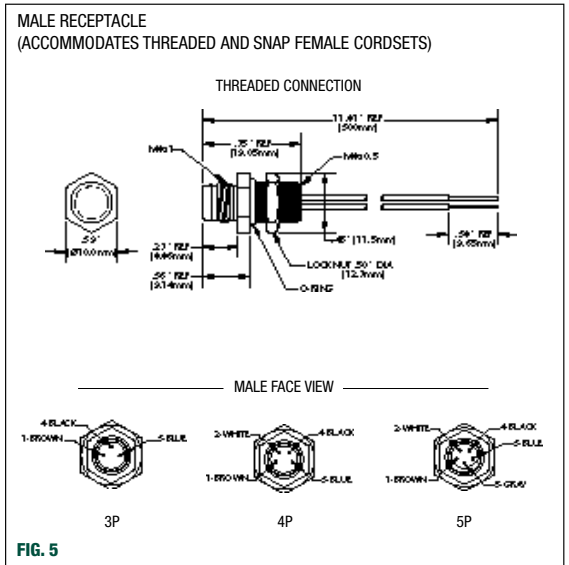


FIG. 5

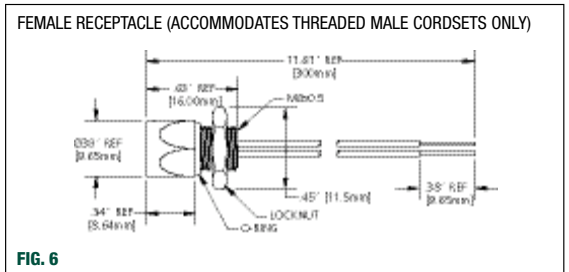


FIG. 6

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
FEMALE FACE VIEW		
MALE FACE VIEW		
VOLTAGE	60VAC/75VDC	60VAC/75VDC
CURRENT	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

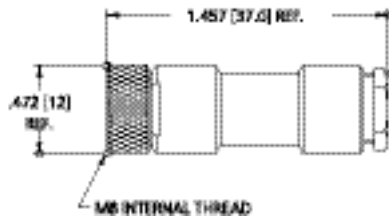


FIG. 1

MALE STRAIGHT W/ EXTERNAL THREAD

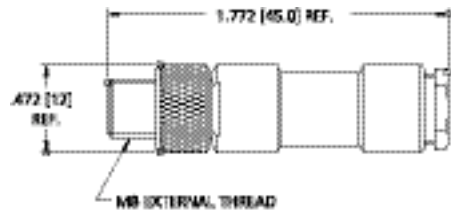


FIG. 3

FEMALE 90° W/ INTERNAL THREAD

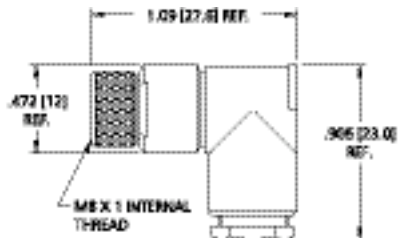


FIG. 2

MALE 90° W/ EXTERNAL THREAD

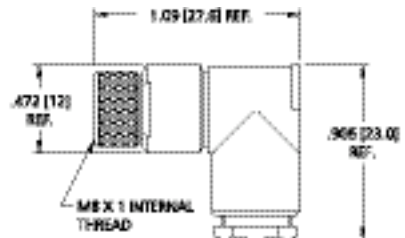


FIG. 4





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
FEMALE FACE VIEW				
COLOR CODES	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
VOLTAGE	600VAC/VDC	600VAC/VDC	600VAC/VDC	600VAC/VDC
CURRENT	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

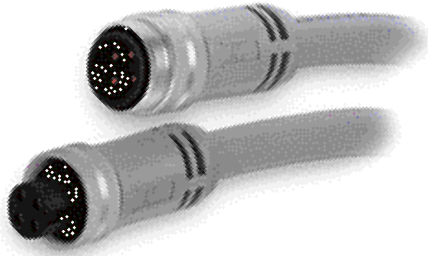
Options: Use the following chart to modify your part's specifications.

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

- MECHANICAL**
 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 STOOV
 OUTSIDE DIAMETER: 10/3 0.700"
 10/4 0.755"
- ELECTRICAL**
 VOLTAGE RATING: 600VAC/DC
 AMPERAGE: 30A (3P), 25A (4P)

Connector Dimensions

FEMALE STRAIGHT W/ INTERNAL THREAD

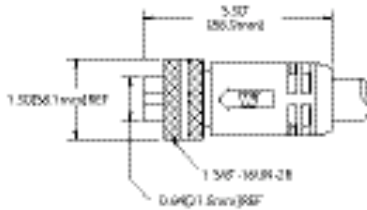


FIG. 1

MALE STRAIGHT W/ EXTERNAL THREAD

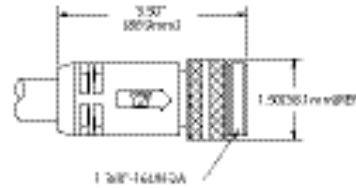


FIG. 3

FEMALE 90° W/ INTERNAL THREAD

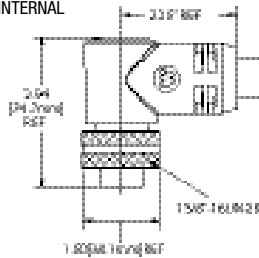


FIG. 2

MALE 90° W/ EXTERNAL THREAD

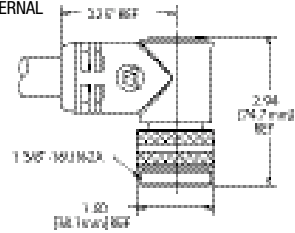


FIG. 4



Tee and Reducer Specifications

- | | | |
|--|--|----------------------------|
| MECHANICAL | TRUNK/FEEDER | DROP/BRANCH |
| CONNECTOR BODY: GRAY PVC | GRAY PVC | GRAY 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 |
| ELECTRICAL | VOLTAGE: 600VAC/DC | 600VAC/DC |
| MAX INPUT CURRENT: 25A (4P), 30A (3P) | MAX INPUT CURRENT: 25A (4P), 30A (3P) | - |
| MAX DROP CURRENT: 25A (4P), 30A (3P) | MAX DROP CURRENT: 25A (4P), 30A (3P) | 15A |

Receptacle Dimensions (specification information on page 243)

FEMALE RECEPTACLE

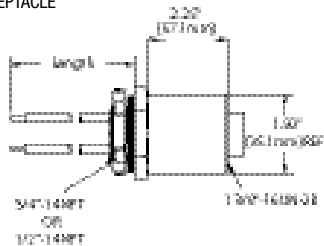


FIG. 5

MALE RECEPTACLE

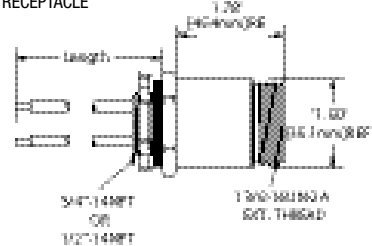


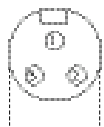
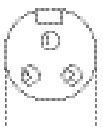
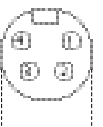
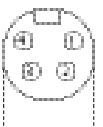
FIG. 6

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
FEMALE FACE VIEW				
COLOR CODES	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)
VOLTAGE	600VAC/VDC	600VAC/VDC	600VAC/VDC	600VAC/VDC
CURRENT	30A	25A	30A	25A

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 RECEPT. (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 RECEPT. (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

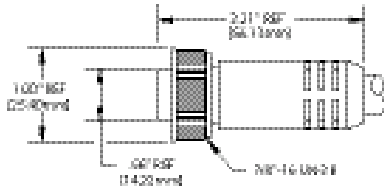


FIG. 1

MALE STRAIGHT W/ EXTERNAL THREAD

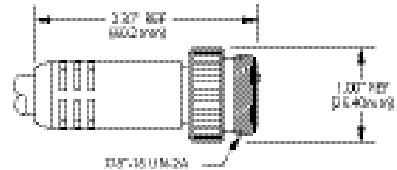


FIG. 3

FEMALE 90° W/ INTERNAL THREAD

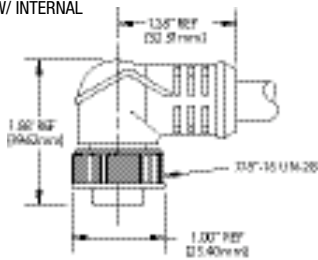


FIG. 2

MALE 90° W/ EXTERNAL THREAD

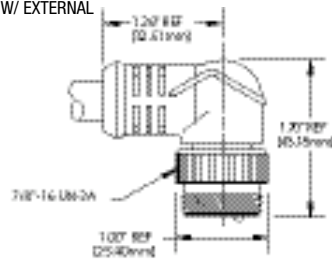
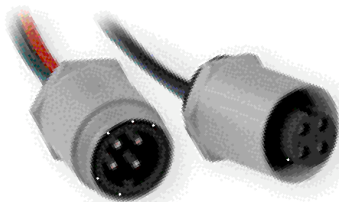


FIG. 4



Receptacle Dimensions

FEMALE RECEPTACLE

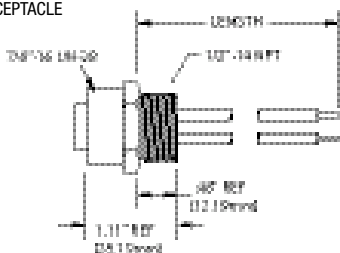


FIG. 5

MALE RECEPTACLE

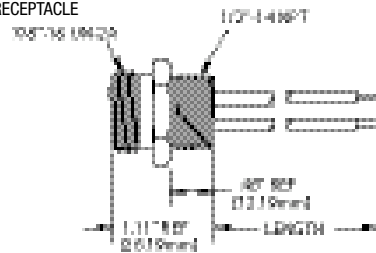


FIG. 6

Receptacle Specifications

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