

		MINI CHANGE										
	UNIT OF MEASURE	2 POLE	3 POLE	4 POLE	5 POLE	6 POLE	7 POLE	8 POLE	9 POLE	10 POLE	12 POLE	
A01 *****	FEET	82-1620	85-1634	84-1604	85-1654	84-1606	84-1607	84-1608	84-1609	84-1610	84-1612	16 AWG YELLOW STOOV - STANDARD MINI-CHANGE
A02 *****	FEET		84-1634		84-1651							16 AWG YELLOW STOOV - AUTO COLOR CODE
A03 *****	FEET	85-1821	85-1831	85-1841	85-1851							18 AWG YELLOW PVC - AUTO COLOR CODE (GREEN & RED W/TR)
A04 *****	METERS					86-2206		86-2208		86-2210	86-2211 NOTE: 1	18/22 AWG YELLOW PVC - DC COLOR CODE
A05 *****	METERS		85-1839	85-1844		86-1862		86-1882		86-1812		18 AWG YELLOW PVC - DC COLOR CODE
A06 *****	METERS		84-1836									18 AWG YELLOW PVC - EURO AC COLOR ROTATION ( BRN, BLU, GRN/YEL )
A07 *****	METERS				85-1853							20 AWG YELLOW PVC - IEC COLOR ROTATION ( BRN, BLU, BLK, WHT, GRN/YEL )
A38 *****	METERS			84-0009								16 AWG YELLOW STOOV/ST - DC COLOR ROTATION
C01 *****	FEET	82-0013	83-0013	84-0013	85-0002							16 AWG YELLOW SOO - AUTO COLOR CODE (GRN & RED W/TR & #S)
C03	METERS										86-1811 NOTE: 1	18 AWG YELLOW SOOW - DC COLOR CODE (11 CONDUCTOR)
C04 *****	FEET		86-1836		86-1850							18 AWG YELLOW SJOOW - STANDARD COLOR CODE
C10 *****	FEET	85-1620	85-1630	85-1640	85-1651							16 AWG YELLOW SOW - STANDARD COLOR CODE
C11	FEET									86-1810		18 AWG YELLOW SOOW - STANDARD COLOR CODE COLOR WAS BLACK, CHANGED 9/13/99 PER DAVE NEBL
K03 *****	METERS											18 AWG YELLOW TPE CORD - DC COLOR CODE
K04 *****	METERS										86-1612	16 AWG YELLOW TPE FLEX CABLE (8,9&10 pole units are also configurable using this wire)
K12	METERS											16 AWG YELLOW TPE FLEX CABLE DC Color Rotation (brown, blue, black, white)
K13	METERS											16 AWG YELLOW TPE FLEX CABLE US Color Code



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		DUAL KEY MICRO										
		2 POLE	3 POLE	4 POLE	5 POLE	6 POLE						
A03 *****	FEET	85-1821	85-1831	85-1841	85-1851						18 AWG YELLOW PVC - AUTO COLOR CODE (GREEN & RED W/TR)	
A13 *****	FEET	86-2223M	86-2224M	86-2225M	86-2226M						22 AWG YELLOW PVC - SHIELD & DRAIN - AUTO COLOR CODE (GREEN & RED W/TR)	
A36	FEET		86-2235								22 AWG YELLOW PVC - W/O BRAID - AUTO COLOR CODE (GREEN & RED W/TR)	
B01 *****	FEET	86-1822	86-1833	86-1843	86-1852						18 AWG YELLOW HIGH FLEX PUR - AUTO COLOR CODE (GREEN & RED W/TR)	
C04 *****	FEET		86-1836								18 AWG YELLOW SJOOW - STANDARD COLOR CODE	
D02 *****	FEET	85-2220M	85-2231M	85-2241M	85-2251M	85-2255M					22 AWG YELLOW PVC - W/BRAID - AUTO COLOR CODE (GREEN & RED W/TR)	
D05	FEET	85-2282M	85-2283M	85-2284M	85-2285M	85-2286M					22 AWG BLACK PVC - W/BRAID & DRAIN - AUTO COLOR CODE (GREEN & RED W/TR)	
K02 *****	FEET		86-1837		85-1858						18 AWG YELLOW TPE CORD - AUTO COLOR CODE (GREEN & RED W/TR)	
		SINGLE KEY MICRO (M12)										
	UNIT OF MEASURE	3 POLE	4 POLE	5 POLE								
A05 *****	METERS	85-1839	85-1844	85-1852							18 AWG YELLOW PVC - DC COLOR CODE	
A09 *****	METERS	85-2237	85-2247	85-2257							22 AWG YELLOW PVC - W/O BRAID - DC COLOR CODE	
A15 *****	METERS	86-2227M	86-2228M								22 AWG YELLOW PVC - W/FOIL SHIELD & DRAIN DC COLOR CODE	
A34 *****	METERS		85-1846								18 AWG GRAY PVC - DC COLOR CODE	
B02 *****	METERS	86-1832	86-1842								18 AWG YELLOW HI FLEX PUR - DC COLOR CODE	
B03	METERS	84-2232	84-2242								22 AWG BLACK PUR - DC COLOR CODE	
B10 *****	METERS	86-2236									22 AWG YELLOW HIGH FLEX PUR - DC COLOR CODE	
C02 *****	METERS	86-1835	86-1845								18 AWG YELLOW SJOOW - DC COLOR CODE	
D01 *****	METERS	85-2233M	85-2243M	85-2258M							22 AWG YELLOW PVC - W/BRAID - DC COLOR CODE	
DO4	METERS	85-2293M	85-2294M	85-2295M							22 AWG BLACK PVC - W/BRAID & DRAIN DC COLOR CODE	
K03 *****	METERS		85-1842								18 AWG YELLOW TPE CORD - DC COLOR CODE	
K05	METERS	85-2237TPE	86-2240Y								22 AWG YELLOW TPE CORD - DC COLOR CODE	
		REVERSE KEY MICRO										
	UNIT OF MEASURE	3 POLE	4 POLE									
A11 *****	METERS	85-2234	85-2244								22 AWG YELLOW PVC - EURO AC COLOR CODE	
D03 *****	METERS	85-2232M	85-2240M								22 AWG YELLOW PVC - W/BRAID EURO AC COLOR CODE	



NANO CHANGE											
	UNIT OF MEASURE	3 POLE	4 POLE	5 POLE							
A10 *****	METERS	84-2430	84-2440	84-2450							24 AWG YELLOW PVC - DC COLOR CODE
B09 *****	METERS	84-2431	84-2441	84-2451							24 AWG YELLOW PUR - DC COLOR CODE
QUICK CHANGE											
	UNIT OF MEASURE	2 POLE	3 POLE	4 POLE							
C05 *****	FEET	85-1420	85-1430	85-1440							14 AWG YELLOW SOW - STANDARD COLOR CODE
C06 *****	FEET	85-1220	85-1230	85-1240							12 AWG YELLOW SOW - STANDARD COLOR CODE
C07 *****	FEET	85-1020	85-1030	85-1040							10 AWG YELLOW SOW - STANDARD COLOR CODE 85-1020 #10-2 AWG HAS A BLACK JACKET COLOR.
DEVICE NET											
	UNIT OF MEASURE	2 POLE	3 POLE	4 POLE	5 POLE						
*****	METERS				84-0030						15/18 AWG GRAY TRUNK CABLE (DN) (CONFIGURABLE PART NUMBER EXAMPLE - DN11A-M010)
*****	METERS				84-0024						22/24 AWG GRAY DROP CABLE (DND) (CONFIGURABLE PART NUMBER EXAMPLE - DND11A-M010)
*****	METERS				84-0031						17/20 AWG GRAY MEDIUM TRUNK CABLE (DNB) (CONFIGURABLE PART NUMBER EXAMPLE - DNB11A-M010)
COIL CORDS											
	UNIT OF MEASURE	2 POLE	3 POLE	4 POLE	5 POLE	6 POLE	7 POLE	8 POLE	9 POLE	10 POLE	12 POLE
B11 *****	F045 or F120			30-3606 30-3607							22 AWG YELLOW PUR COIL CORD - EURO COLOR CODE DC MICRO, 4 POLE/4 WIRE ONLY
B12 *****	F045 or F120			30-3602 30-3603							18 AWG YELLOW PUR COIL CORD - EURO COLOR CODE DC MICRO, 4 POLE/4 WIRE ONLY
B13 *****	F045 or F120		30-3600 30-3601		30-3604 30-3605						18 AWG YELLOW PUR COIL CORD - AUTO COLOR CODE MINI-CHANGE 3 POLE AND 5 POLE ONLY
DINS											
	UNIT OF MEASURE	18MM	11MM	10MM	9.4MM	8.0MM					
A23 *****	METERS	N/A BULK	N/A BULK	N/A BULK							18/3 AWG BLACK PVC
E12 *****	METERS				N/A BULK	N/A BULK					20/3 AWG BLACK PVC
P12 *****	METERS	N/A BULK	N/A BULK	N/A BULK	N/A BULK	N/A BULK					20/3 AWG BLACK PUR
A06 *****	METERS	N/A BULK	N/A BULK	N/A BULK							18/3 AWG YELLOW PVC (SPECIAL ORDER - CONSULT BRAD TECH SUPPORT)
B08 *****	METERS	N/A BULK	N/A BULK	N/A BULK							18/3 AWG YELLOW PUR (SPECIAL ORDER - CONSULT BRAD TECH SUPPORT)
											M:\brad technical support\cable1.xls Rev date 11/10/2000 Patrick James



Revised 2-25-08


8 0 4 0 0 0 A 0 9 M 0 1 0

<p>First end Always female for jumper cables</p>	<p>Second end usually male, receptacle or field attachable identification</p>	<p><b>No of poles or wires</b> 2 = 2 pole 9 = 9 pole</p> <p>Note: on C size Mini-Change &amp; M23 1 = 10 pole, 2 = 12 pole, 3 = 19 pole 4 = 25 pole</p> <p>Note on Mini-DIN connector 4 = 14 pole</p>	<p><b>Cable Type</b> (See Cable Chart)</p> <p><b>Cordset head configuration</b> 000 = Female, straight, internal thread 001 = Female, 90 degree, internal thread 002 = Male, straight, internal thread 003 = Male, 90, internal thread 004 = Female, straight, external thread 005 = Female, 90, external thread 006 = Male, straight, external thread 007 = Male, 90, external thread 020 = Female-Male, Str-Str, Int-Int 021 = Female-Male, 90-Str, Int-Int 022 = Female-Male, Str-90, Int-Int 023 = Female-Male, 90-90, Int-Int 030 = Female-Male, Str-Str, Int-Ext 031 = Female-Male, 90-Str, Int-Ext 032 = Female-Male, Str-90, Int-Ext 033 = Female-Male, 90-90, Int-Ext 0N0 = Female, straight, NPN LED 0N1 = Female, 90, NPN LED 0P0 = Female, straight, PNP LED 0P1 = Female, 90, PNP LED</p>	<p><b>Unit of measure</b> M = Metres C = Centimetres F = Feet A = Inches K = Kilometers T = Decameter</p>	<p><b>Cable Length</b> 100 = 10 units 010 = 1 unit 001 = 0.1 units</p>	<p><b>Molded Head Color / Labeling</b> Blank = standard Brad A = Gray G = Black H = Std with ID tag J = Gray with ID tag K = Black with ID tag L = Haz. Loc. labeled (Canada only) X = bulk pack</p>	<p><b>Coupling/shell material</b> Blank = standard 1 = Stainless steel 2 = Nylon 3 = Nickel Plated Brass 4 = Valox (polyester) 5 = Delrin 6 = clear anodized alum. 7 = Teflon coat 8 = Type 316 stainless steel</p>
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**Connector Type**  
1 = Mini-Change A size  
2 = Mini-Change B size  
3 = Mini-Change C size  
4 = Nano-Change, coupler style  
5 = Nano-Change, snap style  
6 = Quick-Change  
7 = Micro-Change Dual Keyway 1/2"-20 thread  
8 = Micro-Change Single Keyway M12 thread  
9 = Micro-Change Dual Keyway M12 thread  
B = Micro-Change B-Code M12 thread  
C = Brad Power Trunk & Feeder  
D = DIN43650 Form B - DIN std 10mm spacing  
E = DIN43650 Form A - 18mm spacing  
F = DIN43650 Form B - Ind Std 11mm spacing  
G = DIN43650 Form C - 9.4mm spacing  
H = DIN43650 Form C - 8.0mm spacing  
J = DIN43650 Form A, 1 earth + 3 contacts  
K = M23 moulded (hard shell)  
L = Mini-DIN Circular (M16)  
M = 9 pin D-sub (switched) for Profibus  
N = Push-On M12 Micro  
P = Piggy back 9 pin D-sub (switched) Profibus  
Q =  
S = Shorting plug  
T = M5 Connectors  
U =  
V = Micro-Change D-Code, M12 thread  
W = Ultra-Lock M12  
X = experimental, Do not use  
Y =  
Z =  
Second position only  
R = Receptacle  
A = Attachable

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AUTOMATION

Example shown - Mini-Change Female Straight to Male Straight extension with 2 meters of Device Net Drop cable.

**D** **N** **D**  **1** **1** **A** - **M** **0** **2** **0**

**Bus / Cable Type**

DN = Device Net (Trunk)  
 DND = Device Net (Drop)  
 DNB = Device Net (Mid)  
 DNF = Device Net (Flex Trunk)  
 DNDF = Device Net (Flex Drop)  
 DNE = DN (Trunk, 600V, Class 1 rated)  
 DNDG = DN (Thin, 600V, Class 2 rated)

**Unit of measure**

M = Meters

**Cable Length**

1st character = 10X unit  
 2nd character = 1X unit  
 3rd character = .1X unit

**Options**

Y = yellow overmold

**Coupler Material**

A = black e-coated zinc  
 SS = 304 stainless steel  
 SS8 = 316 stainless steel (for DW Canada ONLY)  
 NB = nickel plated brass  
 left blank on single ended Open cordsets

**Male Connector**

1 = Mini, straight  
 2 = Micro, straight  
 3 = Micro, Rt. Angle  
 9 = Mini, Rt. Angle

**Female Connector**

1 = Mini, Straight  
 2 = Micro, Straight  
 3 = Micro, Rt. Angle  
 9 = Mini, Rt. Angle  
 4 = Open Connector, screw mount (Phoenix)  
 7 = Open Connector, snap mount (Phoenix) Reserved for future use.  
 Note: For *Female* Mini or Micro to Open Connector cordsets,  
 the Open Connector character will be inserted in the male character  
 position (example: DN14A-M010).



Example shown - Mini-Change 5 pole Female, Front Mount with 2 meters Device Net Drop cable.

**D** **N** **D** **5** **0** **0** **0**    - **M** **0** **2** **0**

**Bus / Cable Type**

DN = Device Net (Trunk)  
 DND = Device Net (Drop)  
 DNB = Device Net (Mid)  
 DNE = DN (Trunk, 600V, Class 1 rated)  
 DNDG = DN (Thin, 600V, Class 2 rated)

**Coupler Material \*\* see note below**

blank = anod. Aluminum  
 SS = stainless steel  
 NB = nickel brass  
 SS8 = 316 stainless (canada only)

**Unit of measure**

M = Meters

**Cable Length**

1st character = 10X unit  
 2nd character = 1X unit  
 3rd character = .1X unit

**Female Connector, Second End**

0 = no connector  
 4 = Open Connector, screw mount (Phoenix)  
 5 = Open Connector, screw, Rt. Angle (cable exit, right)  
 7 = Open Connector, snap mount (Phoenix) (Reserved for future use)  
 8 = Open Connector, snap, Rt. Angle (cable exit, right) (reserved)  
 1 = molded female Mini, straight  
 2 = molded female Micro, straight  
 3 = molded female Micro, Rt. Angle  
 9 = molded female Mini, Rt. Angle

**Male Connector, Second End**

0 = no connector  
 1 = molded male Mini, straight  
 2 = molded male Micro, straight  
 3 = molded male Micro, Rt. Angle  
 9 = molded male Mini, Rt. Angle  
 M = Horizontal 9 pin D-Sub

**\*\* For back panel mount receptacles with cable only, include NB to denote Nickel/Brass shell**

A = std. shell (alum. or Ni/Br) on recept. and e-coat on Mini or Micro on second end

**Gender and Receptacle Type**

0 = Female, Front Mount, 1/2"NPT  
 1 = Male, Front Mount, 1/2"NPT  
 2 = Female, Back Mount  
 3 = Male, Back Mount

**Connector Type**

5 = Mini-Change, 5 pole  
 C = Micro-Change, Single Key, 5 pole  
 D = Reverse Key Micro 5 pole

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**D 8 5 0 B 1 A 2 3 M 0 2 0**

First end  
Always  
female for  
jumper  
cables

Second end  
as per normal  
standard part  
number

Wiring details  
0 = Positive Switching (pin 3&4)  
1 = Negative Switching (pin 1&4)  
A = Inline Splitter (pos. sw.)  
3 = pressure switch  
2 = special Mini  
4 = Positive switching (pin 3 & 2) Added 10-4-04 TK  
5 = Negative switching (pin 1 & 2) Added 10-4-04 TK

**No of poles or wires - portable**  
3 = 3 wire solenoid connector  
**No of poles or wires - jumpers**  
5 = 5 pole/3wire  
4 = 4 pole/3 wire  
3 = 3 pole/3 wire

Electrical configuration  
A = Yellow LED/zener diode/24V  
B = Yellow LED/VDR/24V  
C = Yellow LED/zener diode/110V  
D = Yellow LED/VDR/110V  
E = Green LED/zener diode/24V  
F = Green LED/VDR/24V  
G = Green LED/zener diode/110V  
H = Green LED/VDR/110V  
J = Red LED/zener diode/24V  
K = Red LED/VDR/24V  
L = Red LED/zener diode/110V  
M = Red LED/VDR/110V  
S = Yellow LED/VDR/230V AC/DC  
T = Yellow LED 24VDC/Amplifier Cct  
W = Green LED 24VDC/Amplifier Cct  
Y = Red LED 24VDC/Amplifier Cct

**Connector Type**  
C = Form A, 1 str 3 x U contacts  
D = Form B, ISO standard (10mm contact spacing)  
E = Form A, (18mm contact spacing), 2 str 2 x U contacts  
F = Form B, Industry Standard (11mm contact spacing)  
G = Form C, Industry Standard (9.4mm contact spacing)  
H = Form C, ISO Standard (8.0mm contact spacing)

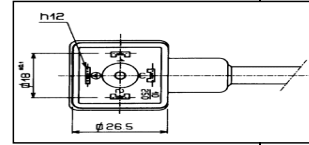
**Cable Type**  
See Cable Key

**Unit of measure**  
M = Metres  
C = Centimetres  
F = Feet  
A = Inches

**Cable Length**  
020 = 2 units  
005 = 0.5 units  
100 = 10 units

**OEM/Colour**  
Blank = standard Brad  
A = Brad in grey  
B = Vogel (grey only)  
C = Phoenix  
  
D = Allen Bradley  
E = Omron  
F = IFM/Effector  
G = Brad in black

Earth Position - o'clock & connector body  
12 O'clock position shown



**Coupling/shell material**  
Blank = standard  
1 = Stainless steel  
2 = Nylon  
3 = Nickel Plated Brass  
4 = Valox (polyester)  
5 = Delrin

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E 1 1 A 0 6 0 0 2 M 0 1 0

Second end usually male, receptacle or field attachable identification

**Wiring**  
A = straight wired  
B = cross-over

**2nd Connector Type**  
0 = No connector  
1 = M12 D-code  
5 = RJ-45 IP67 rated (RJ-Lnxx)  
6 = RJ-45, IP20 rated

**1st Connector Type**  
1 = M12 D-code  
5 = RJ-45 IP67 rated (RJ-Lnxx)  
6 = RJ-45, IP20 rated

**Cable Type**  
03 = Unshielded, stranded PVC  
04 = Unshielded, stranded TPE  
05 = Shielded, stranded TPE  
06 = Unshielded Blue TPE (Ford)  
07 = Unshielded Teal TPE (Ford)  
08 = Unshielded Orange TPE (Ford)  
10 = Shielded, stranded PUR (Profinet)  
15 = Shielded, stranded PVC

**Cordset head configuration**  
030 = Female-Male, Str-Str, Int-Ext  
031 = Female-Male, 90-Str, Int-Ext  
032 = Female-Male, Str-90, Int-Ext  
033 = Female-Male, 90-90, Int-Ext  
060 = Male-Male, Str-Str  
062 = Male-Male, Str-90  
063 = Male-Male, 90-90

**Unit of measure**  
M = Metres  
C = Centimetres  
F = Feet  
A = Inches  
K = Kilometers  
T = Decameter

**Cable Length**  
100 = 10 units  
010 = 1 unit  
001 = 0.1 units

**Molded Head Color / Labeling**  
Blank = standard Brad  
A = Gray  
G = Black  
H = Std with ID tag  
J = Gray with ID tag  
K = Black with ID tag  
L = Haz. Loc. labeled (Canada only)  
X = bulk pack

**Coupling/shell material**  
Blank = standard  
1 = Stainless steel  
2 = Nylon  
3 = Nickel Plated Brass  
4 = Valox (polyester)  
5 = Delrin  
6 = clear anodized alum.  
7 = Teflon coat  
8 = Type 316 stainless steel

