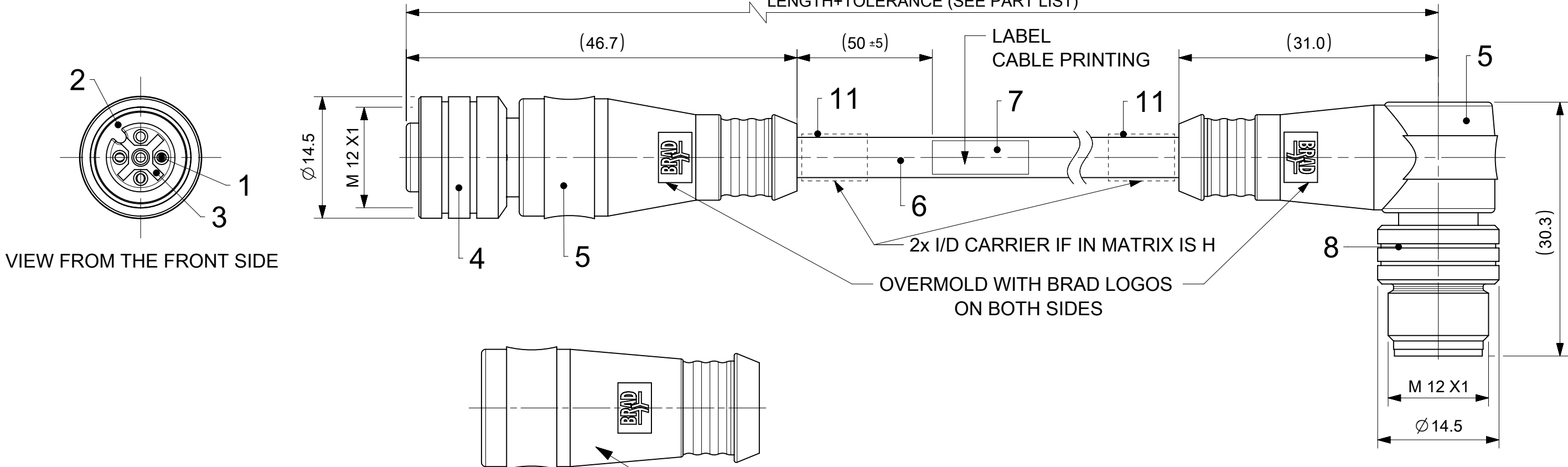


FEMALE PLUG M12 STRAIGHT TO MALE PLUG M12 90° ANGLED

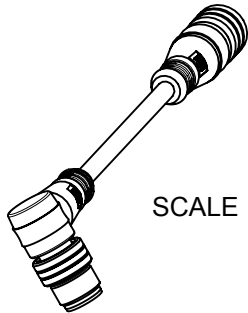


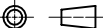
TECHNICAL SPECIFICATION:
CONTACT CURRENT RATING: 3-5 POLES 4A
8 POLES 2A
VOLTAGE RATING: 3-4 POLES 250V
5 POLES 60V DC
8 POLES 30V
PROTECTION CLASS: IP 67
TEMPERATURE: -25°C / +85°C

BILL OF MATERIAL

11	2 (SEE MATRIX)	ID CARRIER	PVC	TRANSPARENT
10	1	INSERT MALE	PUR	BLACK
9	3/4/5/8	CONTACT M12 MALE	BRASS	SELECTIVE GOLD OVER NICKEL
8	1	COUPLING NUT MALE	BRASS	NICKEL
7	1	LABEL	VINYL	YELLOW
6	-	CABLE	SEE MATRIX/ CABLE SPECIFICATION	---
5	-	OVERMOULD	TPU	SEE MATRIX
4	1	COUPLING NUT FEMALE	BRASS	NICKEL
3	1	INSERT FEMALE	PUR	BLACK
2	1	O-RING	FPM	RED
1	3/4/5/8	CONTACT M12 FEMALE	BRASS	SELECTIVE GOLD OVER NICKEL
ITEM	QTY.	DESCRIPTION	MATERIAL	FINISH/COLOR

DOCUMENT STATUS	P1	RELEASE DATE	2023/12/25	13:30:36
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THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION															
DIMENSION UNITS		SCALE		CURRENT REV DESC: REMOVED OBSOLETE PART NUMBERS AS PER PCN#514494				molex							
mm		2:1													
GENERAL TOLERANCES (UNLESS SPECIFIED)				CSE M12 XP AC FE STR MA RA XM											
ANGULAR TOL ± 1.0 °															
4 PLACES		±		EC NO: 770993 DRWN: MADHAM5 2023/11/09 CHK'D: GGA 2023/12/25 APPR: GGA 2023/12/25				PRODUCT CUSTOMER DRAWING							
3 PLACES		±													
2 PLACES		± 0.05													
1 PLACE		± 0.3		DOCUMENT NUMBER 1200070026						DOC TYPE PSD		DOC PART 000		REVISION A8	
0 PLACES		± 0.5													
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				THIRD ANGLE PROJECTION		DRAWING		SERIES		MATERIAL NUMBER		CUSTOMER		SHEET NUMBER	
						A3-SIZE		120007		SEE PART LIST		GENERAL MARKET		1 OF 4	

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ENGINEERING NO. - NUMERICAL CODE (Available parts see PART LIST table. Others on request).

88X032XXXXXX

88 = M12x1 Double ended

Poles:
3 = 3 Poles
4 = 4 Poles
5 = 5 Poles
8 = 8 Poles

Heads style:
032 = Plugs FE Straight & Male 90°

Cable types:
E02=0.25mm² PVC Black
E03=0.34mm² PVC Black
E13=0.75mm² PVC Yellow
E52=0.34mm² PVC Grey(RAL 7001)
E57=0.34mm² PVC Grey(RAL 7001)
H09=0.34mm² PUR Black
H69=0.34mm² PUR Grey LSOH SCR
I02=0.25mm² PVC Grey CEI
I03=0.34mm² PVC Grey CEI
I20=0.25mm² PVC Grey CEI SCR DC
I26=0.34mm² PVC Grey CEI SCR AC
P02=0.25mm² PUR/PVC Black
P03=0.34mm² PUR/PVC Black
P08=0.25mm² PUR Yellow HIFLEX
P20=0.34mm² PUR Grey LSOH braid
P82=0.34mm² PUR orange irradiated DC
S20=0.34mm² PVC Yellow SJTO braid

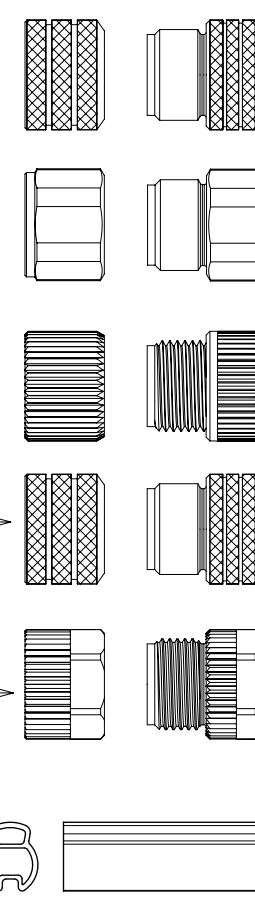
Units:
C = Centimeter
M = Meter
K = Kilometer
F = Feet

Length
Examples:
020 = 2 M
060 = 6 M
100 = 10 M

Overmold color:
Blank (Standard)=Black TPU
Blank=Yellow PVC for cables
A09, S19, S20, S26
Blank=Yellow TPE-E for cables
K03, K05
A=Grey / G=Black / Y=Yellow
Coupling Nut:
Blank (Standard)=Knurled Brass Ni Plated
1=Hexagonal Stainless steel
5=Knurled Derlin
7=Knurled Brass Ni Plated, Teflon Coated
Blank=7 for cables I20, I26, K03, K05, P82, S26
9=Knurled / Hexagonal Brass Ni Plated SW13

H= 2 pcs. of I/D Carrier PVC Transparent
(Cables lxx & P82 always with 2 pcs. of I/D Carrier even if no H in Engineering No.)

COUPLING NUT
FEMALE MALE



CABLE SPECIFICATION

CABLE TYPE	NO. OF WIRES	CROSS SECTION	CABLE JACKET	UL	CSA	STATIC: TEMP. / BENDING RADIUS	DYNAMIC: TEMP. / BENDING RADIUS	DRAG CHAIN	SHIELD
E02	3 / 4 / 5 / 8	0.25mm²	PVC BLACK	UL 2464/1729	C22.2 I/II A/B 80°C/300V	-30°C to +80°C, 10xO.D.	-10°C to +80°C, 15xO.D.	-	-
E03	3 / 4 / 5	0.34mm²	PVC BLACK	UL 2464/1729	C22.2 I/II A/B 80°C/300V	-30°C to +80°C, 10xO.D.	-10°C to +80°C, 15xO.D.	-	-
E52	4	0.34mm²	PVC GRAY	-	-	- 30 to + 70°C	- 5 to + 70°C	-	-
H09	3 / 4 / 5	0.34mm²	PUR BLACK LS0H	UL 21198/10493	C22.2 I/II A/B 80°C/300V	-40°C to +80°C, 5xO.D.	-25°C to +80°C, 10xO.D.	2 000 000 cycles at 20°C, Temp. range +5°C to +60°C	-
H69	4	0.2mm²	PUR LSOH	-	-	-	-40°C to +80°C	-	-
P02	3 / 4 / 5 / 8	0.25mm²	PUR / PVC BLACK	-	-	-30°C to +80°C, 7xO.D.	-5°C to +80°C, 15xO.D.	-	-
P03	3 / 4 / 5	0.34mm²	PUR / PVC BLACK	-	-	-30°C to +80°C, >7xO.D.	-5°C to +80°C, >15xO.D.	-	-
P82	4	0.34mm²	PUR IRR ORANGE	-	-	-50°C to +105°C,	-50°C to +105°C,	-	-
I03	4	0.34mm²	PVC GRAY	-	-	-30°C to +70°C	-5°C to +70°C	-	-
K03	4	AWG18	TPE YELLOW	ITC E195601 OR PLTC	AWM I/II A/B FT4 LL54185	-	-40°C to +105°C	-	-
K05	4	0.34mm²	TPE YELLOW	ITC E195601 OR PLTC	AWM I/II A/B FT4 LL54185	-	-40°C to +105°C	-	-
S20	4	0.34mm²	PVC YELLOW	UL 2661/1731	C22.2 AWM II	-30°C to +105°C	-40°C to +105°C	-	-

CABLE LENGTH TOLERANCE

OVER	UPTO AND INCULDING	TOLERANCE
0	305	+19
305	915	+45
915	1830	+56
1830	3660	+89
3660	7320	+165
7320	14640	+317
14640	30500	+610
30500	>	+2% OF LENGTH

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DIMENSION UNITS	SCALE	CURRENT REV DESC: REMOVED OBSOLETE PART NUMBERS AS PER PCN#514494	molex				
mm	1:1	EC NO: 770993 DRWN: MADHAM5 CHK'D: GGA APPR: GGA INITIAL REVISION: DRWN: DSOPPIN APPR: RSILLER	CSE M12 XP AC FE STR MA RA XM				
GENERAL TOLERANCES (UNLESS SPECIFIED)			PRODUCT CUSTOMER DRAWING				
ANGULAR TOL	± 1.0 °		DOCUMENT NUMBER				
4 PLACES	±		1200070026				
3 PLACES	±		PSD 000 A8				
2 PLACES	± 0.05	2018/09/27		2018/10/22			
1 PLACE	± 0.3	2018/09/27		2018/10/22			
0 PLACES	± 0.5	2018/09/27		2018/10/22			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION	DRAWING	SERIES	MATERIAL NUMBER	CUSTOMER	SHEET NUMBER
			A3-SIZE	120007	SEE PART LIST	GENERAL MARKET	2 OF 4

DOCUMENT STATUS

P1

RELEASE DATE

2023/12/25 13:30:36

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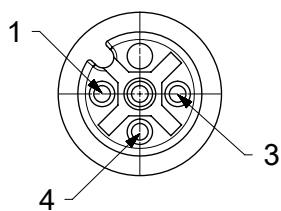
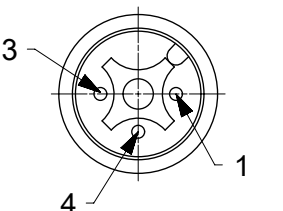
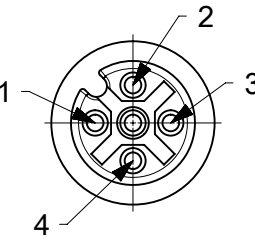
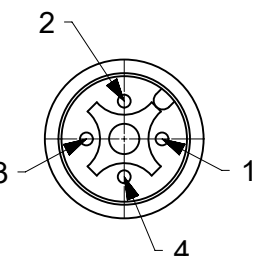
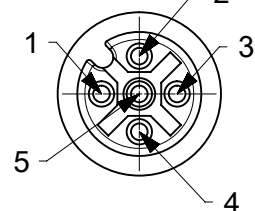
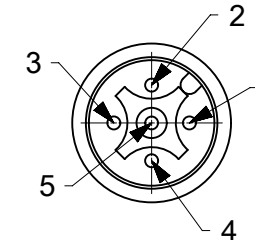
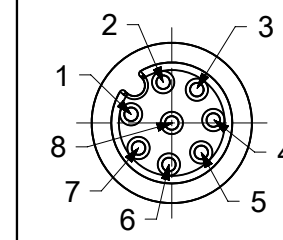
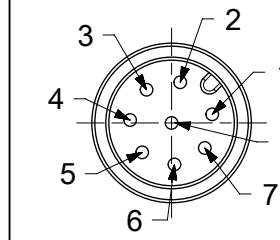
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CONTACT POSITION FRONT VIEW:

3 POLES FEMALE		3 POLES MALE		4 POLES FEMALE		4 POLES MALE		5 POLES FEMALE		5 POLES MALE		8 POLES FEMALE		8 POLES MALE	
															
PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE	PIN	WIRE
1	BROWN	1	BROWN	1	BROWN	1	BROWN	1	BROWN	1	BROWN	1	WHITE	1	WHITE
2	-	2	-	2	WHITE	2	WHITE	2	WHITE	2	WHITE	2	BROWN	2	BROWN
3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	GREEN	3	GREEN
4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	YELLOW	4	YELLOW
5	-	5	-	5	-	5	-	5	GREY OR GREEN/YELLOW	5	GREY OR GREEN/YELLOW	5	GREY	5	GREY
CODING REQUIRED TO IEC 61076-2-101				CODING REQUIRED TO IEC 61076-2-101								CODING REQUIRED TO IEC 61076-2-101			
								7	BLUE	7	BLUE				
CODING REQUIRED TO IEC 61076-2-101															

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DIMENSION UNITS	SCALE
mm	1:1
GENERAL TOLERANCES (UNLESS SPECIFIED)	
ANGULAR TOL	± 1.0 °
4 PLACES	±
3 PLACES	±
2 PLACES	± 0.05
1 PLACE	± 0.3
0 PLACES	± 0.5
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	

CURRENT REV DESC: REMOVED OBSOLETE PART NUMBERS AS PER PCN#514494

EC NO: 770993
DRWN: MADHAM5
CHK'D: GGA
APPR: GGA

INITIAL REVISION:
DRWN: DSOPPIN
APPR: RSILLER

THIRD ANGLE PROJECTION

DRAWING
A3-SIZE

SERIES
120007

MATERIAL NUMBER
SEE PART LIST

CUSTOMER
GENERAL MARKET

SHEET NUMBER
3 OF 4

moLEX

CSE M12 XP AC FE STR MA RA XM

PRODUCT CUSTOMER DRAWING

DOCUMENT NUMBER
1200070026

DOC TYPE
PSD

DOC PART
000

REVISION
A8

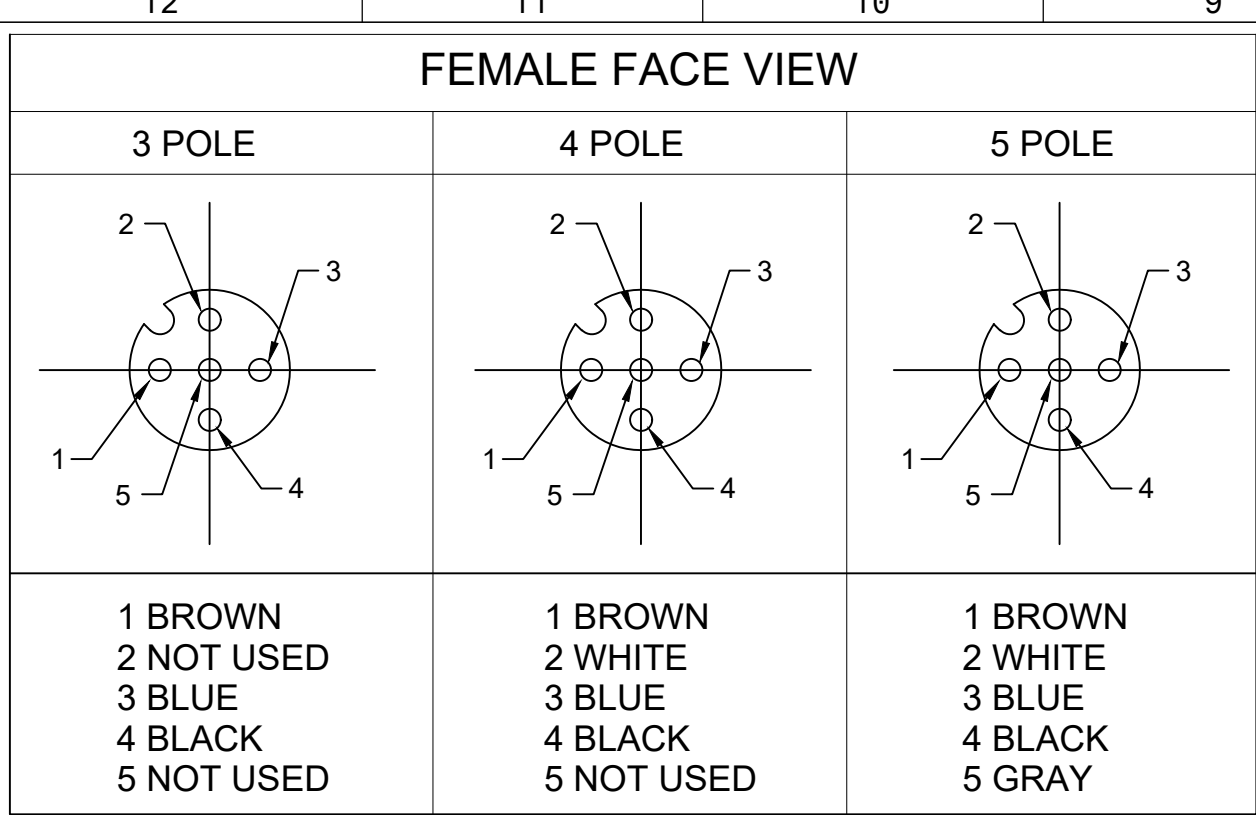
PART LIST

NO.	MOLEX PN	ENGINEERING PN	LENGTH (mm)
1	1200070158	883032E03M003	300
2	1200070159	883032E03M006	600
3	1200070160	883032E03M010	1000
4	1200070161	883032E03M020	2000
5	1200668205	883032E03M050	5000
6	1200072378	883032E03M060	6000
7	1200668053	883032E03M100	10000
8	1200668268	883032E03M200	20000
9	1200072879	883032H09M010	1000
10	1200070166	883032I03M006	600
11	1200668007	883032I03M010	1000
12	1200070171	883032P03M006	600
13	1200070172	883032P03M010	1000
14	1200070173	883032P03M020	2000
15	1200070174	883032P03M030	3000
16	1200072294	883032P03M0305	3000
17	1200668341	883032P03M050	5000
18	1200668763	883032P03M0501	5000
19	1200072705	883032P03M060	6000
20	1200070184	883032S20M010	1000
21	1200070185	883032S20M020	2000
22	1200668663	884032E02M050	5000
23	1200668072	884032E03M006	600
24	1200668073	884032E03M010	1000
25	1200668755	884032E03M012	1200
26	1200668756	884032E03M014	1400
27	1200665032	884032E03M020	2000
28	1200071014	884032E03M030	3000
29	1200072163	884032E03M0501	5000
30	1200668075	884032E03M100	10000
31	1200668200	884032E03M1001	10000
32	1200668307	884032E03M1005	10000
33	1200668309	884032E03M1205	12000
34	1200668173	884032E03M1501	15000
35	1200668223	884032E03M200	20000
36	1200668308	884032E03M2005	20000
37	1200071277	884032E52M010A	1000
38	1200070841	884032E52M020A	2000
39	1200668494	884032H09M010	1000
40	1200668290	884032H09M020	2000
41	1200072424	884032I03M003	300
42	1200668522	884032I03M020	2000
43	1200661012	884032K03M006	600
44	1200661013	884032K03M010	1000
45	1200661014	884032K03M020	2000
46	1200661015	884032K03M030	3000
47	1200661598	884032K03M036	3600
48	1200661017	884032K03M050	5000

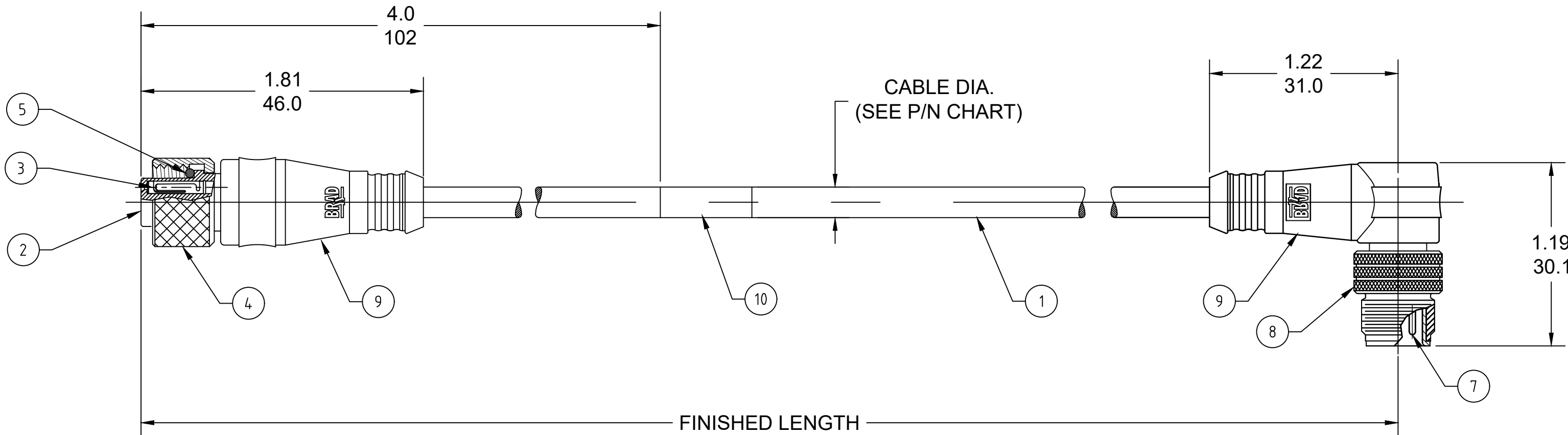
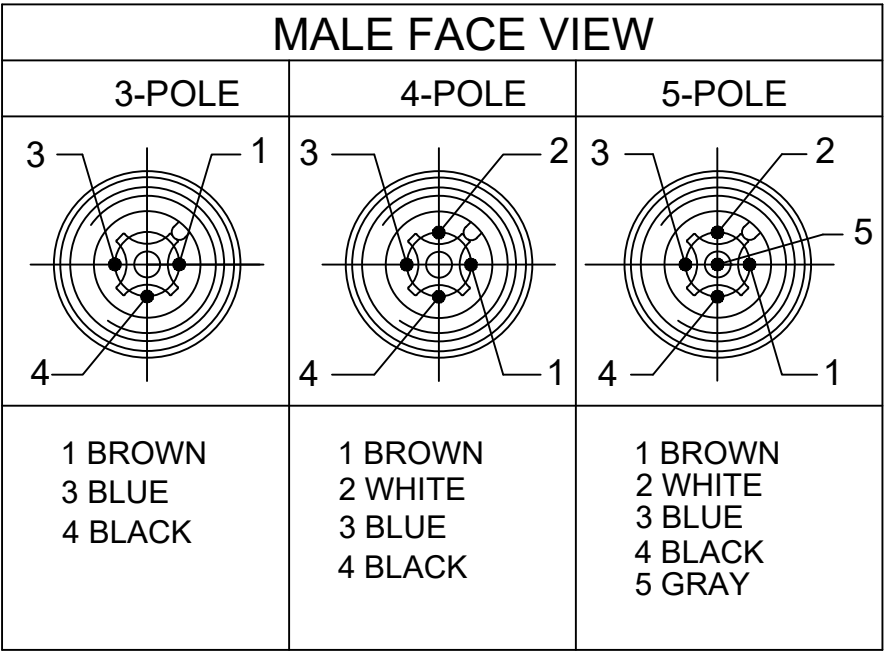
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50	1200661021	884032K03M090	9000
51	1200661022	884032K03M100	10000
52	1200661023	884032K03M120	12000
53	1200661480	884032K03M200	20000
54	1200660398	884032K05M005	500
55	1200660400	884032K05M010	1000
56	1200660401	884032K05M015	1500
57	1200660402	884032K05M020	2000
58	1200660403	884032K05M030	3000
59	1200073045	884032K05M035	3500
60	1200660404	884032K05M040	4000
61	1200660405	884032K05M050	5000
62	1200660406	884032K05M060	6000
63	1200073042	884032K05M070	7000
64	1200661540	884032K05M080	8000
65	1200668345	884032P03M002G	200
66	1200072838	884032P03M003	300
67	1200071519	884032P03M006	600
68	1200071407	884032P03M010	1000
69	1200070547	884032P03M0105	1000
70	1200669261	884032P03M015	1500
71	1200070026	884032P03M020	2000
72	1200071520	884032P03M030	3000
73	1200070914	884032P03M050	5000
74	1200072213	884032P03M1005	10000
75	1200668177	884032S20M020	2000
76	1200668161	884032S20M030	3000
77	1200070907	884032S20M050	5000
78	1200668974	885032E03M003	300
79	1200668979	885032E03M006	600
80	1200071271	885032E03M010	1000
81	1200668092	885032E03M020	2000
82	1200668975	885032E03M025	2500
83	1200668976	885032E03M030	3000
84	1200668977	885032E03M050	5000
85	1200668978	885032E03M100	10000
86	1200668493	885032H09M010	1000
87	1200668603	885032P03M020G	2000
88	1200661925	885032P03M080	8000
89	1200661926	885032P03M100	10000
90	1200669119	885032P03M190	19000
91	1200669767	888032E02M0201	2000
92	1200669768	888032E02M0301	3000
93	1200669769	888032E02M0501	5000
94	1200669770	888032E02M1001	10000
95	1200669892	884032E03M009	900
96	1200669893	884032E03M013	1300
97	1200669894	884032E03M016	1600
98	1200669895	884032E03M021	2100
99	1200669896	884032E03M032	3200

NO.	MOLEX PN	ENGINEERING PN	LENGTH (mm)
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101	1200669890	884032P03M060	6000
102	1200669891	884032P03M100	10000
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108			
109			
110			
111			
112			
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THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION															
DIMENSION UNITS		SCALE		CURRENT REV DESC: REMOVED OBSOLETE PART NUMBERS AS PER PCN#514494				molex							
mm		1:1													
GENERAL TOLERANCES (UNLESS SPECIFIED)				EC NO: 770993 DRWN: MADHAM52023/11/09 CHK'D: GGA2023/12/25 APPR: GGA2023/12/25 INITIAL REVISION: DRWN: DSOPPIN2018/09/27 APPR: RSILLER2018/10/22											
ANGULAR TOL ± 1.0 °															
4 PLACES		±													
3 PLACES		±													
2 PLACES		± 0.05													
1 PLACE		± 0.3		DOCUMENT NUMBER 1200070026				DOC TYPE PSD		DOC PART 000		REVISION A8			
0 PLACES		± 0.5													
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				THIRD ANGLE PROJECTION 		DRAWING A3-SIZE		SERIES 120007		MATERIAL NUMBER SEE PART LIST		CUSTOMER GENERAL MARKET		SHEET NUMBER 4 OF 4	



PART NO	ENGINEERING NO.	FINISHED LENGTH	POLES	CABLE DIA.
1200660228	883032K05M005	0.5M [1FT 7 IN]	3	.20/5.1
1200662157	885032K05M100	10M [32FT 9 IN]	5	.23/5.8
1200662223	884032K05M200	20M [65FT 7 IN]	4	.21/5.3



- NOTES:
1. MATERIAL: AS NOTED
 2. FINISH: AS NOTED
 3. ELECTRICAL:
VOLTAGE: 250V
CURRENT: 4A
 4. TEMP RATING: -20°TO +105°C
 5. PROTECTION: IP67 (WHEN MATED)
 6. COUPLING THREAD: M12X1
 7. UL RECOGNIZED FILE: E152210
CSA CERTIFIED FILE: LR6837
 8. ALL DIMENSIONS ARE FOR REFERENCE
UNLESS TOLERANCED OR NOTED OTHERWISE

CABLE FLEX CHARACTERISTICS:

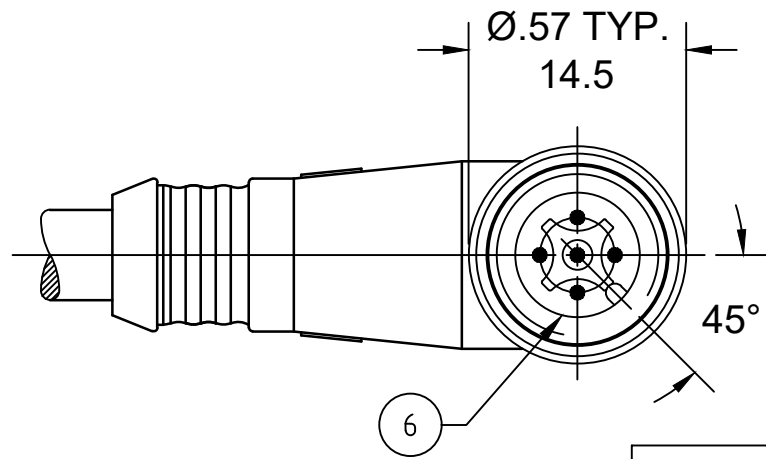
TORSIONAL FLEX TEST	10 MILLION CYCLES PER MIL-C-13777G
BEND FLEX TEST	10 MILLION CYCLES PER MIL-C-13777G
WELD SLAG RESISTANCE	WOODHEAD STANDARD S-300

10	WRAP LABEL	VINYL	BLACK/YELLOW
9	OVERMOLD	TPC	YELLOW
8	COUPLING NUT	BRASS	NICKEL PLATED
7	CONTACT PIN	COPPER ALLOY	GOLD PLATED
6	MALE INSERT	PUR	BLACK
5	O-RING	VITON	RED
4	COUPLING NUT	BRASS	NICKEL PLATED
3	CONTACT SOCKET	COPPER ALLOY	GOLD PLATED
2	FEMALE INSERT	PUR	BLACK
1	CABLE 22AWG	TPE JACKET	YELLOW
ITEM	DESCRIPTION	MATERIAL	FINISH

PART NO. MATRIX
883032K05M020

POLES
(3,4 & 5)

FINISHED LENGTH
M005 = 0.5 METER
M010 = 1 METER
M100 = 10 METER



CABLE LENGTH TOLERANCES
<.3M [1FT]: +19mm-0 [+.75in-0]
.3 - .9M [1 - 3FT]: +44.5mm-0 [+1.75in-0]
.9 - 1.8M [3 - 6FT]: +55.6mm-0 [+2.19in-0]
1.8 - 3.7M [6 - 12FT]: +88.9mm-0 [+3.50in-0]
3.7 - 7.3M [12 - 24FT]: +165.1mm-0 [+6.50in-0]
7.3-14.6M [24 - 48FT]: +317.5mm-0 [+12.50in-0]
14.6 - 30.5M [48-100FT]: +622.3mm-0 [+24.50in-0]
OVER 30M [100FT] +2% OF FINISHED LENGTH

FUNCTIONAL SYMBOLS FA=0 FE=0 FP=0 DIVISIONAL SYMBOLS	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																
	DIMENSION UNITS		SCALE		CURRENT REV DESC: ITEM# 9 WAS TPE. UPDATED TEMP RATING. MODIFIED MATERIAL TABLE			molex MICRO-CHANGE CORDSET, M12 3/4/5 POLE, FE STR/MA 90, SINGLE KEY, 22 AWG HI-FLEX									
	INCH/MM		NTS														
	GENERAL TOLERANCES (UNLESS SPECIFIED)				EC NO: 645633 DRWN: ABENJAMINLW 2020/09/18 CHK'D: RSTONE 2020/09/29 APPR: BWOODMAN 2020/10/23												
		mm	INCH														
4 PLACES	±----	±----															
3 PLACES	±----	±----															
DIVISIONAL SYMBOLS	2 PLACES		±----	±----		APPR: BWOODMAN 2020/10/23			PRODUCT CUSTOMER DRAWING								
	1 PLACE		±----	±----													
	0 PLACES		±----	±----		INITIAL REVISION:			DOCUMENT NUMBER								
	ANGULAR TOL		±	----		°	DRWN: LSTEMMLE 2010/02/01 APPR: FPACHER 2010/02/03			DOC TYPE DOC PART REVISION							
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				THIRD ANGLE PROJECTION		DRAWING		SERIES		MATERIAL NUMBER		CUSTOMER		SHEET NUMBER
								C-SIZE		120066		SEE CHART		GENERAL MARKET		1 OF 1	