

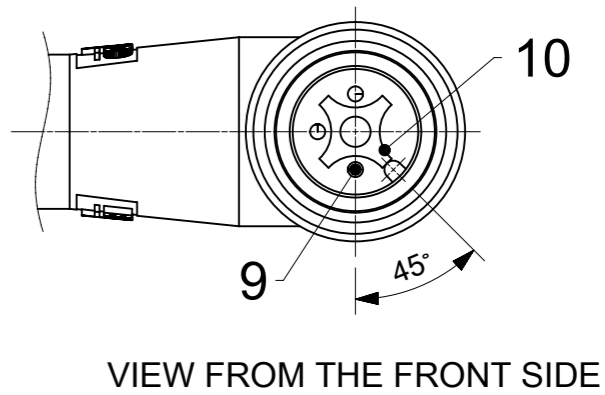
# FEMALE PLUG M12 STRAIGHT TO MALE PLUG M12 90° ANGLED



VIEW FROM THE FRONT SIDE

THICKER OVERMOLD FOR CABLES WITH O.D. BIGGER THAN 6

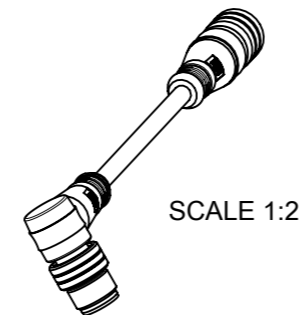
**TECHNICAL SPECIFICATION:**  
 CONTACT CURRENT RATING: 3-5 POLES 4A  
 8 POLES 2A  
 VOLTAGE RATING: 3-4 POLES 250V  
 5 POLES 60V DC  
 8 POLES 30V  
 PROTECTION CLASS: IP 67  
 TEMPERATURE: -25°C / +85°C



VIEW FROM THE FRONT SIDE

**BILL OF MATERIAL**

ITEM	QTY.	DESCRIPTION	MATERIAL	FINISH/COLOR
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



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: OBSOLETE PART NUMBERS AS PER PCN#510807.		<b>molex</b>	
mm	2:1				
GENERAL TOLERANCES (UNLESS SPECIFIED)				CSE M12 XP AC FE STR MA RA XM	
ANGULAR TOL	± 1.0°			PRODUCT CUSTOMER DRAWING	
4 PLACES	±	EC NO: 726454	2022/09/27	DOCUMENT NUMBER	
3 PLACES	±	DRWN: LIKITV	2022/11/30	1200070026	
2 PLACES	± 0.05	CHK'D: GGA	2022/11/30	DOC TYPE	DOC PART
1 PLACE	± 0.3	APPR: GGA	2022/11/30	PSD	000
0 PLACES	± 0.5	INITIAL REVISION:		REVISION	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRWN: DSOPPIN	2018/09/27	A7	
THIRD ANGLE PROJECTION		APPR: RSILLER	2018/10/22	SHEET NUMBER	
DRAWING		SERIES	MATERIAL NUMBER	CUSTOMER	
A3-SIZE		120007	SEE PART LIST	GENERAL MARKET	1 OF 4

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

8 8 X 0 3 2 X X X X X X X X X X

SPECIAL TYPES

COUPLING NUT FEMALE MALE

88 = M12x1 Double ended

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

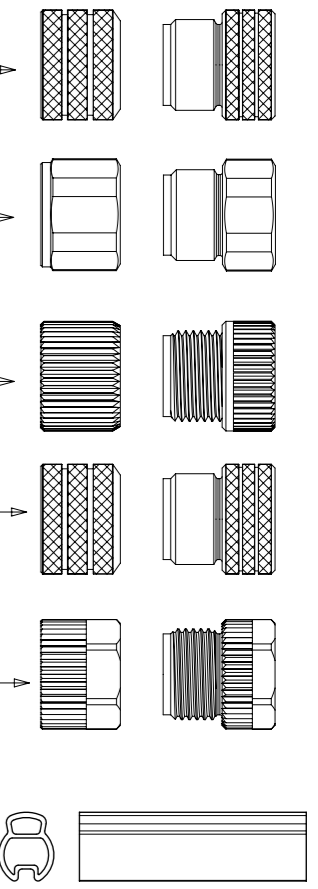
Heads style:  
032 = Plugs FE Straight & Male 90°

Cable types:  
E02=0.25mm<sup>2</sup> PVC Black  
E03=0.34mm<sup>2</sup> PVC Black  
E13=0.75mm<sup>2</sup> PVC Yellow  
E52=0.34mm<sup>2</sup> PVC Grey(RAL 7001)  
E57=0.34mm<sup>2</sup> PVC Grey(RAL 7001)  
H09=0.34mm<sup>2</sup> PUR Black  
H69=0.34mm<sup>2</sup> PUR Grey LSOH SCR  
I02=0.25mm<sup>2</sup> PVC Grey CEI  
I03=0.34mm<sup>2</sup> PVC Grey CEI  
I20=0.25mm<sup>2</sup> PVC Grey CEI SCR DC  
I26=0.34mm<sup>2</sup> PVC Grey CEI SCR AC  
P02=0.25mm<sup>2</sup> PUR/PVC Black  
P03=0.34mm<sup>2</sup> PUR/PVC Black  
P08=0.25mm<sup>2</sup> PUR Yellow HIFLEX  
P20=0.34mm<sup>2</sup> PUR Grey LSOH braid  
P82=0.34mm<sup>2</sup> PUR orange irradiated DC  
S20=0.34mm<sup>2</sup> 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 Ixx & P82 always with 2 pcs. of I/D Carrier even if no H in Engineering No.)



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	0.25mm <sup>2</sup>	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	0.34mm <sup>2</sup>	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	0.34mm <sup>2</sup>	PVC GRAY	-	-	- 30 to + 70°C	- 5 to + 70°C	-	-
H09	3 / 4 / 5	0.34mm <sup>2</sup>	PUR BLACK LSOH	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	0.2mm <sup>2</sup>	PUR LSOH	-	-	-	-40°C to +80°C	-	-
P02	3 / 4 / 5 / 8	0.25mm <sup>2</sup>	PUR / PVC BLACK	-	-	-30°C to +80°C, 7xO.D.	-5°C to +80°C, 15xO.D.	-	-
P03	3 / 4 / 5	0.34mm <sup>2</sup>	PUR / PVC BLACK	-	-	-30°C to +80°C, >7xO.D.	-5°C to +80°C, >15xO.D.	-	-
P82	4	0.34mm <sup>2</sup>	PUR IRR ORANGE	-	-	-50°C to +105°C,	-50°C to +105°C,	-	-
I03	4	0.34mm <sup>2</sup>	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	0.34mm <sup>2</sup>	TPE YELLOW	ITC E195601 OR PLTC	AWM I/II A/B FT4 LL54185	-	-40°C to +105°C	-	-
S20	4	0.34mm <sup>2</sup>	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 INCLUDING	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: mm SCALE: 1:1

GENERAL TOLERANCES (UNLESS SPECIFIED): ANGULAR TOL ± 1.0°

4 PLACES ± 0.15  
3 PLACES ± 0.10  
2 PLACES ± 0.05  
1 PLACE ± 0.3  
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: 2 OF 4

CURRENT REV DESC: OBSOLETE PART NUMBERS AS PER PCN#510807.

EC NO: 726454  
DRWN: LIKITV 2022/09/27  
CHK'D: GGA 2022/11/30  
APPR: GGA 2022/11/30

INITIAL REVISION:  
DRWN: DSOPPIN 2018/09/27  
APPR: RSILLER 2018/10/22

DOCUMENT NUMBER: 1200070026

DOC TYPE: PSD

DOC PART: 000

REVISION: A7

**molex**

CSE M12 XP AC FE STR MA RA XM

PRODUCT CUSTOMER DRAWING

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				6	PINK	6	PINK
												7	BLUE	7	BLUE
												8	RED	8	RED
												CODING REQUIRED TO IEC 61076-2-101			

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DIMENSION UNITS	SCALE	CURRENT REV DESC: OBSOLETE PART NUMBERS AS PER PCN#510807.		<b>molex</b>	
mm	1:1				
GENERAL TOLERANCES (UNLESS SPECIFIED)		EC NO: 726454		CSE M12 XP AC FE STR MA RA XM	
ANGULAR TOL	± 1.0 °	DRWN: LIKITV 2022/09/27		PRODUCT CUSTOMER DRAWING	
4 PLACES	±	CHK'D: GGA 2022/11/30		DOCUMENT NUMBER	
3 PLACES	±	APPR: GGA 2022/11/30		1200070026	
2 PLACES	± 0.05	INITIAL REVISION:		DOC TYPE	
1 PLACE	± 0.3	DRWN: DSOPPIN 2018/09/27		PSD	
0 PLACES	± 0.5	APPR: RSILLER 2018/10/22		DOC PART	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION		REVISION	
		DRAWING		A7	
		SERIES		MATERIAL NUMBER	
		A3-SIZE		SEE PART LIST	
		120007		CUSTOMER	
				GENERAL MARKET	
				SHEET NUMBER	
				3 OF 4	

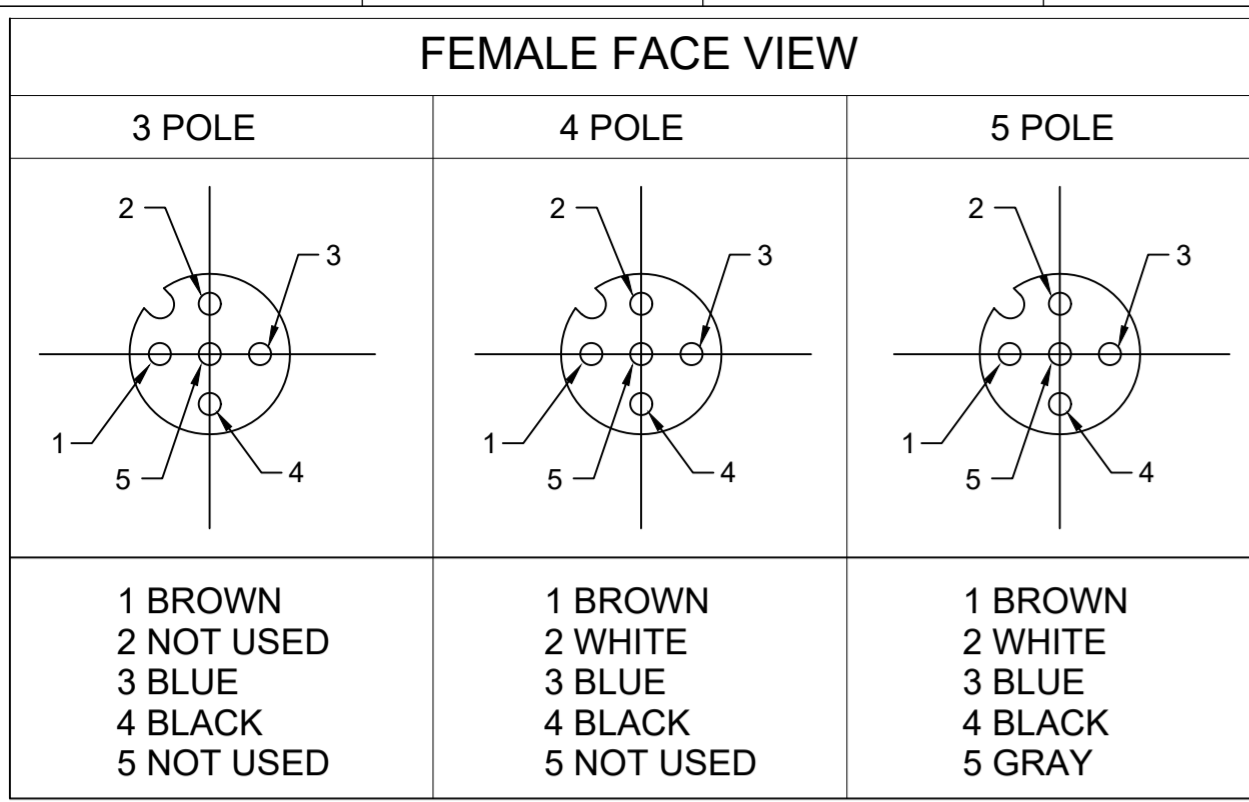
PART LIST

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	1200668311	884032H69M010	1000
42	1200668076	884032H69M030	3000
43	1200668312	884032H69M050	5000
44	1200665040	884032H69M100	10000
45	1200072424	884032I03M003	300
46	1200668522	884032I03M020	2000
47	1200661012	884032K03M006	600
48	1200661013	884032K03M010	1000
49	1200661014	884032K03M020	2000
50	1200661015	884032K03M030	3000
51	1200661598	884032K03M036	3600
52	1200661017	884032K03M050	5000

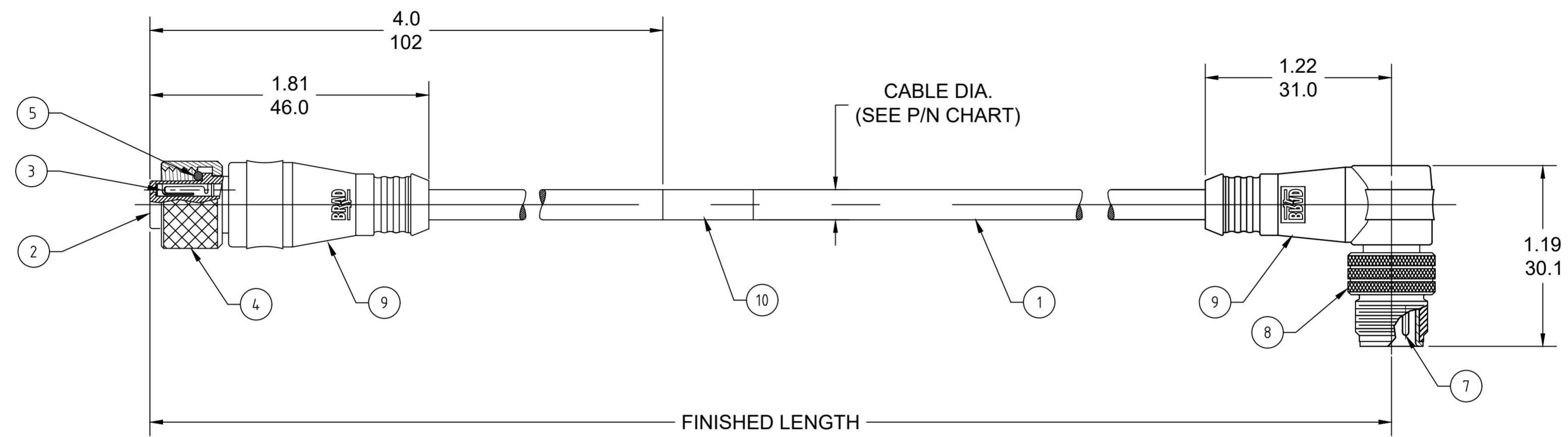
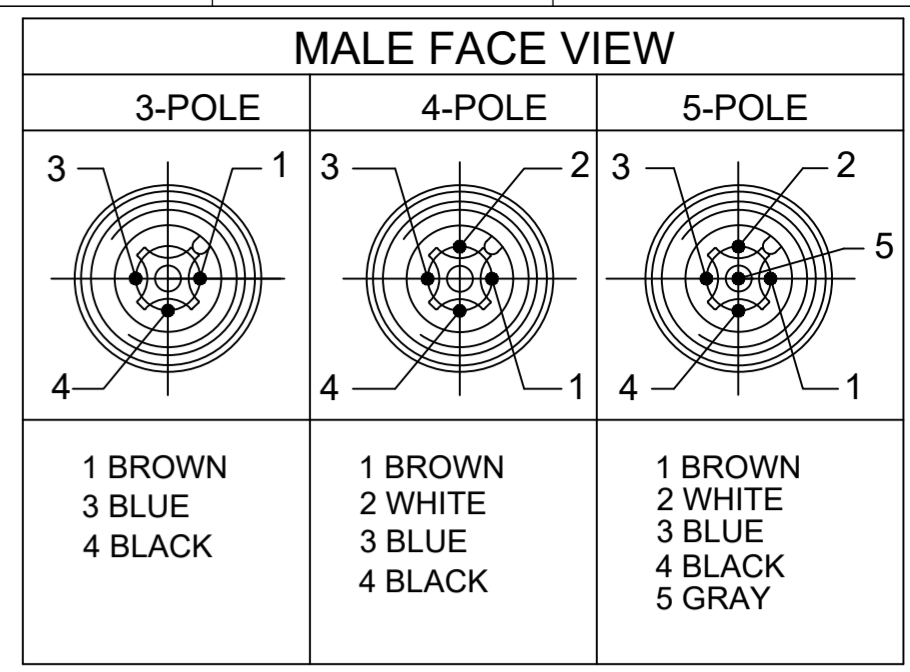
NO.	MOLEX PN	ENGINEERING PN	LENGTH (mm)
53	1200661018	884032K03M060	6000
54	1200661021	884032K03M090	9000
55	1200661022	884032K03M100	10000
56	1200661023	884032K03M120	12000
57	1200661480	884032K03M200	20000
58	1200660398	884032K05M005	500
59	1200660400	884032K05M010	1000
60	1200660401	884032K05M015	1500
61	1200660402	884032K05M020	2000
62	1200660403	884032K05M030	3000
63	1200073045	884032K05M035	3500
64	1200660404	884032K05M040	4000
65	1200660405	884032K05M050	5000
66	1200660406	884032K05M060	6000
67	1200073042	884032K05M070	7000
68	1200661540	884032K05M080	8000
69	1200668345	884032P03M002G	200
70	1200072838	884032P03M003	300
71	1200071519	884032P03M006	600
72	1200071407	884032P03M010	1000
73	1200070547	884032P03M0105	1000
74	1200669261	884032P03M015	1500
75	1200070026	884032P03M020	2000
76	1200071520	884032P03M030	3000
77	1200070914	884032P03M050	5000
78	1200072213	884032P03M1005	10000
79	1200668177	884032S20M020	2000
80	1200668161	884032S20M030	3000
81	1200070907	884032S20M050	5000
82	1200668974	885032E03M003	300
83	1200668979	885032E03M006	600
84	1200071271	885032E03M010	1000
85	1200668092	885032E03M020	2000
86	1200668975	885032E03M025	2500
87	1200668976	885032E03M030	3000
88	1200668977	885032E03M050	5000
89	1200668978	885032E03M100	10000
90	1200668493	885032H09M010	1000
91	1200668603	885032P03M020G	2000
92	1200661925	885032P03M080	8000
93	1200661926	885032P03M100	10000
94	1200669119	885032P03M190	19000
95	1200669767	888032E02M0201	2000
96	1200669768	888032E02M0301	3000
97	1200669769	888032E02M0501	5000
98	1200669770	888032E02M1001	10000
99	1200669892	884032E03M009	900
100	1200669893	884032E03M013	1300
101	1200669894	884032E03M016	1600
102	1200669895	884032E03M021	2100
103	1200669896	884032E03M032	3200

NO.	MOLEX PN	ENGINEERING PN	LENGTH (mm)
104	1200669897	884032E03M040	4000
105	1200669890	884032P03M060	6000
106	1200669891	884032P03M100	10000
107			
108			
109			
110			
111			
112			
113			
114			
115			
116			
117			
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DIMENSION UNITS	SCALE	CURRENT REV DESC: OBSOLETE PART NUMBERS AS PER PCN#510807.							
mm	1:1	 CSE M12 XP AC FE STR MA RA XM							
GENERAL TOLERANCES (UNLESS SPECIFIED)									
ANGULAR TOL	± 1.0 °	PRODUCT CUSTOMER DRAWING							
4 PLACES	±	EC NO: 726454	2022/09/27		DOCUMENT NUMBER: 1200070026 DOC TYPE: PSD DOC PART: 000 REVISION: A7				
3 PLACES	±	DRWN: LIKITV	2022/11/30						
2 PLACES	± 0.05	CHK'D: GGA	2022/11/30		INITIAL REVISION: DRWN: DSOPPIN 2018/09/27 APPR: RSILLER 2018/10/22				
1 PLACE	± 0.3	APPR: GGA							
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	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

### 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

ITEM	DESCRIPTION	MATERIAL	FINISH
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

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FUNCTIONAL SYMBOLS	DIMENSION UNITS	SCALE	CURRENT REV DESC: ITEM# 9 WAS TPE. UPDATED TEMP RATING. MODIFIED MATERIAL TABLE
$F_A=0$	INCH/MM	NTS	
$F_C=0$	GENERAL TOLERANCES (UNLESS SPECIFIED)		
$F_P=0$	mm	INCH	
DIVISIONAL SYMBOLS	4 PLACES	±----	EC NO: 645633
	3 PLACES	±----	DRWN: ABENJAMINLW 2020/09/18
	2 PLACES	±----	CHK'D: RSTONE 2020/09/29
	1 PLACE	±----	APPR: BWOODMAN 2020/10/23
	0 PLACES	±----	INITIAL REVISION:
	ANGULAR TOL ± ---- °		DRWN: LSTEMMLE 2010/02/01
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	THIRD ANGLE PROJECTION	APPR: FPACHER 2010/02/03
		DRAWING C-SIZE	SERIES 120066
		MATERIAL NUMBER	CUSTOMER
		SEE CHART	GENERAL MARKET

MICRO-CHANGE CORDSET, M12  
3/4/5 POLE, FE STR/MA 90, SINGLE KEY,  
22 AWG HI-FLEX

PRODUCT CUSTOMER DRAWING

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