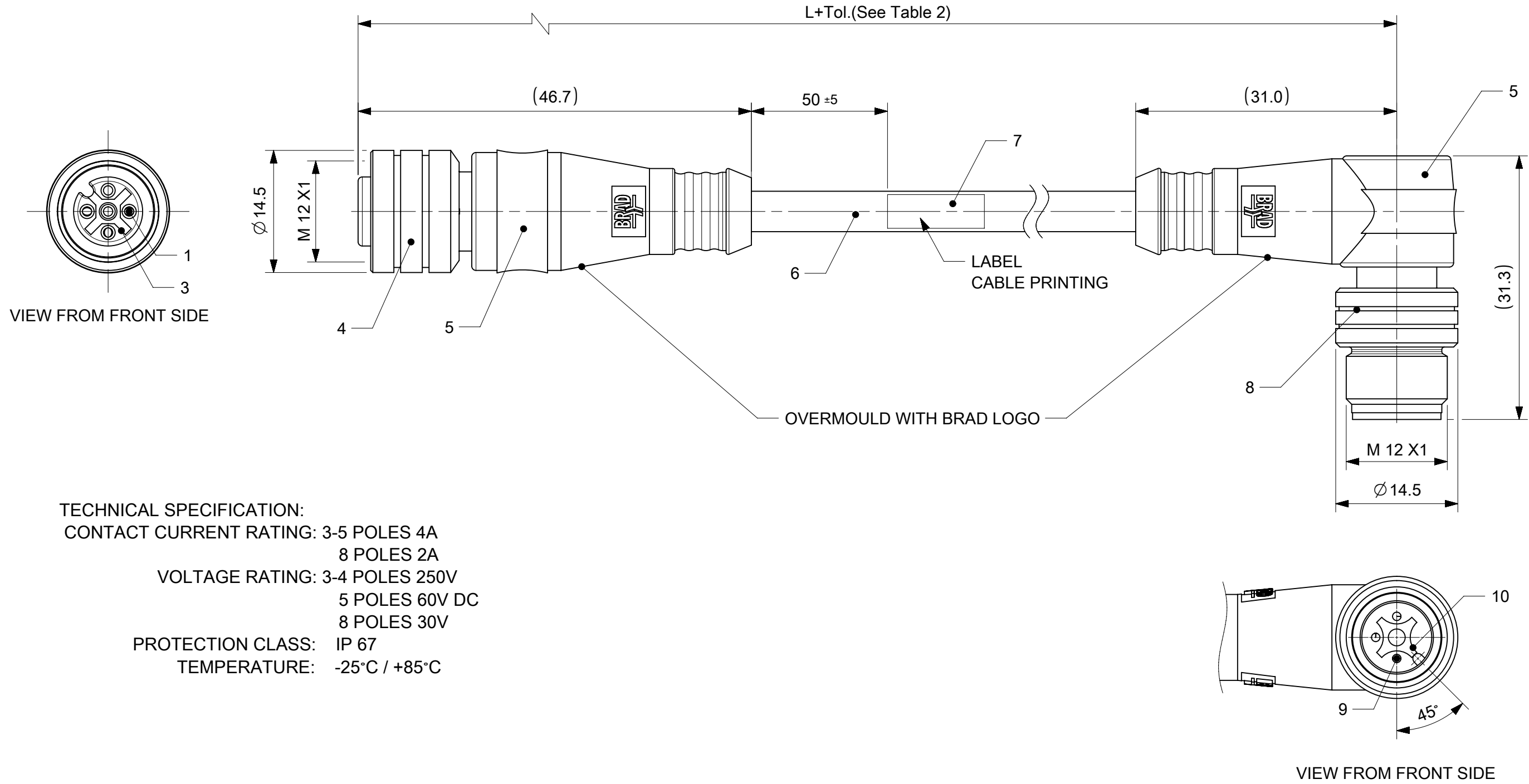


# FEMALE PLUG M12 STRAIGHT TO MALE PLUG M12 90° ANGLED



## 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

## B BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION	MATERIAL	FINISH/COLOR
10	1	INSERT MALE	PUR	BLACK
9	3	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	1	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	CONTACT M12 FEMALE	BRASS	SELECTIVE GOLD OVER NICKEL
ITEM	QTY.	DESCRIPTION	MATERIAL	FINISH/COLOR

DOCUMENT STATUS | P1 | RELEASE DATE | 2021/06/02 05:44:40

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#506884								
mm	2:1									
GENERAL TOLERANCES (UNLESS SPECIFIED)										
ANGULAR TOL	± 1.0°	CSE M12 XP AC FE STR MA RA XM								
4 PLACES	±	PRODUCT CUSTOMER DRAWING								
3 PLACES	±	EC NO: 662770 DRWN: SUGEEB 2021/02/22 CHK'D: GGA 2021/06/02 APPR: GGA 2021/06/02								
2 PLACES	± 0.05	INITIAL REVISION: DRWN: DSOPPIN 2018/09/27 APPR: RSILLER 2018/10/22								
1 PLACE	± 0.3	DOCUMENT NUMBER				DOC TYPE		DOC PART		REVISION
0 PLACES	± 0.5	1200070026				PSD		000		A3
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION	DRAWING	SERIES	MATERIAL NUMBER	CUSTOMER		SHEET NUMBER		
			A3-SIZE	120007	SEE TABLE	GENERAL MARKET		1 OF 3		

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 X X

SPECIAL TYPES

COUPLING NUT FEMALE MALE

88 = M12x1 Double ended

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

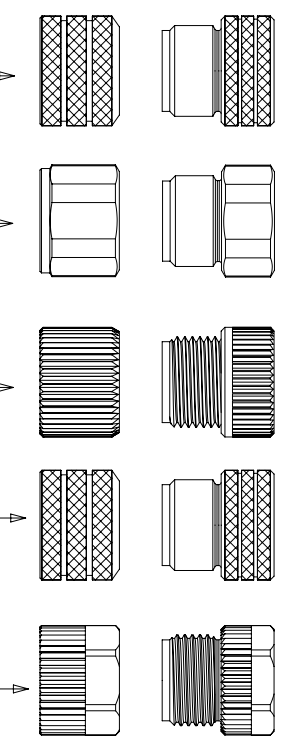
Heads style:  
032 = Plugs FE Straight & Male 90°

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

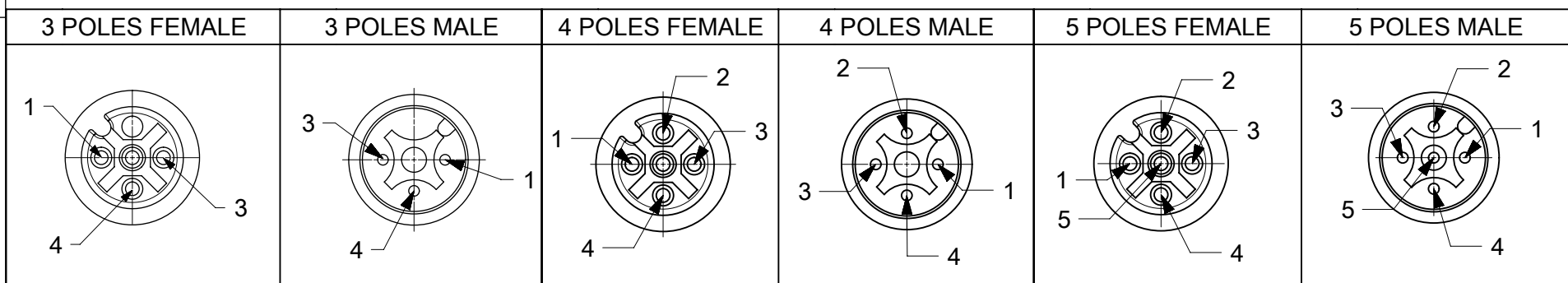
Overmold color:  
Blank (Standard)=Black TPU  
Blank=Yellow PVC for cables  
A09, S19, S20, S26  
Blank=Yellow TPE-E for cables  
K03, K05  
A=Grey / G=Black / Y=Yellow  
Coupling Nut:  
Blank (Standard)=Knurled Brass Ni Plated  
1=Hexagonal Stainless steel  
5=Knurled Derlin  
7=Knurled Brass Ni Plated,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

CONTACT POSITION FRONT VIEW:



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	BROWN
2	-	2	-	2	WHITE	2	WHITE	2	WHITE	2	WHITE	2	WHITE
3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE	3	BLUE
4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK	4	BLACK
5	-	5	-	5	-	5	-	5	GREY OR GREEN/YELLOW	5	GREY OR GREEN/YELLOW	5	GREY OR GREEN/YELLOW

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: mm SCALE: 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

EC NO: 662770  
DRWN: SUGEEB  
CHK'D: GGA  
APPR: GGA

INITIAL REVISION:  
DRWN: DSOPPIN  
APPR: RSILLER

DATE: 2021/02/22  
DATE: 2021/06/02  
DATE: 2021/06/02

DOCUMENT NUMBER: 1200070026  
DOC TYPE: PSD  
DOC PART: 000  
REVISION: A3



CUSTOMER: GENERAL MARKET  
SHEET NUMBER: 2 OF 3

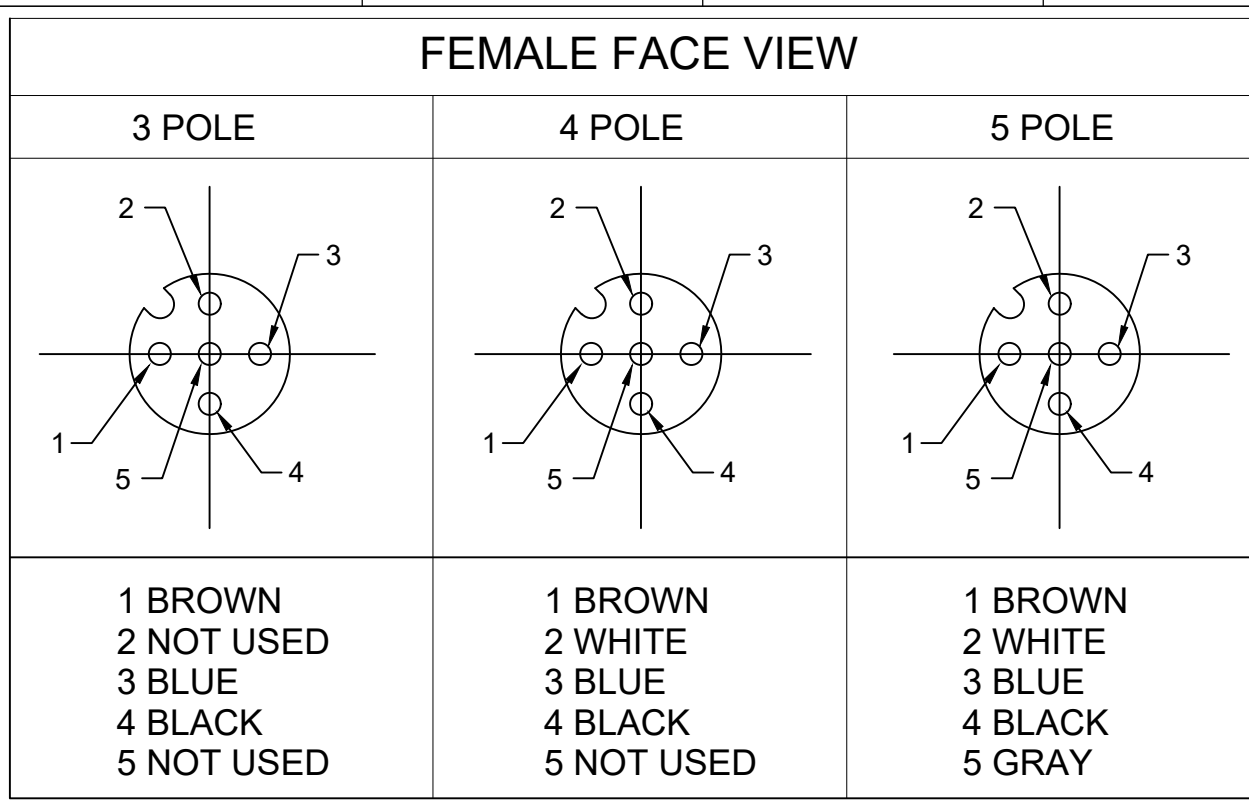
**molex**  
CSE M12 XP AC FE STR MA RA XM  
PRODUCT CUSTOMER DRAWING

PART LIST

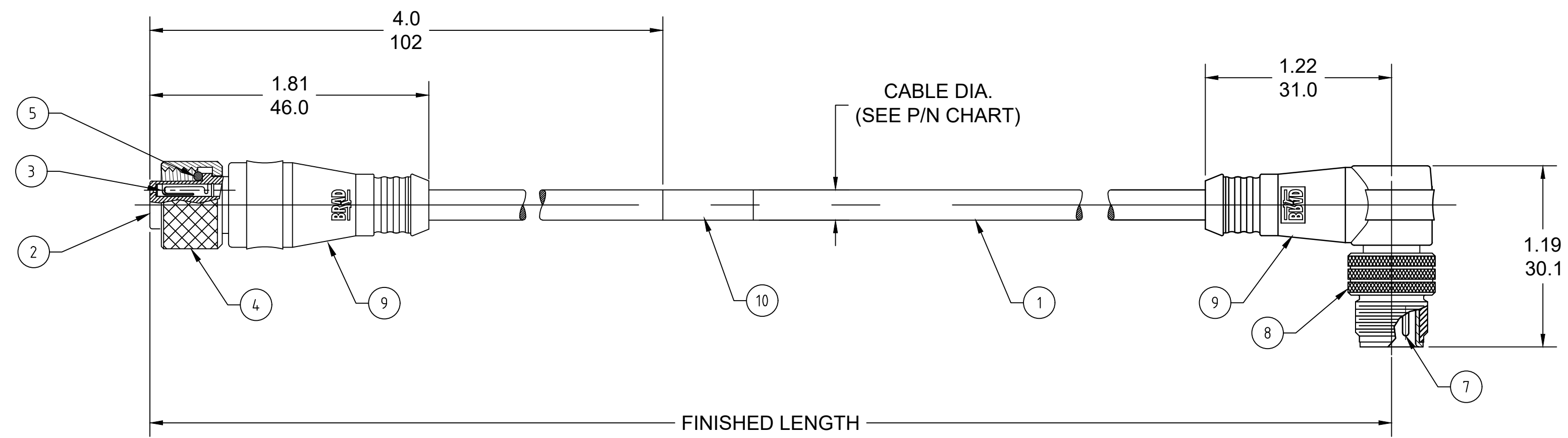
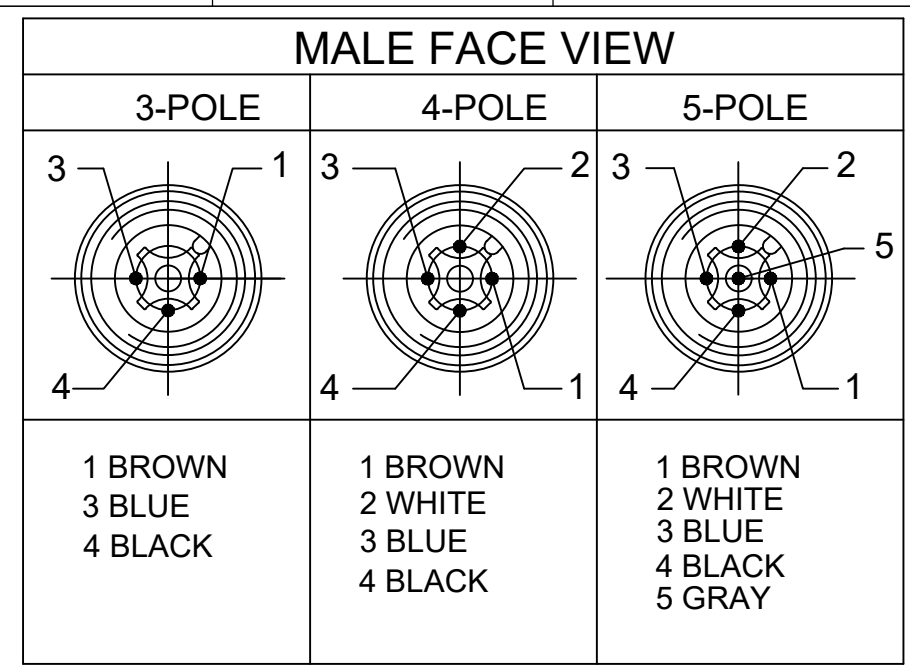
MOLEX PN	ENGINEERING PN	LENGTH (mm)
1200070158	883032E03M003	300
1200070159	883032E03M006	600
1200070160	883032E03M010	1000
1200070161	883032E03M020	2000
1200668205	883032E03M050	5000
1200072378	883032E03M060	6000
1200668053	883032E03M100	10000
1200668268	883032E03M200	20000
1200072879	883032H09M010	1000
1200070166	883032I03M006	600
1200668007	883032I03M010	1000
1200070171	883032P03M006	600
1200070172	883032P03M010	1000
1200070173	883032P03M020	2000
1200070174	883032P03M030	3000
1200072294	883032P03M0305	3000
1200668341	883032P03M050	5000
1200668763	883032P03M0501	5000
1200072705	883032P03M060	6000
1200070184	883032S20M010	1000
1200070185	883032S20M020	2000
1200668663	884032E02M050	5000
1200668072	884032E03M006	600
1200668073	884032E03M010	1000
1200668755	884032E03M012	1200
1200668756	884032E03M014	1400
1200665032	884032E03M020	2000
1200071014	884032E03M030	3000
1200072163	884032E03M0501	5000
1200668075	884032E03M100	10000
1200668200	884032E03M1001	10000
1200668307	884032E03M1005	10000
1200668309	884032E03M1205	12000
1200668173	884032E03M1501	15000
1200668223	884032E03M200	20000
1200668308	884032E03M2005	20000
1200071277	884032E52M010A	1000
1200070841	884032E52M020A	2000
1200668494	884032H09M010	1000
1200668290	884032H09M020	2000
1200668311	884032H69M010	1000
1200668076	884032H69M030	3000
1200668312	884032H69M050	5000
1200665040	884032H69M100	10000
1200072424	884032I03M003	300
1200668522	884032I03M020	2000
1200661012	884032K03M006	600
1200661013	884032K03M010	1000
1200661014	884032K03M020	2000
1200661015	884032K03M030	3000
1200661598	884032K03M036	3600

MOLEX PN	ENGINEERING PN	LENGTH (mm)
1200661017	884032K03M050	5000
1200661018	884032K03M060	6000
1200661021	884032K03M090	9000
1200661022	884032K03M100	10000
1200661023	884032K03M120	12000
1200661480	884032K03M200	20000
1200660398	884032K05M005	500
1200660400	884032K05M010	1000
1200660401	884032K05M015	1500
1200660402	884032K05M020	2000
1200660403	884032K05M030	3000
1200073045	884032K05M035	3500
1200660404	884032K05M040	4000
1200660405	884032K05M050	5000
1200660406	884032K05M060	6000
1200073042	884032K05M070	7000
1200661540	884032K05M080	8000
1200668345	884032P03M002G	200
1200072838	884032P03M003	300
1200071519	884032P03M006	600
1200071407	884032P03M010	1000
1200070547	884032P03M0105	1000
1200669261	884032P03M015	1500
1200070026	884032P03M020	2000
1200071520	884032P03M030	3000
1200070914	884032P03M050	5000
1200072213	884032P03M1005	10000
1200668077	884032P82M0037	300
1200668343	884032P82M0067	600
1200668267	884032P82M0107	1000
1200668282	884032P82M0157	1500
1200668078	884032P82M0207	2000
1200668177	884032S20M020	2000
1200668161	884032S20M030	3000
1200070907	884032S20M050	5000
1200668974	885032E03M003	300
1200668979	885032E03M006	600
1200071271	885032E03M010	1000
1200668092	885032E03M020	2000
1200668975	885032E03M025	2500
1200668976	885032E03M030	3000
1200668977	885032E03M050	5000
1200668978	885032E03M100	10000
1200668493	885032H09M010	1000
1200668603	885032P03M020G	2000
1200661925	885032P03M080	8000
1200661926	885032P03M100	10000
1200669119	885032P03M190	19000

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DIMENSION UNITS	SCALE	CURRENT REV DESC: OBSOLETE PART NUMBERS AS PER PCN#506884								
mm	1:1									
GENERAL TOLERANCES (UNLESS SPECIFIED)										
ANGULAR TOL	± 1.0 °	EC NO: 662770 DRWN: SUGEEB 2021/02/22 CHK'D: GGA APPR: GGA 2021/06/02								
4 PLACES	±									
3 PLACES	±	PRODUCT CUSTOMER DRAWING								
2 PLACES	± 0.05									
1 PLACE	± 0.3	INITIAL REVISION: DRWN: DSOPPIN 2018/09/27 APPR: RSILLER 2018/10/22								
0 PLACES	± 0.5									
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIRD ANGLE PROJECTION	DRAWING	SERIES	MATERIAL NUMBER	CUSTOMER	DOCUMENT NUMBER	DOC TYPE	DOC PART	REVISION
			A3-SIZE	120007	SEE TABLE	GENERAL MARKET	1200070026	PSD	000	A3
										SHEET NUMBER
										3 OF 3



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
FA=0 FC=0 FP=0	INCH/MM	NTS	EC NO: 645633 DRWN: ABENJAMINLW 2020/09/18 CHK'D: RSTONE 2020/09/29 APPR: BWOODMAN 2020/10/23
	GENERAL TOLERANCES (UNLESS SPECIFIED)		
DIVISIONAL SYMBOLS	4 PLACES	±----	INITIAL REVISION: DRWN: LSTEMMLE 2010/02/01 APPR: FPACHER 2010/02/03
	3 PLACES	±----	
	2 PLACES	±----	
	1 PLACE	±----	
	0 PLACES	±----	
	ANGULAR TOL ± ---- °		
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	THIRD ANGLE PROJECTION	DRAWING SERIES: C-SIZE 120066
DOCUMENT STATUS	P1	RELEASE DATE	2020/10/23 13:29:01
DOCUMENT NUMBER		DOC TYPE/DOC PART	REVISION
SD-120066-025		PSD	001 E
MATERIAL NUMBER		CUSTOMER	SHEET NUMBER
SEE CHART		GENERAL MARKET	1 OF 1