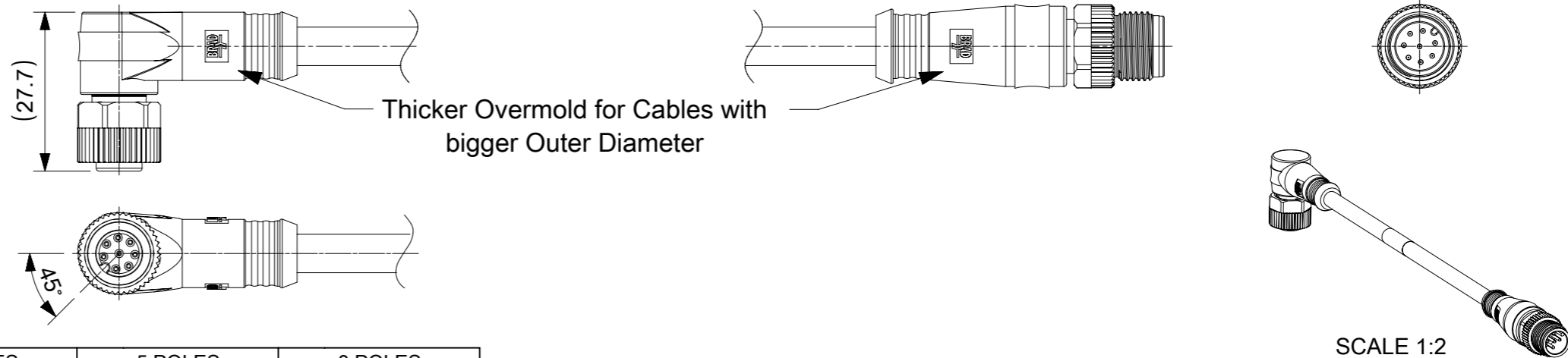


# FEMALE PLUG M12 90° ANGLED TO MALE PLUG M12 STRAIGHT



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



**CONTACT POSITION FRONT VIEW:**

|             | 3 POLES  | 4 POLES            | 5 POLES            | 5 POLES | 8 POLES  |       |     |              |     |        |
|-------------|----------|--------------------|--------------------|---------|----------|-------|-----|--------------|-----|--------|
| CABLE       | B30, B55 | B30, B33, B36, B55 | B30, B33, B36, B55 | B42     | B41, B49 |       |     |              |     |        |
| FEMALE      |          |                    |                    |         |          |       |     |              |     |        |
| MALE        |          |                    |                    |         |          |       |     |              |     |        |
| CONNECTIONS | PIN      | WIRE               | PIN                | WIRE    | PIN      | WIRE  | PIN | WIRE         | PIN | WIRE   |
|             | 1        | BROWN              | 1                  | BROWN   | 1        | BROWN | 1   | BROWN        | 1   | WHITE  |
|             | 2        | ---                | 2                  | WHITE   | 2        | WHITE | 2   | WHITE        | 2   | BROWN  |
|             | 3        | BLUE               | 3                  | BLUE    | 3        | BLUE  | 3   | BLUE         | 3   | GREEN  |
|             | 4        | BLACK              | 4                  | BLACK   | 4        | BLACK | 4   | BLACK        | 4   | YELLOW |
|             | 5        | ---                | 5                  | ---     | 5        | GREY  | 5   | GREEN/YELLOW | 5   | GREY   |
|             |          |                    |                    |         |          |       | 6   |              | 6   | PINK   |
|             |          |                    |                    |         |          |       | 7   |              | 7   | BLUE   |
|             |          |                    |                    |         |          | 8     |     | 8            | RED |        |

CODING REQUIRED TO IEC 61076-2-101

**FOR OPTIONS SEE - NUMERICAL CODE - ON SHEET 2**

| ITEM | QTY.      | DESCRIPTION         | MATERIAL    | FINISH                     |
|------|-----------|---------------------|-------------|----------------------------|
| 10   | 1         | LABEL OR PRINTING   | VINYL / --- | ---                        |
| 9    | 3 / 4 / 5 | CONTACT M12 MALE    | COPPER      | SELECTIVE GOLD OVER NICKEL |
|      | 8         |                     | BRASS       | SELECTIVE GOLD OVER NICKEL |
| 8    | 1         | INSERT MALE BLACK   | TPU         | ---                        |
| 7    | 1         | COUPLING NUT MALE   | SEE SHEET 2 | SEE SHEET 2                |
| 6    | -         | CABLE               | SEE SHEET 2 | ---                        |
| 5    | -         | OVERMOULDING        | TPU         | SEE SHEET 2                |
| 4    | 1         | COUPLING NUT FEMALE | SEE SHEET 2 | SEE SHEET 2                |
| 3    | 1         | INSERT FEMALE BLACK | PUR         | ---                        |
| 1    | 3 / 4 / 5 | CONTACT M12 FEMALE  | BRONZE      | SELECTIVE GOLD OVER NICKEL |
|      | 8         |                     | BRASS       | SELECTIVE GOLD OVER NICKEL |

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

FUNCTIONAL SYMBOLS:  $\nabla/A = 0$ ,  $\nabla/E = 0$ ,  $\nabla/F = 0$

DIVISIONAL SYMBOLS: 4 PLACES  $\pm$ , 3 PLACES  $\pm$ , 2 PLACES  $\pm$ , 1 PLACE  $\pm$ , 0 PLACES  $\pm$

SCALE: 1:1  
 DIMENSION UNITS: mm  
 GENERAL TOLERANCES (UNLESS SPECIFIED):  
 ANGULAR TOL:  $\pm 1.0^\circ$

EC NO: 730623  
 DRWN: RSCHIEBER 2022/11/21  
 CHK'D: RSILLER 2022/12/01  
 APPR: RSILLER 2022/12/01

INITIAL REVISION:  
 DRWN: JMARSZALEK 2016/08/12  
 APPR: RSILLER 2016/08/29

THIRD ANGLE PROJECTION

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

**molex**  
 CSE M12 XP AC FE RA WSOR MA STR XM DE

PRODUCT CUSTOMER DRAWING

DOCUMENT NUMBER: 1200668999  
 DOC TYPE: PSD  
 DOC PART: 000  
 REVISION: A8

SHEET NUMBER: 1 OF 3

ENGINEERING NO. - NUMERICAL CODE (Available parts see PART LIST table. Other parts available upon request).

OPTIONS

8 8 X 0 3 1 X X X X X X X X

88=M12x1 Double ended

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

Heads style:  
031=Plug Female 90°  
to Plug Male Straight

Cable type: See Table

Units:  
M=Meter  
C=Centimeter  
T=10x Meter

Length  
Examples:  
005=0.5 units  
010=1 units  
020=1 units  
050=5 units  
100=10 units  
150=15 units  
200=20 units

Overmold color:  
Blank (Standard)=Black  
A=Grey / G=Black / Y=Yellow / R=Red

Coupling Nut:  
Blank (Standard)=Knurled/Hex Brass, Ni Plated  
5=Knurled Derlin  
7=Knurled Brass Ni Plated, Teflon Coated

H= 2 pcs. of I/D Carrier PVC Transparent  
(Cable B36 always with  
2 pcs. I/D Carrier)



CABLE INFORMATION (for more information see Cable Data Sheet).

| CABLE TYPE | NO. OF WIRES | CROSS SECTION       | CABLE JACKET | UL           | CSA                     | STATIC: TEMP. / BENDING RADIUS | DYNAMIC: TEMP. / BENDING RADIUS | DRAG CHAIN: TEMP. / BENDING RADIUS | DRAG CHAIN                             | CABLE PRODUCT SPECIFICATION | CABLE SPEC. DRAWING |
|------------|--------------|---------------------|--------------|--------------|-------------------------|--------------------------------|---------------------------------|------------------------------------|--|-----------------------------|---------------------|
| B30        | 3 / 4 / 5    | 0.34mm <sup>2</sup> | TPU Black    | UL 21215/758 | C22.2 I/II A/B 80°/600V | -40°C to +90°C<br>5xO.D.       | -25°C to +80°C<br>7.5xO.D.      | -5°C to +60°C<br>7.5xO.D.          | up to 5 000 000 cycles<br>at temp 20°C | 1552200001                  | SD-120209-001       |
| B33        | 4 / 5        | 0.34mm <sup>2</sup> | TPU Gray     |              |                         |                                |                                 |                                    |  |                             | SD-120209-001       |
| B36        | 4 / 5        | 0.34mm <sup>2</sup> | TPU Orange   |              |                         |                                |                                 |                                    |  |                             | SD-120209-001       |
| B41        | 8            | 0.25mm <sup>2</sup> | TPU Black    |              |                         |                                |                                 |                                    |  |                             | SD-120209-006       |
| B42        | 5            | 0.34mm <sup>2</sup> | TPU Black    |              |                         |                                |                                 |                                    |  |                             | SD-120209-001       |
| B55        | 4 / 5        | 0.34mm <sup>2</sup> | TPU Yellow   |              |                         |                                |                                 |                                    |  |                             | n/a                 |

| CABLE LENGTH TOLERANCES |           |       |
|-------------------------|-----------|-------|
| LENGTH                  | TOLERANCE |       |
| shorter 1m              | +40 mm    | -0 mm |
| 1m-5m                   | +60 mm    | -0 mm |
| 5m-10m                  | +80 mm    | -0 mm |
| 10m-20m                 | +140 mm   | -0 mm |
| 20m-30m                 | +160 mm   | -0 mm |
| longer 30m              | +1%       | -0 mm |

|  |   |                             |                                 |  |  |
|--|---|-----------------------------|---------------------------------|--|--|
| FUNCTIONAL SYMBOLS<br>FA = 0<br>FE = 0<br>FV = 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                             | CURRENT REV DESC: NEW P/N ADDED |  | <p>CSE M12 XP AC FE RA WSOR MA STR XM DE</p> <p>PRODUCT CUSTOMER DRAWING</p>                     |
|  | FUNCTIONAL DIMENSION UNITS  | SCALE                       | EC NO: 730623                   |  |  |
|  | mm  | 1:1                         | DRWN: RSCHIEBER 2022/11/21      |  |  |
|  | GENERAL TOLERANCES (UNLESS SPECIFIED)   |                             | CHK'D: RSILLER 2022/12/01       |  |  |
| DIVISIONAL SYMBOLS                               | ANGULAR TOL ± 1.0°  |                             | APPR: RSILLER 2022/12/01        |  | <p>DOCUMENT NUMBER: 1200668999</p> <p>DOC TYPE: PSD</p> <p>DOC PART: 000</p> <p>REVISION: A8</p> |
|  | 4 PLACES ±  | INITIAL REVISION:           |                                 |  |  |
|  | 3 PLACES ±  | DRWN: JMARSZALEK 2016/08/12 |                                 |  |  |
|  | 2 PLACES ± 0.05   | APPR: RSILLER 2016/08/29    |                                 |  |  |
| 1 PLACE ± 0.1                                    | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |                             | THIRD ANGLE PROJECTION          |  | <p>MATERIAL NUMBER: SEE SHEET 3</p> <p>CUSTOMER: GENERAL MARKET</p> <p>SHEET NUMBER: 2 OF 3</p>  |
| 0 PLACES ± 0.2                                   | DRAWING: A3-SIZE  |                             | SERIES: 120066                  |  |  |

# PART LIST

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 1   | 1200668877 | 883031B30M006  | 600    |
| 2   | 1200668878 | 883031B30M010  | 1000   |
| 3   | 1200668879 | 883031B30M020  | 2000   |
| 4   | 1200668880 | 883031B30M030  | 3000   |
| 5   | 1200668881 | 883031B30M050  | 5000   |
| 6   | 1200668882 | 883031B30M100  | 10000  |
| 7   | 1200668829 | 884031B30M006  | 600    |
| 8   | 1200668830 | 884031B30M010  | 1000   |
| 9   | 1200668831 | 884031B30M020  | 2000   |
| 10  | 1200668832 | 884031B30M030  | 3000   |
| 11  | 1200668833 | 884031B30M050  | 5000   |
| 12  | 1200668834 | 884031B30M100  | 10000  |
| 13  | 1200669285 | 884031B30M150  | 15000  |
| 14  | 1200669520 | 884031B30M015  | 1500   |
| 15  | 1200669566 | 884031B30M200  | 20000  |
| 16  | 1200668997 | 885031B30M006  | 600    |
| 17  | 1200668998 | 885031B30M010  | 1000   |
| 18  | 1200668999 | 885031B30M020  | 2000   |
| 19  | 1200669000 | 885031B30M030  | 3000   |
| 20  | 1200669001 | 885031B30M050  | 5000   |
| 21  | 1200669002 | 885031B30M100  | 10000  |
| 22  | 1200669241 | 885031B30M0067 | 600    |
| 23  | 1200669243 | 885031B30M0207 | 2000   |
| 24  | 1200669371 | 885031B30M010H | 1000   |
| 25  | 1200669677 | 885031B30M150  | 15000  |
| 26  | 1200669678 | 885031B30M200  | 20000  |

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 27  | 1200669569 | 884031B33M005  | 500    |
| 28  | 1200669570 | 884031B33M010  | 1000   |
| 29  | 1200669571 | 884031B33M020  | 2000   |
| 30  | 1200669572 | 884031B33M030  | 3000   |
| 31  | 1200669573 | 884031B33M050  | 5000   |
| 32  | 1200669574 | 884031B33M100  | 10000  |
| 33  | 1200669581 | 884031B33M005A | 500    |
| 34  | 1200669582 | 884031B33M010A | 1000   |
| 35  | 1200669621 | 884031B33M020A | 2000   |
| 36  | 1200669622 | 884031B33M030A | 3000   |
| 37  | 1200669623 | 884031B33M050A | 5000   |
| 38  | 1200669624 | 884031B33M100A | 10000  |
| 39  | 1200669625 | 884031B33M150A | 15000  |
| 40  | 1200669626 | 884031B33M200A | 20000  |
| 41  | 1200669670 | 885031B33M010A | 1000   |
| 42  | 1200669671 | 885031B33M020A | 2000   |

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 43  | 1200669672 | 885031B33M030A | 3000   |
| 44  | 1200669673 | 885031B33M050A | 5000   |
| 45  | 1200669674 | 885031B33M100A | 10000  |
| 46  | 1200669675 | 885031B33M150A | 15000  |
| 47  | 1200669676 | 885031B33M200A | 20000  |
| 48  | 1200669908 | 885031B33M005A | 500    |
| 49  | 1200669909 | 885031B33M300A | 300000 |
| 50  | 1200669910 | 885031B33M400A | 400000 |
| 51  | 1200669911 | 885031B33M500A | 500000 |

| Lp. | MOLEX PN   | ENGINEERING NO  | L [mm] |
|-----|------------|-----------------|--------|
| 48  | 1200669060 | 885031B36M0057Y | 500    |
| 49  | 1200669061 | 885031B36M0107Y | 1000   |
| 50  | 1200669062 | 885031B36M0207Y | 2000   |
| 51  | 1200669063 | 885031B36M0307Y | 3000   |
| 52  | 1200669064 | 885031B36M0407Y | 4000   |
| 53  | 1200669065 | 885031B36M0507Y | 5000   |
| 54  | 1200669066 | 885031B36M0607Y | 6000   |
| 55  | 1200669067 | 885031B36M0807Y | 8000   |
| 56  | 1200669068 | 885031B36M1007Y | 10000  |
| 57  | 1200669069 | 885031B36M1207Y | 12000  |
| 58  | 1200669070 | 885031B36M1507Y | 15000  |
| 59  | 1200669071 | 885031B36M1807Y | 18000  |
| 60  | 1200669072 | 885031B36M2007Y | 20000  |
| 61  | 1200669073 | 885031B36M2507Y | 25000  |
| 62  | 1200669074 | 885031B36M3007Y | 30000  |
| 63  | 1200669549 | 885031B36M0057H | 500    |
| 64  | 1200669550 | 885031B36M0107H | 1000   |
| 65  | 1200669551 | 885031B36M0157H | 1500   |
| 66  | 1200669552 | 885031B36M0207H | 2000   |
| 67  | 1200669553 | 885031B36M0307H | 3000   |
| 68  | 1200669554 | 885031B36M0507H | 5000   |
| 69  | 1200669555 | 885031B36M1007H | 10000  |
| 70  | 1200668861 | 884031B36M0507Y | 5000   |
| 71  | 1200668862 | 884031B36M1007Y | 10000  |
| 72  | 1200669047 | 884031B36M0057Y | 500    |
| 73  | 1200669048 | 884031B36M0107Y | 1000   |
| 74  | 1200669049 | 884031B36M0157Y | 1500   |
| 75  | 1200669050 | 884031B36M0207Y | 2000   |
| 76  | 1200669051 | 884031B36M0307Y | 3000   |
| 77  | 1200669052 | 884031B36M0407Y | 4000   |
| 78  | 1200669053 | 884031B36M0607Y | 6000   |
| 79  | 1200669054 | 884031B36M0807Y | 8000   |
| 80  | 1200669055 | 884031B36M1207Y | 12000  |

| Lp. | MOLEX PN   | ENGINEERING No  | L [mm] |
|-----|------------|-----------------|--------|
| 81  | 1200669056 | 884031B36M1507Y | 15000  |
| 82  | 1200669057 | 884031B36M2007Y | 20000  |
| 83  | 1200669058 | 884031B36M2507Y | 25000  |
| 84  | 1200669059 | 884031B36M3007Y | 30000  |
| 85  | 1200669534 | 884031B36M0057H | 500    |
| 86  | 1200669535 | 884031B36M0107H | 1000   |
| 87  | 1200669536 | 884031B36M0157H | 1500   |
| 88  | 1200669537 | 884031B36M0207H | 2000   |
| 89  | 1200669538 | 884031B36M0307H | 3000   |
| 90  | 1200669539 | 884031B36M0507H | 5000   |
| 91  | 1200669540 | 884031B36M1007H | 10000  |
| 92  | 1200669564 | 884031B36M0067Y | 600    |


| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 93  | 1200668887 | 888031B41M050  | 5000   |

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 94  | 1200668835 | 885031B42M006  | 600    |
| 95  | 1200668836 | 885031B42M010  | 1000   |
| 96  | 1200668837 | 885031B42M020  | 2000   |
| 97  | 1200668838 | 885031B42M030  | 3000   |
| 98  | 1200668839 | 885031B42M050  | 5000   |
| 99  | 1200668840 | 885031B42M100  | 10000  |

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 100 | 1200669272 | 884031B55M010Y | 1000   |
| 101 | 1200669273 | 884031B55M020Y | 2000   |
| 102 | 1200669274 | 884031B55M030Y | 3000   |
| 103 | 1200669275 | 884031B55M050Y | 5000   |
| 104 | 1200669276 | 884031B55M060Y | 6000   |
| 105 | 1200669277 | 884031B55M100Y | 10000  |
| 106 | 1200669278 | 884031B55M150Y | 15000  |
| 107 | 1200669419 | 884031B55M070Y | 7000   |
| 108 | 1200669420 | 884031B55M200Y | 20000  |
| 109 | 1200669730 | 884031B55M005Y | 500    |

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |
|-----|------------|----------------|--------|
| 110 | 1200669679 | 885031B55M010Y | 1000   |
| 111 | 1200669680 | 885031B55M020Y | 2000   |
| 112 | 1200669681 | 885031B55M030Y | 3000   |
| 113 | 1200669682 | 885031B55M050Y | 5000   |
| 114 | 1200669683 | 885031B55M100Y | 10000  |
| 115 | 1200669684 | 885031B55M150Y | 15000  |
| 116 | 1200669685 | 885031B55M200Y | 20000  |

| Lp. | MOLEX PN   | ENGINEERING No | L [mm] |    |
|-----|------------|----------------|--------|----|
| 117 | 1200669949 | 884031B30M003  | 300    | A8 |
| 118 | 1200669744 | 884031B30M080  | 8000   |    |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| FUNCTIONAL SYMBOLS                                   | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |   | CURRENT REV DESC: NEW P/N ADDED                                     |   |      |
|  | $\sqrt{A} = 0$<br>$\sqrt{E} = 0$<br>$\sqrt{V} = 0$  | DIMENSION UNITS: <b>mm</b><br>SCALE: <b>1:1</b><br>GENERAL TOLERANCES (UNLESS SPECIFIED)<br>ANGULAR TOL $\pm 1.0^\circ$ | EC NO: 730623<br>DRWN: RSCHIEBER<br>CHK'D: RSILLER<br>APPR: RSILLER | 2022/11/21<br>2022/12/01<br>2022/12/01  |   |
| DIVISIONAL SYMBOLS                                   | 4 PLACES $\pm$<br>3 PLACES $\pm$<br>2 PLACES $\pm 0.05$<br>1 PLACE $\pm 0.1$<br>0 PLACES $\pm 0.2$  | INITIAL REVISION:<br>DRWN: JMARSZALEK<br>APPR: RSILLER  | 2016/08/12<br>2016/08/29  | DOCUMENT NUMBER: <b>1200668999</b><br>DOC TYPE: PSD<br>DOC PART: 000<br>REVISION: <b>A8</b> |   |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS |   | THIRD ANGLE PROJECTION  | DRAWING: <b>A3-SIZE</b>   | SERIES: <b>120066</b>   | MATERIAL NUMBER: SEE PART LIST<br>CUSTOMER: GENERAL MARKET<br>SHEET NUMBER: <b>3 OF 3</b> |