# ENGINEERING SPECIFICATION

### molex®

## INSTALLATION INSTRUCTION SHEETS

**1.0 SCOPE**
This specification consists of installation instructions for the Self Contained Power Connector for 2-wire cable with ground applications.

**2.0 PURPOSE**
To define material number system for the above instructions.

**3.0 REFERENCE MATERIAL NUMBERS**
See pages 2-3 for the actual instruction sheets. These pages can be used as originals.

**4.0 DEFINITIONS**
Not applicable.

**5.0 PROCEDURES**
Place one (1) instruction sheet in the smallest unit container.

**6.0 IMPLEMENTATION**
December 6, 2005

| REVISION: | ECR/ECN INFORMATION: | TITLE: | SELF CONTAINED POWER CONNECTOR INSTALLATION INSTRUCTIONS FOR 2 WIRE CABLE WITH GROUND APPLICATIONS | SHEET No. |
|---|---|---|---|---|
| **H** | EC No: **WNA2009-0798** DATE: **2009 / 06 / 03** | | | **1** of **3** |

| DOCUMENT NUMBER: | CREATED / REVISED BY: | CHECKED BY: | APPROVED BY: |
|---|---|---|---|
| **SD-19045-002** | **ETHRODAHL** | **JMACNEIL** | **JMACNEIL** |

# Self Contained Power Connector Installation Instructions
# For 2 Wire Cable With Ground Applications

The 2-circuit-with-ground connectors will splice non-metallic-sheathed cable in the following wire ranges and types:

**Self Contained Connector -**

**2 Circuit with ground for Solid Wire**

| Wire Range AWG | Order No. | Optional Hand Tool | Optional Bench Mount Tool | Optional Bench Arbor Press | Housing Color |
|---|---|---|---|---|---|
| 10 | 19403-1300 | 19285-0084 | 19285-0088 | 64006-0200 | White |

**Self Contained Connector -**

**2 Circuit with ground for Stranded Wire**

| Wire Range AWG | Order No. | Optional Hand Tool | Optional Bench Mount Tool | Optional Bench Arbor Press | Housing Color |
|---|---|---|---|---|---|
| 14-16 | 19403-1011 | 19285-0074 | N/A | 64006-0200 | Blue |
| 12 | 19403-1010 | 19285-0074 | N/A | 64006-0200 | Yellow |
| 10 | 19403-1300 | 19285-0084 | 19285-0088 | 64006-0200 | White |

**Self Contained Connector -**

**2 Circuit with ground for Round Stranded Cable**

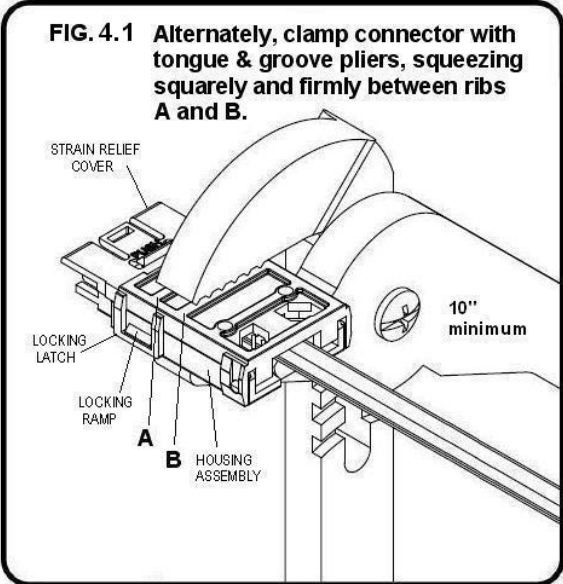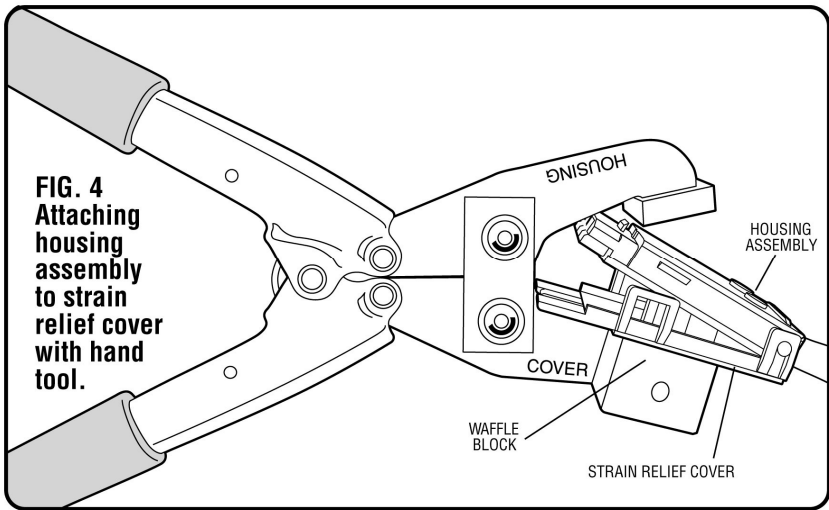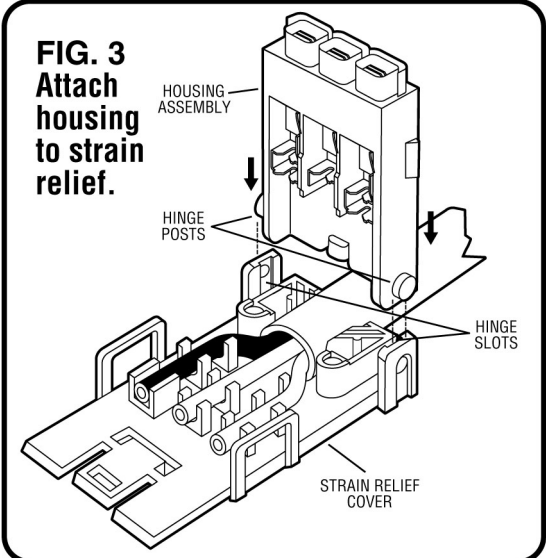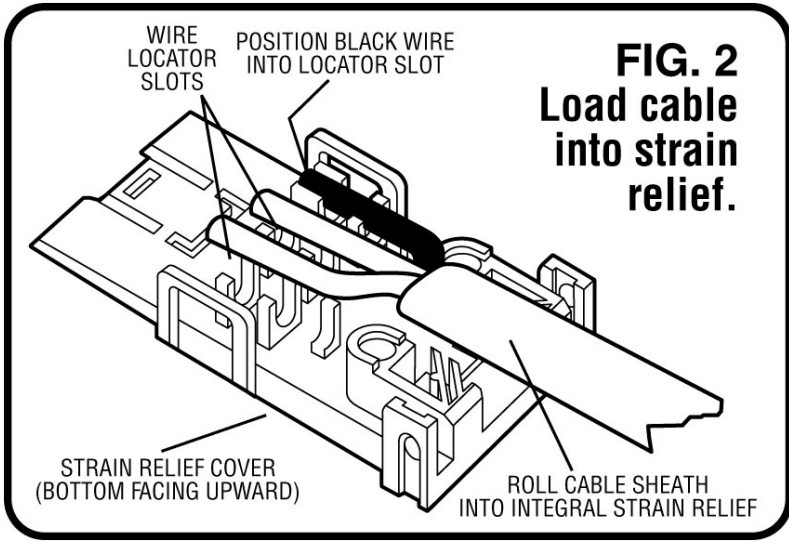| Wire Range AWG | Insulation Diameter | Order No. | Optional Hand Tool | Optional Bench Arbor Press | Housing Color | Cover Color |
|---|---|---|---|---|---|---|
| 14 | .340-.440 | 19403-1310 | 19285-0100 | 64006-0200 | White | Clear |
| 14 | .600 | 19403-0011 | 19285-0100 | 64006-0200 | White | Blue |
| 12 | .340-.440 | 19421-0001 | 19285-0100 | 64006-0200 | Yellow | Clear |
| 12 | .600 | 19421-0002 | 19285-0100 | 64006-0200 | Yellow | Blue |



FIG.1 Cable prep.

**Reference Information**

UL File Number: E182087, CSA File Number: LR18689-C53
NEC Article: 550, 551, and 545, HUD Section: 3280.801
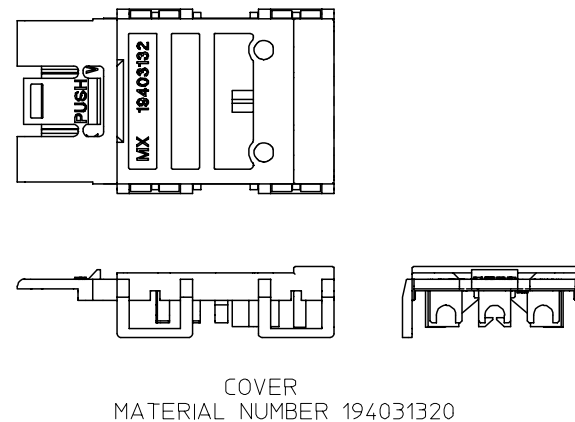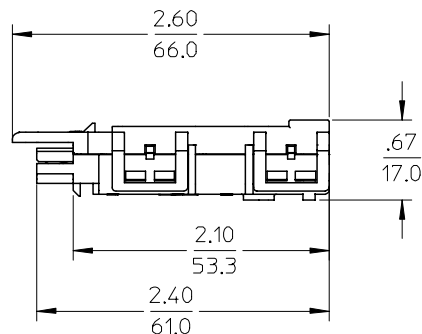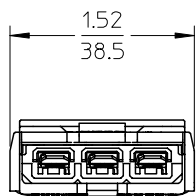16 to 12 AWG Version, Current: 20A,Voltage: 600V.
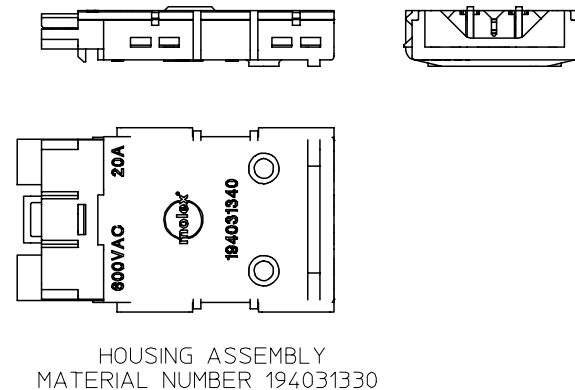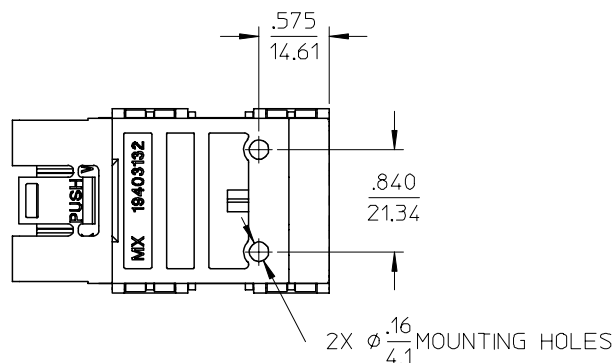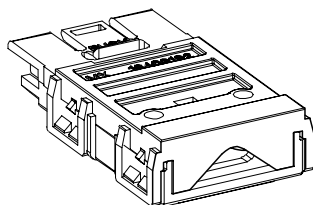10 AWG Version, 30A, 600V

## Installation Procedure:

1. Carefully strip and prepare the wires to the configuration as shown in **Figure 1**.
2. Hold the clear strain relief cover with bottom facing upward as shown in **Figure 2**.
3. Lay wire into locator slots, making sure the black wire is placed into the polarization slot as shown in **Figure 2**.
4. Press the cable sheath into the integral strain relief slot as shown in Figure 2. _Wires must not extend beyond the stops as shown in Figure 3!_
5. While holding the strain relief cover, position the housing's hinge posts into the hinge slots and press down until both lock into place as shown in **Figure 3**.
6. Close the strain relief cover and housing by hand**.** Place the connector assembly into Molex tool as shown in **Figure 4**. Squeeze the tool until the connector bottoms out and the locking latches engage on both sides. OR alternately, squeeze the top and bottom closed with tongue and groove pliers as shown in **Figure 4.1**. Pliers must be a minimum of 10" long. Squeeze firmly on both sides, squarely across the connector between ribs A and B to ensure wires seat completely into slots.
7. Inspect the connector to ensure the wires have been properly engaged into the housing assembly contacts. A properly terminated wire is fully seated into its proper slots with no significant bow of the cover. _If the wires extend past the insulation stops, the wires must be re-terminated with a NEW CONNECTOR. Once the cover has been closed the connector cannot be re-used. Failure to comply with this procedure may result in the failure of the connector._
8. Mating and un-mating the completed connector is illustrated in **Figure 5**.

**FIG. 2 Load cable into strain relief.**

WIRE LOCATOR SLOTS

POSITION BLACK WIRE INTO LOCATOR SLOT

STRAIN RELIEF COVER (BOTTOM FACING UPWARD)

ROLL CABLE SHEATH INTO INTEGRAL STRAIN RELIEF

**FIG. 3 Attach housing to strain relief.**

HOUSING ASSEMBLY

HINGE POSTS

HINGE SLOTS

STRAIN RELIEF COVER

**FIG. 4 Attaching housing assembly to strain relief cover with hand tool.**

HOUSING

HOUSING ASSEMBLY

COVER

WAFFLE BLOCK

STRAIN RELIEF COVER

OR

**FIG. 4.1 Alternately, clamp connector with tongue & groove pliers, squeezing squarely and firmly between ribs A and B.**

STRAIN RELIEF COVER

LOCKING LATCH

LOCKING RAMP

A

B

HOUSING ASSEMBLY

10" minimum

**FIG. 5**

STRAIN RELIEF COVER

DEPRESS MATING LATCH TO DISCONNECT

HOUSING ASSEMBLY

HOUSING ASSEMBLY

STRAIN RELIEF COVER

DEPRESS MATING LATCH TO DISCONNECT

To release the connector system, depress both mating latches at the same time and pull the connectors apart. To reconnect, simply re-mate the connectors and slide them together until mating latches lock.

"Hermaphroditic" part mates with itself.

.575
14.61

.840
21.34

2X Ø .16 / 4.1 MOUNTING HOLES

MX 19403132

HOUSING ASSEMBLY
MATERIAL NUMBER 194031330

800VAC    20A
194031340
molex

1.52
38.5

2.60
66.0

.67
17.0

2.10
53.3

2.40
61.0

PUSH  MX 19403132

COVER
MATERIAL NUMBER 194031320

NOTES:

1. CONNECTOR DESIGNED FOR USE WITH:
14AWG, 3 CONDUCTOR COPPER STRANDED CABLE,
WITH A INSULATION JACKET SIZE OF .420-.340 DIA.
CONSULT FACTOR FOR OTHER SIZES.
2. ASSEMBLY IS PACKAGED PER PK-19403-131.
3. REF: UL FILE NO. E182087
4. CSA FILE NO. LR18689.

EC NO: ETC2003-0252
DRWN:BRUPERT 2003/03/26
CHKD:JPAWLIC 2003/03/26
APPR:RDEROSS 2003/03/27

DESCRIPTION

A
REV

QUALITY SYMBOLS

▼ = 0

C = 0

GENERAL TOLERANCES
(UNLESS SPECIFIED)

|  | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± .010 |
| 2 PLACES | ± 0.25 | ± .02 |
| 1 PLACE | ± 0.5 | ± --- |
| ANGULAR ±1/2° | | |

DRAFT WHERE APPLICABLE
MUST REMAIN
WITHIN DIMENSIONS

SCALE
1:1

DESIGN UNITS
INCH

THIRD ANGLE
PROJECTION

REVISE ON CAD ONLY

DIMENSION STYLE
IN/MM

DRAWN BY        DATE
B.RUPERT        03/20/03
CHECKED BY      DATE
J.PAWLIC        03/20/03
APPROVED BY     DATE
R.DEROSS        03/20/03

TITLE
CUSTOMER DRAWING
SC POWER CONNECTOR ASSY
14 AWG ROUND CABLE

molex    MOLEX INCORPORATED

MATERIAL NO.        DOCUMENT NO.           SHEET NO.
194031310          SD-19403-148           1 OF 1

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