

## canfield connector

8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

### SERIES 5000

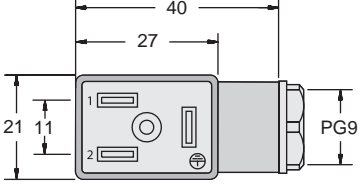
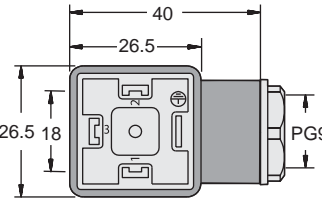
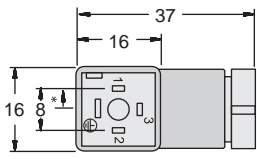
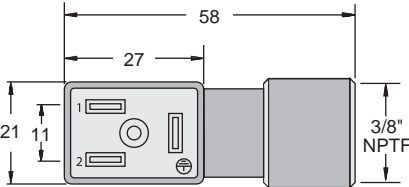
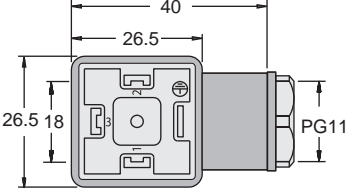
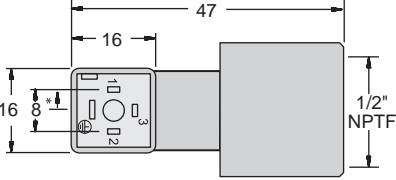
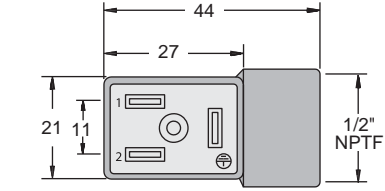
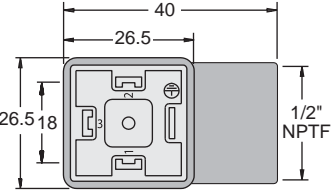
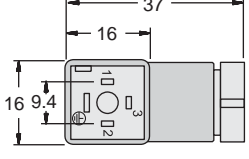
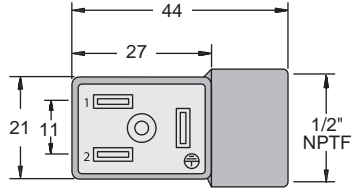
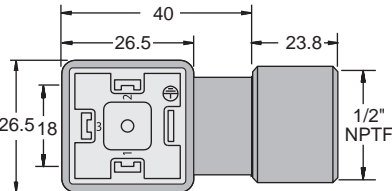
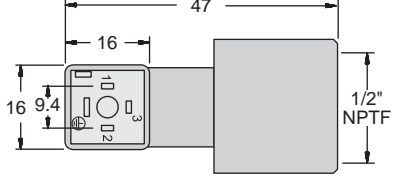
### SOLENOID VALVE CONNECTORS GENERAL PRODUCT OVERVIEW

#### General Description

The ISO and 8mm Sub-Micro connectors are made according to DIN 43650 / ISO 4400, EN175301-803:2000. The MINI and 9.4mm Sub-Micro connectors are industry standards. All are used as protective enclosures for electrical connection in conjunction with hydraulic and pneumatic solenoid valves. These connectors offer distinct advantages over "hardwired" solenoid valves because of their modular design. Used where rapid installation and service are a must. Better than molded construction when special wire is needed or when using one long wire run.

#### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED (COMPLETE DIMENSIONAL INFORMATION IS PROVIDED ON INDIVIDUAL PAGES)

| <b>MINI</b>  | <b>ISO</b><br>DIN 43650 Form "A" / ISO 4400,<br>EN175301-803:2000   | <b>Sub-Micro</b><br>(8mm) DIN 43650 Form "C" / ISO 4400,<br>EN175301-803:2000  |
|--|---|--|
|  <p><b>PG9</b></p>           |  <p><b>PG9 / HT PG9</b></p>     |  <p><b>8mm Strain Relief</b><br/> <small>*Ground spade offset by 0.2mm toward pin 1.</small></p> |
|  <p><b>3/8" Conduit</b></p> |  <p><b>PG11 / HT PG11</b></p>  |  <p><b>8mm 1/2" Conduit</b><br/> <small>*Ground spade offset by 0.2mm toward pin 1.</small></p> |
|  <p><b>1/2" Conduit</b></p> |  <p><b>1/2" Conduit</b></p>    |  <p><b>9.4mm Strain Relief</b></p>  |
|  <p><b>1/2" Conduit</b></p> |  <p><b>HT 1/2" Conduit</b></p> |  <p><b>9.4mm 1/2" Conduit</b></p>   |

Use a prefix of "G" for Individually Bagged

5 □ 0 □ - □ □ □ □ □ 0 0

**Orientation**  
 1 - Ground down  
 Other ground orientations available.  
 Please consult factory.

**Lighting Specification**  
 0 - Unlighted  
 3 - 6 - 48V AC/DC 50/60 Hz  
 7 - 48 - 120 VDC  
 100 - 240 VAC 50/60 Hz

**Gasket**  
 1 - Nitrile  
 2 - Silicone  
 3 - Nitrile profile\*\*

**Housing Color**  
 0 - Standard "B"  
 1 - Gray "A"

**Contacts**  
 0 - 2+ ground  
 1 - 3+ ground\*

**Connector Types**  
 01 - MINI strain relief PG9  
 02 - MINI 3/8" conduit  
 03 - MINI 1/2" conduit  
 08 - ISO strain relief PG9  
 09 - ISO strain relief PG11  
 10 - ISO 1/2" conduit  
 11 - ISO HT strain relief PG9†  
 12 - ISO HT strain relief PG11†  
 13 - ISO HT 1/2" conduit†  
 90 - Sub-Micro PG7 DIN interface (8mm)  
 91 - Sub-Micro 1/2" conduit interface (8mm)  
 95 - Sub-Micro 1/2" conduit (9.4mm)  
 99 - Sub-Micro strain relief PG7 (9.4mm)

Each connector kit contains fastening hardware and gasket assembly.

\* NOT Available in MINI  
 \*\* NOT Available in Sub-Micro

Not all combinations are available. Consult factory for details.

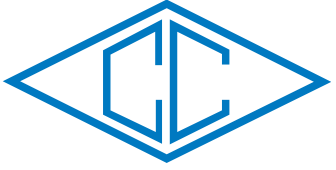
† High Top Housing for easy wiring.

NOTE: When using MAC Valves with 9.4mm Sub-Micro, consult our factory.  
 MAC is the registered trademark of MAC Valves, Inc.

Ordering Example:

5100-1010000

Ground down, unlighted, nitrile gasket, MINI strain relief PG9 connector, 2+ ground contacts, standard house



canfield connector  
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SERIES 5000

ISO  
 SOLENOID VALVE CONNECTOR

General Description

Canfield Connector's Series 5000 ISO connector connects solenoid valves using the DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 specification. This standard permits industry interchangeability and has been embraced by the solenoid valve industry worldwide. Features include the ability for the user to wire the connector into existing installations or the connector can be prewired at the factory. Wire connections are made inside the connector housing and the wire inlet is either PG9, PG11 or 1/2" conduit. Canfield has added to this line with the HT (High Top) housing. The HT accommodates the user with more room for larger wire diameters. The standard ISO connectors are still available for those applications with space constraints. Maximum current rating is 10 Amps with a maximum conductor size of 14 AWG with an outer jacket not to exceed .410 inches diameter. There are CSA approved versions as well as versions with indicator lights depicting the "on" state. The connectors are NEMA 4 and IP 65 environment rated.

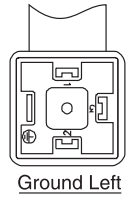
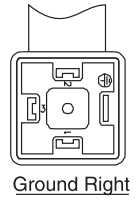
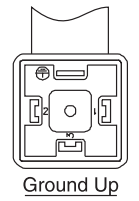
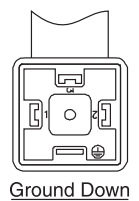


Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

Wiring Information

| PG9 / PG11   | HT** PG9 / PG11   |
|--------------|-------------------|
|              |                   |
| 1/2" Conduit | HT** 1/2" Conduit |
|              |                   |



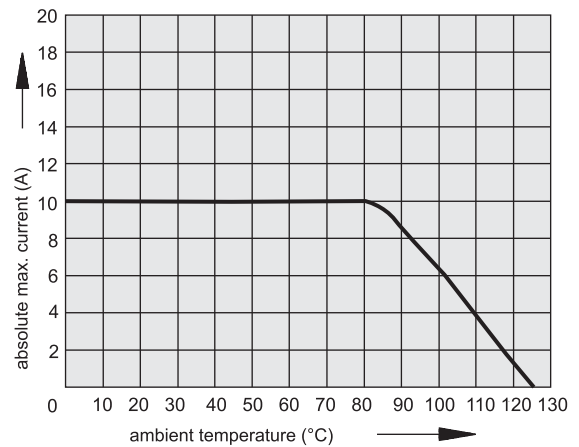
Normal polarity: 1 = (+) Positive, High  
 2 = (-) Negative, Neutral  
 = Chassis Ground

\*\*HT refers to High Top - Larger connector for larger wire gauge and easy installation.

## Technical Data

- The cable outlet can be assembled in 90° increments
- Color: black, gray or translucent for lighted styles
- Cable diameter: PG9 - .236 to .315 inches O.D.  
PG11 - .315 to .394 inches O.D.  
1/2" Conduit - .410 inches max.
- Cross section of the conductor wire max.: 14 AWG
- Maximum approved current: 10 Amps
- Rated voltage max.: 300 VDC / 250 VAC 50/60 Hz
- No. of contacts: 2+ ground  
3+ ground
- Environmental protection: NEMA 4 and IP 65 dust tight and water resistant
- Maximum rated temperatures for gaskets:  
Nitrile gasket: -25° to +90°C  
Silicone gasket: -40° to +125°C

## Derating Curve



## Ordering Information

Use a prefix of "G" for Individually Bagged

5 0 - - - - - 0 0

**Orientation**  
1 - Ground down  
Other ground orientations available.  
Please consult factory.

**Lighting Specification**  
0 - Unlighted  
3 - 6 - 48V AC/DC 50/60 Hz  
7 - 48 - 120 VDC  
100 - 240 VAC 50/60 Hz

**Gasket**  
1 - Nitrile  
2 - Silicone  
3 - Nitrile profile

**Connector Type**  
08 - ISO strain relief PG9  
09 - ISO strain relief PG11  
10 - ISO 1/2" conduit  
11 - ISO HT strain relief PG9\*\*  
12 - ISO HT strain relief PG11\*\*  
13 - ISO HT 1/2" conduit

**Housing Color**  
0 - Black "B" standard. Translucent if lighted.  
1 - Gray "A"

**Contacts**  
0 - 2 + ground  
1 - 3 + ground

\*\*HT refers to High Top - Larger connector for larger wire gauge and easy installation.

Each connector kit contains fastening hardware and gasket assembly.

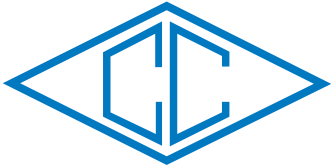
| SERIES 5000 ISO     |     |
|---------------------|-----|
| Can-Pak Part Number | Qty |
| CP-5100-1080000-025 | 25  |
| CP-5100-1080000-100 | 100 |
| CP-5100-1100000-025 | 25  |
| CP-5100-1100000-100 | 100 |
| CP-5103-1080000-025 | 25  |
| CP-5103-1080000-100 | 100 |
| CP-5107-1080000-025 | 25  |
| CP-5107-1080000-100 | 100 |

Ordering Example:

5100-1080000

Ground down, nitrile gasket, ISO strain relief PG9, 2+ ground contacts, black house

Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.



canfield connector  
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SERIES 5000

MINI  
 SOLENOID VALVE CONNECTOR

General Description

The Canfield Connector field wireable MINI solenoid valve connector is a high quality interconnection device for use with solenoid valves and pressure switches. The connector features a PG9 strain relief, 3/8" or 1/2" conduit wire pass through, all with screw terminals for wire connections. The MINI accommodates wire from .240" to .410" diameter as a standard with an AWG of 14 maximum. Environment resistance of NEMA 4 / IP 65 along with versions which are CSA approved ensure long trouble free service. Current maximum of 10 Amps and the temperature rating of -40° to +125°C encompasses most applications. The interface is an industry standard.



Dimensional Data

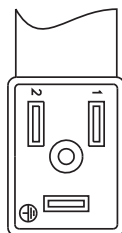
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

| Strain Relief | 3/8" Conduit | 1/2" Conduit |
|---------------|--------------|--------------|
|               |              |              |
|               |              |              |

Wiring Information



Ground Up



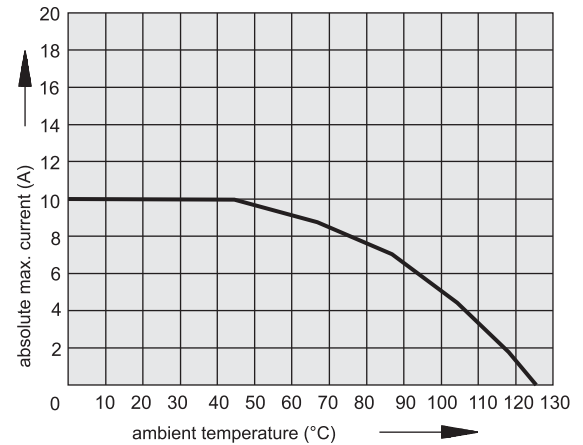
Ground Down

Normal polarity: 1 = (+) Positive, High  
 2 = (-) Negative, Neutral  
 ⊕ = Chassis Ground

## Technical Data

- The cable outlet can be assembled in 180° increments
- Color: black, gray or translucent for lighted styles
- Cable diameter: PG9 - .236 to .315 inches O.D.  
3/8" & 1/2" Conduit - .410 inches max.
- Cross section of the conductor wire max.: 14 AWG
- Rated voltage max.: 300 VDC / 250 VAC 50/60 Hz
- Maximum approved current: 10 Amps
- No. of contacts: 2+ ground
- Environmental protection: NEMA 4 and IP 65 dust tight and water resistant
- Maximum rated temperatures for gaskets:  
Nitrile gasket -25° to +90°C  
Silicone gasket -40° to +125°C

## Derating Curve



## Ordering Information

Use a prefix of "G" for Individually Bagged

5 □ 0 □ - □ □ □ 0 □ 0 0

**Orientation**  
1 - Ground down  
Other ground orientations available.  
Please consult factory.

**Lighting Specification**  
0 - Unlighted  
3 - 6 - 48V AC/DC 50/60 Hz  
7 - 48 - 120 VDC  
100 - 240 VAC 50/60 Hz

**Gasket**  
1 - Nitrile  
2 - Silicone  
3 - Nitrile profile

**Connector Types**  
01 - MINI strain relief PG9  
02 - MINI 3/8" conduit  
03 - MINI 1/2" conduit

**Housing Color**  
0 - Black "B" standard. Translucent if lighted.  
1 - Gray "A"



### SERIES 5000 MINI

| Can-Pak Part Number | Qty |
|---------------------|-----|
| CP-5100-1010000-025 | 25  |
| CP-5100-1010000-100 | 100 |
| CP-5100-1030000-025 | 25  |
| CP-5100-1030000-100 | 100 |
| CP-5103-1010000-025 | 25  |
| CP-5103-1010000-100 | 100 |
| CP-5107-1010000-025 | 25  |
| CP-5107-1010000-100 | 100 |
| CP-5163-1010000-010 | 10  |
| CP-5163-1010000-050 | 50  |
| CP-5167-1010000-010 | 10  |
| CP-5167-1010000-050 | 50  |

Each connector kit contains fastening hardware and gasket assembly.

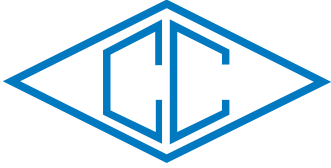
Ordering Example:

5100-1010000

Ground down, unlighted, nitrile gasket, MINI strain relief PG9 connector, black house



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.



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SERIES 5000

SUB-MICRO  
 SOLENOID VALVE CONNECTOR

General Description

Canfield Connector's Series 5000 Sub-Micro connector is made to connect solenoid valves using the DIN 43650 Form "C", EN175301-803:2000 (8mm pin center) and the industry standard 9.4mm pin center. These standards permit industry interchangeability and have been embraced by the solenoid valve industry worldwide. Features include the ability for the user to wire the connector into existing installations or the connector can be prewired at the factory. Wire connections are made inside the connector housing. The wire inlet is either PG7 or 1/2" conduit. Maximum current rating is 6 amps with a maximum conductor size of 20 gauge with an outer jacket not to exceed .260 inches diameter. There are versions with indicator lights depicting the "on" state. The connectors are NEMA 4 and IP 65 environment rated.

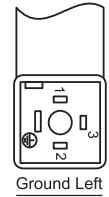


Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

Wiring Information

| PG7, 8mm center          | PG7, 9.4mm center          |
|--------------------------|----------------------------|
|                          |                            |
| 1/2" Conduit, 8mm center | 1/2" Conduit, 9.4mm center |
|                          |                            |



Normal polarity: 1 = (+) Positive, High  
 2 = (-) Negative, Neutral  
 = Chassis Ground

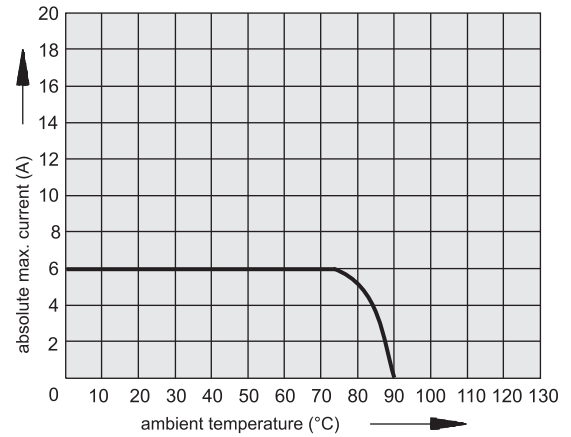
\*Ground spade offset by 0.2mm toward pin 1.

## Technical Data

- The cable outlet can be assembled in 90° increments
- Color: black, gray or translucent for lighted styles
- Cable diameter: PG7 - .157 - .236 inch O.D.  
1/2" Conduit 8mm & 9.4mm - .250 inch max.
- Cross section of the conductor wire max.: 20 AWG
- Rated voltage max.: 250 VAC 50/60 Hz or VDC
- Maximum approved current: 6 Amps
- No. of contacts: 2+ ground,  
3+ ground (NOT available on lighted units)
- Environmental protection: NEMA 4 and IP 65 dust tight and water resistant
- Maximum rated temperatures for gaskets:  
Nitrile gasket: -25° to +90°C  
Silicone gasket: -40° to +125° C

NOTE: When using MAC Valves with 9.4mm Sub-Micro, consult our factory.

## Derating Curve



## Ordering Information

Use a prefix of "G" for Individually Bagged

5 0 - 0 0 0 0 0 0

**Orientation**  
1 - Ground down  
Other ground orientations available.  
Please consult factory.

**Lighting Specification**  
0 - Unlighted  
3 - 6 - 48V AC/DC 50/60 Hz  
7 - 48 - 120 VDC  
100 - 240 VAC 50/60 Hz

**Gasket**  
1 - Nitrile  
2 - Silicone

**Connector Type**  
90 - Sub-Micro strain relief PG7 DIN interface (8mm)  
91 - Sub-Micro 1/2" conduit DIN interface (8mm)  
95 - Sub-Micro 1/2" conduit (9.4mm)  
99 - Sub-Micro strain relief PG7 (9.4mm)

**Contacts**  
0 - 2 +ground  
1 - 3 +ground\*

**Housing Color**  
0 - Black "B" standard. Translucent if lighted.  
1 - Gray "A"



### SERIES 5000 SUB-MICRO

| Can-Pak Part Number | Qty |
|---------------------|-----|
| CP-5100-1900000-025 | 25  |
| CP-5100-1900000-100 | 100 |
| CP-5100-1990000-025 | 25  |
| CP-5100-1990000-100 | 100 |
| CP-5103-1900000-025 | 25  |
| CP-5103-1900000-100 | 100 |
| CP-5103-1990000-025 | 25  |
| CP-5103-1990000-100 | 100 |
| CP-5107-1900000-025 | 25  |
| CP-5107-1900000-100 | 100 |
| CP-5107-1990000-025 | 25  |
| CP-5107-1990000-100 | 100 |

\*3+ ground NOT available in lighted version.

Each connector kit contains screw, washer and gasket assembly.

Ordering Example:

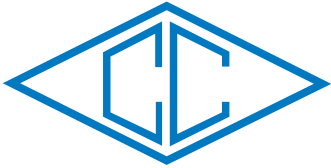
5100-1900000

Ground down, unlighted, nitrile gasket, Sub-Micro strain relief PG7 DIN interface, 2+ ground contacts, black house



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.





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5 F

SERIES 5F

LIGHTED AND LOAD SUPPRESSED MOLDED MINI, ISO AND SUB-MICRO SOLENOID VALVE CONNECTORS

General Description

The Canfield Series 5F all-molded DIN solenoid valve connector/gasket/cord assembly offers a completely molded design that is far better for environmental integrity than field wire versions. Made from rugged yet flexible polyurethane, the connector housing boasts high durability factors and application versatility. The low profile "straight-line" interface/cord configuration allows for installation in many limited space applications. The integrated gasket design boasts an IP67/NEMA 6 rating and makes it impossible to lose the gasket. The 5F and 5J are the only molded valve connectors in the industry that feature a HARD USAGE cord as a standard option in any length required, bi-directional indicator lights, and load suppression (not intended for UL 1449). UL and CSA versions are available as well. Canfield offers any version of the 5F connector with special wires including high flex, media compatible wire, special use wire, high temperature wire on request.

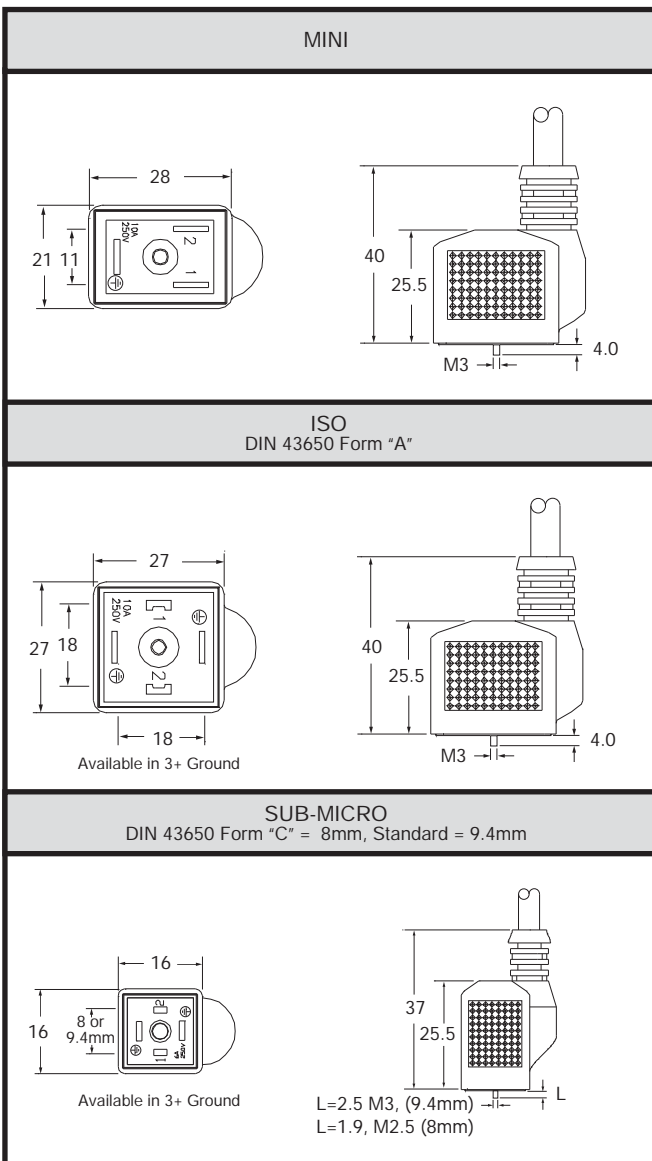


ISO shown above

Dimensional Data

Technical Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



- Cable outlet: Molded construction with wire exiting out perpendicular to the face of the coil
- Available in no circuit, lighted and load suppressed version for all connectors
- Cable conductor colors:  
 European color code: Brown, blue, and yellow/green, (with 4<sup>th</sup> conductor version black)  
 US color code: White, black, and green, (with 4<sup>th</sup> conductor version red)  
 Specials on request
- Cable types: Pressure extruded PVC jacket  
 Hard Usage cordage  
 "S" type with SJTOW standard PVC jacket (ISO and Mini only)
- Cross section of conductor wire: 18 Gauge standard (ISO and Mini)  
 20 Gauge standard (Sub-Micro)
- Rated voltage max.: 250V AC 50/60 Hz, 300V DC
- Rated current max.: 10 Amps (ISO and Mini), 6 Amps (Sub-Micro)
- Enclosure and molded in gasket materials: Polyurethane
- Ambient rated temperatures: -25° to 80°C
- Environment protection: IP 67 and NEMA 6, dust tight and water resistant
- Available in four sizes:  
 DIN 43650 Form "A" (ISO), EN175301-803:2000  
 DIN Form "C" (Sub-Micro 8mm), EN175301-803:2000  
 Industry standard (Sub-Micro 9.4mm pin spacing)  
 Industry standard (Mini 11mm pin spacing)
- Pin configurations: For single solenoid valves - 2 connections plus ground – Mini, ISO, Sub-Micro 8mm and Sub-Micro 9.4mm

For pressure switches, double solenoid valves and other devices, 3 connections plus ground – ISO, Sub-Micro 8mm and 9.4mm

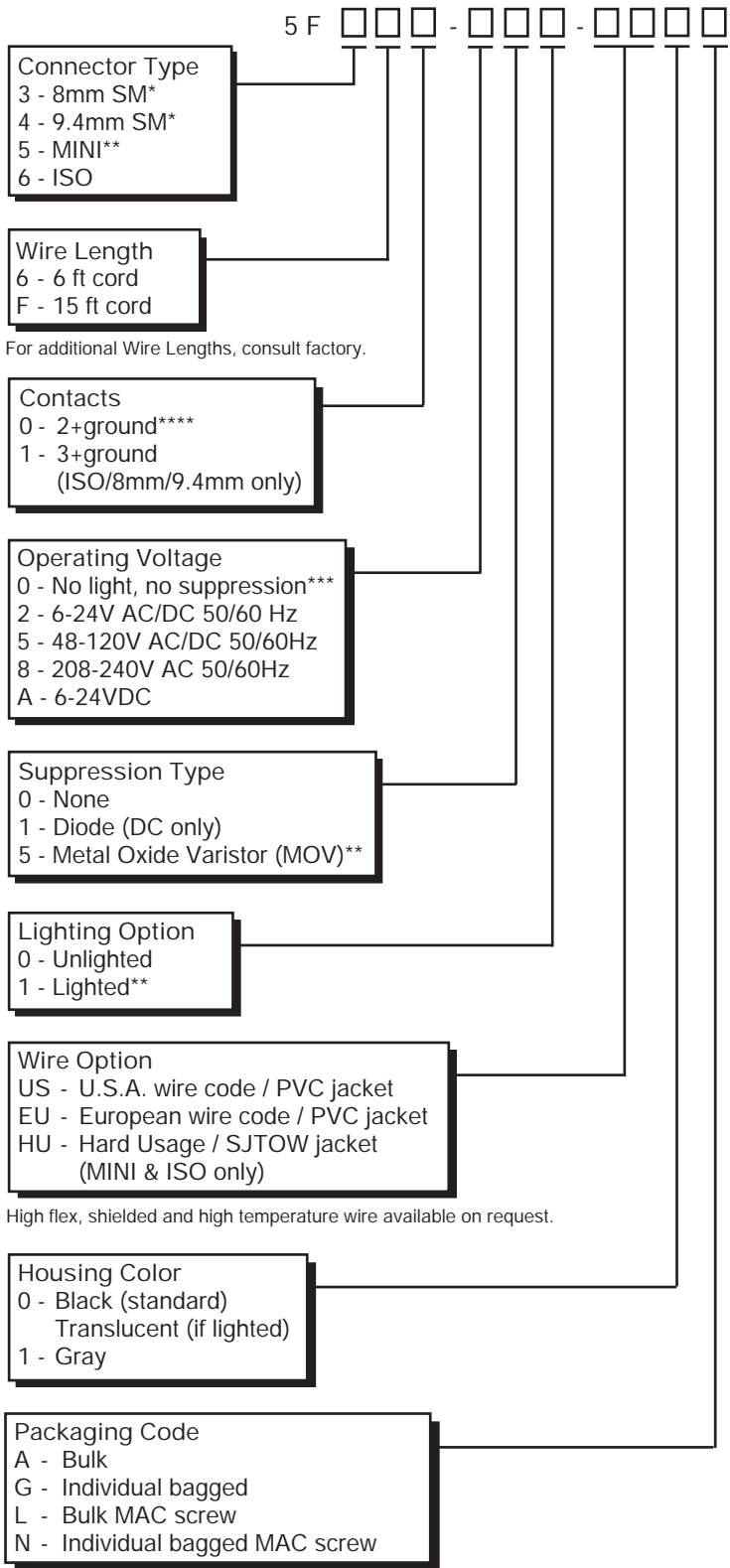
Note: Slight discoloration may occur to translucent material after prolonged exposure to UV rays.



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

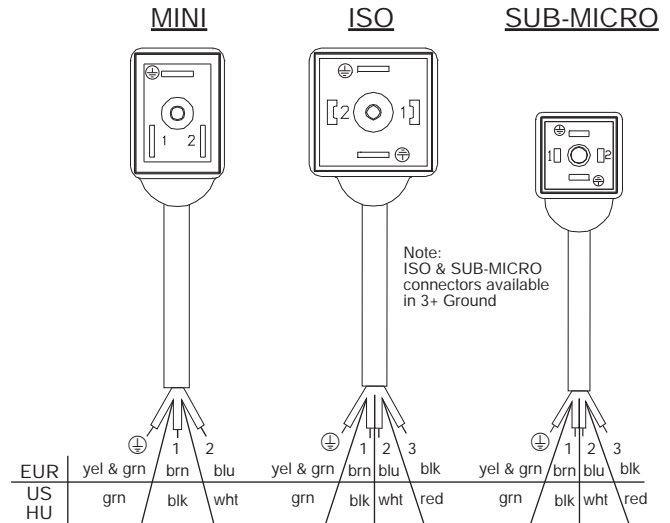


Consult factory for available versions recognized under the Component Program of Underwriters Laboratories, Inc.



MAC is the registered trademark of MAC Valves, Inc.

All connectors come standard with integrated gasket.  
 \* 240 VAC voltage suppression and lighting not available.  
 \*\* NOT available in 3+ ground.  
 \*\*\* Rated 250V AC 50/60Hz, 300V DC.  
 \*\*\*\* ISO, Sub-Micro dual ground.



Normal polarity: 1 = (+) Positive, Hot  
 2 = (-) Negative, Neutral  
 = Chassis Ground

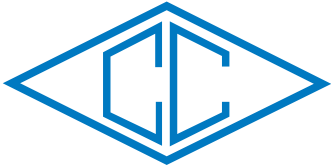
For convenience and faster shipping, this series is available in Can-Paks.

Accessories:  
 WM-315 ISO/MINI Standard Wire Markers 10X Bag  
 WM-218 Sub-Micro Standard Wire Markers 10X Bag

Ordering Example:

5F360-250-US0A

8mm SM, 6 ft wire length, 2+ ground, 6-24V AC/DC 50/60 Hz, MOV, unlighted, U.S.A. wire code / PVC jacket, standard housing color, bulk



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5  
J

SERIES 5J

LIGHTED AND LOAD SUPPRESSED MOLDED MINI, ISO AND SUB-MICRO SOLENOID VALVE CONNECTORS

General Description

The Canfield Series 5J all-molded DIN solenoid valve connector/gasket/cord assembly offers a completely molded design that is far better for environmental integrity than field wire versions. Made from rugged yet flexible polyurethane, the connector housing boasts high durability factors and application versatility. The low profile "90°" interface/cord configuration allows for installation in many limited space applications. The integrated gasket design boasts an IP67/NEMA 6 rating and makes it impossible to lose the gasket. The 5J and 5F are the only molded valve connectors in the industry that feature a HARD USAGE cord as a standard option in any length required, bi-directional indicator lights, and load suppression (not intended for UL 1449). UL and CSA versions are available as well. Canfield offers any version of the 5J connector with special wires including high flex, media compatible wire, special use wire, high temperature wire on request.

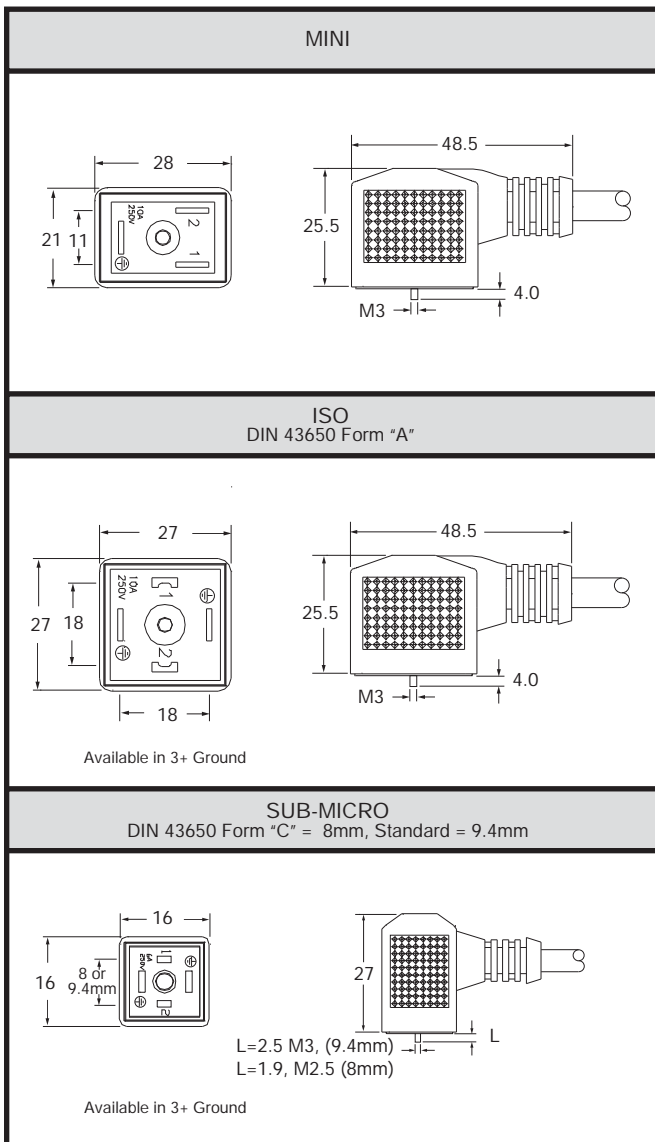


ISO shown above

Dimensional Data

Technical Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



- Cable outlet: Molded construction with wire exiting out perpendicular to the face of the coil
  - Available in no circuit, lighted and load suppressed version for all connectors
  - Cable conductor colors:  
 European color code: Brown, blue, and yellow/green, (with 4<sup>th</sup> conductor version black)  
 US color code: White, black, and green, (with 4<sup>th</sup> conductor version red)  
 Specials on request
  - Cable types: Pressure extruded PVC jacket  
 Hard Usage cordage  
 "S" type with SJTOW standard PVC jacket (ISO and Mini only)
  - Cross section of conductor wire: 18 Gauge standard (ISO and Mini)  
 20 Gauge standard (Sub-Micro)
  - Rated voltage max.: 250V AC 50/60 Hz, 300V DC
  - Rated current max.: 10 Amps (ISO and Mini), 6 Amps (Sub-Micro)
  - Enclosure and molded in gasket materials: Polyurethane
  - Ambient rated temperatures: -25° to 80°C
  - Environment protection: IP 67 and NEMA 6, dust tight and water resistant
  - Available in four sizes:  
 DIN 43650 Form "A" (ISO), EN175301-803:2000  
 DIN Form "C" (Sub-Micro 8mm), EN175301-803:2000  
 Industry standard (Sub-Micro 9.4mm pin spacing)  
 Industry standard (Mini 11mm pin spacing)
  - Pin configurations: For single solenoid valves - 2 connections plus ground – Mini, ISO, Sub-Micro 8mm and Sub-Micro 9.4mm
- For pressure switches, double solenoid valves and other devices, 3 connections plus ground – ISO, Sub-Micro 8mm and 9.4mm
- Note: Slight discoloration may occur to translucent material after prolonged exposure to UV rays.



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.



Consult factory for available versions recognized under the Component Program of Underwriters Laboratories, Inc.

## Ordering Information

## Wiring Information

5 J    -    -

**Connector Type**  
 3 - 8mm SM\*  
 4 - 9.4mm SM\*  
 5 - MINI\*\*  
 6 - ISO

**Wire Length**  
 6 - 6 ft cord  
 F - 15 ft cord  
 For additional wire lengths, consult factory.

**Contacts**  
 0 - 2+ground down (MINI only)  
 1 - 2+ground up (MINI only)  
 2 - 3+ground down  
 3 - 3+ground up  
 4 - 2+dual ground (ISO/8mm/9.4mm only)  
 Ground left / right available, consult factory.

**Operating Voltage**  
 0 - No light, no suppression\*\*\*  
 2 - 6-24V AC/DC 50/60 Hz  
 5 - 48-120V AC/DC 50/60Hz  
 8 - 208-240V AC 50/60Hz  
 A - 6-24VDC

**Suppression Type**  
 0 - None  
 1 - Diode (DC only)  
 5 - Metal Oxide Varistor (MOV)\*\*

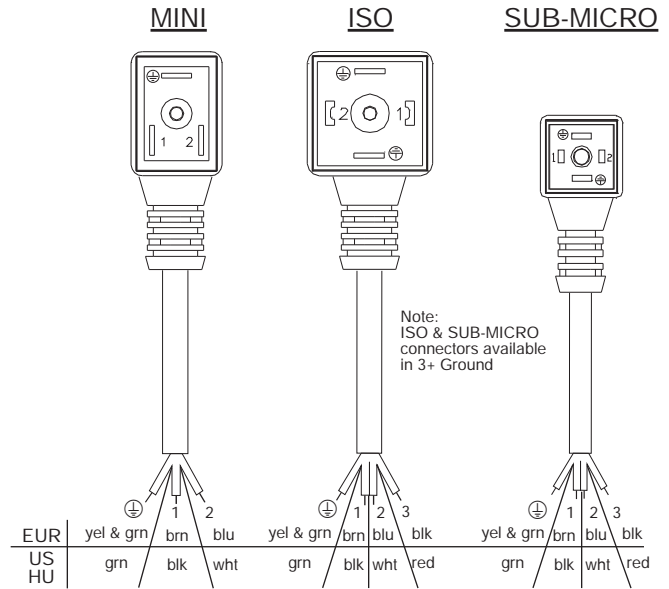
**Lighting Option**  
 0 - Unlighted  
 1 - Lighted\*\*

**Wire Option**  
 US - U.S.A. wire code / PVC jacket  
 EU - European wire code / PVC jacket  
 HU - Hard Usage / SJTOW jacket (MINI & ISO only)

High flex, shielded and high temperature wire available on request.

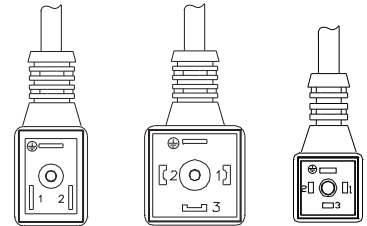
**Housing Color**  
 0 - Black (standard)  
   Translucent (if lighted)  
 1 - Gray

**Packaging Code**  
 A - Bulk  
 G - Individual bagged  
 L - Bulk MAC screw  
 N - Individual bagged MAC screw

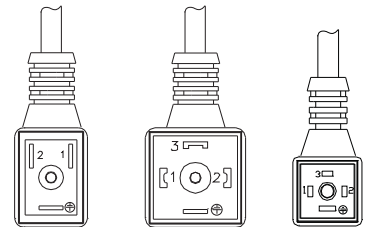


Normal polarity: 1 = (+) Positive, Hot  
 2 = (-) Negative, Neutral  
 ⊕ = Chassis Ground

**Ground Up:**



**Ground Down:**



For convenience and faster shipping, this series is available in Can-Paks.



Accessories:  
 WM-315 ISO/MINI Standard Wire Markers 10X Bag  
 WM-218 Sub-Micro Standard Wire Markers 10X Bag

Ordering Example:

5J360-251-US0A

8mm SM, 6 ft wire length, 2+ ground, 6-24V AC/DC 50/60 Hz, MOV, lighted, U.S.A. wire code / PVC jacket, standard housing color, bulk w/ Canfield p/n

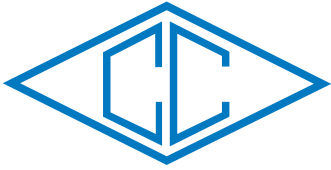
MAC is the registered trademark of MAC Valves, Inc.

All connectors come standard with integrated gasket.

\* 240 VAC voltage suppression and lighting not available.

\*\* NOT available in 3+ ground.

\*\*\* Rated 250V AC 50/60Hz, 300V DC.



canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

5FR

## SERIES 5FR

## RECTIFIED MOLDED SOLENOID VALVE CONNECTORS

### General Description

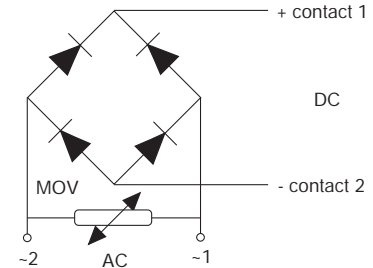
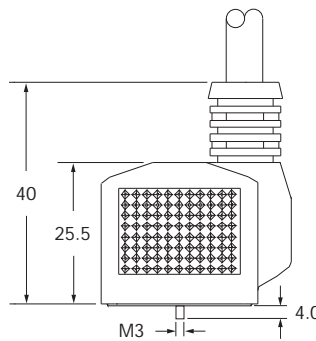
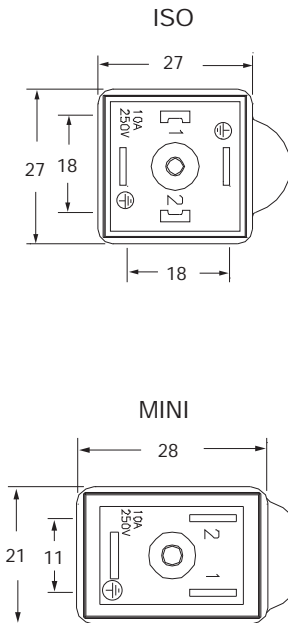
The Canfield Series 5FR solenoid valve connectors incorporate a full-wave bridge rectifier inside a fully molded connector. The 5FR converts alternating current to direct current reducing coil burnout due to valve sticking. Also, direct current eliminates AC "hum" inherent to alternating current. Made from rugged yet flexible polyurethane, the connector housing boasts high durability factors and application versatility. The low profile "straight-line" interface/cord configuration allows for installation in many limited space applications. The integrated gasket design boasts an IP67/NEMA 6 rating and makes it impossible to lose the gasket! Features bi-directional indicator lights, and load suppression (not intended for UL 1449). The Series 5FR is Proudly Made in the U.S.A.

### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



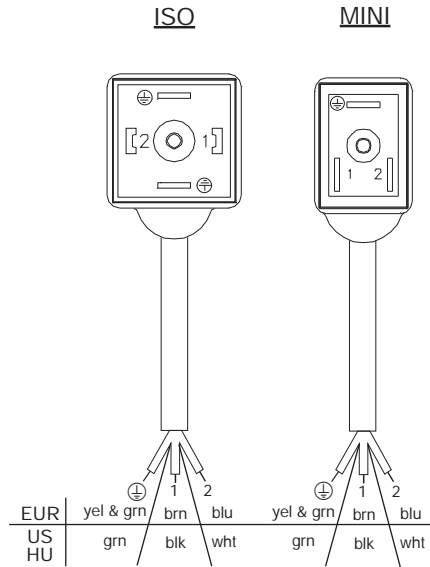
ISO shown above



### Technical Data

- Cable outlet: Molded construction with wire exiting out parallel to the face of the coil
- Color: Black standard or white translucent (for lighted versions)
- Cable conductor colors:  
 European color code: Brown, blue, and yellow/green  
 US color code: White, black, and green  
 Specials on request
- Cable types: Pressure extruded PVC jacket  
 HU - SJTOW jacket
- Cross section of conductor wire: 18 Gauge standard
- Rated voltage max.: 250V AC 50/60 Hz
- Voltage drop: 2.2 volt max.
- Current max: Continuous - 1 Amp  
 Inrush - 15 Amps for 15 ms
- All versions include MOV suppression
- Enclosure and molded in gasket materials: Polyurethane
- Ambient rated temperatures: -25° to 80°C
- Environment protection: IP 67 and NEMA 6, dust tight and water resistant
- Available:  
 DIN 43650 Form "A" (ISO), EN175301-803:2000  
 Industry standard (MINI 11mm pin spacing)
- Pin configurations: For single solenoid valves - 2 connections plus ground

## Wiring Information



Normal polarity: 1 = (+) Positive, Hot  
 2 = (-) Negative, Neutral  
 3 = NC  
 ⊕ = Chassis Ground

Note: ISO is dual ground

Note: Slight discoloration may occur to translucent material after prolonged exposure to UV rays.

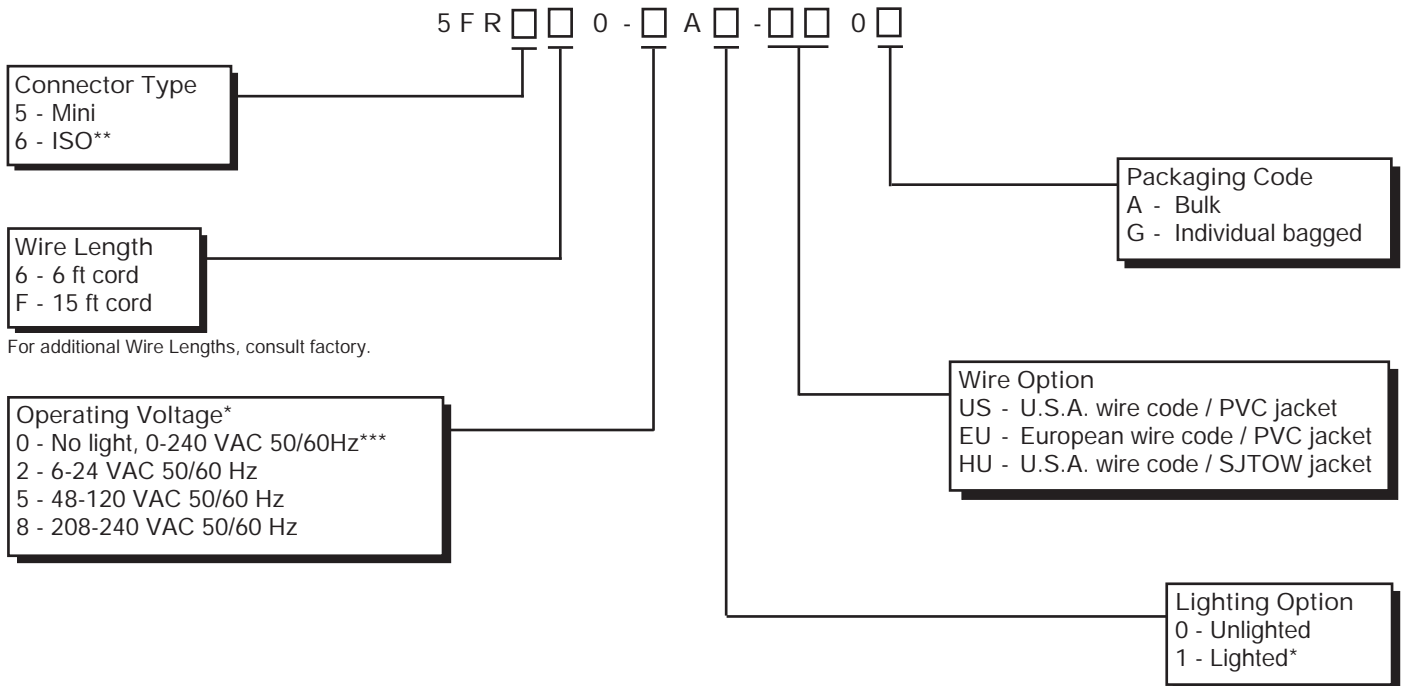


Consult factory for available versions recognized under the Component Program of Underwriters Laboratories, Inc.



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

## Ordering Information



All connectors come standard with integrated gasket.

\* Includes rated MOV suppression

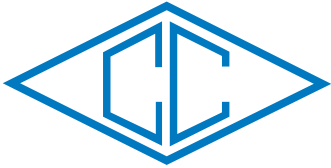
\*\* 2+ dual ground

\*\*\* Rated 250V AC 50/60 Hz. Includes 250V MOV suppression

Ordering Example:

5FR660-2A1-US0A

ISO, 6 ft wire length, 6-24 VAC 50/60 Hz, lighted, U.S.A. wire code / PVC jacket, bulk packaged



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8510 Foxwood Court  
Youngstown, Ohio 44514  
(330) 758-8299 Fax: (330) 758-8912  
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## SERIES 5JR

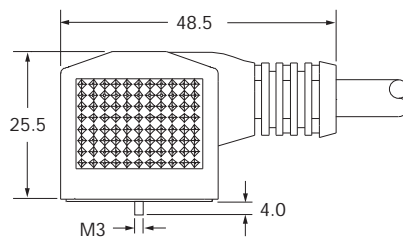
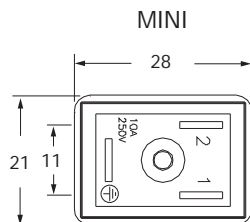
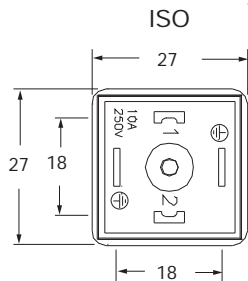
## RECTIFIED MOLDED SOLENOID VALVE CONNECTORS

### General Description

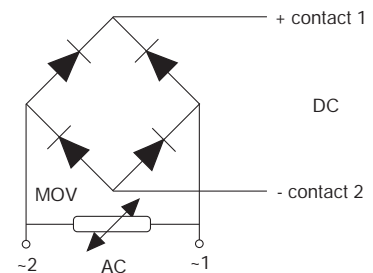
The Canfield Series 5JR solenoid valve connectors incorporate a full-wave bridge rectifier inside a fully molded connector. The 5JR converts alternating current to direct current reducing coil burnout due to valve sticking. Also, direct current eliminates AC "hum" inherent to alternating current. Made from rugged yet flexible polyurethane, the connector housing boasts high durability factors and application versatility. The low profile 90° interface/cord configuration allows for installation in many limited space applications. The integrated gasket design boasts an IP67/NEMA 6 rating and makes it impossible to lose the gasket! Features bi-directional indicator lights, and load suppression (not intended for UL 1449). The Series 5JR is Proudly Made in the U.S.A.

### Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



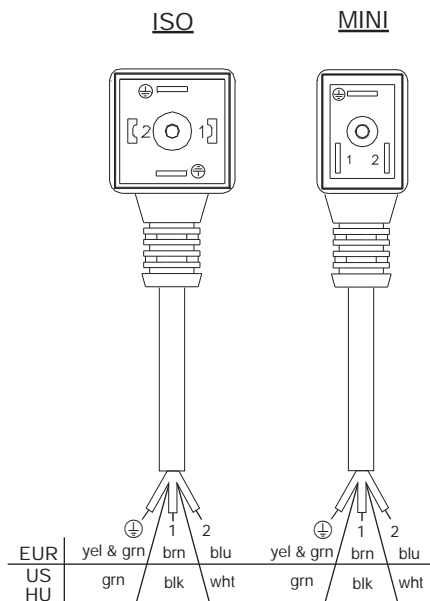
ISO shown above



### Technical Data

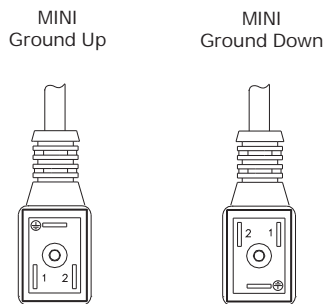
- Cable outlet: Molded construction with wire exiting out parallel to the face of the coil
- Color: Black standard or white translucent (for lighted versions)
- Cable conductor colors:
  - European color code: Brown, blue, and yellow/green
  - US color code: White, black, and green
  - Specials on request
- Cable types: Pressure extruded PVC jacket  
HU - SJTOW jacket
- Cross section of conductor wire: 18 Gauge standard
- Rated voltage max.: 250V AC 50/60 Hz
- Voltage drop: 2.2 volt max.
- Current max: Continuous - 1 Amp  
Inrush - 15 Amps for 15 ms
- All versions include MOV suppression
- Enclosure and molded in gasket materials: Polyurethane
- Ambient rated temperatures: -25° to 80°C
- Environment protection: IP67 and NEMA 6, dust tight and water resistant
- Available:
  - DIN 43650 Form "A" (ISO), EN175301-803:2000
  - Industry standard (MINI 11mm pin spacing)
- Pin configurations: For single solenoid valves - 2 connections plus ground

## Wiring Information



Normal polarity: 1 = (+) Positive, Hot  
 2 = (-) Negative, Neutral  
 3 = NC  
 ⊕ = Chassis Ground

Note: ISO is dual ground



Note: Slight discoloration may occur to translucent material after prolonged exposure to UV rays.

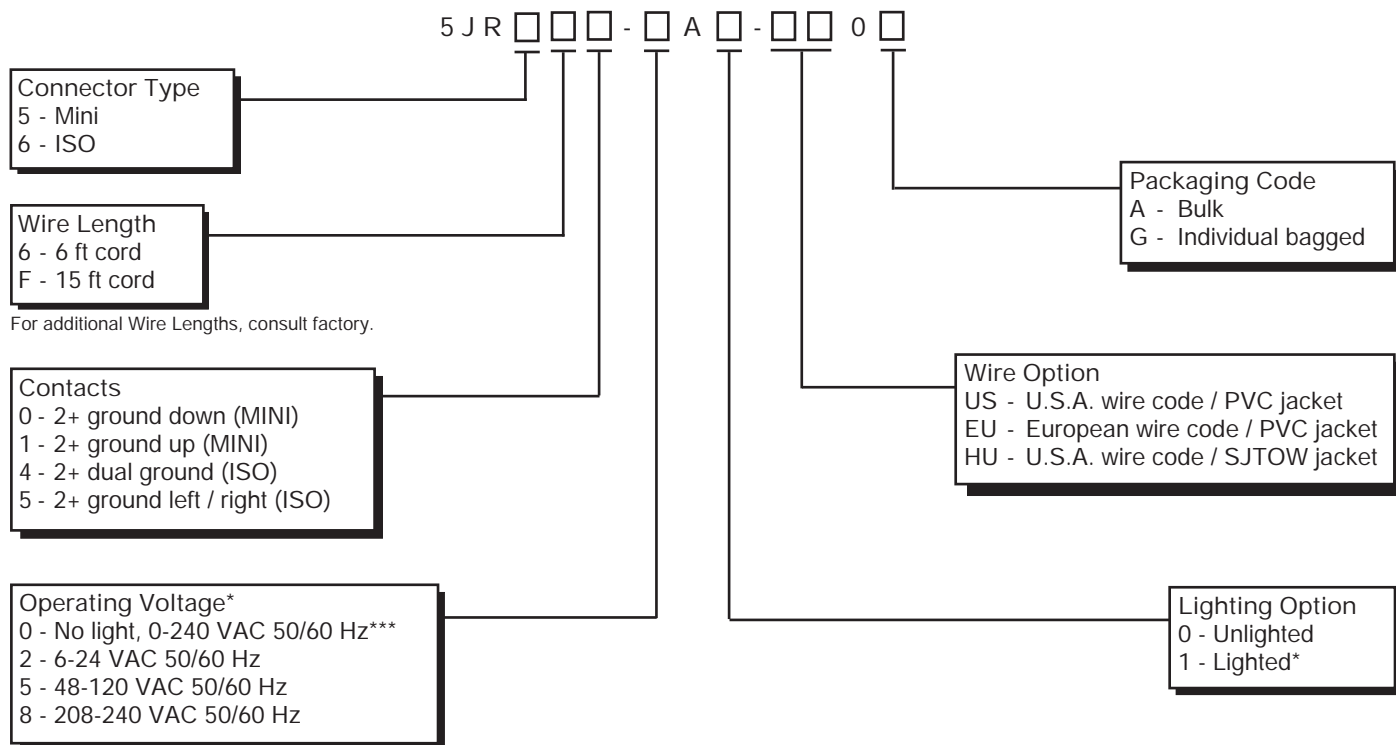


Consult factory for available versions recognized under the Component Program of Underwriters Laboratories, Inc.



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

## Ordering Information



All connectors come standard with integrated gasket.

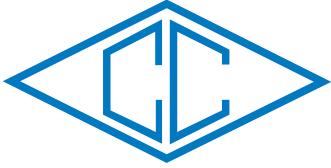
\* Includes rated MOV suppression  
 \*\*\* Rated 250V AC 50/60 Hz. Includes 250 MOV suppression

Ordering Example:

5JR664-2A1-US0A

ISO, 6 ft wire length, 2+ dual ground, 6-24 VAC 50/60 Hz, lighted, U.S.A. wire code / PVC jacket, bulk packaged





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 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES 5FFAC

FIELDBUS ADAPTER  
 SOLENOID VALVE CONNECTORS

General Description

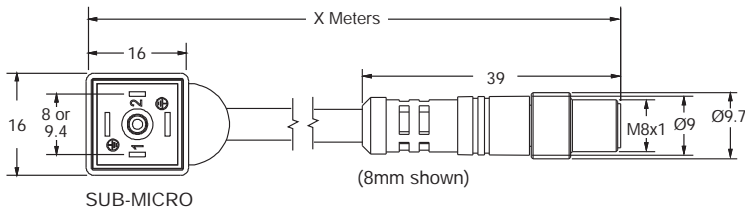
The Canfield Series 5FFAC all-molded DIN solenoid valve connector/gasket/cord offer a completely molded plug and play design that interfaces female ISO (DIN 43650 Form "A"), MINI and 9.4mm (Industry Standard) and 8mm Sub-Micro (DIN 43650 "C") solenoid connections as shown on the following pages. Made from rugged yet flexible polyurethane, the connector housing boasts high durability factors and application versatility. The low profile "straight line" interface/cord configuration allows for installation in many limited space applications. The integrated gasket design boasts an IP67/NEMA 6 rating, is far better for environmental integrity than field wire versions and makes it impossible to lose the gasket! The 5FFAC and 5JFAC are the only molded valve connectors in the industry that feature bi-directional indicator lights and load suppression (not intended for UL 1449). UL and CSA versions are available as well. The Series 5FFAC is proudly Made in the U.S.A.

Dimensional Data

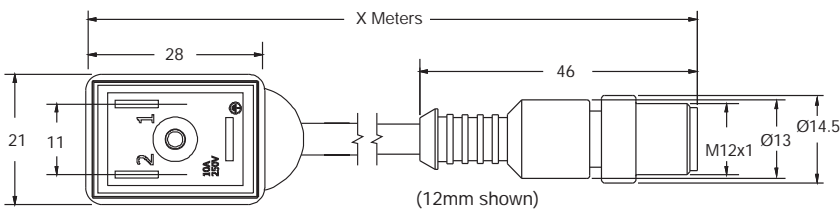
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



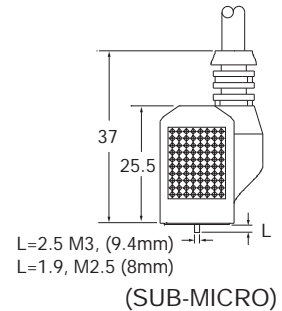
ISO shown above



SUB-MICRO

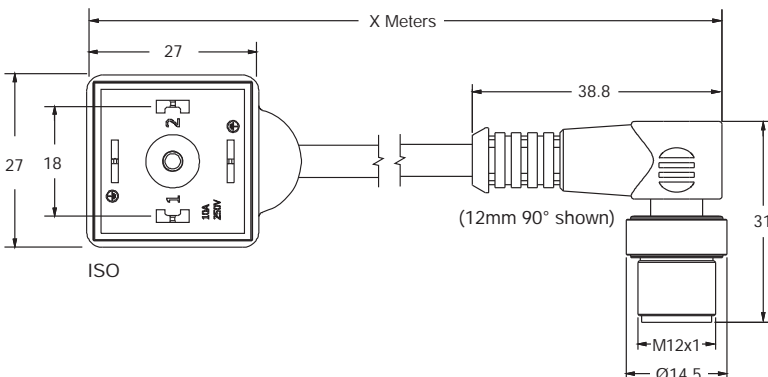


MINI

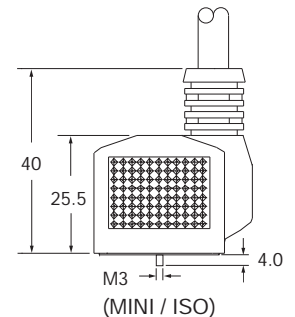


L=2.5 M3, (9.4mm)  
 L=1.9, M2.5 (8mm)

(SUB-MICRO)



ISO



(MINI / ISO)

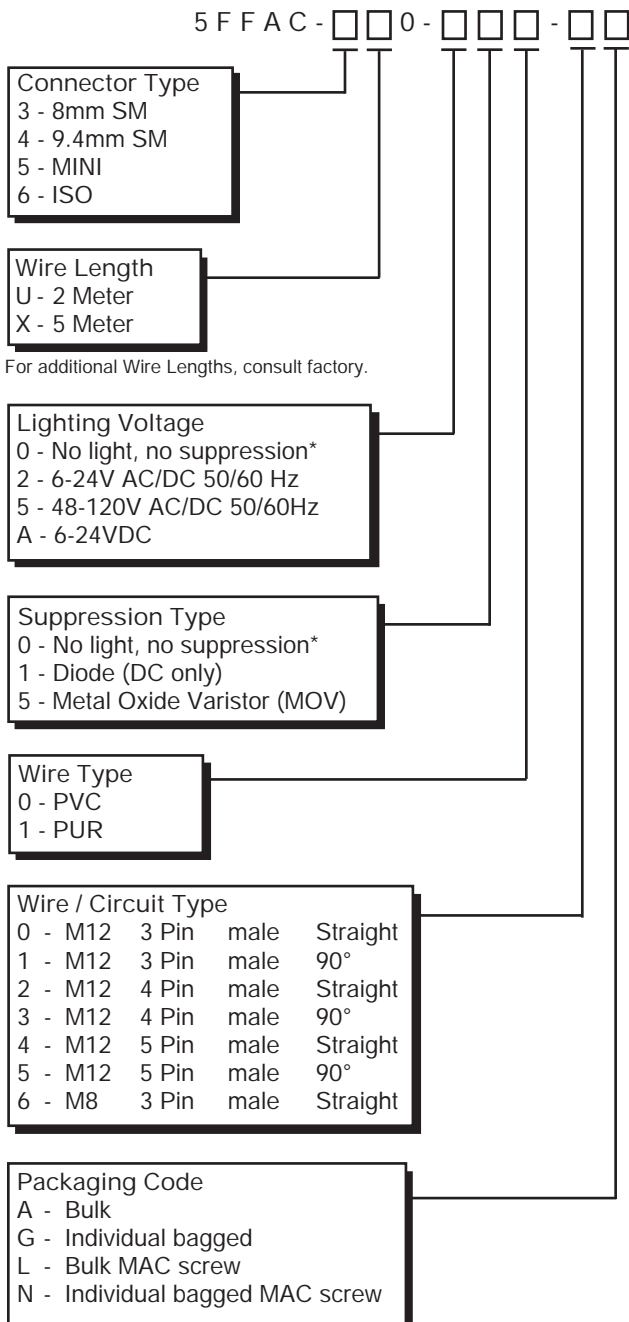
5  
F  
F  
A  
C

## Technical Data

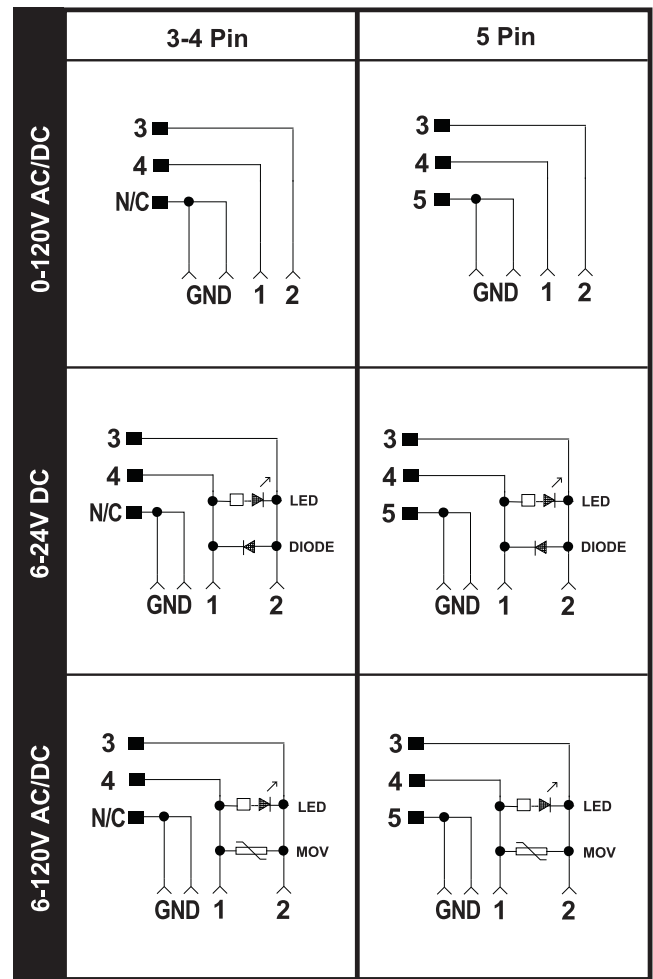
- Cable outlet: Molded construction with wire exiting out parallel to the face of the coil
- Color: Black (standard) or white translucent (for lighted versions)
- Cable types: Black PVC or PUR with & without shield
- Rated voltage max.: 120V AC/DC 50/60 Hz
- Voltage drop: 2.2 volt max.
- Current max: Continuous - 4 Amp  
Inrush - 15 Amps for 15 ms

- Enclosure and molded in gasket materials: Polyurethane
- Ambient rated temperatures: -25° to 80°C
- Environment protection: IP 67 and NEMA 6
- Available in four sizes:  
DIN 43650 Form "A" (ISO), EN175301-803:2000  
DIN Form "C" (Sub-Micro 8mm), EN175301-803:2000  
Industry standard (Sub-Micro 9.4mm pin spacing)  
Industry standard (Mini 11mm pin spacing)
- Pin configurations:  
For single solenoid valves, 2 connections plus ground,  
Mini, ISO, Sub-Micro 8mm and Sub-Micro 9.4mm

## Ordering Guide



## Circuit Types



Ordering Example:

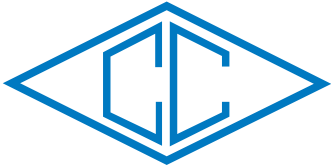
5FFAC-3U0-250-2A

8mm SM, 2 meter wire length, 6-24V AC/DC 50/60 Hz, lighted, MOV, PVC wire type, M12, 4 pin, male, straight, bulk

\* Rated 120V AC/DC 50/60Hz

MAC is the registered trademark of MAC Valves, Inc.  
All connectors come standard with integrated gasket.

Note: Slight discoloration may occur to translucent material after prolonged exposure to UV rays.



canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES 5JFAC

FIELDBUS ADAPTER  
 SOLENOID VALVE CONNECTORS

General Description

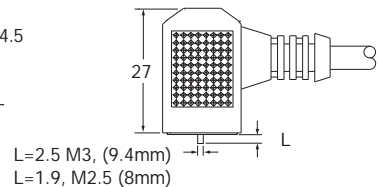
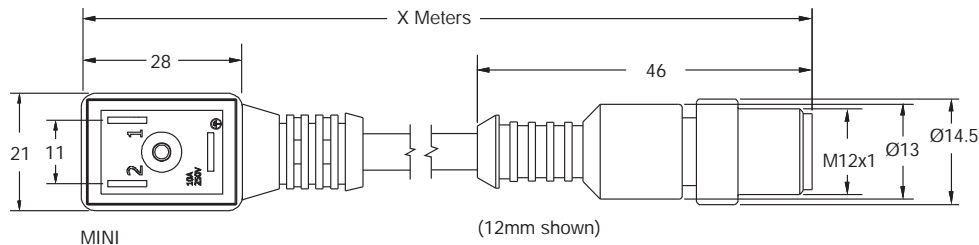
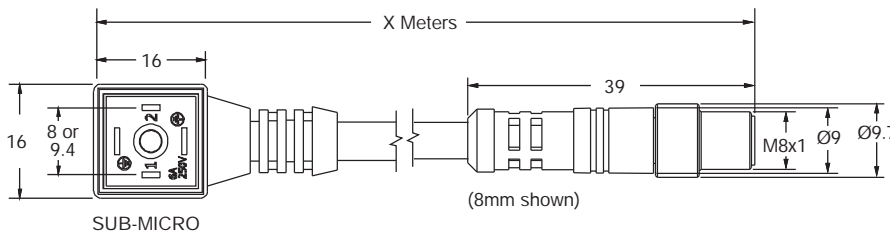
The Canfield Series 5JFAC all-molded DIN solenoid valve connector/gasket/cord offer a completely molded plug and play design that interfaces female ISO (DIN 43650 Form "A"), MINI and 9.4mm (Industry Standard) and 8mm Sub-Micro (DIN 43650 "C") solenoid connections to 8mm or 12mm (round) circular connectors as shown on the following pages. Made from rugged yet flexible polyurethane, the connector housing boasts high durability factors and application versatility. The low profile "straight line" interface/cord configuration allows for installation in many limited space applications. The integrated gasket design boasts an IP67/NEMA 6 rating, is far better for environmental integrity than field wire versions and makes it impossible to lose the gasket! The 5FFAC and 5JFAC are the only molded valve connectors in the industry that feature bi-directional indicator lights and load suppression (not intended for UL 1449). UL and CSA versions are available as well. The Series 5JFAC is proudly Made in the U.S.A.

Dimensional Data

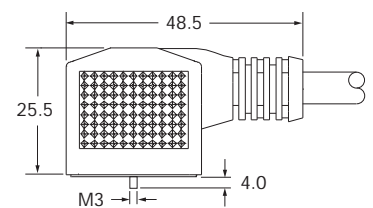
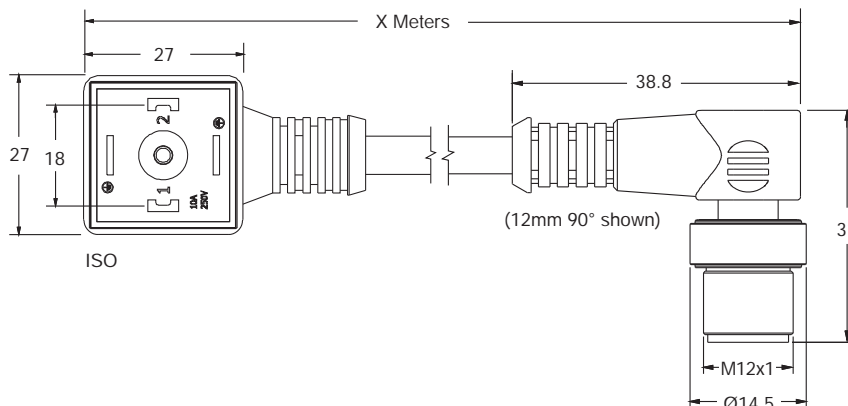
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



ISO shown above



(SUB-MICRO)



(MINI / ISO)

## Technical Data

- Cable outlet: Molded construction with wire exiting out parallel to the face of the coil
- Color: Black (standard) or white translucent (for lighted versions)
- Cable types: Black PVC or PUR with & without shield
- Rated voltage max.: 120V AC 50/60 Hz
- Voltage drop: 2.2 volt max.
- Current max: Continuous - 4 Amp  
Inrush - 15 Amps for 15 ms
- Enclosure and molded in gasket materials: Polyurethane

- Ambient rated temperatures: -25° to 80°C
- Environment protection: IP 67 and NEMA 6
- Available in four sizes:  
DIN 43650 Form "A" (ISO), EN175301-803:2000  
DIN Form "C" (Sub-Micro 8mm), EN175301-803:2000  
Industry standard (Sub-Micro 9.4mm pin spacing)  
Industry standard (Mini 11mm pin spacing)
- Pin configurations:  
For single solenoid valves, 2 connections plus ground,  
Mini, ISO, Sub-Micro 8mm and Sub-Micro 9.4mm

## Ordering Guide

5 J F A C -    -    -

**Connector Type**  
3 - 8mm SM  
4 - 9.4mm SM  
5 - MINI  
6 - ISO

**Wire Length**  
U - 2 Meter  
X - 5 Meter

For additional Wire Lengths, consult factory.

**Contacts**  
0 - 2+ ground down (MINI only)  
1 - 2+ ground up (MINI only)  
4 - 2+ dual ground up/down

Ground left / right available, consult factory.

**Lighting Voltage**  
0 - No light, no suppression\*  
2 - 6-24V AC/DC 50/60 Hz  
5 - 48-120V AC/DC 50/60Hz  
A - 6-24VDC

**Suppression Type**  
0 - No light, no suppression\*  
1 - Diode (DC only)  
5 - Metal Oxide Varistor (MOV)

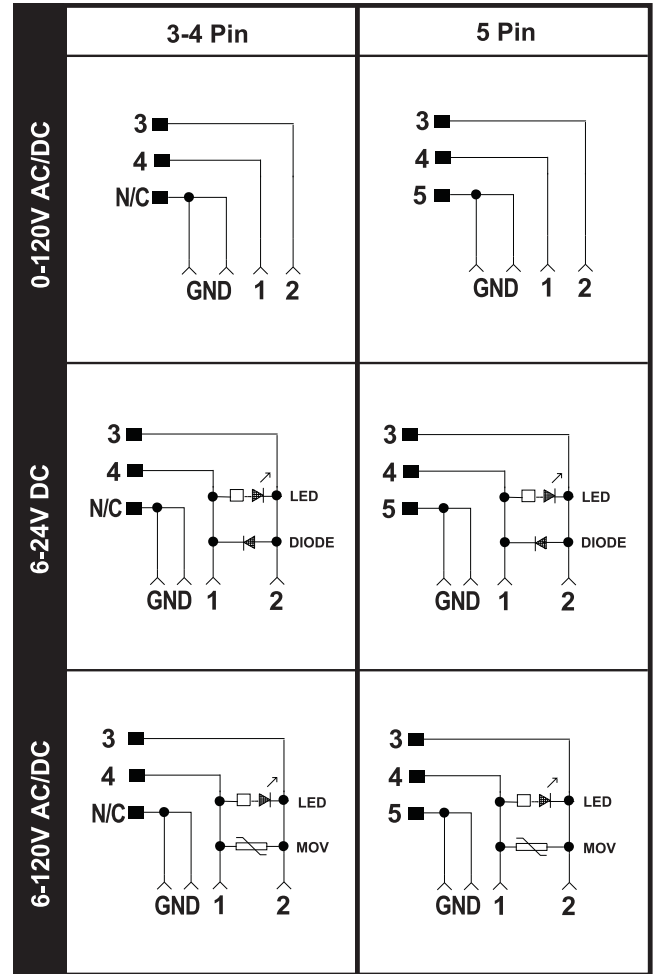
**Wire Type**  
0 - PVC  
1 - PUR

**Wire / Circuit Type**

|         |       |      |          |
|---------|-------|------|----------|
| 0 - M12 | 3 Pin | male | Straight |
| 1 - M12 | 3 Pin | male | 90°      |
| 2 - M12 | 4 Pin | male | Straight |
| 3 - M12 | 4 Pin | male | 90°      |
| 4 - M12 | 5 Pin | male | Straight |
| 5 - M12 | 5 Pin | male | 90°      |
| 6 - M8  | 3 Pin | male | Straight |

**Packaging Code**  
A - Bulk  
G - Individual bagged  
L - Bulk MAC screw  
N - Individual bagged MAC screw

## Circuit Types



Ordering Example:

5JFAC-3U4-250-2A

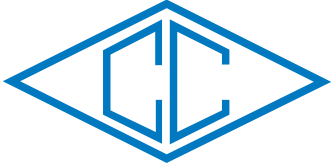
8mm SM, 2 meter wire length, 2+ ground down up/down, 6-24V AC/DC 50/60 Hz, lighted, MOV, PVC wire type, M12, 4 pin, male, straight, bulk

\* Rated 120V AC/DC 50/60Hz

MAC is the registered trademark of MAC Valves, Inc.

All connectors come standard with integrated gasket.

Note: Slight discoloration may occur to translucent material after prolonged exposure to UV rays.



canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES R5000

ISO RECTIFIED  
 SOLENOID VALVE CONNECTORS

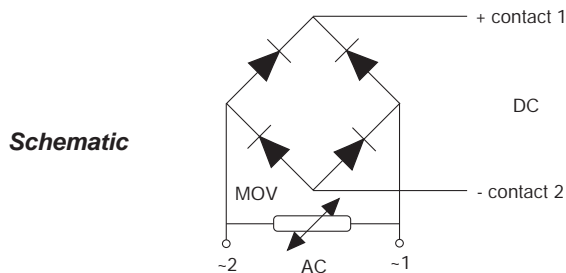
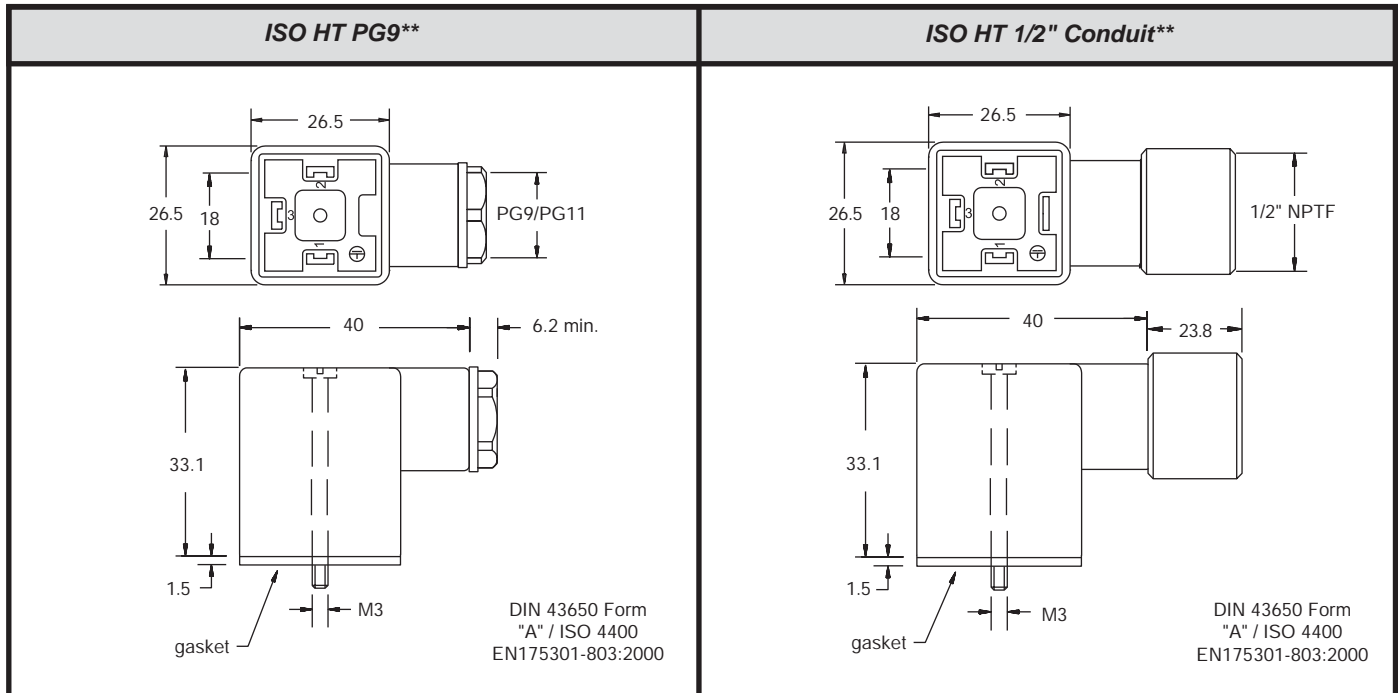
General Description

Canfield Connector's R5000 Series solenoid valve connectors incorporate full-wave bridge rectifiers inside the DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 connectors. This standard permits industry interchange-ability and has been embraced by the solenoid valve industry worldwide. The R5000 converts alternating current to direct current reducing coil burnout due to valve sticking. Also, direct current eliminates AC "hum" inherent to alternating current. Features include the ability for the user to wire the connector into existing installations. Wire connections are made inside the connector housing and the wire inlet is either PG9 strain relief, 3/8" or 1/2" conduit. The R5000 has a maximum current rating of 1 Amp continuous with maximum wire gauge diameter of 14 AWG. An indicator light is offered for instant diagnostics and to aid setup and installation.



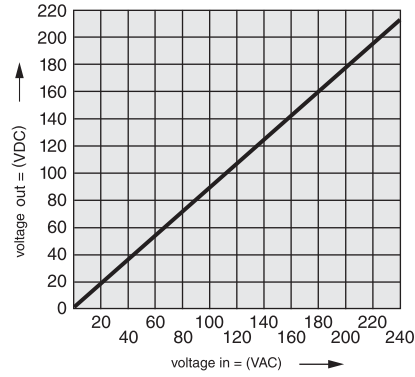
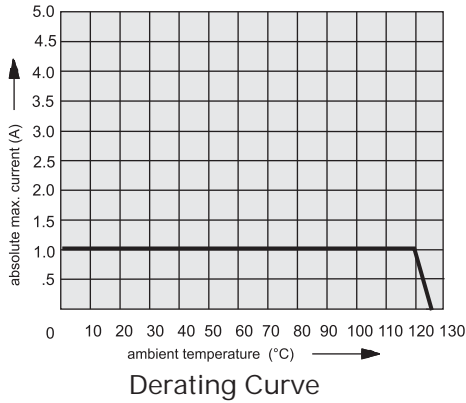
Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

## Technical Data



- Voltage max.: 250 VAC 50/60 Hz
- Voltage drop: 2.2 volt max.
- Current max.: Continuous - 1 Amps  
Inrush - 15 Amps for 15 ms
- Wire gauge max.: 14 AWG

- Recommended cable diameter:  
PG9 - .236 to .315 inches O.D.  
PG11 - .315 to .394 inches O.D.  
3/8" Conduit - .410 inch max.  
1/2" Conduit - .410 inch max.
- Gaskets temperature max.: Nitrile -25° to +90°C  
Silicone -40° to +125°C
- Environmental protection: NEMA 4 and IP 65 dust tight and water resistant

## Ordering Information

Use a prefix of "G" for Individually Bagged

R 5  0  -    0 0 0 0

**Orientation**  
1 - Ground down  
Other ground orientations available.  
Please consult factory.

**Lighting Specification**  
0 - Unlighted (black housing)  
3 - 6 - 48 VAC 50/60 Hz  
(translucent housing)  
7 - 100 - 240 VAC 50/60 Hz  
(translucent housing)

**Connector Types**  
08 - ISO HT strain relief PG9\*\*  
09 - ISO HT strain relief PG11\*\*  
10 - ISO HT 1/2" conduit\*\*  
18 - ISO HT strain relief PG9 gray\*\*  
19 - ISO HT strain relief PG11 gray\*\*  
20 - ISO HT 1/2" conduit gray\*\*

**Gasket**  
1 - Nitrile  
2 - Silicone  
3 - Nitrile profile

\* With ISO only  
\*\* HT refers to High Top - Larger connector for larger wire gauge and easy installation.

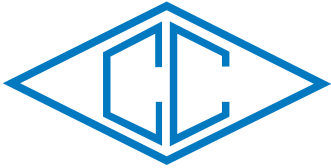
Not all combinations are available. Consult factory for details.

Each connector kit contains fastening hardware and gasket assembly.

Ordering Example:

R5100-1080000

Rectified, ground down, unlighted, nitrile gasket, ISO HT strain relief PG9 connector



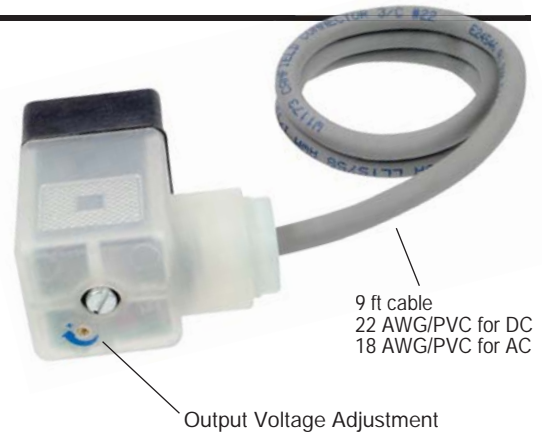
canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES D5400 (MSD)  
 MICRO SOLENOID DRIVER, POWER CONVERTER



General Description

The Canfield Connector Series D5400 Micro Solenoid Driver is a NEMA 4 DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 and MINI type connector with a built in electronic circuit used to induce solenoid pull-in and reduce holding current. The time proven MSD has been designed into many applications where heat buildup occurs which reduces operating efficiency and life span of solenoid valves. The MSD has two main functions: one is to induce faster or stronger than usual response times at solenoid pull-in, the second is to reduce the net wattage of the solenoid during hold-in. The MSD drives the coil with a high input voltage for a fixed time period until the coil has shifted at which time the MSD reduces the holding voltage, which saves power, and the solenoid runs cool. The MSD is often used to replace low voltage power supplies where a 24 VDC solenoid valve can then be operated by 120 VAC. The Alternating current is rectified and the duty cycle reduced so as to operate the valve at proper voltage and wattage ranges. An additional advantage can be found when the MSD drops the holding voltage, which then reduces heat and current requirements.



Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

*Reduce Heat • Increase Speed*

| ISO Connector | MINI & ISO Profile View | MINI Connector |
|---------------|-------------------------|----------------|
|               |                         |                |

Features

- Speed operator cycle rates with greater consistency
- Enable coils to be energized for extended periods without burnout
- Save energy by reducing overall coil consumption
- Reduce hold-in voltage to reduce coil heat related losses
- Enclosure NEMA 4 accepted
- MINI or DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 electrical connector enclosure saves hook up space and is a generally accepted quick connect interface
- Increases coil life expectancy
- All versions have LED indicator lights
- 9 ft cable is standard on all versions

D  
5  
4  
0  
0

**Technical Data**

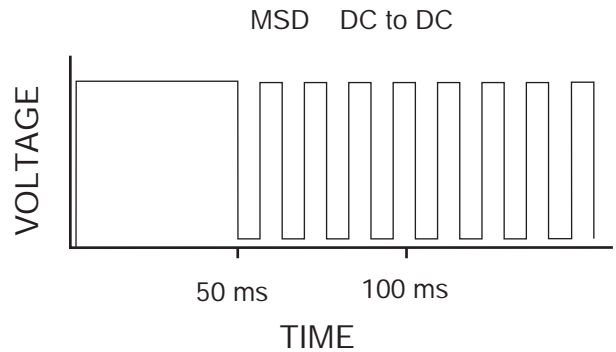
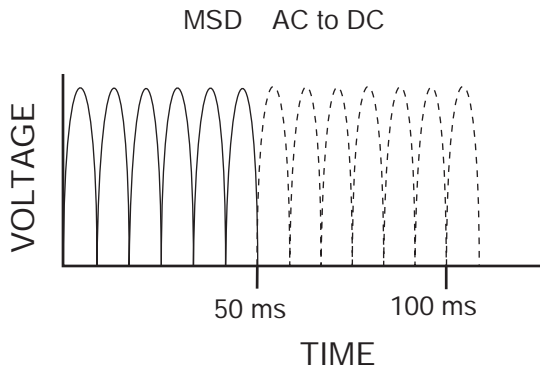
- Ambient temperature range: -20° to +50° C
- Maximum input voltage tolerance: 10%
- Input voltage: AC or DC (in different versions)
- Output voltage: DC
- Peak output voltage: Supply -.5v
- Maximum output current: 8 Amps inrush for 50 ms / 1 Amp holding
- Maximum allowable input DC ripple: 20% peak to peak
- 2 ms max. response time

**How it Works**

The MSD allows the input line voltage directly to the coil for a fixed single shot of 50 milliseconds. After that period, the MSD automatically pulses the input voltage to the coil. In either fixed or adjustable versions, the MSD turns the power on and off so fast that the armature does not respond. By adjusting the off period so that it is longer than the on period, the net RMS voltage decreases and wattage is decreased. Many coils can be adjusted much lower than expected due to the fact that much less energy is required for hold-in as opposed to pull-in.

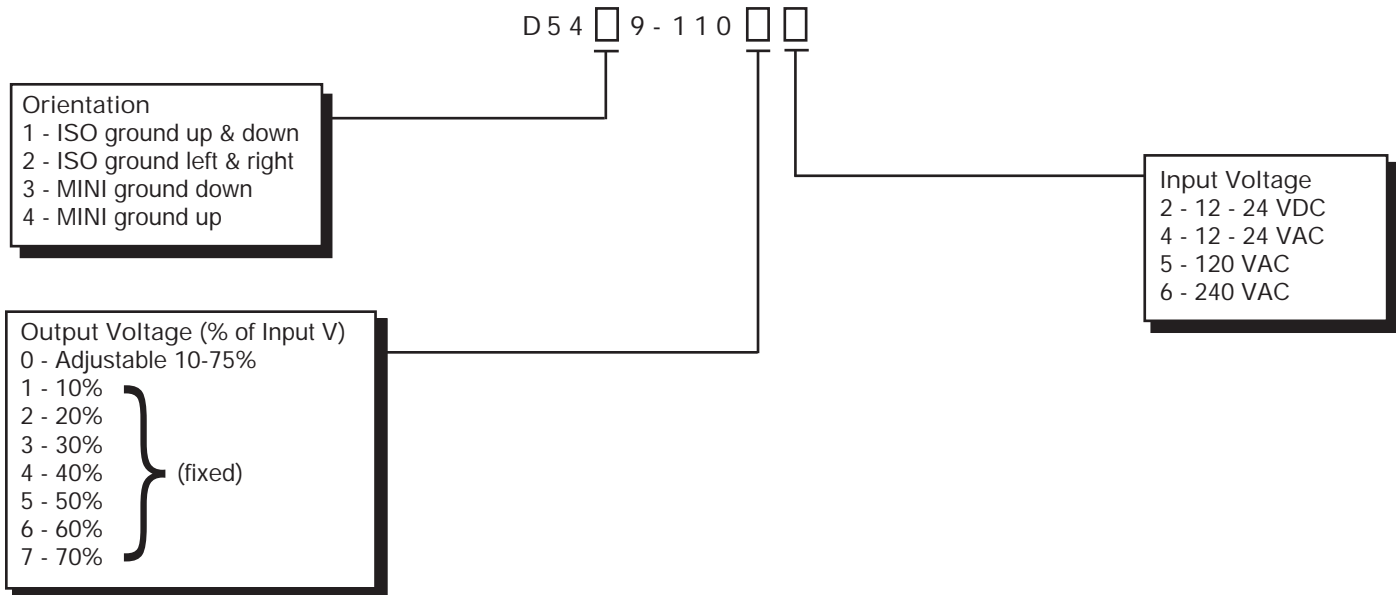
D  
5  
4  
0  
0

**Output Waveforms**



Output Frequency = 1.6 KHz

**Ordering Information**



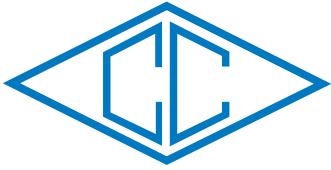
Ordering Example:

D5439 - 11005

MINI ground down, adjustable output, 120 VAC

Each connector kit contains screw, washer and gasket assembly.





SERIES P5600 (MPC)  
 MICRO PROTECTIVE CONNECTORS

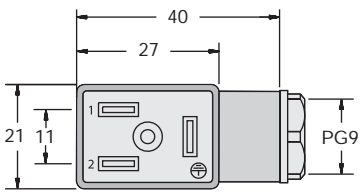
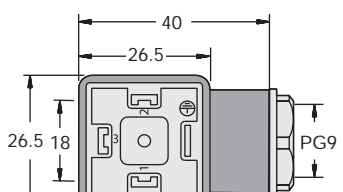
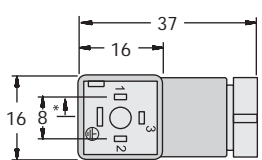
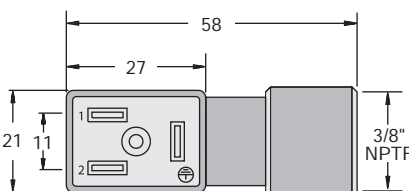
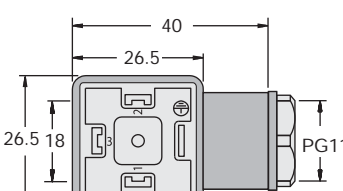
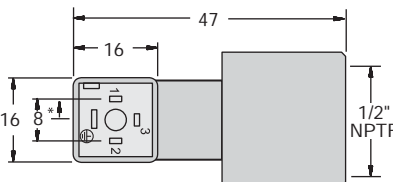
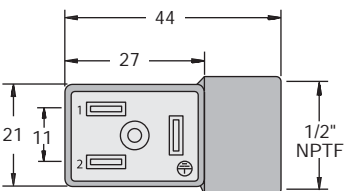
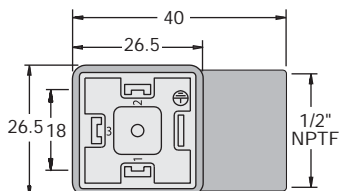
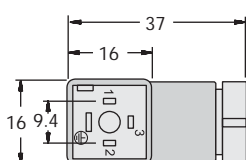
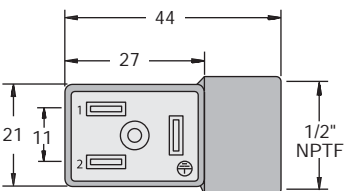
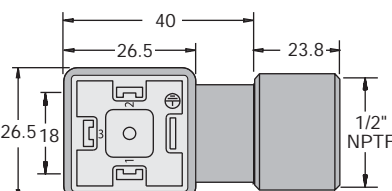
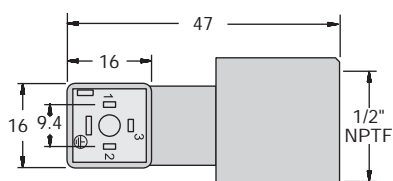
Surge Suppression

General Description

The Micro Protective Connectors are available in standard MINI, DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 and Sub-Micro 8mm and 9.4mm. The Canfield Connector MPCs provide electrical controllers surge suppression against voltage spikes caused by the solenoids used on hydraulic and pneumatic solenoid valves.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED (COMPLETE DIMENSIONAL INFORMATION IS PROVIDED ON INDIVIDUAL PAGES)

| MINI   | ISO<br>DIN 43650 Form "A" / ISO 4400,<br>EN175301-803:2000  | Sub-Micro<br>(8mm) DIN 43650 Form "C" / ISO 4400,<br>EN175301-803:2000   |
|--|---|--|
|  <p><b>PG9</b></p>            |  <p><b>PG9 / HT PG9</b></p>      |  <p><b>8mm Strain Relief</b><br/>*Ground spade offset by 0.2mm toward pin 1.</p>  |
|  <p><b>3/8" Conduit</b></p> |  <p><b>PG11 / HT PG11</b></p>  |  <p><b>8mm 1/2" Conduit</b><br/>*Ground spade offset by 0.2mm toward pin 1.</p> |
|  <p><b>1/2" Conduit</b></p> |  <p><b>1/2" Conduit</b></p>    |  <p><b>9.4mm Strain Relief</b></p>  |
|  <p><b>1/2" Conduit</b></p> |  <p><b>HT 1/2" Conduit</b></p> |  <p><b>9.4mm 1/2" Conduit</b></p>   |

00657

## Technical Data

- Voltage max.: 240 VAC / 120 VDC
- Current max.: ISO - 10 Amps  
MINI - 10 Amps  
Sub-Micro - 6 Amps
- Wire gauge max.: ISO - 14 AWG  
MINI - 14 AWG  
Sub-Micro - 20 AWG

NOTE: When using MAC Valves with 9.4mm Sub-Micro, consult our factory.

- Recommended cable diameter:  
PG7 - .157 to .236 inches O.D.  
PG9 - .236 to .315 inches O.D.  
PG11 - .315 to .394 inches O.D.  
1/2" Conduit - .410 inch max. for MINI & ISO  
1/2" Conduit - .250 inch max. for Sub-Micro
- Gaskets temperature max.: Nitrile: -25° to +90°C  
Silicone: -40° to +125°C
- Environmental protection: NEMA 4 and IP 65 dust tight and water resistant

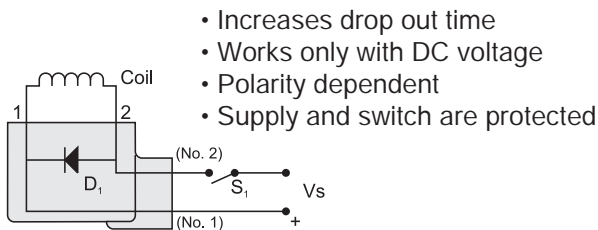
## Advantages of Suppression

- Ideal for use with reed switch proximity sensor.
- Reduce contact burnoff, increasing switch life.
- High frequency interference pulses reduced, lowering electronic noise.
- Protect programmable controllers and other types of electronic devices from inductive spikes.
- Addition of extra modules or hardware is not required.
- Most suppression systems are available with standard connectors.

## MPC Types

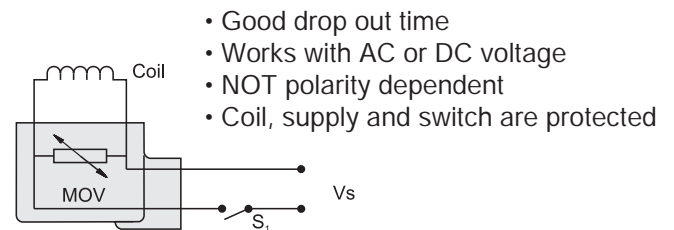
### Type 1\*

Diode in parallel with coil. When switch ( $S_1$ ) is opened, the energy stored in the coil is trapped and dissipated by the diode ( $D_1$ ).



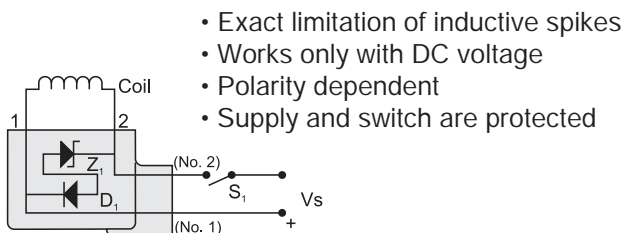
### Type 5\*

MOV (metal oxide varistor) in parallel with coil. When switch ( $S_1$ ) is opened or closed, the energy stored in the coil is limited by the MOV.



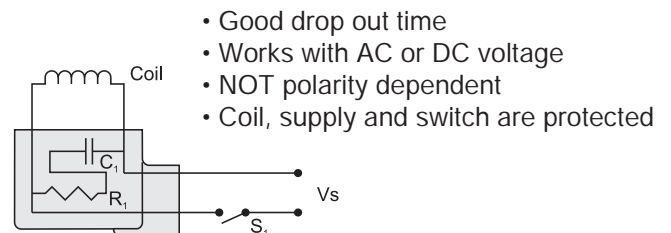
### Type 2

Diode & Zener in parallel with coil. When switch ( $S_1$ ) is opened, the energy stored in the coil is trapped and dissipated by the diode ( $D_1$ ) and zener diode ( $Z_1$ ) and the coil resistance.



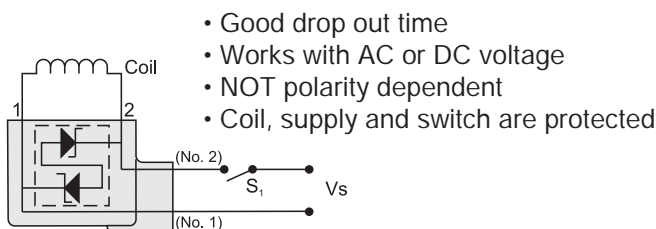
### Type 6

RC Network in parallel with coil. When switch ( $S_1$ ) is opened or closed, the energy stored in the coil is absorbed by the capacitor ( $C_1$ ) and dissipated by the resistor ( $R_1$ ).



### Type 3

Transorb in parallel with coil. When switch ( $S_1$ ) is opened or closed, the energy stored in the coil is limited by transorb.



\*Most Commonly Used

## Ordering Information

Use a prefix of "G" for Individually Bagged

P 5  0  -      0 0

**Orientation**  
1 - Ground down  
Other ground orientations available.  
Please consult factory.

**Operating Voltage**  
3 - 6 - 48 VDC  
4 - 48 - 120 VDC  
5 - 6 - 48 V AC/DC 50/60 Hz  
6 - 48 - 120 V AC/DC 50/60 Hz  
7 - 120 - 240 V AC/DC 50/60Hz

**Gasket**  
1 - Nitrile  
2 - Silicone  
3 - Nitrile profile<sup>††</sup>

**Connector Type**  
3 - MINI strain relief PG9  
4 - MINI 3/8" conduit  
5 - MINI 1/2" conduit  
6 - ISO strain relief PG9  
7 - ISO strain relief PG11  
8 - ISO 1/2" conduit  
B - Sub-Micro strain relief PG7 (9.4mm)\*\*  
C - Sub-Micro 1/2" conduit (9.4mm)\*\*  
D - Sub-Micro strain relief PG7 (8mm)\*\*  
E - Sub-Micro 1/2" conduit (8mm)\*\*

**Housing Color**  
0 - Black "B" standard. Translucent if lighted.  
1 - Gray "A"

**Lighting Specification**  
0 - Unlighted  
1 - Lighted

**MPC Circuit**  
1 - Diode (DC Only)  
2 - Diode & Zener diode (DC Only)  
3 - Transorb (AC/DC)<sup>†</sup>  
5 - MOV (AC/DC)  
6 - RC network (AC/DC)



### SERIES P5600

| Can-Pak Part Number  | Qty |
|----------------------|-----|
| CP-P5103-1311000-025 | 25  |
| CP-P5103-1311000-100 | 100 |
| CP-P5103-1351000-025 | 25  |
| CP-P5103-1351000-100 | 100 |
| CP-P5107-1351000-025 | 25  |
| CP-P5107-1351000-100 | 100 |
| CP-P5103-1611000-025 | 25  |
| CP-P5103-1611000-100 | 100 |
| CP-P5103-1651000-025 | 25  |
| CP-P5103-1651000-100 | 100 |
| CP-P5107-1651000-025 | 25  |
| CP-P5107-1651000-100 | 100 |

<sup>†</sup> NOT available in Operating Voltage 7

<sup>††</sup> NOT available in Sub-Micro

\* NOT available in MINI type connectors

\*\* MPC Circuits 1 & 5 only

Consult factory for custom configurations.

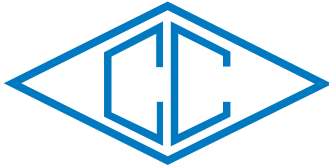
Each connector kit contains screw, washer and gasket assembly.

NOTE: When using MAC Valves with 9.4mm Sub-Micro, consult our factory.

Ordering Example:

P5103-1310000

Ground down, 6 - 48 VDC, nitrile gasket, MINI strain relief PG9, Diode, unlighted, black house



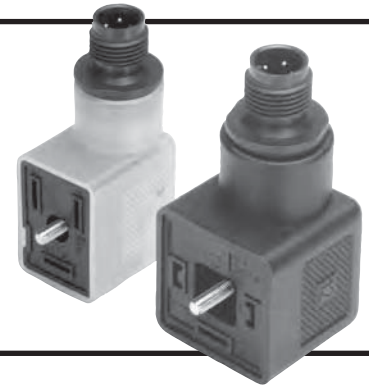
canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES FAC

FIELD BUS ADAPTER  
 SOLENOID VALVE CONNECTORS

General Description

The FAC series connectors are modular interface connectors made to conform to industry standard configurations. These connectors interface female ISO, MINI and Sub-Micro solenoid connections to industry standard male 7/8" (MINI) and 12mm (Micro) circular connectors. These are as shown on the following pages. These rugged modular connectors offer rapid installation and environmental protection designed to IP 65 and NEMA 4. Options include indication LED, surge suppression and various pre-wired circuit configurations to connect with popular multi-port electronic interconnection systems and field-bus systems.



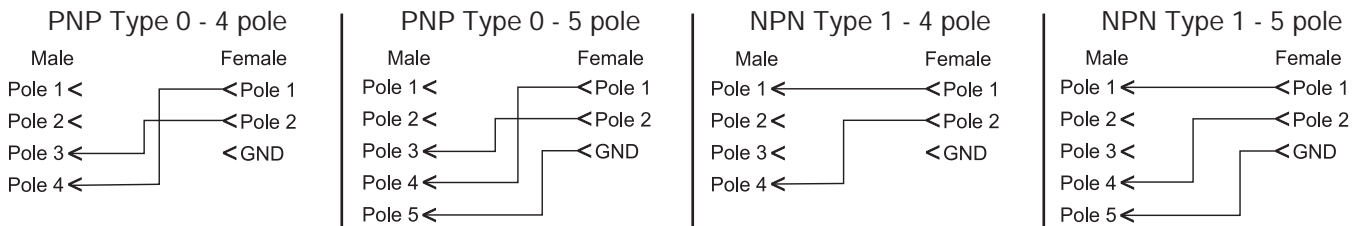
FAC

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

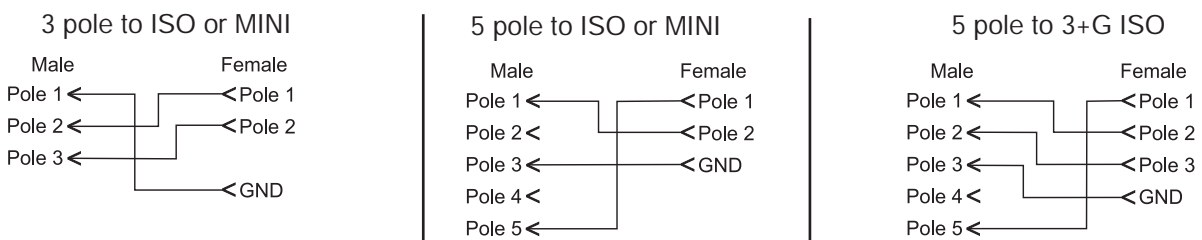
| MINI | ISO  | SUB-MICRO<br>8mm or 9.45mm                  |
|------|--|---|
|      | <br>DIN 43650 Form "A" / ISO 4400,<br>EN17530-803:2000 | <br>DIN 43650 Form "C",<br>EN17530-803:2000 |

† Optional Circuit Types



Male connector color code (Pole 1 - Brown, Pole 2 - White, Pole 3 - Blue, Pole 4 - Black, Pole 5 - Gray)

Automotive Standard Circuit Types



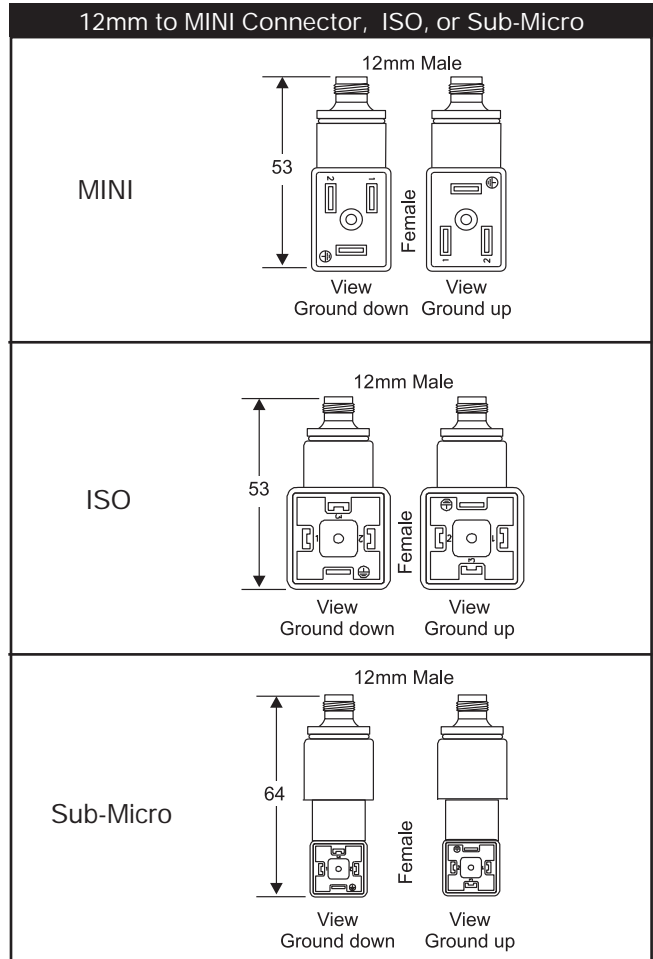
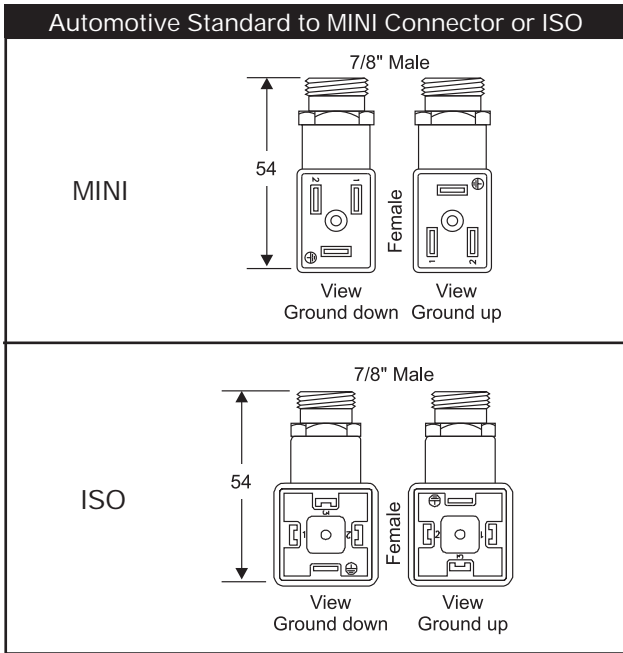
**Technical Data**

- Wire: Black PVC
- Nominal Voltage Rating: See Connector Type
- Max. Nominal Current: 3/4 Pole 4 Amps  
5 Pole 3 Amps
- Environmental Protection: IP 65/NEMA 4
- Temperature Rating: -25° to +85°C

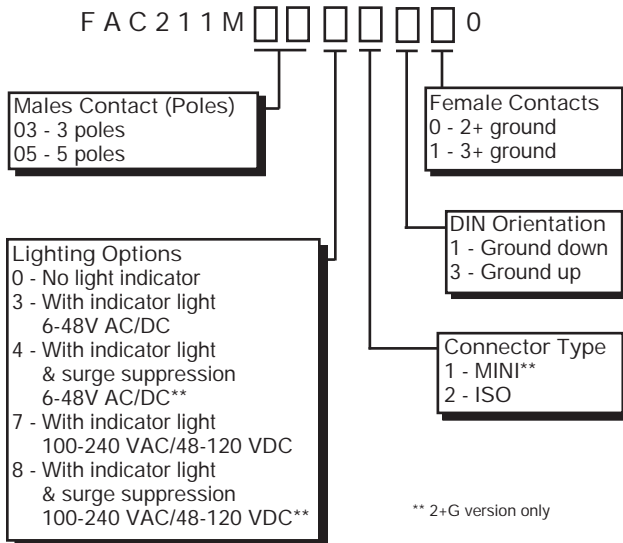


Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

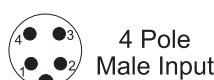
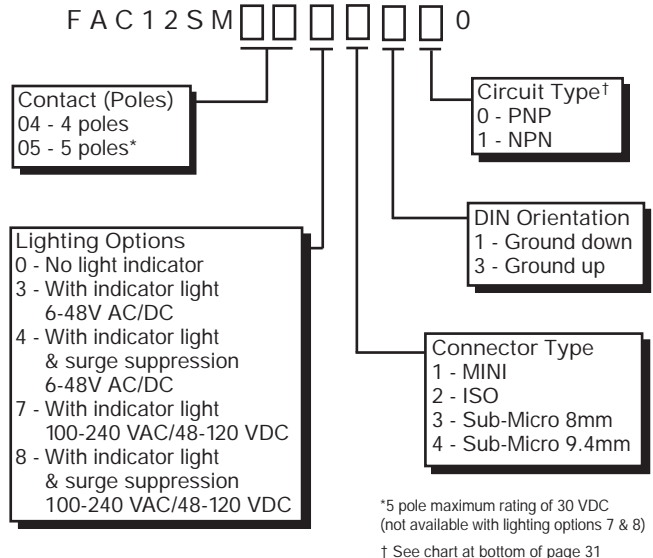
FAC

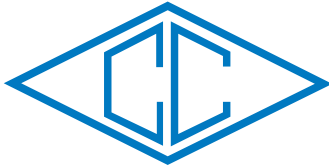


**Ordering Information**



**Ordering Information**





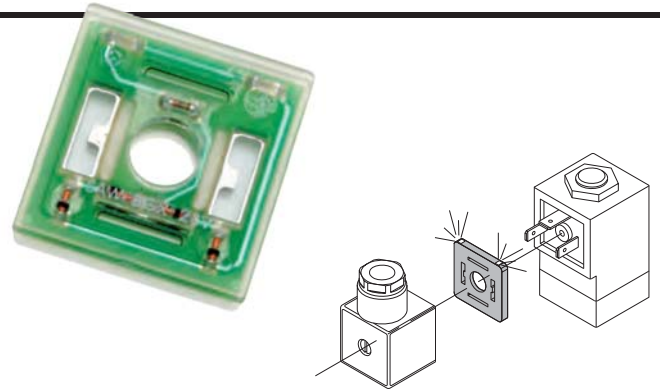
canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES iLW

INTERPOSED LIGHTED WAFER  
 (MRO) RETRO-FIT INDICATOR LIGHT

General Description

The Canfield Interposed Lighted Wafer is an electronic, state of the art lighting module designed to install between a DIN type coil and the mating connector. Utilizing SMT (Surface Mount Technology), the iLW's ultra-thin design and high luminescence Gallium Arsenide LEDs enable the lighted wafer to retrofit existing applications or to be used in conjunction with unlighted connectors. Designed to "sandwich" between the connector and the coil, the iLW seals from dust and moisture. The iLW can be installed several times without degradation of the contact surfaces and is not polarity dependent.



iLW

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

| Sub-Micro | MINI | DIN 43650 Form "A" / ISO 4400 |
|-----------|------|-------------------------------|
|           |      |                               |

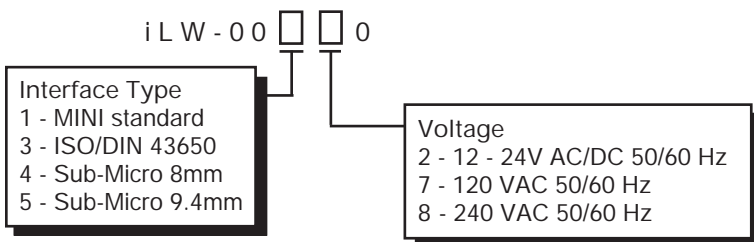
Technical Data

- Retrofits: Sub-Micro 8mm  
 Sub-Micro 9.4mm  
 MINI Standard  
 DIN 43650 Form "A" / ISO 4400,  
 EN175301-803:2000
- Environmental protection: NEMA 4 and IP 65 dust tight and water resistant
- Ambient temperature range: -20° to +90°C
- Polyurethane encapsulation

Electrical Data

- Voltages available: 12 - 24V AC/DC 10 mA max.  
 120V AC 6 mA max.  
 240V AC 9 mA max.
- Light source: Gallium Arsenide light emitting diode
- Not polarity dependent

Ordering Information

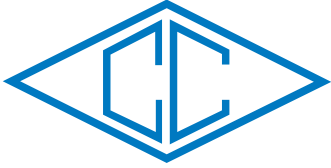


Ordering Example:

iLW-00170

MINI standard, 120 VAC 50/60 Hz.

NOTE: When using MAC Valves with 9.4mm Sub-Micro, consult our factory. MAC is the registered trademark of MAC Valves, Inc.



canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

SERIES M5

MALE CONNECTORS

General Description

Canfield male connectors are used as electrical quick disconnect interfaces for pneumatic and hydraulic valves and sensors. They are available in standard MINI, DIN 43650 Form "A" / ISO 4400, EN175301-803:2000, Sub-Micro 8mm, 9.4mm, and conduit arrangements. Some male connectors are available with 2+ ground or 3+ ground terminal options.



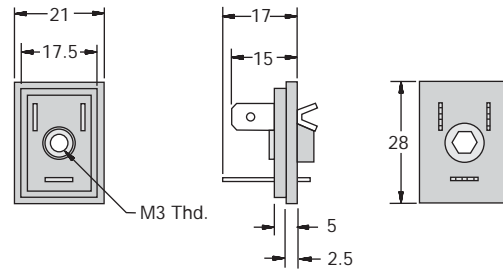
M  
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M03010 MINI Male for Molding

This MINI male connector is used as an electrical quick connect. It is generally applied during the molding, potting, or epoxying process for pneumatic and hydraulic valves or pressure switches. The M03010 male connector is built to mate with the Series 5000 or other standard MINI female connectors.

Features

- 2+ Ground Terminals
- 250V AC/DC max.
- 10 Amps max. rating
- Glass Fiber Reinforced Nylon
- Temp. rating -40° to +125° C

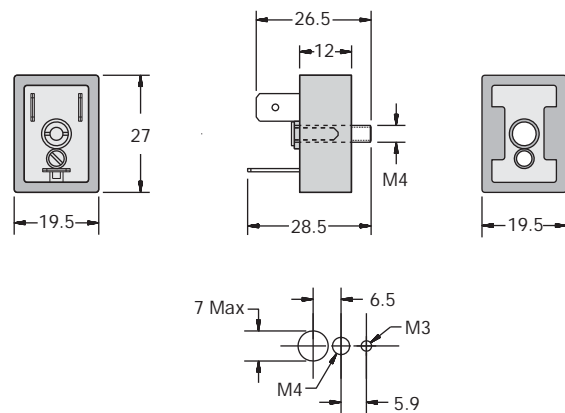


M03110 MINI Male for Plate Mounting

This MINI male connector is used as an electrical quick connect for pneumatic and hydraulic valves. The M03110 male connector is built to mate with the Series 5000 or other standard MINI female connectors. This connector can be used for mounting on a plate, panel or bulkhead.

Features

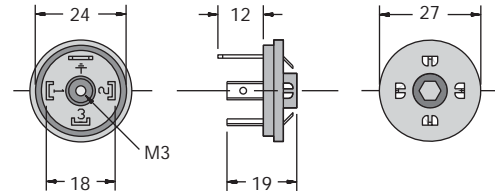
- 2+ Ground Terminals
- 250V AC/DC max.
- 10 Amps max. rating
- Glass Fiber Reinforced Nylon
- Nitrile Gasket
- Temp. rating -25° to +90° C



This male DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 connector can be integrated in tooling to provide a cost effective quick connect electrical interface. The P10020 is designed to mate with Series 5000 or other DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 female electrical connectors.

Features

- DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 configuration
- 2+ or 3+ Ground versions
- 250V AC/DC max.
- Glass Fiber Reinforced Nylon
- 10 Amps max. rating
- Temp. rating -40° to +125° C

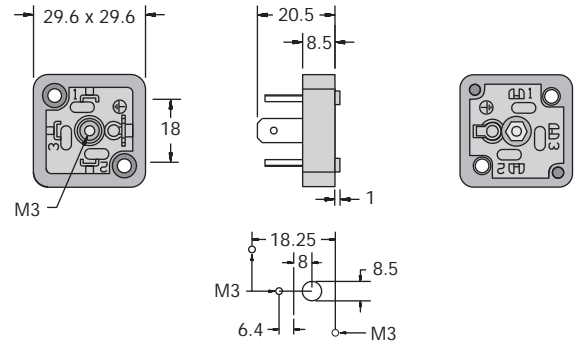


P10121 ISO Male for 2 Hole Plate Mounting

This plate mount DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 male connector is offered in either 2+ or 3+ ground versions. Easy to install using the template in the dimensional data. The P10121 connector is designed to mate with Series 5000 or other DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 female connectors.

Features

- DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 configuration
- 2+ or 3+ Ground versions
- 250V AC/DC max.
- 10 Amps max. rating
- Glass Fiber Reinforced Nylon
- Nitrile Gasket
- Temp. rating -25° to +90° C
- Panel mounting screws provided

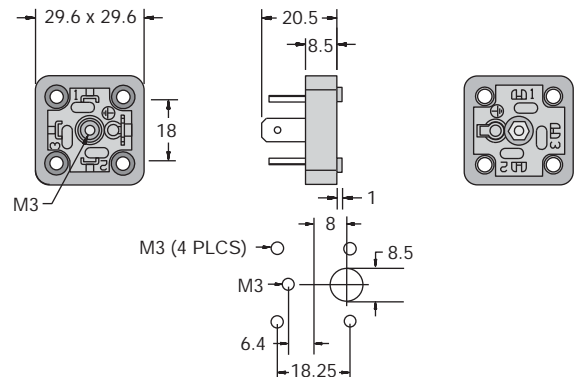


P10122 ISO Male for 4 Hole Plate Mounting

This plate mount DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 male connector is offered in either 2+ or 3+ ground versions. Easy to install using the template in the dimensional data. The P10122 connector is designed to mate with Series 5000 or other DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 female connectors.

Features

- DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 configuration
- 2+ or 3+ Ground versions
- 250V AC/DC max.
- 10 Amps max. rating
- Glass Fiber Reinforced Nylon
- Nitrile Gasket
- Temp. rating -25° to +90° C
- For high vibration, mobile applications
- Panel mounting screws provided

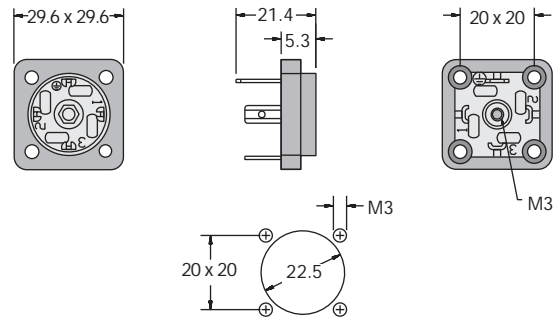




This DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 male connector is specifically designed for mounting in sheet metal. It has an arc over insulating plastic ridge and includes a gasket and four mounting screws. The P10222 connector is designed to mate with Series 5000 or other DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 female connectors.

Features

- DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 configuration
- 2+ or 3+ Ground versions
- 250V AC/DC max.
- 10 Amps max. rating
- Glass Fiber Reinforced Nylon
- Nitrile Gasket
- Temp. rating -25° to +90° C

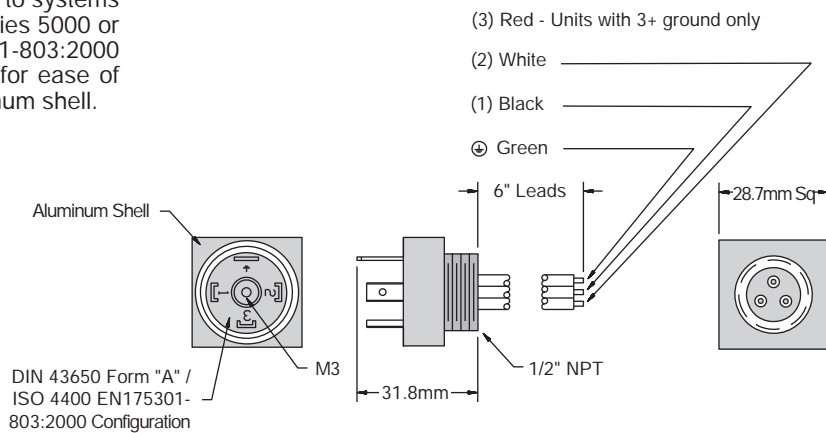


M  
5

This male DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 connector is specifically designed to attach to systems with 1/2" conduit connections and mate with Series 5000 or other DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 female connectors. These units are pre-wired for ease of installation and epoxy encapsulated in an aluminum shell.

Features

- DIN 43650 Form "A" / ISO 4400, EN175301-803:2000 configuration
- 2+ or 3+ Ground versions
- 1/2" NPTF Male Thread Connection
- 18 Gauge Wire Standard (6" leads)
- 250V AC/DC max.
- 10 Amps max. rating
- Temp. rating -40° to +105° C

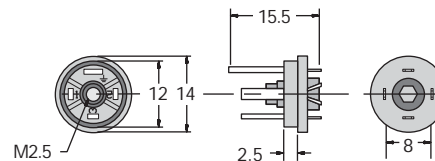


3 plus ground version shown. 2 plus ground version available.

This Sub-Micro 8mm male connector is designed as a small electrical interface that can be molded into other products creating an environmentally protected quick connect interface. The P20020 male connector is designed to mate with Series 5000 8mm female connectors.

Features

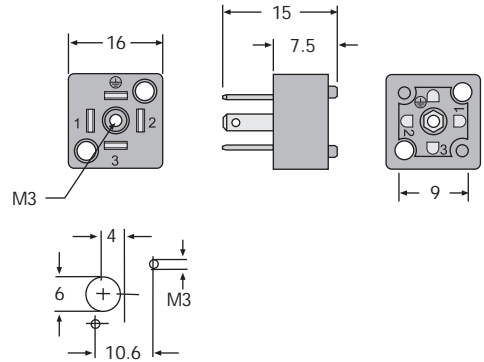
- 2+ or 3+ Ground versions
- 8mm Centers
- Glass Fiber Reinforced Nylon
- 250V AC/DC max.
- 6 Amps max. rating
- Temp. rating -40° to +125° C



This Sub-Micro 9.4mm male plate mount connector is offered in either 2+ or 3+ ground versions. Easy to install using the template in the dimensional data. The P30120 connector is built to mate with Series 5000 9mm center female connectors.

Features

- 2+ or 3+ Ground versions
- 9.4mm Centers
- Glass Fiber Reinforced Nylon
- 250V AC/DC max.
- 6 Amps max. rating
- Nitrile gasket
- Temp. rating -40° to +125° C



Ordering Information

M 5       -  0 0

| Connector Type |                                 |
|----------------|---------------------------------|
| M03010         | MINI for molding                |
| M03110         | MINI for plate*                 |
| P10020         | ISO for molding                 |
| P10121         | ISO for plate 2 hole            |
| P10122         | ISO for plate 4 hole            |
| P10222         | ISO for sheet metal             |
| P10500         | ISO for 1/2" conduit            |
| P20020         | Sub-Micro 8mm molding           |
| P30120         | Sub-Micro 9.4mm for plate mount |

| Contacts |           |
|----------|-----------|
| 2        | 2+ ground |
| 3        | 3+ ground |

M 5

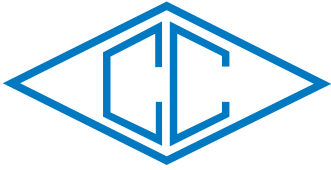
\* 2+ Ground Terminals Only

Each connector kit contains all mounting hardware.

Ordering Example:

M5P10222-300

Model P10222 ISO Male Connector for Sheet Metal with 3+ ground terminals



canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

MODEL MCCR

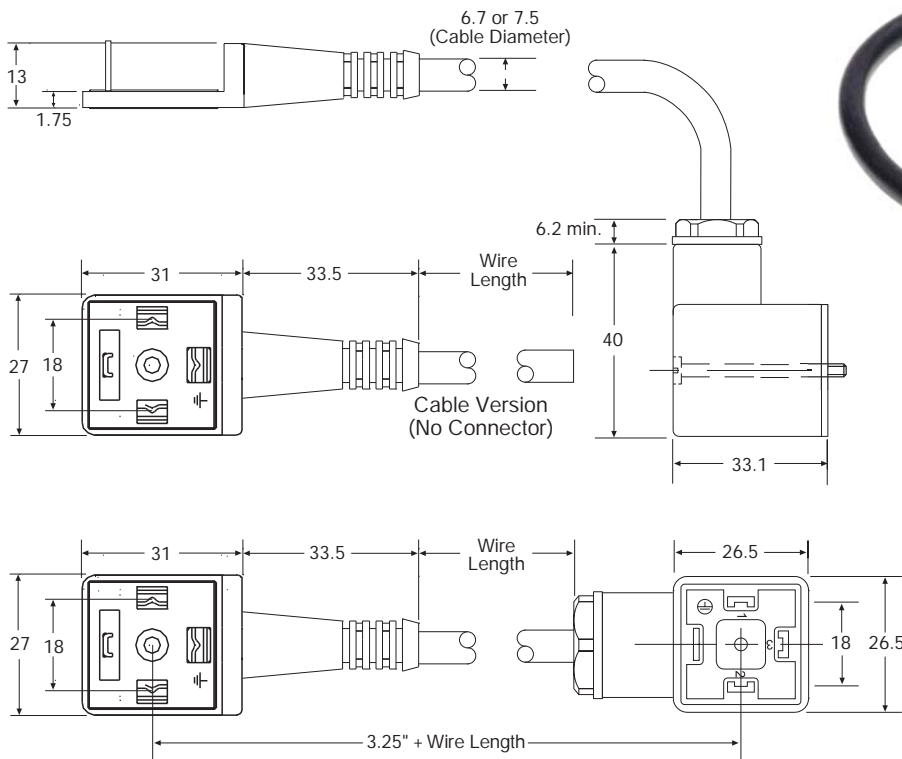
MULTIPLE CONTROL CONNECTOR

General Description

The Canfield Connector MCCR is a cable distribution connector which uses pass-through technology to allow control of multiple parallel or independent devices. Devised with double solenoids and solenoid valve manifolds in mind, the MCCR allows for simplified wiring and easy replacement of components in an automated, modular environment. The gasket-thin head fits between a single female connector and the associated male device with the DIN 43650 Form "A", EN175301-803:2000 interface. Exiting from the MCCR head is a three conductor cable with ISO HT PG9 strain relief connector attached. Two available circuits allow for separate (independent) or parallel (simultaneous) control of the downstream device. The environment resistant quick connect style allows for plug and play designs in the factory that require modern hydraulic or pneumatic systems.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED



Patent # 6,846,198



Consult factory for available versions listed by Canadian Standards Association for use with certified electrical equipment.

Features

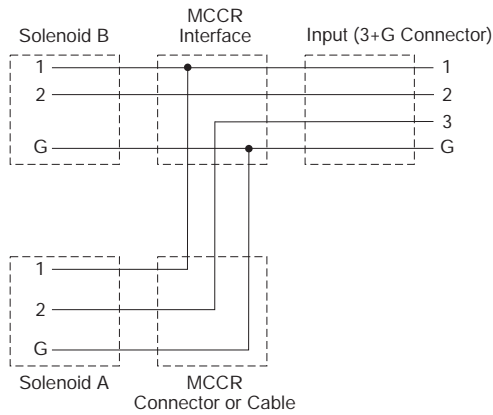
- Control two solenoids with one connection to controller
- Clean up installation, less wires
- DIN 43650 Form "A"/ISO 4400, EN175301-803:2000 quick disconnect design
- Can control large numbers of coils simultaneously
- Ease of installation and repair
- Incorporated polyurethane seal

Technical Data

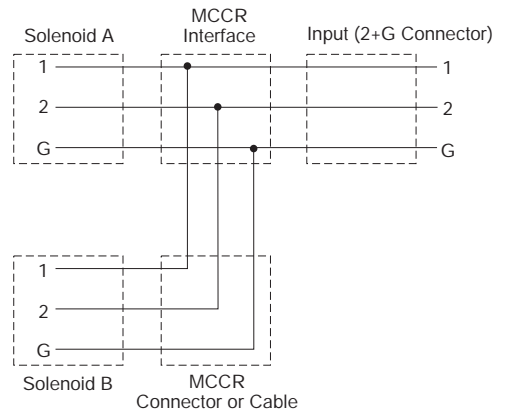
- Maximum current: 10 Amps
- Rated voltage max.: 300 VDC/250 VAC 50/60 Hz
- No. of contacts: 2+ ground  
2+ dual ground
- Degree of protection: NEMA Type 4 and IP65 dust tight and water resistant
- Temperature Range: -40° to 80° C

## Circuit Diagram

Circuit Type #1 and Circuit Type #2  
Separate Control

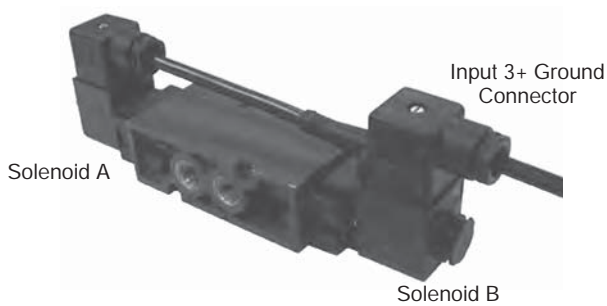


Circuit Type #3  
2+G Parallel Control



## Applications

Separate Control  
(Circuit Type #1 and Circuit Type #2)



Parallel Control / Simultaneous Solenoid Operation  
(Circuit Type #3)



## Ordering Information

MCCR -   1   - 1 0

| Wire Length** |        |
|---------------|--------|
| 01            | 1 in.  |
| 02            | 2 in.  |
| 03            | 3 in.  |
| 04            | 4 in.  |
| 05            | 5 in.  |
| 06            | 6 in.  |
| 07            | 7 in.  |
| 08            | 8 in.  |
| 09            | 9 in.  |
| 10            | 10 in. |
| 11            | 11 in. |
| 12            | 12 in. |

\*\*See Dimensional Data Section on Previous Page

Connector Type\*  
 0 - Cable (no connector)  
 1 - ISO HT PG9 connector (ground up)  
 2 - ISO HT PG9 connector (ground down)

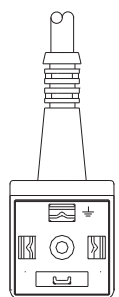
\* For indicator lights and surge suppression, please contact factory

Circuit Type  
 1 - Separate control ground down  
 2 - Separate control ground up  
 3 - Parallel control 2+dual ground

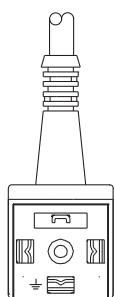
Ordering Example:

MCCR-01111-10

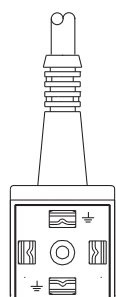
Multiple control connector, 1 in. wire length, separate control ground down, ISO HT PG9 connector (ground up)



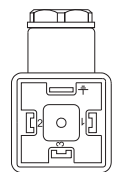
MCCR Ground Up



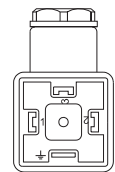
MCCR Ground Down



MCCR Dual Ground

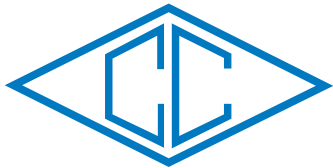


Connector Ground Up



Connector Ground Down

Each connector kit contains fastening hardware and gasket assembly.



canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

CANTOP

CORD GRIPS

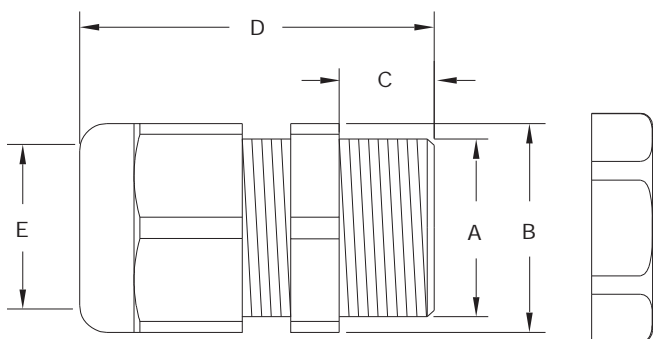
General Description

The Canfield Connector CanTop (brand) is a series of wire bulkhead feed through connectors which have integrated wire strain relief and sealing mechanism. The CanTop (brand) is made from rugged engineered materials which are impervious to dust and moisture. Available in thread sizes NPT 3/8", 1/2", 3/4" and compatible with wire diameters from .157 to .984 (.709 for Flex), the CanTop ensures a tight fit while enhancing any wire installation.

Dimensional Data

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

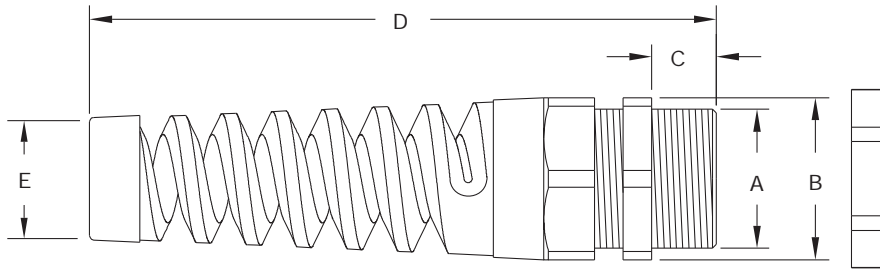
CanTop Strain Relief Connector



| PART NUMBER | DIMENSION |        |        |        |              |
|-------------|-----------|--------|--------|--------|--------------|
|             | A         | B (In) | C (In) | D (In) | E Range (In) |
| CANTOP-S211 | NPT 3/8"  | 0.748  | 0.591  | 1.614  | 0.157-0.315  |
| CANTOP-S221 | NPT 3/8"  | 0.748  | 0.591  | 1.614  | 0.079-0.236  |
| CANTOP-S231 | NPT 1/2"  | 0.945  | 0.591  | 1.693  | 0.236-0.472  |
| CANTOP-S241 | NPT 1/2"  | 0.945  | 0.591  | 1.693  | 0.197-0.354  |
| CANTOP-S251 | NPT 3/4"  | 1.299  | 0.591  | 2.047  | 0.512-0.709  |
| CANTOP-S261 | NPT 3/4"  | 1.299  | 0.591  | 2.047  | 0.354-0.630  |
| CANTOP-S271 | NPT 1"    | 1.614  | 0.630  | 2.205  | 0.709-0.984  |
| CANTOP-S281 | NPT 1"    | 1.614  | 0.630  | 2.205  | 0.512-0.787  |

CANTOP

CanTop Flex Strain Relief Connector



CANTOP

| PART NUMBER | DIMENSION |        |        |        |              |
|-------------|-----------|--------|--------|--------|--------------|
|             | A         | B (In) | C (In) | D (In) | E Range (In) |
| CANTOP-F271 | NPT 3/8"  | 0.787  | 0.591  | 3.346  | 0.157-0.315  |
| CANTOP-F281 | NPT 3/8"  | 0.787  | 0.591  | 3.346  | 0.079-0.238  |
| CANTOP-F291 | NPT 1/2"  | 0.945  | 0.591  | 4.134  | 0.236-0.472  |
| CANTOP-F301 | NPT 1/2"  | 0.945  | 0.591  | 4.134  | 0.197-0.354  |
| CANTOP-F311 | NPT 3/4"  | 1.339  | 0.591  | 5.079  | 0.512-0.709  |
| CANTOP-F321 | NPT 3/4"  | 1.339  | 0.591  | 5.079  | 0.354-0.630  |

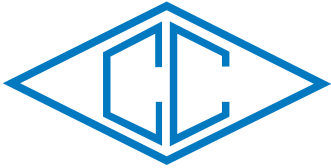
Technical Data

- Temperature Range: Operational from -40° to +100°C
- All versions designed to meet NEMA 4 / IP65 specifications
- Housing Material - Nylon
- Grommet Material - Neoprene
- Wire Outer Diameter Range - .157" - .984" for Strain Relief  
- .157" - .709" for Flex

Features

- Miniature liquid-tight cord grip
- All plastic construction
- Durable and reliable design.
- Corrosion resistant
- Multiple colors available. Consult factory.





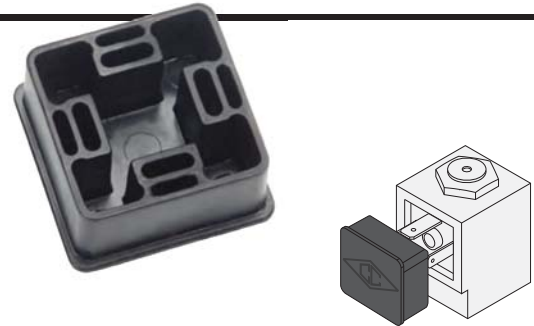
canfield connector  
 8510 Foxwood Court  
 Youngstown, Ohio 44514  
 (330) 758-8299 Fax: (330) 758-8912  
 www.canfieldconnector.com

DCP

SOLENOID VALVE  
 DIN COIL PROTECTORS

General Description

The Canfield Connector DCP coil pin protectors are low cost replacements for solenoid connectors that ensure protection of solenoid terminals during shipping and handling. They can also be used to protect spade style terminals on a variety of other products. DCPs are available in a host of colors and styles as well as special logo markings to match the application. Constructed of low cost yet rugged polymers, the DCP adds aesthetic appeal and advertising value to the solenoid valve. There is a DCP available for ISO, industry standard MINI, Sub-Micro, and dual spade hydraulic coils.



Dimensional Data

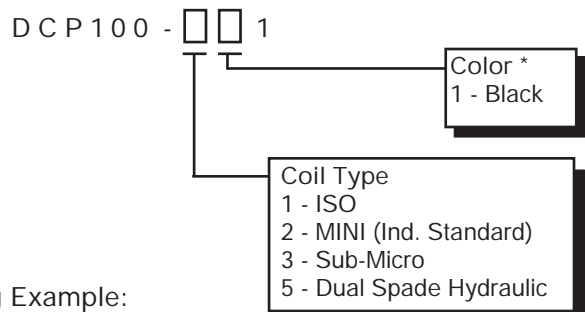
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED

| MINI       | Sub-Micro |
|------------|-----------|
|            |           |
| Dual Spade | ISO       |
|            |           |

Technical Data

- Units to fit DIN 43650 Form "A" / ISO 4400, EN175301-803:2000, Industry standard MINI, Sub-Micro and Dual Spade.
- Materials: HDPE
- \*Colors: Many colors available upon request with minimum 20,000 quantity buy.

Ordering Information



Ordering Example:

DCP100 - 111

DIN Coil Protector, ISO, black

**Custom logos available upon request with nominal one time tooling charge and minimum quantity buy of 20,000.**

TOD