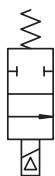




# Process Pipeline Solenoid Valves

## DVD-2B Series

Part No. **DVD-2BC3A-120A**Valve  
Symbol

2-way, 2-pos

The NITRA™ DVD-2B Series valves are engineered composite 2-way, 2-position solenoid/air operated valves designed for the control of liquid media and inert gas. The valves are available with a large 1/2" or 1-1/8" orifice and five port sizes, 1/4", 3/8", 1/2", 3/4", and 1" FNPT. The valve's compact design utilizes the latest in material sciences with the use of composite materials in the valve body. The solenoid pilot is power saving low wattage, made of stainless steel working components and is miniaturized to fit in tight places. The fully encapsulated coils are available in three voltages with a DIN connector attached. Typical applications are for installations where there is a need to control inert fluids and gases, condensate drainage, hot water plumbing and sprinkler systems.

### Features

- 2-way diaphragm style valves
- 1/4, 3/8, 1/2, 3/4, or 1" FNPT ports
- 2-position, normally closed, spring return
- 24VDC, 24VAC, or 120VAC solenoids
- DIN style wiring connector



See [www.AutomationDirect.com](http://www.AutomationDirect.com)  
for a wide variety of fitting and cable options



| DVD-2B Series Solenoid Valve Specifications |                                                      |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
|---------------------------------------------|------------------------------------------------------|----------------------|-----------------------|---------------|----------------------|-----------------------|---------------|----------------------|-----------------------|------------------------------------------------------|-----------------------|---------------|-----------------------|------|
| Model                                       | DVD-2BC2A-24D                                        | DVD-2BC2A-24A        | DVD-2BC2A-120A        | DVD-2BC3A-24D | DVD-2BC3A-24A        | DVD-2BC3A-120A        | DVD-2BC4A-24D | DVD-2BC4A-24A        | DVD-2BC4A-120A        | DVD-2BC5F-24D                                        | DVD-2BC5F-120A        | DVD-2BC6F-24D | DVD-2BC6F-120A        |      |
| Price                                       | \$55.00                                              | \$55.00              | \$55.00               | \$55.00       | \$55.00              | \$55.00               | \$55.00       | \$55.00              | \$55.00               | \$116.00                                             | \$116.00              | \$116.00      | \$116.00              |      |
| Weight (lbs)                                | 0.5                                                  | 0.5                  | 0.5                   | 0.5           | 0.5                  | 0.5                   | 0.5           | 0.5                  | 0.5                   | 0.6                                                  | 0.6                   | 0.6           | 0.6                   |      |
| Valve Type                                  | 2-way, 2-position                                    |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Acting                                      | Diaphragm, normally closed, spring return            |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Port Size                                   | 1/4" FNPT                                            |                      |                       | 3/8" FNPT     |                      |                       | 1/2" FNPT     |                      |                       | 3/4" FNPT                                            |                       | 1" FNPT       |                       |      |
| Orifice Size                                | 1/2" [12.7 mm]                                       |                      |                       |               |                      |                       |               |                      |                       | 1.125" [28.6 mm]                                     |                       |               |                       |      |
| Cv                                          | 1.55                                                 |                      |                       | 1.95          |                      |                       | 2.45          |                      |                       | 14                                                   |                       |               |                       |      |
| Media                                       | Air, oil, water, inert gas                           |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Pressure Range                              | 7–150 psi*<br>[0.5–10.3 bar]                         |                      |                       |               |                      |                       |               |                      |                       | 10–120 psi<br>[0.7–8.3 bar]                          |                       |               |                       |      |
| Voltage (± 10%)                             | 24VDC                                                | 24VAC<br>50/60<br>Hz | 120VAC<br>50/60<br>Hz | 24VDC         | 24VAC<br>50/60<br>Hz | 120VAC<br>50/60<br>Hz | 24VDC         | 24VAC<br>50/60<br>Hz | 120VAC<br>50/60<br>Hz | 24VDC                                                | 120VAC<br>50/60<br>Hz | 24VDC         | 120VAC<br>50/60<br>Hz |      |
| Inrush AC                                   | –                                                    | 10VA                 |                       | –             | 10VA                 |                       | –             | 10VA                 |                       | –                                                    | 8VA                   |               | –                     | 8VA  |
| Power Consumption                           | 6.5 W                                                | 8.5 VA               |                       | 6.5 W         | 8.5 VA               |                       | 6.5 W         | 8.5 VA               |                       | 6 W                                                  | 9 VA                  |               | 6 W                   | 9 VA |
| Max Freq                                    | 12.5 Hz                                              |                      |                       |               |                      |                       |               |                      |                       | 8.33 Hz                                              |                       |               |                       |      |
| Insulation                                  | Class F (continuous duty)                            |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Min Response                                | 20–80 ms complete cycle                              |                      |                       |               |                      |                       |               |                      |                       | 80–120 ms complete cycle                             |                       |               |                       |      |
| Temperature                                 | 14°F to 122°F [-10°C to 50°C]                        |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Lubrication                                 | Not required                                         |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Protection                                  | NEMA Type 4                                          |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Connection                                  | 11mm DIN terminal                                    |                      |                       |               |                      |                       |               |                      |                       | 18mm DIN terminal                                    |                       |               |                       |      |
| Construction                                | Glass filled nylon body; Viton seals; Operator Brass |                      |                       |               |                      |                       |               |                      |                       | Glass filled nylon body; Viton seals; Brass operator |                       |               |                       |      |
| Life Cycle                                  | 10 million                                           |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |
| Agency Approvals                            | CE                                                   |                      |                       |               |                      |                       |               |                      |                       |                                                      |                       |               |                       |      |

\* Requires minimum sealing pressure



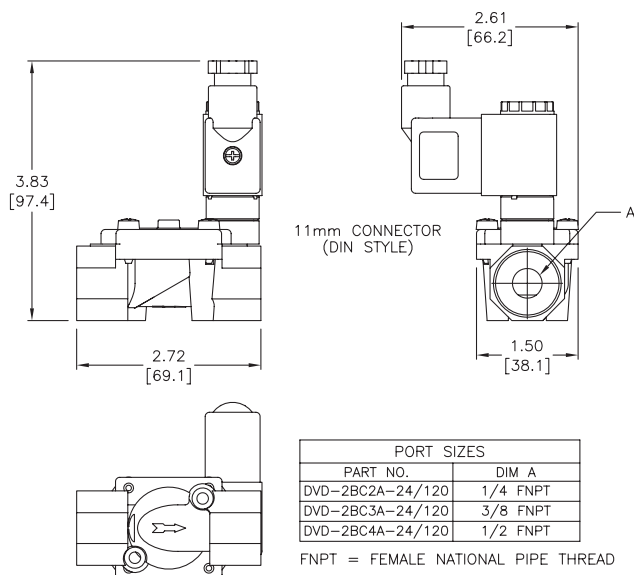
# Process Pipeline Solenoid Valves

## DVD-2B Series

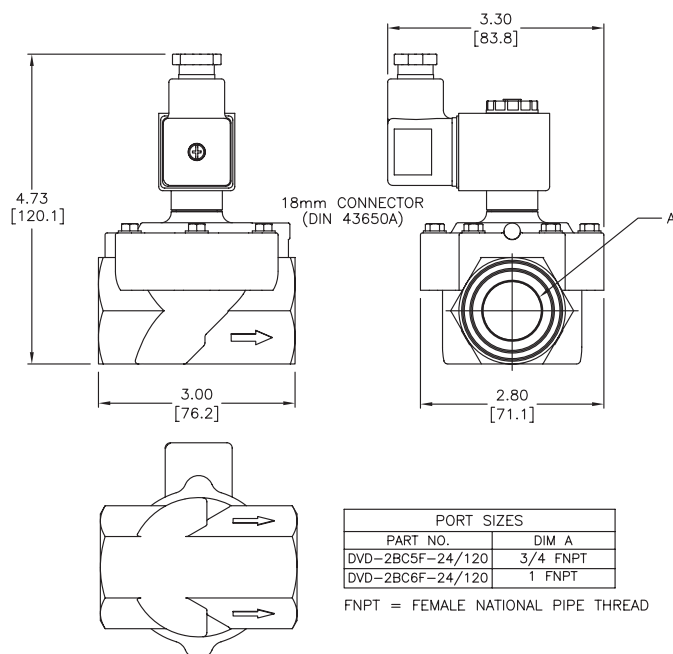
### Dimensions

inches [mm]

#### DVD-2BCXX



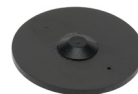
#### DVD-2BC5&6



### Accessories

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

| DVD-2B Series Solenoid Valve Accessories |                                                                                                                                            |         |              |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|
| Part No.                                 | Description                                                                                                                                | Price   | Weight (lbs) |
| <b><u>DVD-2VSEAL</u></b>                 | Seal kit, replacement, Viton, for DVD-2BC2A, DVD-2BC3A and DVD-2BC4A series NITRA pneumatic solenoid valves. Includes one Viton diaphragm. | \$10.00 | 0.1          |
| <b><u>DVD-3VSEAL</u></b>                 | Seal kit, replacement, Viton, for DVD-2BC5F or DVD-2BC6F series NITRA pneumatic solenoid valves. Includes one Viton diaphragm.             | \$27.50 | 0.6          |



Part No. DVD-2VSEAL



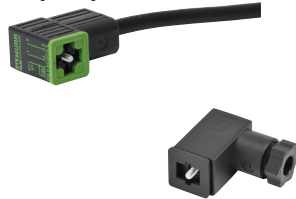
Part No. DVD-3VSEAL

# Solenoid Valve Cables and Connectors



## 8mm Connectors

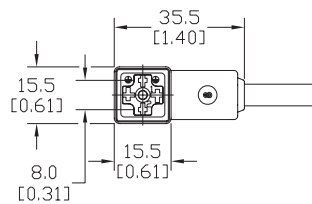
Dimensions shown  
mm [inches]



These high quality connectors and over-molded cables help reduce wiring time. The lower voltage models, 24V or 110V AC/DC, include built-in surge suppression, Yellow LED indicator and are rated for connecting with electronics. The 230V AC/DC models are rated for straight wired products. All models are available in five sizes based on DIN 43650.

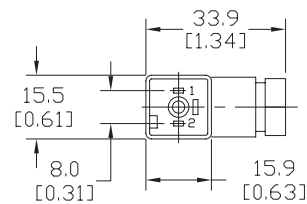
## Features

- 8mm, 9.4mm, 10mm, 11mm and 18mm square DIN styles
- Fits most popular solenoid valves and sensors
- Suppression and LED indication available in 24V or 110V AC/DC models
- PVC jacketed cables in 1, 3 or 5 meter lengths on select connectors
- Field wireable connectors on select models
- Polarity insensitive (follow solenoid, sensor, or other devices wiring diagram)



Height = 25mm [0.98in]

Connector with Cable



Height = 26mm [1.02]

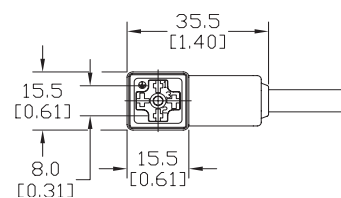
Field Wireable Connector

| 8mm (3-pole) Connectors (per DIN 43650 Form C) |         |                 |                |           |                                               |                                        |     |                                  |               |                                    |              |                    |  |  |
|------------------------------------------------|---------|-----------------|----------------|-----------|-----------------------------------------------|----------------------------------------|-----|----------------------------------|---------------|------------------------------------|--------------|--------------------|--|--|
| Part No.                                       | Price   | Voltage (AC/DC) | Current Rating | IP Rating | Wire Size                                     | Cable Dia. (in.)                       | LED | Surge Protection                 | Wiring Figure | Screw Size/ Torque                 | Weight (lbs) | Agency Approval    |  |  |
| <a href="#">SC8-LS24-3</a>                     | \$15.50 | 24 ±20%         | max 4A         | 67        | 18 AWG                                        | 0.23                                   | yes | zener diode (D-Z DO-15 47V 2W)   | 1             | m2.5-0.45x25mm/ 0.4 Nm (3.5 in lb) | 0.40         | CSA (080128-0-000) |  |  |
| <a href="#">SC8-LS24-5</a>                     | \$18.50 |                 |                |           |                                               |                                        |     |                                  | 0.65          |                                    |              |                    |  |  |
| <a href="#">SC8-LS110-3</a>                    | \$19.00 | 110 ±10%        |                |           |                                               |                                        |     | zener diode (D-Z DO-41 ZY200 2W) | 7             |                                    | 0.41         |                    |  |  |
| <a href="#">SC8-LS110-5</a>                    | \$22.00 |                 |                |           |                                               |                                        |     |                                  | 0.63          |                                    |              |                    |  |  |
| <a href="#">SC8-3</a>                          | \$12.50 | 230             | max 6A         |           | Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG | field wireable gland size 0.20 to 0.24 | no  | none                             | 2             | m2.5-0.45x25mm/ 0.5 Nm (4.4 in lb) | 0.39         | none               |  |  |
| <a href="#">SC8-0</a>                          | \$8.75  |                 |                |           |                                               |                                        |     |                                  | 9             |                                    | 0.10         |                    |  |  |
| <a href="#">SC8-1</a>                          | \$19.00 |                 |                | 67        | 18 AWG                                        | 0.23                                   |     |                                  | 2             |                                    | 0.10         |                    |  |  |
| <a href="#">SC8-5</a>                          | \$17.50 |                 |                |           |                                               |                                        |     |                                  |               |                                    | 0.68         |                    |  |  |

Last digit in part number denotes cable length in meters, a 0 indicates field termination.

## 8mm Transmitter Connector

Dimensions shown  
mm [inches]



Height = 25mm [0.98in]

Connector with Cable

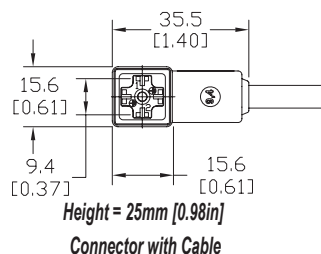
| 8mm (4-pole) Connectors (per DIN 43650 Form C) |         |                 |                |           |           |                  |     |                  |               |                                    |              |                    |
|------------------------------------------------|---------|-----------------|----------------|-----------|-----------|------------------|-----|------------------|---------------|------------------------------------|--------------|--------------------|
| Part No.                                       | Price   | Voltage (AC/DC) | Current Rating | IP Rating | Wire Size | Cable Dia. (in.) | LED | Surge Protection | Wiring Figure | Screw Size/Torque                  | Weight (lbs) | Agency Approval    |
| SC8-5T                                         | \$23.50 | 230             | max 6A         | 67        | 18 AWG    | 0.26             | yes | none             | 8             | m3-0.5x42mm/<br>0.5 Nm (4.4 in lb) | 0.80         | CSA (080128-0-000) |

Last numeric digit in part number denotes cable length in meters, a 0 indicates field termination.

# Solenoid Valve Cables and Connectors

## 9.4mm Connectors

Dimensions shown  
mm [inches]

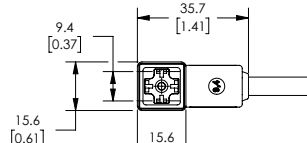


### 9.4mm (3-pole) Connectors (DIN Style, Form C Industrial)

| 9.4mm (3-pole) Connectors (DIN Style, Form C Industrial) |         |                 |                |           |           |                  |     |                                |               |                                 |                                  |                    |   |                                 |      |      |
|----------------------------------------------------------|---------|-----------------|----------------|-----------|-----------|------------------|-----|--------------------------------|---------------|---------------------------------|----------------------------------|--------------------|---|---------------------------------|------|------|
| Part No.                                                 | Price   | Voltage (AC/DC) | Current Rating | IP Rating | Wire Size | Cable Dia. (in.) | LED | Surge Protection               | Wiring Figure | Screw Size/ Torque              | Weight (lbs)                     | Agency Approval    |   |                                 |      |      |
| <a href="#">SC9-LS24-3</a>                               | \$15.50 | 24 ±20%         | max 4A         | 67        | 18 AWG    | 0.23             | yes | zener diode (D-Z DO-15 47V 2W) | 1             | m3-0.5x26mm/ 0.4 Nm (3.5 in lb) | 0.40                             | CSA (080128-0-000) |   |                                 |      |      |
| <a href="#">SC9-LS24-5</a>                               | \$18.50 |                 |                |           |           |                  |     |                                |               |                                 | 0.64                             |                    |   |                                 |      |      |
| <a href="#">SC9-LS110-3</a>                              | \$19.00 | 110 ±10%        |                |           |           |                  |     |                                |               |                                 | zener diode (D-Z DO-41 ZY200 2W) |                    | 7 | 0.40                            |      |      |
| <a href="#">SC9-LS110-5</a>                              | \$22.00 |                 |                |           |           |                  |     |                                |               |                                 |                                  |                    |   |                                 | 0.64 |      |
| <a href="#">SC9-3</a>                                    | \$12.50 | 230             | max 6A         |           |           |                  |     |                                |               |                                 | no                               | none               | 2 | m3-0.5x26mm/ 0.5 Nm (4.4 in lb) | 0.40 | none |
| <a href="#">SC9-5</a>                                    | \$17.50 |                 |                |           |           |                  |     |                                |               |                                 |                                  |                    |   |                                 |      |      |

## 9.4mm Connectors

Dimensions shown  
mm [inches]



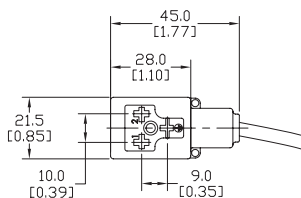
### 9.4mm (4-pole) Connectors (DIN Style, Form C Industrial)

| Part No.                           | Price   | Voltage (AC/DC) | Current Rating | IP Rating | Wire Size | Cable Dia. | Cable Length | LED | Surge Protection | Wiring Figure | Screw Size/Torque                     | Weight (lbs) | Agency Approval             |
|------------------------------------|---------|-----------------|----------------|-----------|-----------|------------|--------------|-----|------------------|---------------|---------------------------------------|--------------|-----------------------------|
| <a href="#">7000-94141-6270300</a> | \$18.00 | 230 VAC/<br>VDC | max 6A         | IP67      | 18 AWG    | 5.6–6.2 mm | 9.8ft/3m     | no  | none             | 8             | m3-0.5x26mm/<br>0.4 Nm<br>(3.5 in lb) | 0.50         | CSA (080128-0-000)/<br>RoHS |
| <a href="#">7000-94141-6270500</a> | \$24.00 |                 |                |           |           |            | 16.4ft/5m    |     |                  |               |                                       | 0.79         |                             |

# Solenoid Valve Cables and Connectors

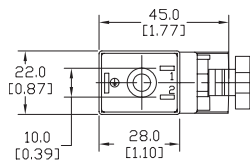
## 10mm Connectors

Dimensions shown  
mm [inches]



Height = 30mm [1.18in]

Connector with Cable



Height = 41mm [1.61in]

Field Wireable Connector

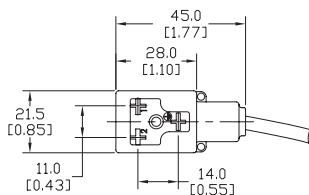
### 10mm (3-pole) Connectors (per DIN 43650 Form B)

| Part No.                     | Price   | Voltage<br>(AC/DC) | Current<br>Rating | IP<br>Rating | Wire Size                                                 | Cable Dia.<br>(in.)                                | LED | Surge Protection                    | Wiring<br>Figure       | Screw Size/<br>Torque                 | Weight<br>(lbs) | Agency<br>Approval    |      |
|------------------------------|---------|--------------------|-------------------|--------------|-----------------------------------------------------------|----------------------------------------------------|-----|-------------------------------------|------------------------|---------------------------------------|-----------------|-----------------------|------|
| <a href="#">SC10-LS24-3</a>  | \$15.50 | 24 ±20%            | max 4A            | 67           | 18 AWG                                                    | 0.23                                               | yes | zener diode<br>(D-Z DO-15 47V 2W)   | 10                     | m3-0.5x30mm/<br>0.4 Nm<br>(3.5 in lb) | 0.43            | CSA<br>(080128-0-000) |      |
| <a href="#">SC10-LS24-5</a>  | \$18.50 |                    |                   |              |                                                           |                                                    |     |                                     |                        |                                       | 0.68            |                       |      |
| <a href="#">SC10-LS110-3</a> | \$19.00 | 110 ±10%           | max 1A            |              |                                                           |                                                    |     | zener diode<br>(D-Z DO-41 ZY200 2W) | 6                      |                                       | 0.43            |                       |      |
| <a href="#">SC10-LS110-5</a> | \$22.00 |                    |                   |              |                                                           |                                                    |     |                                     |                        |                                       | 0.68            |                       |      |
| <a href="#">SC10-3</a>       | \$12.50 | 230                | max 10A           |              |                                                           |                                                    |     | no                                  | none                   |                                       | 3               |                       | 0.43 |
| <a href="#">SC10-5</a>       | \$17.50 |                    |                   |              |                                                           |                                                    |     |                                     |                        |                                       |                 |                       |      |
| <a href="#">SC10-LS24-0</a>  | \$12.50 | 24 ±20%            | max 4A            | 65           | Solid 12 AWG<br>Stranded 14<br>AWG<br>w/Ferrule<br>16 AWG | field<br>wireable<br>gland size<br>0.24 to<br>0.32 | yes | zener diode<br>(D-Z DO-15 47V 2W)   | 4                      | m3-0.5x42mm/<br>0.5 Nm<br>(4.4 in lb) | 0.07            | none                  |      |
| <a href="#">SC10-LS110-0</a> | \$14.00 | 110 ±10%           | max 1A            |              |                                                           |                                                    |     |                                     | mov<br>(SIOV S10 K130) |                                       | 5               |                       | 0.07 |

Last digit in part number denotes cable length in meters, a 0 indicates field termination.

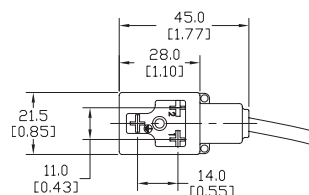
## 11mm Connectors

Dimensions shown  
mm [inches]



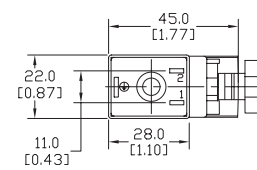
Height = 30mm [1.18in]

Connector with Cable



Height = 30mm [1.18in]

Reverse Connector with Cable



Height = 41mm [1.61in]

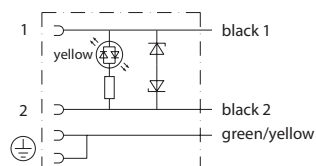
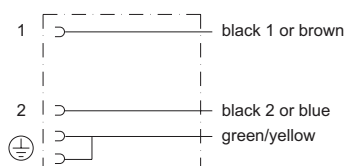
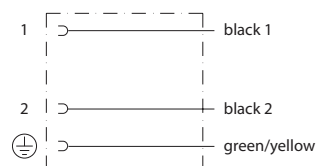
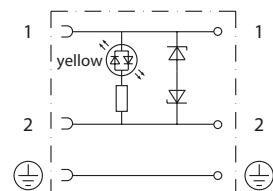
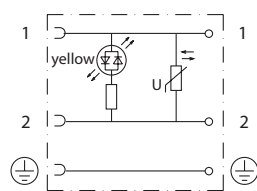
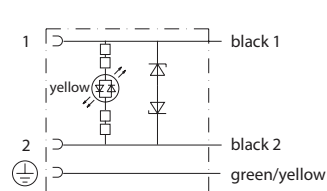
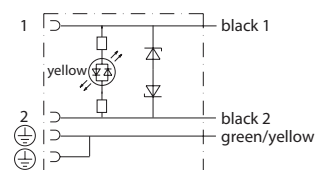
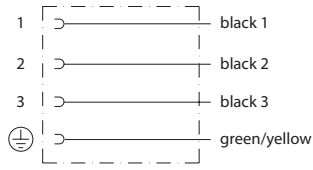
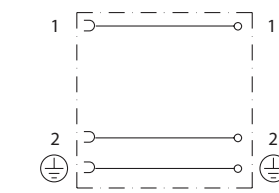
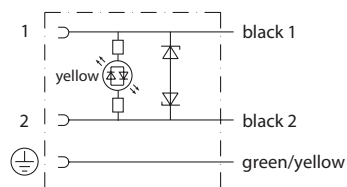
Field Wireable Connector

### 11mm (3-pole) Connectors (DIN Style, Form B Industrial)

| Part No.                      | Price   | Voltage (AC/DC) | Current Rating | IP Rating | Wire Size                                           | Cable Dia. (in)                        | LED                              | Surge Protection                 | Wiring Figure | Screw Size/ Torque                 | Weight (lbs) | Agency Approval                |   |                                    |      |
|-------------------------------|---------|-----------------|----------------|-----------|-----------------------------------------------------|----------------------------------------|----------------------------------|----------------------------------|---------------|------------------------------------|--------------|--------------------------------|---|------------------------------------|------|
| <a href="#">SC11-LS24-3</a>   | \$15.50 | 24 ±20%         | max 4A         | 67        | 18 AWG                                              | 0.23                                   | yes                              | zener diode (D-Z DO-15 47V 2W)   | 10            | m3-0.5x30mm/<br>0.4 Nm (3.5 in lb) | 0.44         | CSA<br>(080128-0-000)          |   |                                    |      |
| <a href="#">SC11-LS24-5</a>   | \$18.50 |                 |                |           |                                                     |                                        |                                  |                                  | 6             |                                    | 0.67         |                                |   |                                    |      |
| <a href="#">SC11-LS110-3</a>  | \$19.00 | 110 ±10%        | max 1A         |           |                                                     |                                        |                                  | zener diode (D-Z DO-41 ZY200 2W) | 6             |                                    | 0.44         |                                |   |                                    |      |
| <a href="#">SC11-LS110-5</a>  | \$22.00 |                 |                |           |                                                     |                                        |                                  |                                  | 10            |                                    | 0.67         |                                |   |                                    |      |
| <a href="#">SC11-LS24-3R</a>  | \$15.50 | 24 ±20%         | max 4A         |           |                                                     |                                        |                                  | zener diode (D-Z DO-15 47V 2W)   | 10            |                                    | 0.44         |                                |   |                                    |      |
| <a href="#">SC11-LS24-5R</a>  | \$18.50 |                 |                |           |                                                     |                                        |                                  |                                  | 6             |                                    | 0.67         |                                |   |                                    |      |
| <a href="#">SC11-LS110-3R</a> | \$19.00 | 110 ±10%        | max 1A         |           |                                                     |                                        | zener diode (D-Z DO-41 ZY200 2W) | 6                                | 0.44          |                                    |              |                                |   |                                    |      |
| <a href="#">SC11-LS110-5R</a> | \$22.00 |                 |                |           |                                                     |                                        |                                  | 10                               | 0.67          |                                    |              |                                |   |                                    |      |
| <a href="#">SC11-3</a>        | \$12.50 | 230             | max 10A        |           | Solid 12 AWG<br>Stranded 14 AWG<br>w/Ferrule 16 AWG | field wireable gland size 0.24 to 0.32 | no                               | none                             | 3             | 0.44                               | none         |                                |   |                                    |      |
| <a href="#">SC11-5</a>        | \$17.50 |                 |                |           |                                                     |                                        |                                  |                                  | 9             | 0.67                               |              |                                |   |                                    |      |
| <a href="#">SC11-LS24-0</a>   | \$12.50 | 24 ±20%         | max 4A         |           |                                                     |                                        | 65                               |                                  |               | yes                                |              | zener diode (D-Z DO-15 47V 2W) | 4 | m3-0.5x42mm/<br>0.5 Nm (4.4 in lb) | 0.07 |
| <a href="#">SC11-LS110-0</a>  | \$14.00 | 110 ±10%        | max 1A         |           |                                                     |                                        |                                  |                                  |               |                                    |              | mov (SIOV S10 K130)            | 5 |                                    | 0.07 |
| <a href="#">SC11-0</a>        | \$10.50 | 230             | max 10A        |           |                                                     |                                        |                                  |                                  |               | no                                 |              | none                           | 9 |                                    | 0.07 |

Last numeric digit in part number denotes cable length in meters, a 0 indicates field termination.

# Solenoid Valve Cables and Connectors Wiring Diagrams

**Figure No. 1****Figure No. 2****Figure No. 3****Figure No. 4****Figure No. 5****Figure No. 6****Figure No. 7****Figure No. 8****Figure No. 9****Figure No. 10**