



Pneumatic Directional Control Solenoid Valves – AVP Series

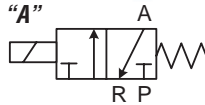


NITRA™ pneumatic AVP series directional control solenoid valves are 3-way stackable poppet style valves with 1/8" NPT ports. They provide 2-position, normally closed, spring return operation with either 24 VDC or 120 VAC solenoid coils. The AVP series can be used in individual valve applications or multiple valves can be field assembled (stacked) to share supply air, simplifying piping connections. The DIN style wiring connector includes LED indication of the solenoid coil status.

Features

- 3-way stackable poppet style valves
- 1/8" NPT ports
- 2-position, normally closed, spring return
- 24VDC or 120VAC solenoid coils
- DIN style wiring connector with LED indication
- Single valve or multiple stacked valve applications
- 2 year warranty

Diagram "A"



2-Pos, Spring Return

AVP Series Specifications		
Model	AVP-31C1-24D	AVP-31C1-120A
Price		
Weight (lbs)	0.3	
Valve Type	3-way 2 position	
Acting	Direct acting, normally closed, spring return	
Diagram	A	A
Port Size	1/8"	
Orifice Size	1.2 mm, Cv=0.051	
Fluid	Air (to be filtered by 40µ filter element)	
Operating Pressure	20-130Psi, (0.15-0.9MPa), (1.5-9.0 bar)	
Voltage	20.4 - 26.4 VDC	102 - 132 VAC (50/60 Hz)
Power Consumption	DC: 3.0W AC: 4.5 VA; continuous duty (100% ED)	
Maximum Frequency	10 cycles/sec	
Operating Life	50,000,000 cycles	
Insulation	B class	
Min Response	0.05 sec	
Temperature	-5-60°C (23-140°F)	
Lubrication	Not Required	
Protection	IP65 (DIN40050)	
Connection	11mm DIN Terminal with Grommet	
Material of Body	Aluminum Alloy	
Agency Approvals	Solenoid CE marked; RoHS	



See for a wide variety of fitting options



Stacked example using AVP-31KIT stacking screw kit and shown with mounting bracket AVP-31BKT



AVP-31KIT

Note: One kit is required for each additional AVP-31 valve added to the stack.

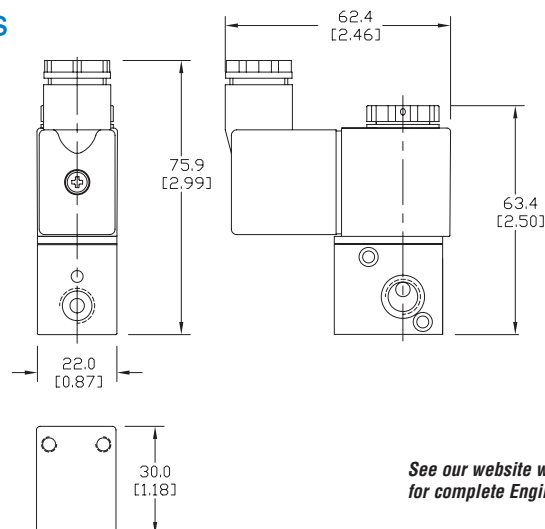


AVP-31BKT

Dimensions

mm [inches]

AVP-31C1



See our website www.AutomationDirect.com for complete Engineering drawings.

Dimensions in mm [inches]

Pneumatic A-Series Direction Control Solenoid Valves - Accessories



AVC1-12D



AVC2-12D

Pneumatic A-Series Directional Control Solenoid Valve Series Accessories			
Part No.	Price	Description	Weight (lb)
AVC1-12D		NITRA solenoid coil, 12VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
AVC1-24D		NITRA solenoid coil, 24VDC, 2.5 W. For use with AVS-31 and AVS-51 series valves.	0.1
AVC1-24A		NITRA solenoid coil, 24VAC, 4.0 VA. For use with AVS-31 and AVS-51 series valves.	0.1
AVC1-120A		NITRA solenoid coil, 120VAC, 3.5 VA. For use with AVS-31 and AVS-51 series valves.	0.1
AVC2-12D		NITRA solenoid coil, 12VDC, 3.0 W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
AVC2-24D		NITRA solenoid coil, 24VDC, 3.0 W. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
AVC2-24A		NITRA solenoid coil, 24VAC, 5.0 VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
AVC2-120A		NITRA solenoid coil, 120VAC, 4.5 VA. For use with AVP-31, AVS-32, AVS-33, AVS-52, AVS-53 and AVS-54 series valves.	0.2
AVP-31BKT		NITRA individual mounting bracket, plated steel. For use with AVP-31 directional control valves.	0.1
AVP-31KIT		NITRA stacking screws, for use with AVP-31 directional control valves. One kit is required for each additional AVP-31 valve added to the stack.	0.1



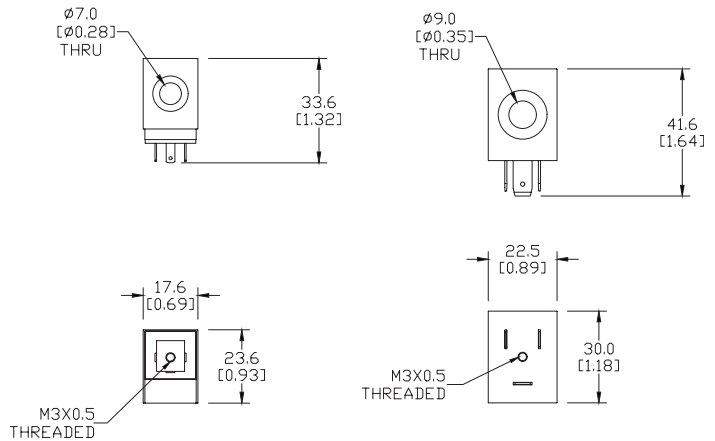
AVP-31BKT



AVP-31KIT

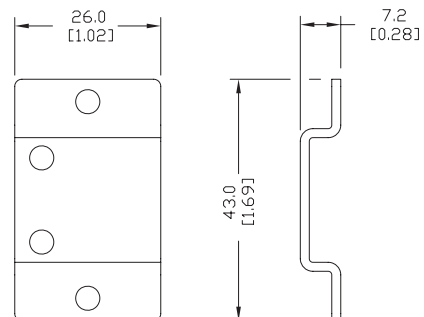
Dimensions

mm [inches]



AVC1 Series Coils

AVC2 Series Coils



AVP-31BKT

See our website for complete Engineering drawings.



Pneumatic Directional Control Solenoid Valve Manifolds and Accessories



**AM-3 Series
Manifolds**



AM-31BP

Pneumatic Directional Control Solenoid Valve Series Accessories			
Part No.	Price	Description	Weight (lb)
AM-312		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.2
AM-314		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.3
AM-316		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.4
AM-318		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-31 series.	0.5
AM-31BP		NITRA blanking plate, plated steel. For use with AM-31 series manifolds.	0.1
AM-322		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.2
AM-324		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.4
AM-326		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.5
AM-328		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (2) 1/4in FNPT exhaust port(s). For use with AVS-32 series.	0.7
AM-32BP		NITRA blanking plate, plated steel. For use with AM-32 series manifolds.	0.1
AM-332		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.4
AM-334		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.6
AM-336		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	0.9
AM-338		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8in FNPT inlet port(s), (2) 3/8in FNPT exhaust port(s). For use with AVS-33 series.	1.1
AM-33BP		NITRA blanking plate, plated steel. For use with AM-33 series manifolds.	0.1
AM-512		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.4
AM-514		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.6
AM-516		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	0.8
AM-518		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-51 series.	1.1
AM-51BP		NITRA blanking plate, plated steel. For use with AM-51 series manifolds.	0.1
AM-522		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	0.5
AM-524		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	0.9
AM-526		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	1.2
AM-528		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/4in FNPT inlet port(s), (4) 1/4in FNPT exhaust port(s). For use with AVS-52 series.	1.5
AM-52BP		NITRA blanking plate, plated steel. For use with AM-52 series manifolds.	0.1



Pneumatic Directional Control Solenoid Valve Manifolds and Accessories



**AM-5 Series
Manifolds**



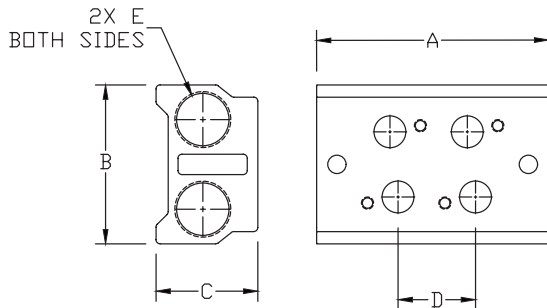
AM-31GS

Pneumatic Directional Control Solenoid Valve Series Accessories Continued			
Part No.	Price	Description	Weight (lb)
AM-532		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	0.8
AM-534		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	1.4
AM-536		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	1.9
AM-538		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 3/8in FNPT inlet port(s), (4) 3/8in FNPT exhaust port(s). For use with AVS-53 series.	2.5
AM-53BP		NITRA blanking plate, plated steel. For use with AM-53 series manifolds.	0.1
AM-542		NITRA pneumatic valve manifold, aluminum, 2 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	1.7
AM-544		NITRA pneumatic valve manifold, aluminum, 4 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	2.8
AM-546		NITRA pneumatic valve manifold, aluminum, 6 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	4.0
AM-548		NITRA pneumatic valve manifold, aluminum, 8 stations, (2) 1/2in FNPT inlet port(s), (4) 1/2in FNPT exhaust port(s). For use with AVS-54 series.	5.2
AM-54BP		NITRA blanking plate, plated steel. For use with AM-54 series manifolds.	0.1
AM-31GS		NITRA manifold mounting set, for use with AM-31 series manifolds.	0.1
AM-32GS		NITRA manifold mounting set, for use with AM-32 series manifolds.	0.1
AM-33GS		NITRA manifold mounting set, for use with AM-33 series manifolds.	0.1
AM-51GS		NITRA manifold mounting set, for use with AM-51 series manifolds.	0.1
AM-52GS		NITRA manifold mounting set, for use with AM-52 series manifolds.	0.1
AM-53GS		NITRA manifold mounting set, for use with AM-53 series manifolds.	0.1
AM-54GS		NITRA manifold mounting set, for use with AM-54 series manifolds.	0.1

Dimensions

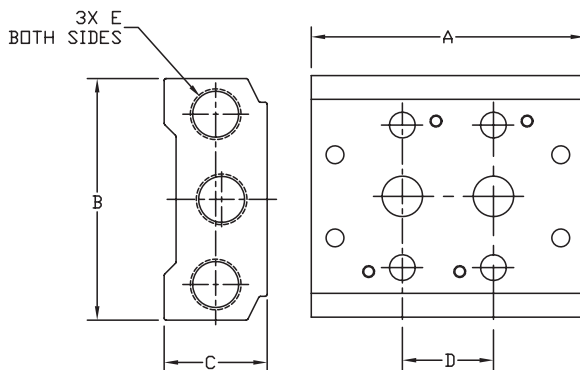
mm [inches]

AM 3x Series Manifolds



MANIFOLD DIMENSIONS					
PART NO.	A	B	C	D	E
AM-312	57.0 [2.24]	39.0 [1.54]	25.0 [0.98]	19.0 [0.75]	1/4 NPT
AM-314	95.0 [3.74]			3X 19.0 [0.75]	
AM-316	133.0 [5.24]			5X 19.0 [0.75]	
AM-318	171.0 [6.73]			7X 19.0 [0.75]	
AM-322	69.0 [2.72]	45.0 [1.77]	25.0 [0.98]	23.0 [0.91]	
AM-324	115.0 [4.53]			3X 23.0 [0.91]	
AM-326	161.0 [6.34]			5X 23.0 [0.91]	
AM-328	207.0 [8.15]			7X 23.0 [0.91]	
AM-332	82.0 [3.23]	52.0 [2.05]	29.0 [1.14]	28.0 [1.10]	3/8 NPT
AM-334	138.0 [5.46]			3X 28.0 [1.10]	
AM-336	194.0 [7.64]			5X 28.0 [1.10]	
AM-338	250.0 [9.84]			7X 28.0 [1.10]	

AM 5x Series Manifolds



MANIFOLD DIMENSIONS					
PART NO.	A	B	C	D	E
AM-512	57.0 [2.24]	58.0 [2.28]	25.0 [0.98]	19.0 [0.75]*	1/4 NPT
AM-514	95.0 [3.74]			3X 19.0 [0.75]*	
AM-516	133.0 [5.24]			5X 19.0 [0.75]*	
AM-518	171.0 [6.73]			7X 19.0 [0.75]*	
AM-522	69.0 [2.72]	61.0 [2.40]	26.0 [1.02]	23.0 [0.91]	
AM-524	115.0 [4.53]			3X 23.0 [0.91]	
AM-526	161.0 [6.34]			5X 23.0 [0.91]	
AM-528	207.0 [8.15]			7X 23.0 [0.91]	
AM-532	82.0 [3.23]	75.0 [2.95]	30.0 [1.19]	28.0 [1.10]	3/8 NPT
AM-534	138.0 [5.46]			3X 28.0 [1.10]	
AM-536	194.0 [7.64]			5X 28.0 [1.10]	
AM-538	250.0 [9.84]			7X 28.0 [1.10]	
AM-542	98.0 [3.86]	104.0 [4.09]	38.0 [1.50]	35.0 [1.38]	1/2 NPT
AM-544	168.0 [6.61]			3X 35.0 [1.38]	
AM-546	238.0 [9.37]			5X 35.0 [1.38]	
AM-548	308.0 [12.13]			7X 35.0 [1.38]	

* Exhaust holes have 1mm offset from spacing centerline.

See our website
for complete Engineering drawings.

Solenoid Valve Cables and Connectors

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.

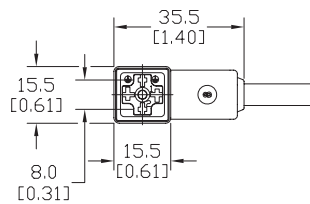
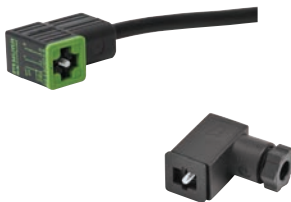


Features

- 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)

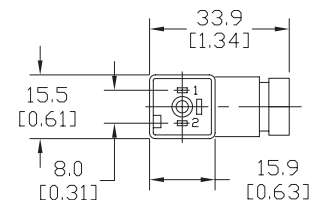
8mm Connectors

Dimensions shown
mm [inches]



Height = 25mm [0.98in]

Connector with Cable



Height = 26mm [1.02]

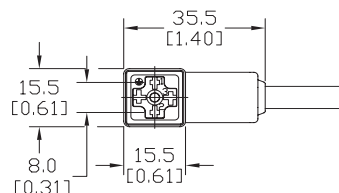
Field Wireable Connector

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	
SC8-LS24-3		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)	
SC8-LS24-5	0.65												
SC8-LS110-3		110 ±10%	max 6A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.20 to 0.24	no	none	7	m2.5-0.45x25mm/ 0.5 Nm (4.4 in lb)	0.41		none
SC8-LS110-5	0.63												
SC8-3									2		0.39		
SC8-0		230	max 6A	67	18 AWG	0.23	no	none	9	m2.5-0.45x25mm/ 0.5 Nm (4.4 in lb)	0.10	none	
SC8-1	0.10												
SC8-5	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

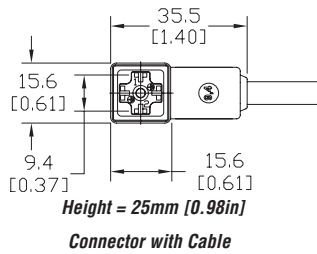
8mm (4-pole) Connectors (per DIN 43650 Form C)												
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC8-5T		230	max 6A	67	18 AWG	0.26	yes	none	8	m3-0.5x42mm/ 0.5 Nm (4.4 in lb)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

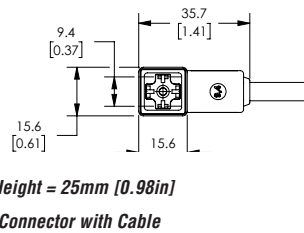
Dimensions shown
mm [inches]



9.4mm (3-pole) Connectors (DIN Style, Form C Industrial)												
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
SC9-LS24-3		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)
SC9-LS24-5	0.64											
SC9-LS110-3		110 ±10%	max 6A	67	18 AWG	no	none	2	m3-0.5x26mm/ 0.5 Nm (4.4 in lb)	0.40	none	
SC9-LS110-5	0.64											
SC9-3		230	max 6A	67	18 AWG	no	none	2	m3-0.5x26mm/ 0.5 Nm (4.4 in lb)	0.40	none	
SC9-5	0.64											

9.4mm Connectors

Dimensions shown
mm [inches]

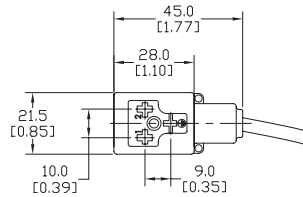


9.4mm (4-pole) Connectors (DIN Style, Form C Industrial)													
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia.	Cable Length	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
7000-94141-6270300		230 VAC/ VDC	max 6A	IP67	18 AWG	5.6-6.2 mm	9.8ft/3m	no	none	8	m3-0.5x26mm/ 0.4 Nm (3.5 in lb)	0.50	CSA (080128-0-000)/ RoHS
7000-94141-6270500							16.4ft/5m					0.79	

Solenoid Valve Cables and Connectors

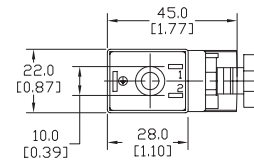
10mm Connectors

Dimensions shown
mm [inches]



Height = 30mm [1.18in]

Connector with Cable



Height = 41mm [1.61in]

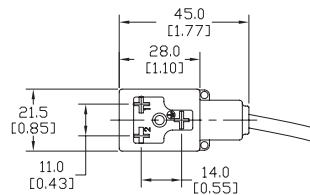
Field Wireable Connector

10mm (3-pole) Connectors (per DIN 43650 Form B)												
Part No.	Price	Voltage (AC/DC)	Current Rating	IP Rating	Wire Size	Cable Dia. (in.)	LED	Surge Protection	Wiring Figure	Screw Size/Torque	Weight (lbs)	Agency Approval
SC10-LS24-3		24 ±20%	max 4A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	10	m3-0.5x30mm/ 0.4 Nm (3.5 in lb)	0.43	CSA (080128-0-000)
SC10-LS24-5			0.68									
SC10-LS110-3		110 ±10%	max 1A					zener diode (D-Z DO-41 ZY200 2W)	6		0.43	
SC10-LS110-5			0.68									
SC10-3		230	max 10A					no	none		3	
SC10-5				0.68								
SC10-LS24-0		24 ±20%	max 4A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	yes	zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/ 0.5 Nm (4.4 in lb)	0.07	none
SC10-LS110-0		110 ±10%	max 1A					mov (SIOV S10 K130)	5		0.07	
SC10-0		230	max 10A					no	none		9	

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

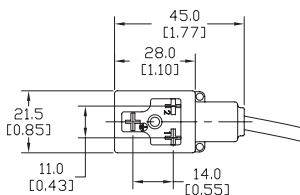
11mm Connectors

Dimensions shown
mm [inches]



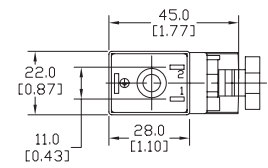
Height = 30mm [1.18in]

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
SC11-LS24-3		24 ±20%	max 4A	67	18 AWG	0.23	yes	zener diode (D-Z DO-15 47V 2W)	10	m3-0.5x30mm/ 0.4 Nm (3.5 in lb)	0.44	CSA (080128-0-000)
SC11-LS24-5			0.67									
SC11-LS110-3		110 ±10%	max 1A					zener diode (D-Z DO-41 ZY200 2W)	6		0.44	
SC11-LS110-5			0.67									
SC11-LS24-3R		24 ±20%	max 4A					zener diode (D-Z DO-15 47V 2W)	10		0.44	
SC11-LS24-5R			0.67									
SC11-LS110-3R		110 ±10%	max 1A	zener diode (D-Z DO-41 ZY200 2W)	6	0.44						
SC11-LS110-5R			0.67									
SC11-3		230	max 10A	no	none	3	0.44					
SC11-5				0.67								
SC11-LS24-0		24 ±20%	max 4A	65	Solid 12 AWG Stranded 14 AWG w/Ferrule 16 AWG	field wireable gland size 0.24 to 0.32	yes	zener diode (D-Z DO-15 47V 2W)	4	m3-0.5x42mm/ 0.5 Nm (4.4 in lb)	0.07	none
SC11-LS110-0		110 ±10%	max 1A					mov (SIOV S10 K130)	5		0.07	
SC11-0		230	max 10A					no	none		9	

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

Solenoid Valve Cables and Connectors Wiring Diagrams

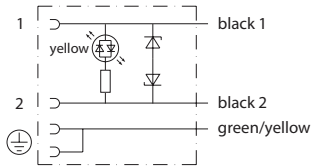


Figure No. 1

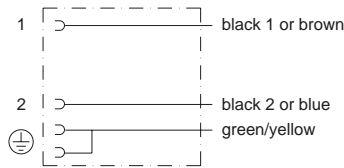


Figure No. 2

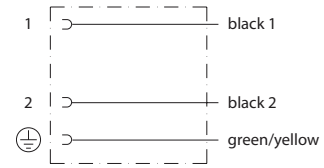


Figure No. 3

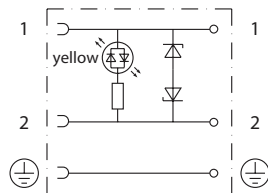


Figure No. 4

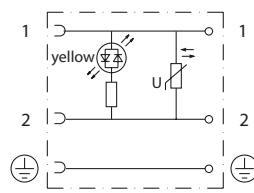


Figure No. 5

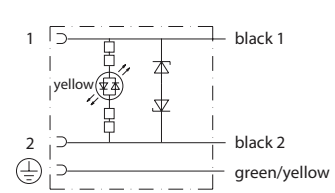


Figure No. 6

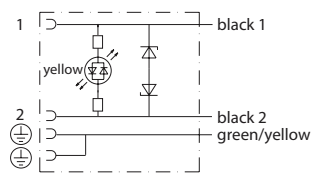


Figure No. 7

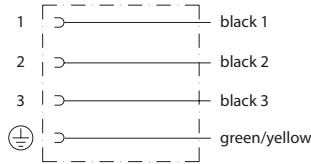


Figure No. 8

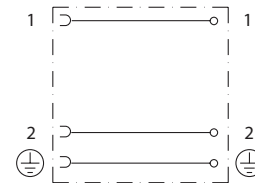


Figure No. 9

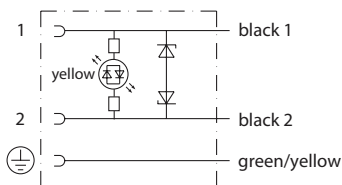


Figure No. 10