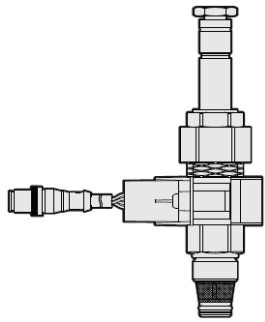
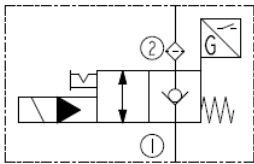




Overview



Symbol



Description

A solenoid-operated, 2 port, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

Operation

When de-energized, the SV10-P22AX acts as a check valve, allowing flow to pass from port 1 to port 2, while blocking flow in the reverse direction. When energized, the poppet lifts to open the port 2 to port 1 flow path. In this mode, flow is also allowed from 1 to 2.

Features

- Integral position sensor indicates when valve is shifted.
- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- 960 hour salt-spray rated solenoid tubes and coils.

Ratings

Pressure Ratings

Pressure rating	207 bar (3000 psi)
Proof pressure	345 bar (5000 psi)
Burst pressure	827 bar (12000 psi)

Flow Ratings

Flow rating	56.8 lpm (15 gpm)
Maximum internal leakage	5 drops/min - Note: At 207 bar (3000 psi) 0.3 lpm (0.07 gpm) - Note: Typical flow (leakage) in transition at 207 bar (3000 psi). (see "Flow vs % Valve Shift" graph for flow in transition from valve close to valve open).

Other Ratings

Response	93 ms - Note: Pull-in. Response times measured per NFPA/T3.5.30-2008 *Inlet pressure at port 2 is 207 bar (3000 psi) *Valve oriented vertically and purged of air 39 sec - Note: Drop-out. Response times measured per NFPA/T3.5.30-2008 *Inlet pressure at port 2 is 207 bar (3000 psi) *Valve oriented vertically and purged of air
Minimum pull-in voltage	10.2 Vdc - Note: 12Vdc coil

Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- Note: With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- Note: With fluorocarbon seals *See Position sensor operating temperature*
	-54 to 107 °C (-65 to 225 °F)	- Note: With urethane seals *See Position sensor operating temperature*
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	
Position sensor operating temperature	-40 to 110 °C (-40 to 230 °F)	- Note: Sensor element operating temperature limits the operating temperature of the entire assembly

Operating Parameters

Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	20/18/14 per ISO 4406



Position Sensor Specifications

Electrical Parameters

Supply voltage	9 to 32 Vdc	- Note: Vcc
Output voltage with target present	Vcc	
Output clamp current	40 to 65 mA	- Note: For Vcc up to 32 Vdc

Ratings

ESD	±8 kV	- Note: Air discharge
EMI	30 V/m	- Note: From 400 MHz to 2 GHz
IP rating	IP67	
Vibration	10 G	- Note: 10 to 2000 Hz sinusoidal
Mechanical shock	50 G	- Note: 11 ms, half-wave sinusoidal
Position sensor operating temperature	-40 to 110 °C (-40 to 230 °F)	- Note: Sensor element operating temperature limits the operating temperature of the entire assembly

Properties

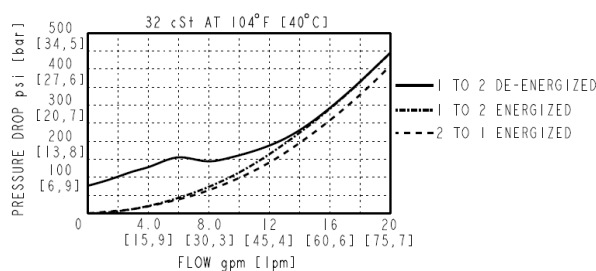
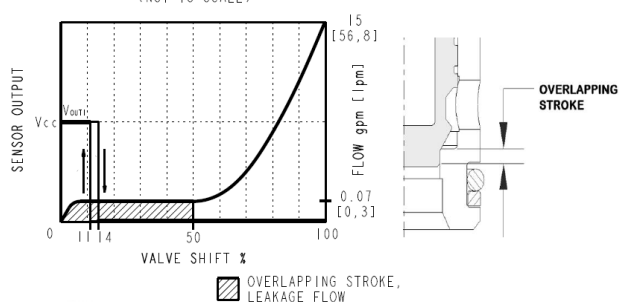
Connector	Deutsch DT04-4P	- Note: Option N3 (dual output)
	M12	- Note: Option M3 (dual output)

Properties

Unit weight	0.49 kg (1.07 lb)	- Note: Cartridge
Internal wetted surface area	223 cm ² (34.5 in ²)	

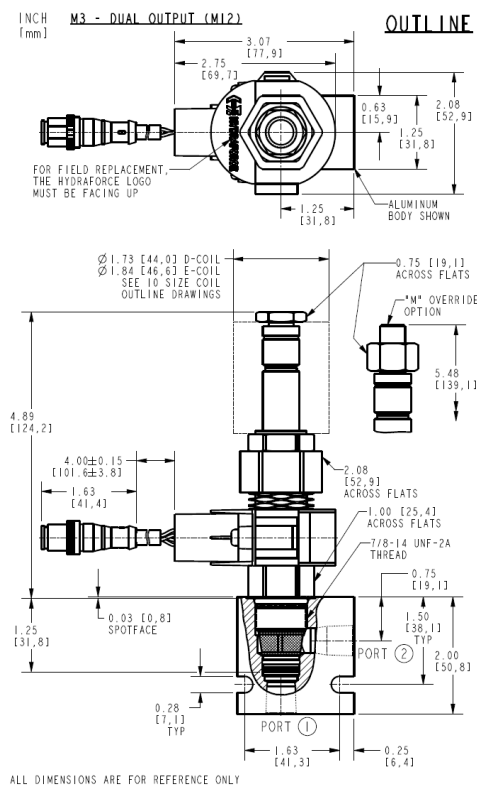
Performance

TYPICAL SENSOR OUTPUT & FLOW VS VALVE SHIFT
(NOT TO SCALE)

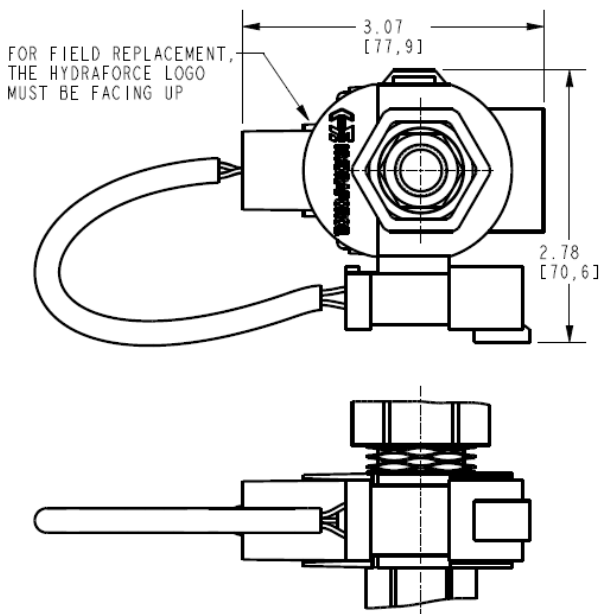




Dimensions

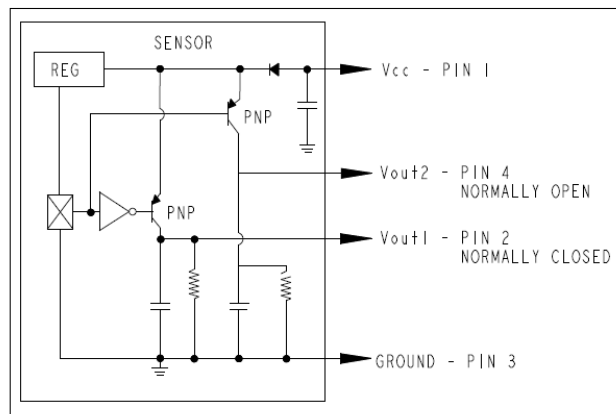


N3 - DUAL OUTPUT (DT04-4P)

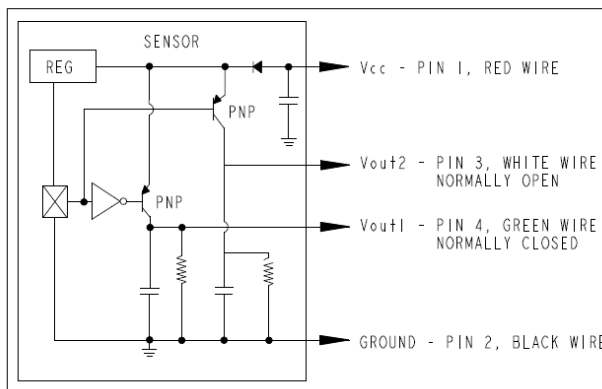


Wiring Diagrams

M3 SENSOR WIRING DIAGRAM



N3 SENSOR WIRING DIAGRAM



Installation Specifications

Cavity	VC10-2
Cartridge installation torque	32.5 to 35.3 N-m (24 to 26 ft-lb)
Coil nut torque	6.8 to 9.5 N-m (5 to 7 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-2X-T	- Note: X = Seal option
Housings		
Coils		

Order Code



ORDERING INFORMATION

SV10-P22AXX-X-X-XXXX-XX

BASE MODEL NUMBER

POSITION INDICATOR - P
SWITCH - P
RESTRICTED FLOW - A

OVERRIDE OPTION

NONE - BLANK
MANUAL OVERRIDE - M

SCREEN OPTION

NONE - BLANK

PORTING

CARTRIDGE ONLY - 0

SEAL OPTIONS

BUNA-N - N
FLUOROCARBON - V
POLYURETHANE - P

SENSOR OUTPUT:

N3 - DUAL OUTPUT (DT04-4P)
M3 - DUAL OUTPUT (M12)

COIL TERMINATIONS

E-COIL OPTIONS:
EY - METRI-PACK CONNECTOR
ER - DEUTSCH CONNECTOR

D-COIL OPTIONS:

(2) LEADWIRES 18"
DL - STANDARD LENGTH
DS - DUAL SPADES SAE J858a
DG - DIN 43650

COIL VOLTAGE

0 - LESS COIL
12 - 12 VDC COIL
24 - 24 VDC COIL

POSITION	CODE	DESCRIPTION
		SV10-P22AEG-H-J-L-M
E		Manual Override
E	BLANK	NONE
E	M	Two Position Override, Red Knurled Knob
G		Screen
G	BLANK	NONE
G	S	100 Mesh Screen
H		Line Body
H	0	No Body
H	6T	Aluminum SAE 6
H	8T	Aluminum SAE 8
H	6TD	Ductile Iron SAE 6
H	8TD	Ductile Iron SAE 8
H	2B	Aluminum BSPP 1/4" (2)
H	3B	Aluminum BSPP 3/8" (3)
H	4B	Aluminum BSPP 1/2" (4)
H	4BD	Ductile Iron BSPP 1/2" (4)
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	P	Polyurethane
J	U	PPDI Urethane
L		Coil
L	0	No Coil
L	10DG	10 VDC, D-Coil, DIN 43650
L	10DL	10 VDC, D-Coil, Dual Lead Wires
L	10DR/D	10 VDC, D-Coil, Deutsch with Diode
L	10DS	10 VDC, D-Coil, Dual Spade
L	10EL	10 VDC, E-Coil, Dual Lead Wires
L	10ER	10 VDC, E-Coil, Deutsch
L	10ER/Z	10 VDC, E-Coil, Deutsch with Zener Diode
L	12DG	12 VDC, D-Coil, DIN 43650
L	12DL	12 VDC, D-Coil, Dual Lead Wires, 18 inches long
L	12DL/36	12 VDC, D-Coil, Dual Lead Wires, 36 inches long



POSITION	CODE	DESCRIPTION
L	12DL/W	12 VDC, D-Coil, Dual Lead Wires with Weatherpak
L	12DL/W/D	12 VDC, D-Coil, Dual Lead Wires with Weatherpak with Diode
L	12DR	12 VDC, D-Coil, Deutsch
L	12DR/D	12 VDC, D-Coil, Deutsch with Diode
L	12DR/Z	12 VDC, D-Coil, Deutsch with Zener Diode
L	12DS	12 VDC, D-Coil, Dual Spade
L	12EG	12 VDC, E-Coil, DIN 43650
L	12EJ	12 VDC, E-Coil, AMP Jr.
L	12EL	12 VDC, E-Coil, Dual Lead Wires, 18 inches long
L	12EL/36	12 VDC, E-Coil, Dual Lead Wires, 36 inches long
L	12EL/W/Z	12 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
L	12EL/Z	12 VDC, E-Coil, Dual Lead Wires with Zener Diode
L	12ER	12 VDC, E-Coil, Deutsch
L	12ER/Z	12 VDC, E-Coil, Deutsch with Zener Diode
L	12EY	12 VDC, E-Coil, Metri-Pack 150
L	12EY/Z	12 VDC, E-Coil, Metri-Pack 150 with Zener Diode
L	20DR/D	20 VDC, D-Coil, Deutsch with Diode
L	20DS	20 VDC, D-Coil, Dual Spade
L	20ER	20 VDC, E-Coil, Deutsch
L	24AG	24 VDC, D-Coil, DIN 43650
L	24AP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
L	24DG	24 VDC, D-Coil, DIN 43650
L	24DL	24 VDC, D-Coil, Dual Lead Wires
L	24DL/W	24 VDC, D-Coil, Dual Lead Wires with Weatherpak
L	24DL/W/D	24 VDC, D-Coil, Dual Lead Wires with Weatherpak with Diode
L	24DP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
L	24DR	24 VDC, D-Coil, Deutsch
L	24DR/D	24 VDC, D-Coil, Deutsch with Diode
L	24DS	24 VDC, D-Coil, Dual Spade
L	24EG	24 VDC, E-Coil, DIN 43650
L	24EJ	24 VDC, E-Coil, AMP Jr.
L	24EL	24 VDC, E-Coil, Dual Lead Wires, 18 inches long
L	24EL/36	24 VDC, E-Coil, Dual Lead Wires, 36 inches long
L	24EL/W/Z	24 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
L	24ER	24 VDC, E-Coil, Deutsch
L	24ER/Z	24 VDC, E-Coil, Deutsch with Zener Diode
L	24EY	24 VDC, E-Coil, Metri-Pack 150
L	24EY/Z	24 VDC, E-Coil, Metri-Pack 150 with Zener Diode
L	36DS	36 VDC, D-Coil, Dual Spade
L	115AG	115 VAC, D-Coil, DIN 43650
L	115AP	115 VAC, D-Coil, 1/2" Conduit and Dual Lead Wires
L	230AG	230 VAC, D-Coil, DIN 43650
L	230AP	230 VAC, D-Coil, 1/2" Conduit and Dual Lead Wires



POSITION	CODE	DESCRIPTION
M		Position Sensor Termination
M	BLANK	No Position Sensor
M	M3	Neutral Sense, M12-4P, Dual Output NC/NO
M	N3	Neutral Sense, DT04-4P, Dual Output NC/NO