

**Features**

- Flow rates adjustable between 0% and 100% of rating.
- Control achieved by applying straight voltage between 0 and 24 VDC via potentiometer or other variable power supply.
- Flow rate can also be regulated by a range of electrical inputs (sensors, transmitters, PLC, etc.) via an ASCO Electronic Control Unit or similar circuit.
- Suitable for use in air/gas, low vacuum service, as well as to precisely control flow of water.

**Construction**

Valve Parts in Contact with Fluids			
		8202	8203
<b>Body</b>	Brass	303 Stainless Steel	Brass
<b>Seals and Disc/Diaphragm</b>		FKM	NBR
<b>Core Tube</b>		305 Stainless Steel	
<b>Core and Plugnut</b>		430F Stainless Steel	
<b>Springs</b>		302 Stainless Steel	
<b>Rider Rings</b>		PTFE	
<b>Breaker Piece</b>	Brass	303 Stainless Steel	Brass

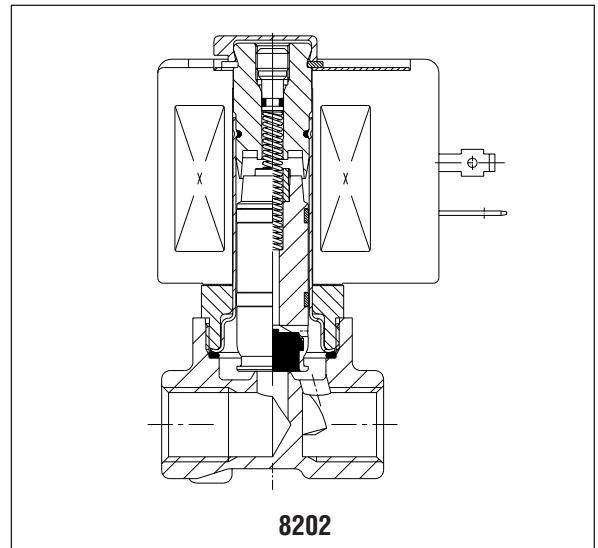
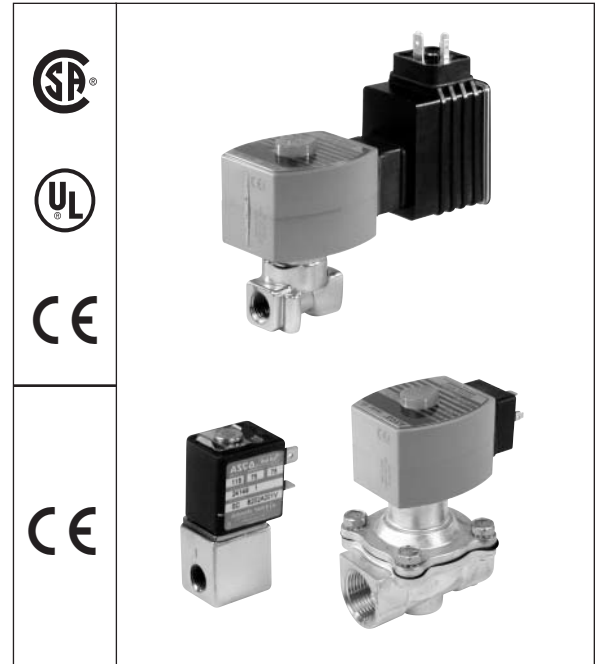
**Electrical**

Standard voltage: 24 VDC  
 Coil: Molded Class F  
 Coil resistance: 25 Ohm at 68°F (20°C)  
 Operating current: 100 - 500 mA  
 Electrical coil input: 0 - 24 VDC  
 Recommended PWM frequency: 300 Hz Air/Gas;  
 200 Hz Water/Light Oil  
 Hysteresis: <5% ① (<7.5% for 8203 Valves)  
 Repeatability: <3% (<1% for 1/8" NPT Valves)①  
 Sensitivity: <2% (<1% for 1/8" NPT Valves)①

① Percentage of max. value with 24 VDC, PWM, 300 Hz voltage supply at constant differential pressure.

**Solenoid Enclosures**

**Standard:** Red-Hat II Class F coil with DIN connection (meets ISO 4400/DIN 43650A standards). For 22.6 watt solenoids.  
 8.6 watt 'SC' solenoid uses electrical connector per DIN 46244.  
**Optional:** For Class H coil, use prefix "SV" (for use with customer supplied electronics): General Purpose and Watertight, Types 1, 2, 3, 3S, and 4X on 22.6 watt solenoids.



**Nominal Ambient Temperature Ranges:**

14°F to 104°F (-10°C to 40°C) for 22.6 watt solenoid.  
 32°F to 104°F (0°C to 40°C) for 8.6 watt solenoid.

**Approvals: ( 8202 1/4" to 3/8" only)**

UL recognized component with DIN solenoid (prefix SD or SV). UL listed with threaded conduit (no prefix).  
 CSA certified except 8203 Series.

**Note:** The Electronic control unit (sold separately) is only compatible with DIN connections.

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Temperature °F		Catalog Number		Constr. Ref. No.	Watt Rating/ Class of Coil Insulation ④
			Min.	Max.		Max.		Brass Body	Stainless Steel Body		
				Air/Gas/Low Vacuum	Liquid	Fluid	UL ② Listing				
1/8	3/64	.04	0	115	75	180	-	SC8202A201V	SC8202A205V	5	8.6/F
1/8	1/16	.06	0	90	60	180	-	SC8202A202V	SC8202A206V	5	8.6/F
1/8	3/32	.14	0	60	45	180	-	SC8202A203V	SC8202A207V	5	8.6/F
1/8	1/8	.20	0	35	35	180	-	SC8202A204V	SC8202A208V	5	8.6/F

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)			Temperature °F		Catalog Number		Constr. Ref. No.	Watt Rating/ Class of Coil Insulation ③
			Min.	Max.		Fluid	UL ② Listing	Air-Inert Gas	Water/Light Oil		
				Low Vacuum (Hg) ①	Air/Gas/Water/Oil						

**Brass Body**

1/4	3/64	.06	0	29	230	150	●	SD8202G1V	SD8202G51V	1	22.6/F
1/4	3/32	.14	0	29	115	150	●	SD8202G2V	SD8202G52V	1	22.6/F
1/4	1/8	.28	0	29	60	150	●	SD8202G3V	SD8202G53V	1	22.6/F
1/4	5/32	.50	0	29	35	150	●	SD8202G4V	SD8202G54V	1	22.6/F
1/4	7/32	.85	0	29	20	150	●	SD8202G6V	SD8202G56V	1	22.6/F
1/4	9/32	1.06	0	29	15	150	●	SD8202G7V	SD8202G57V	1	22.6/F
3/8	1/8	.28	0	29	60	150	●	SD8202G23V	SD8202G73V	2	22.6/F
3/8	5/32	.50	0	29	35	150	●	SD8202G24V	SD8202G74V	2	22.6/F
3/8	7/32	.85	0	29	20	150	●	SD8202G26V	SD8202G76V	2	22.6/F
3/8	9/32	1.06	0	29	15	150	●	SD8202G27V	SD8202G77V	2	22.6/F

**Stainless Steel Body**

1/4	3/64	.06	0	29	230	150	●	SD8202G11V	SD8202G61V	3	22.6/F
1/4	3/32	.14	0	29	115	150	●	SD8202G12V	SD8202G62V	3	22.6/F
1/4	1/8	.28	0	29	60	150	●	SD8202G13V	SD8202G63V	3	22.6/F
1/4	5/32	.50	0	29	35	150	●	SD8202G14V	SD8202G64V	3	22.6/F
1/4	7/32	.85	0	29	20	150	●	SD8202G16V	SD8202G66V	3	22.6/F
1/4	9/32	1.06	0	29	15	150	●	SD8202G17V	SD8202G67V	3	22.6/F
3/8	1/8	.28	0	29	60	150	●	SD8202G33V	SD8202G83V	4	22.6/F
3/8	5/32	.50	0	29	35	150	●	SD8202G34V	SD8202G84V	4	22.6/F
3/8	7/32	.85	0	29	20	150	●	SD8202G36V	SD8202G86V	4	22.6/F
3/8	9/32	1.06	0	29	15	150	●	SD8202G37V	SD8202G87V	4	22.6/F

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Operating Pressure Differential (psi)		Temperature °F		Catalog Number	Constr. Ref. No.	Watt Rating/ Class of Coil Insulation ③
			Min.	Max.	Max.				
				Water/Light Oil	Fluid	UL ② Listing			

**Brass Body**

3/8	1/2	2.43	5	150	150	-	SD8203G1	6	22.6/F
1/2	1/2	2.43	5	150	150	-	SD8203G2	6	22.6/F

- Notes:** ① Applicable to air-Inert gas valves only.  
 ② ● General Purpose valve. Refer to Engineering Section (Approvals) for more details.  
 ③ Will vary with duty cycle (8.5 watts at 500 mA with ambient temp. = 104°F (40°C)).  
 ④ Will vary with duty cycle (Cold = 6.8 watts, hot 9.1 watts at 450 mA with ambient temp. = 69°F (20°C)). (Cold = 6.3 watts, hot 8.6 watts at 450 mA with ambient temp. = 104°F (40°C)).

Specifications (Metric units)

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m <sup>3</sup> /h)	Operating Pressure Differential (bar)			Temperature °C		Catalog Number		Constr. Ref. No.	Watt Rating/ Class of Coil Insulation ④
			Min.	Max.		Max.		Brass Body	Stainless Steel Body		
				Air/Gas/Low Vacuum	Liquid	Fluid	UL ② Listing				
1/8	1.2	.03	0	8	5	81	-	SC8202A201V	SC8202A205V	5	8.6/F
1/8	1.6	.05	0	6	4	81	-	SC8202A202V	SC8202A206V	5	8.6/F
1/8	2.4	.12	0	4	3	81	-	SC8202A203V	SC8202A207V	5	8.6/F
1/8	3.2	.17	0	2.5	2.5	81	-	SC8202A204V	SC8202A208V	5	8.6/F

Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m <sup>3</sup> /h)	Operating Pressure Differential (bar)			Temperature °C		Catalog Number		Constr. Ref. No.	Watt Rating/ Class of Coil Insulation ③
			Min.	Max.		Fluid	UL ② Listing	Air-Inert Gas	Water/Light Oil		
				Low Vacuum (Hg) ①	Air/Gas/Water/Oil						

**Brass Body**

1/4	1.2	.05	0	2	16	65	●	SD8202G1V	SD8202G51V	1	22.6/F
1/4	2.4	.12	0	2	8	65	●	SD8202G2V	SD8202G52V	1	22.6/F
1/4	3.2	.24	0	2	4	65	●	SD8202G3V	SD8202G53V	1	22.6/F
1/4	4.0	.42	0	2	2	65	●	SD8202G4V	SD8202G54V	1	22.6/F
1/4	5.6	.72	0	2	1	65	●	SD8202G6V	SD8202G56V	1	22.6/F
1/4	7.1	.90	0	2	1	65	●	SD8202G7V	SD8202G57V	1	22.6/F
3/8	3.2	.24	0	2	4	65	●	SD8202G23V	SD8202G73V	2	22.6/F
3/8	4.0	.42	0	2	2	65	●	SD8202G24V	SD8202G74V	2	22.6/F
3/8	5.6	.72	0	2	1	65	●	SD8202G26V	SD8202G76V	2	22.6/F
3/8	7.1	.90	0	2	1	65	●	SD8202G27V	SD8202G77V	2	22.6/F

**Stainless Steel Body**

1/4	1.2	.05	0	2	16	65	●	SD8202G11V	SD8202G61V	3	22.6/F
1/4	2.4	.12	0	2	8	65	●	SD8202G12V	SD8202G62V	3	22.6/F
1/4	3.2	.24	0	2	4	65	●	SD8202G13V	SD8202G63V	3	22.6/F
1/4	4.0	.42	0	2	2	65	●	SD8202G14V	SD8202G64V	3	22.6/F
1/4	5.6	.72	0	2	1	65	●	SD8202G16V	SD8202G66V	3	22.6/F
1/4	7.1	.90	0	2	1	65	●	SD8202G17V	SD8202G67V	3	22.6/F
3/8	3.2	.24	0	2	4	65	●	SD8202G33V	SD8202G83V	4	22.6/F
3/8	4.0	.42	0	2	2	65	●	SD8202G34V	SD8202G84V	4	22.6/F
3/8	5.6	.72	0	2	1	65	●	SD8202G36V	SD8202G86V	4	22.6/F
3/8	7.1	.90	0	2	1	65	●	SD8202G37V	SD8202G87V	4	22.6/F

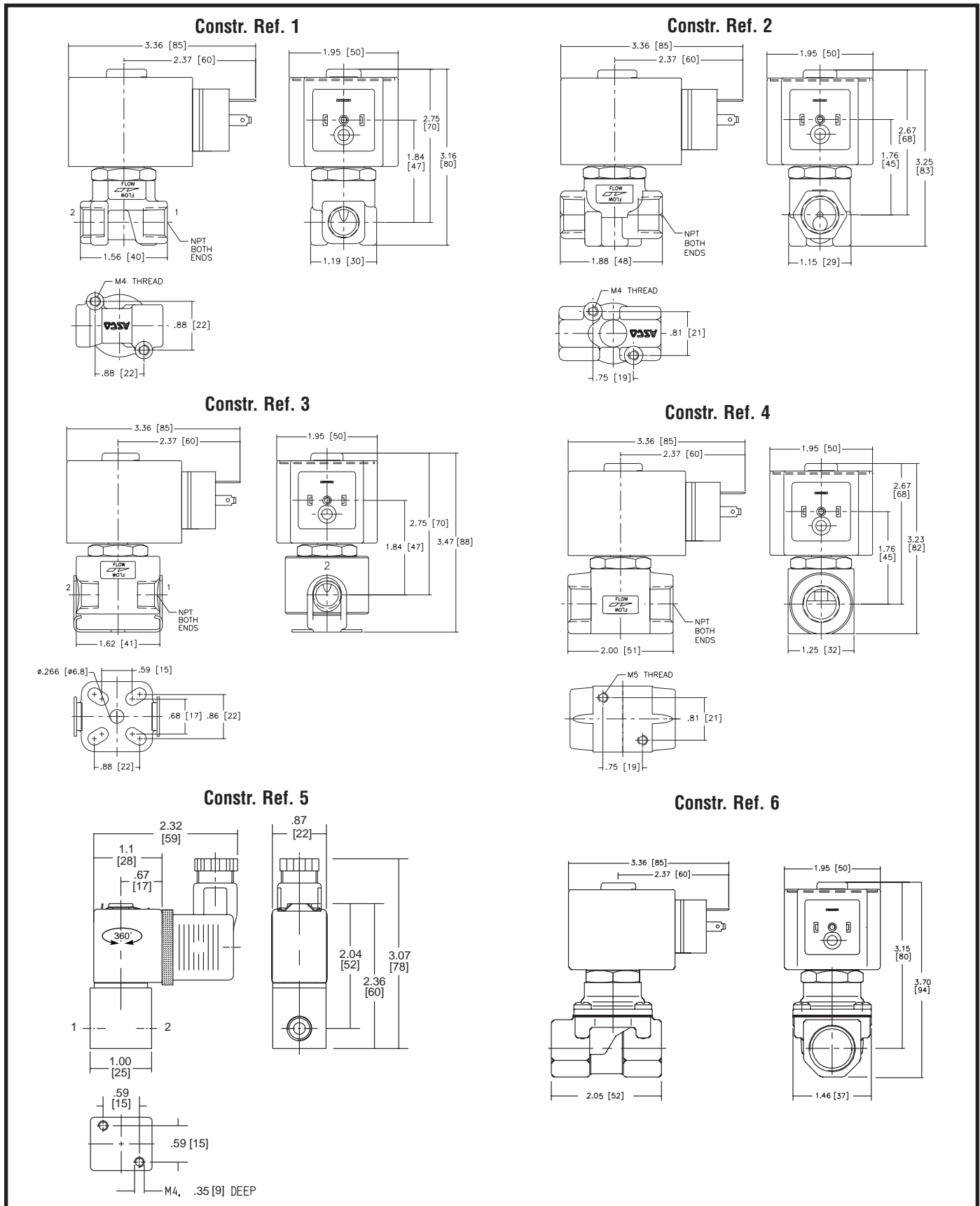
Pipe Size (ins.)	Orifice Size (mm)	Kv Flow Factor (m <sup>3</sup> /h)	Operating Pressure Differential (bar)		Temperature °C		Catalog Number	Constr. Ref. No.	Watt Rating/ Class of Coil Insulation ③
			Min.	Max.	Max.				
				Water/Light Oil	Fluid	UL ② Listing			

**Brass Body**

3/8	12.7	2.1	.3	10	65	-	SD8203G1	6	22.6/F
1/2	12.7	2.1	.3	10	65	-	SD8203G2	6	22.6/F

- Notes:** ① Applicable to air-Inert gas valves only.  
 ② ● General Purpose valve. Refer to Engineering Section (Approvals) for more details.  
 ③ Will vary with duty cycle (8.5 watts at 500 mA with ambient temp. = 104°F (40°C)).  
 ④ Will vary with duty cycle (Cold = 6.8 watts, hot 9.1 watts at 450 mA with ambient temp. = 69°F (20°C)). (Cold = 6.3 watts, hot 8.6 watts at 450 mA with ambient temp. = 104°F (40°C)).

Dimensions: inches (mm)





## Electronic Control Unit

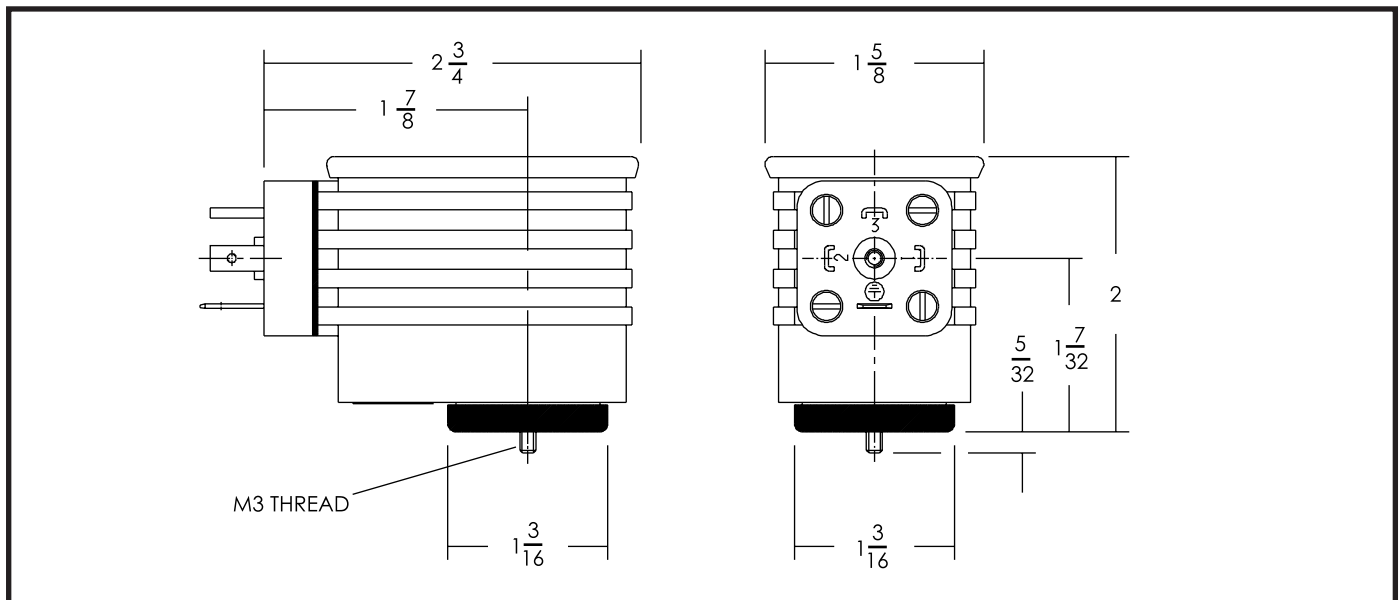
### Description

One unit, Catalog Number 8908A001, can be used for all 1/4" to 1/2" Posiflow valves with DIN solenoids. Another unit, Catalog Number 8908A003, can be used for all 1/8" Posiflow valves with DIN solenoids.

To maintain a specific flow rate, current through the coil must be kept constant and substantially independent from changes in the coil winding resistance (caused by temperature variation). The Electronic Control Unit will accomplish this quite efficiently via pulse width modulation. Voltage to the coil is cut into rectangular pulses by rapidly switching it on and off. By varying the "on" time (pulse width) percentage to compensate for temperature variations, current through the coil is kept constant.

Note: Not CSA certified.

### Dimensions: inches (mm)



### Construction

Housing Assembly	PA + FV
Cover	PA + FV
Screw	Zinc plated steel
Gasket	NBR
Connector Specification	ISO 4400
Protection	IP 65 (Dust-tight Protection against water jets from any direction)

### Electrical Characteristics:

**Nominal supply voltage:** 24 VDC  $\pm$  10%,  
maximum ripple 10%

**Maximum full-load current:** 1100 mA  
(factory set at 500 mA)

**Input control signal (selectable):** 0-10 VDC or 0-20 mA  
or 4-20 mA

**Switch-off current:** <2% of max. input control signal

**Adjustable off-set:** 15-50% of pulse width  
modulation voltage

**Adjustable full-load:** 30-100% of pulse width  
modulation voltage

**Ramp time:** Manually activated via on/off switch;  
adjustable 0.1-3 seconds

**Adjustable PWM frequency:** 40-700 Hz

**Power consumption:** 0.8 watts