

Automation Operator Specifications

All of the operators listed below are intended for use on clean, dry air or inert gas filtered to 50 micrometers or better. To prevent freezing, the dew point of the media should be at least 18°F (-8°C) below the minimum temperature to which any portion of the clean air or gas system could be exposed. Instrument air, in compliance with ANSI/ISA Standard S7.3-1975 (R1981), exceeds the above requirements and is, therefore, an acceptable medium for these valves.

Intrinsically Safe Piezo

Operator Parts in Contact with Fluids	
Cover	Zenite (LCP)
Adapter	Ryton (PPS)
Guide	Ryton (PPS)
Piston	Delrin (CA)
Stem	PC/PBT
Manual Operator Gasket	Santoprene
O-Ring & U-Cup Seals	NBR, FKM

Zenite and Delrin are trademarks of Dupont.

Ryton is a trademark of Philipps 66.

Santoprene is a trademark of Advanced Elastomer Systems.

Enclosure Type: NEMA 4, 4X

Input Voltage: 6-30VDC

Current Usage: 1.4 - 9.3 mA

Power Consumption: 0.0084 - 0.24 watts

Response Time: ≤ 350 ms

Ambient Temperature: 32°F to 140°F

Momentary Manual Operator standard.

Entity	Groups A-D
Parameters	V max - 30 VDC
	I max - 100 mA
	Capacitance = 0
	Inductance = .264 mh

Approvals:

FM - approved under J.I. 3W8A8AX

CSA pending - file under LR - 13976-116C

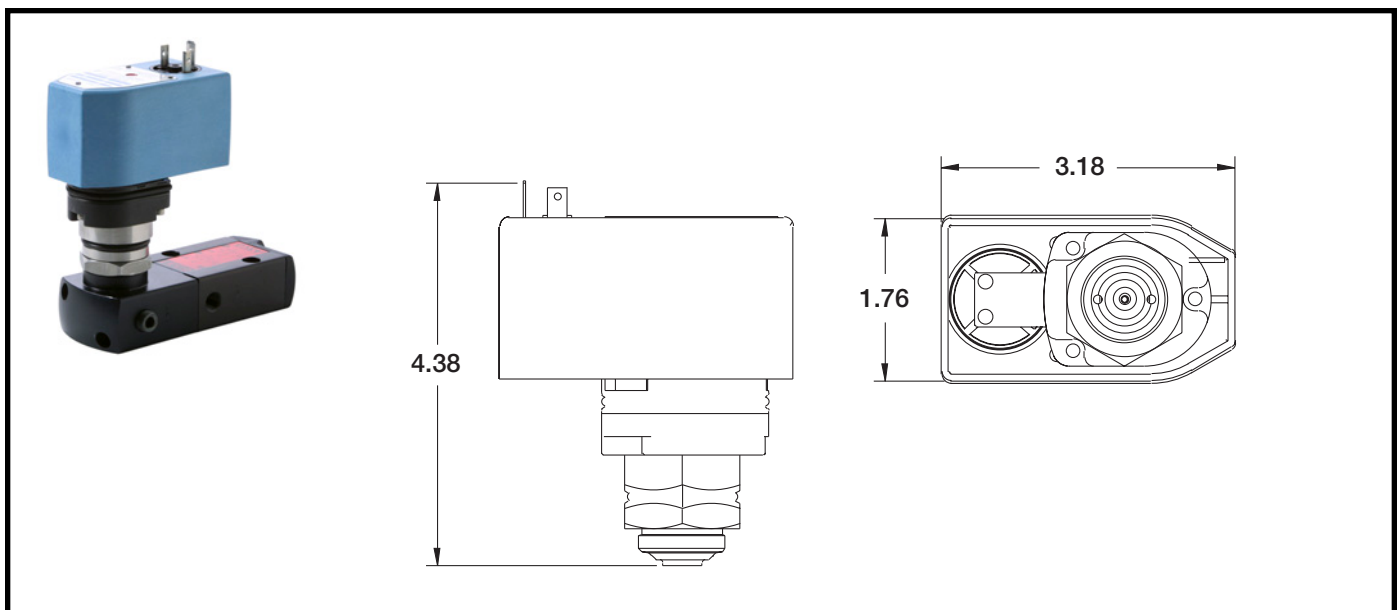
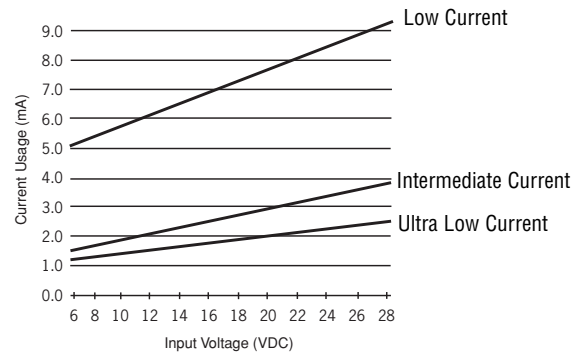
ATEX EEx ia IIC T6 @ 60° pending.

Ordering:

When ordering the IS Piezo Valve, use the appropriate prefix from the table below.

Connector Types	Valve Catalog Number Prefix		
	Current Type		
	Ultra Low	Intermediate	Low
M12 4 Pole	PIA	PIB	PIC
DIN	PID	PIE	PIF

Each version will operate anywhere within the range of 6-27 volts. The graph shows the electrical characteristics of the three catalog varieties. The response time for all three versions will increase slightly as the voltage decreases towards the lower limit of 6 VDC.



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DeviceNet™

Specifications:

Enclosure Type: NEMA 4, 4X Vendor ID: 11 (0B hex)

Operating Voltage: 11-24 VDC

Operating Current: 100 mA

Bus Address: 0 to 63 (63-default address from factory).

Addressing Software settable by using handheld device or configuration software.

Topology: Trunk/dropline with branching

Ambient Temperature: 14°F to 140°F

Connection: 5-pin mini type (standard) or M12 multipin (optional).

EDS File: Contact ASCO.

Baud Rates	125 Kbps	250 Kbps	500 Kbps
Thick (Type II) cable	500 m (1640 ft)	250 m (820 ft)	100 m (328 ft)
Thin (Type I) cable	100 m (328 ft)	100 m (328 ft)	100 m (328 ft)
Flat (Type III) cable	380 m (1250 ft)	200 m (656 ft)	75 m (246 ft)
Maximum drop Length	6 m (20 ft)	6 m (20 ft)	6 m (20 ft)
Cumulative drop length	156 m (512 ft)	78 m (328 ft)	39 m (128 ft)

Thick cable = Four #16 AWG cable + one #22 AWG drain cable; used as trunk cable.

Thin cable = Four #22 AWG cable + one #22 AWG drain cable; used as drop cable.

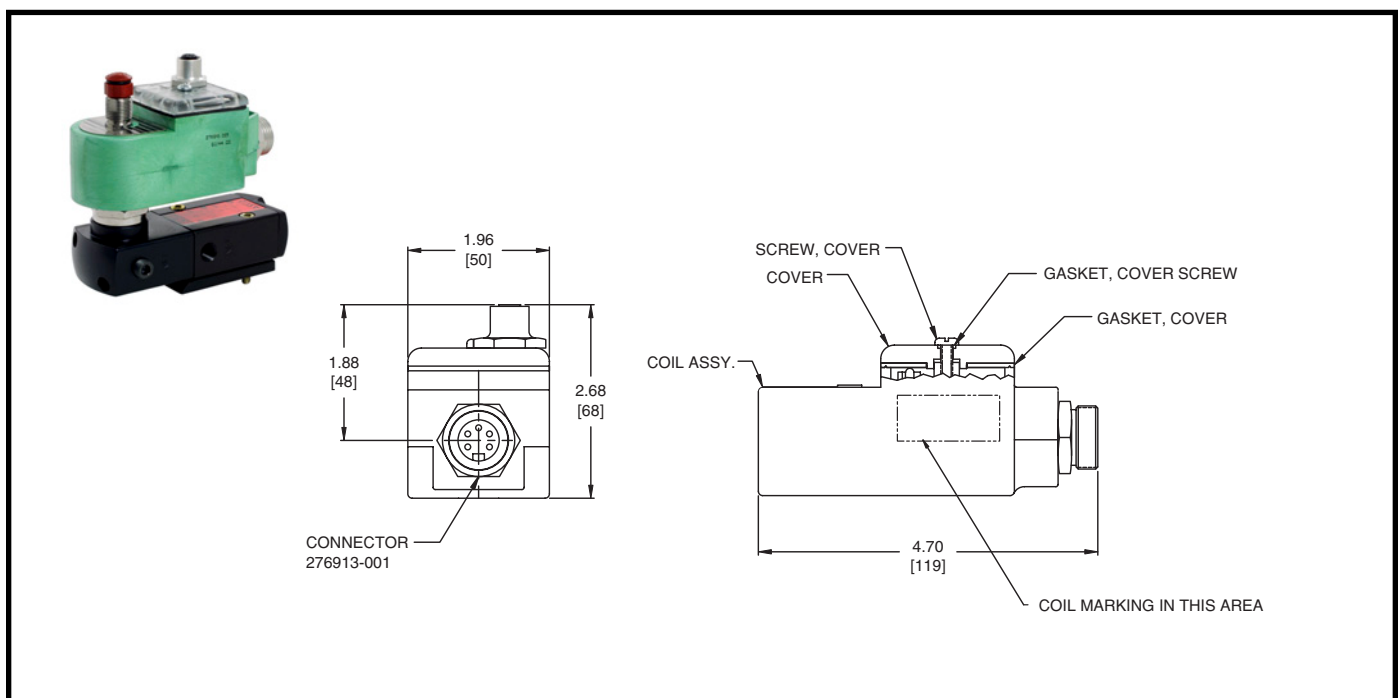
Flat cable = Four #16 AWG cable, no drain cable; used as trunk cable.

Approvals:

DeviceNet™ certification version A13.

Ordering:

When ordering the DeviceNet™ Operator, add prefix WBDN for 5-pin mini type connection or WBDM for M12 multipin connection.



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Specifications:

Enclosure Type: NEMA 4, 4X

Operating Current: 14.3 mA

Operating Voltage: 12.5VDC for IS applications and 24 VDC for non-IS applications.

Bus Address: 0 to 125 (126-default address from factory).

Topology: Bus, line, star and combinations.

Supported Baud Rate: 31.25 Kbps

Operator Response Time: 350 msec

Ambient Temperature: 32°F to 140°F

Connection: (2) M12 multipin; (1) male for network connection; (1) female for connecting up to 2 NAMUR proximity sensors. Momentary Manual Operator standard.

GSD File (General Service Description): Contact ASCO.

DD File (Device Description): Contact ASCO.

Application Area	Supply Voltage	Maximum Supply Current	Typical Number of Devices
EEx ia/ib IIC	12.5 VDC	100 mA	8
EEx ib IIC	12.5 VDC	110 mA	8
Not intrinsically safe	24 VDC	400 mA	32

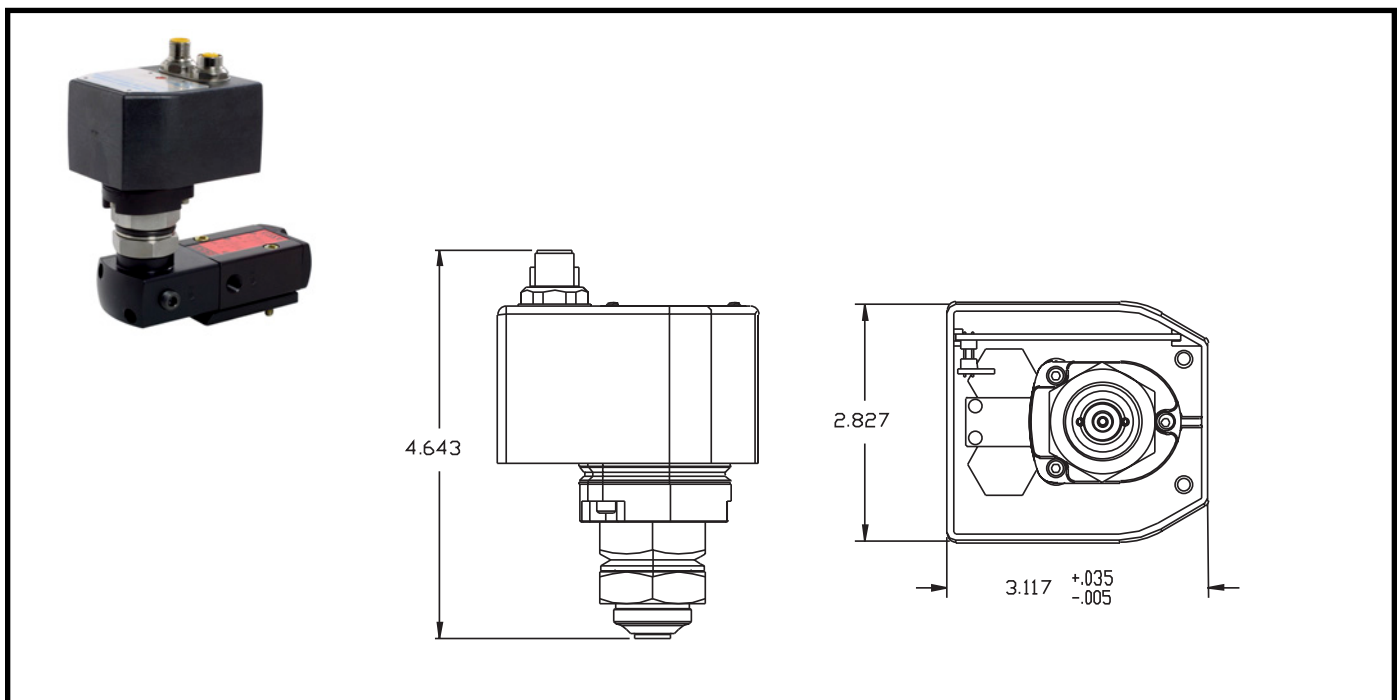
*This table is based on a minimum current consumption of 14.3 mA per device. If a device consumes more than 14.3 mA, the number of devices that can be connected is reduced. The maximum distance corresponds to a fully loaded Profibus-PA segment.

Approvals:

Profibus Trade Organization (PTO): PROFIBUS-PA slave.
Device Certification FM: Intrinsically safety.

Ordering:

When ordering the Profibus Operator, add prefix PR.



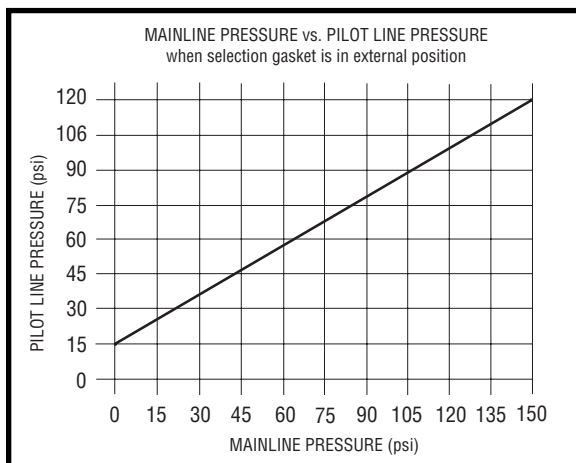
Bus Controls



Specifications

Pipe Size (ins.)	Exh. Pipe Size (ins.)	Orifice Dia. (ins.)	Exh. Orifice Dia. (ins.)	Cv Flow Press.	Cv Flow Exh.	Operating Pressure Differential (psi)		Max. Fluid Temp. °F	Brass ②	Const. Ref.	Stainless Steel ②	Const. Ref.	Approx. Shipping Weight (lbs.) ③
						Min.	Max. DC Air-Inert Gas						
3/2 Normally Closed													
1/4	1/4	1/16	1/16	.08	.08	0	150	140	8314A300	1	8314A301	2	1.6
1/4	1/8	1/16	1/4	.08	.73	5	150	140	8317A307	7	8317A308	7	1.7
1/4	1/4	5/16	5/16	1.5	1.5	①	150	140	8316A301	3	8316A381V	3	3.5
3/8	3/8	5/16	5/16	1.8	1.8	①	150	140	8316A302	3	8316A382V	3	3.5
3/8	3/8	5/8	5/8	4.0	4.0	①	150	140	8316A303	4	-	-	4.0
1/2	1/2	5/8	5/8	4.0	4.0	①	150	140	8316A304	4	8316A384V	4	4.1
3/4	3/4	11/16	11/16	5.5	5.5	10	150	140	8316A374	5	-	-	4.7
1	1	1	1	13.0	13.0	10	150	140	8316A334	6	-	-	8.5
4/2 Single Solenoid													
1/4	3/8	1/4	1/4	0.8	1.0	10	150	140	8344A370	9	-	-	5.2
3/8	1/2	3/8	3/8	1.4	2.2	10	150	140	8344A372	10	-	-	9.6
1/2	1/2	3/8	3/8	1.4	2.2	10	150	140	8344A374	10	-	-	9.6
3/4	1	3/4	3/4	5.2	5.6	10	150	140	8344A376	11	-	-	18.6
1	1	3/4	3/4	5.2	5.6	10	150	140	8344A378	11	-	-	18.6
4/2 Dual Solenoid													
1/4	3/8	1/4	1/4	0.8	1.0	10	150	140	8344A344	12	-	-	5.2
3/8	1/2	3/8	3/8	1.4	2.2	10	150	140	8344A380	13	-	-	9.6
1/2	1/2	3/8	3/8	1.4	2.2	10	150	140	8344A382	13	-	-	9.6
3/4	1	3/4	3/4	5.2	5.6	10	150	140	8344A354	14	-	-	18.6
1	1	3/4	3/4	5.2	5.6	10	150	140	8344A356	14	-	-	18.6
5/2 Single Solenoid													
1/4	1/4	1/16	1/16	.08	.08	10	150	140	8345A301	8	8345A381	8	3.8
1/4	1/4	1/4	1/4	.84	.84	35	150	140	-	-	8551A353	15	5.5
5/2 Dual Solenoid													
1/4	1/4	1/4	1/4	.84	.84	35	150	140	-	-	8551A388	17	5.5
5/2 Direct Mount Single Solenoid													
1/4	1/4	1/4	1/4	.84	.84	35	150	140	-	-	8551A355	16	6.5
5/2 Direct Mount Dual Solenoid													
1/4	1/4	1/4	1/4	.84	.84	35	150	140	-	-	8551A390	18	6.5

- ① Zero minimum when valve selection gasket is in external position and proper auxiliary air pressure is applied. See graph below for pilot line pressure versus mainline pressure. Minimum 15 psi operating pressure differential when selection gasket is in internal position.
 ② These valves are not available without one of the prefixes from the Bus Control Section.
 ③ Weights are the valve body only. (Add .5 for Piezo, .9 for DeviceNet, or .6 for Profibus.)



For dimensional information on specific valve configurations see the relevant catalog page.

Capabilities Chart

Base Catalog Number		Resilient Materials								Other		Standard Rebuild Kit					
Brass	Stainless Steel	NBR	FKM	EPDM	Neoprene	Oxygen Service	PTFE	Urethane	Vacuum	Manual Operator	Mounting Bracket	Intrinsically Safe Piezo Brass	Intrinsically Safe Piezo Stainless Steel	DeviceNet Brass	DeviceNet Stainless Steel	Profibus Brass	Profibus Stainless Steel
8314A300	8314A301	●	-	-	-	-	-	-	-	MS	-	322450	322450	322294	322294	322450	322450
8316A301	-	●	-	-	-	-	-	-	-	MO	MB	322487	-	316982	-	322487	-
-	8316A381V	-	●①	-	-	-	-	-	-	MO	MB	-	322451	-	316982-V	-	322451
8316A302	-	●	-	-	-	-	-	-	-	MO	MB	322487	-	316982	-	322487	-
-	8316A382V	-	●①	-	-	-	-	-	-	MO	MB	-	322451	-	316982-V	-	322451
8316A303	-	●	-	-	-	-	-	-	-	MO	MB	322488	-	316966	-	322488	-
8316A304	-	●	-	-	-	-	-	-	-	MO	MB	322488	-	316966	-	322488	-
-	8316A384V	-	●①	-	-	-	-	-	-	MO	MB	-	322805	-	318399-V	-	322805
8316A374	-	●	-	-	-	-	-	-	-	MO	MB	323212	-	316847	-	323212	-
8316A334	-	●	-	-	-	-	-	-	-	MO	MB	323213	-	316850	-	323213	-
8317A307	8317A308	●	-	-	-	-	-	-	-	-	-	322494	322494	322295	322295	322494	322494
8345A301	8345A381	●	-	-	-	-	-	-	-	MO	-	322495	322495	316844	318802	322495	322495
8344A370	-	●	-	-	-	-	-	-	-	MO	-	322711	-	316841	-	322711	-
8344A372	-	●	-	-	-	-	-	-	-	MO	-	323214	-	316842	-	323214	-
8344A374	-	●	-	-	-	-	-	-	-	MO	-	323215	-	316842	-	323215	-
8344A376	-	●	-	-	-	-	-	-	-	MO	-	323216	-	316848	-	323216	-
8344A378	-	●	-	-	-	-	-	-	-	MO	-	323217	-	316848	-	323217	-
8344A344	-	●	-	-	-	-	-	-	-	MO	-	323218	-	316843	-	323218	-
8344A380	-	●	-	-	-	-	-	-	-	MO	-	323219	-	316846	-	323219	-
8344A382	-	●	-	-	-	-	-	-	-	MO	-	323220	-	316846	-	323220	-
8344A354	-	●	-	-	-	-	-	-	-	MO	-	323221	-	316851	-	323221	-
8344A356	-	●	-	-	-	-	-	-	-	MO	-	323222	-	316851	-	323222	-

● = Standard. ① Main valve resilient materials are in FKM. Operator resilient materials are in NBR.