



35 Green Street
Malden, MA 02148
781-321-5409

INSTRUCTIONS
Series 83A Electric Actuator
12/24 VDC Service
“ELECTROMNI”

Description

- Valves** Corrosion Resistant Thermoplastic uni-body construction ball valve in PVC or CPVC with Teflon seats and EPDM or Viton Backing Cushions and EPDM or Viton stem seal. Also available for our Tru-Union Type-21 ball valves and Tru-Union Type-23 Multi-Port 3-way ball valves.
- Motor** The Series 83 “Electromni” motor is a DC gear motor, which opens and closes the omni or Type 21 ball valve in approximately 5 seconds through 90-degrees of travel. Type-23 multiport 3-way ball valves run 10 seconds for 180-degrees of travel.
- Operation** Travel is controlled by 2 internal single pole double throw limit switches activated by individual cams located on top of motor with positive and negative lobes. (180-degree for 3-ways)
- Adjustment** The Actuator limit switches are fully adjustable for fine tuning the open and close positions. The cams are negative lobe cams. The adjustment can be achieved by loosening the set screws that secure the cams to the motor shaft and by rotating the cams ahead to trip the switch later or slightly back to trip the switch sooner. To see if change is valid look inside the valve itself and watch the ball travel.

Engineering Data

Valve Size	Voltage	Current Draw	Cycle Time	Duty Cycle
1/2”-2”	12 VDC	2.0 AMPS	5 sec.	75%
1/2”-2”	24 VDC	3.5 AMPS	5 sec.	75%

Standard enclosure is weather/corrosion resistant (NEMA 4X).

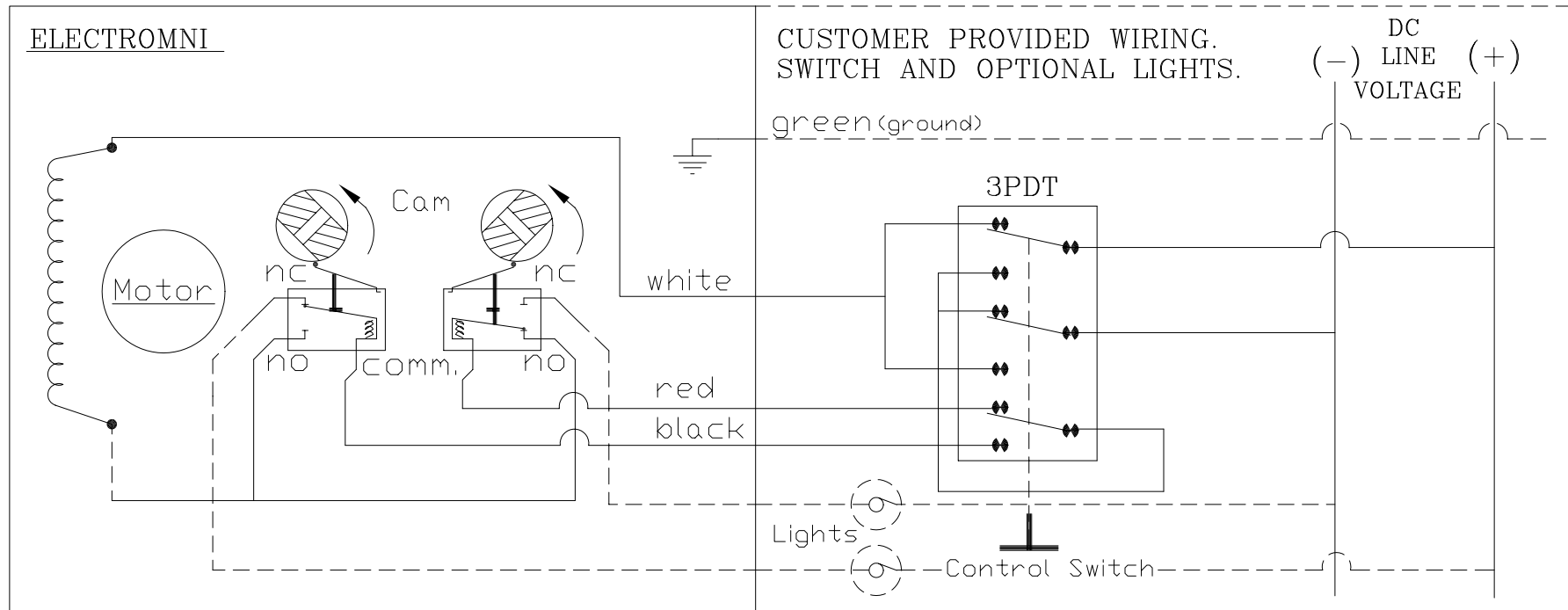
Options: 1 additional limit switch (Dry set of contacts)
2-position indicating lights (For visual position indication)
2-wire control (For Retrofitting Solenoids must provide constant voltage)

Attachments: 3-Drawings #0004EL, #0119BV, #0046BV83, #0132BV83.

WIRING DIAGRAM:

TO CLOSE: NEG. TO WHITE
POS. TO BLACK

TO OPEN: POS. TO WHITE
NEG. TO RED




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	NAME	DATE
DR	KENICHI MIYAZAKI	3/8/02
APPD	DAVE HURLEY	3/8/02
PROD	LED LESTER	3/8/02
WO#/SO#		
FILE		

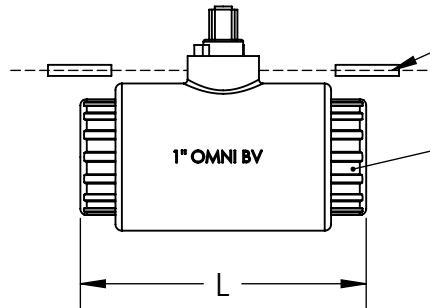
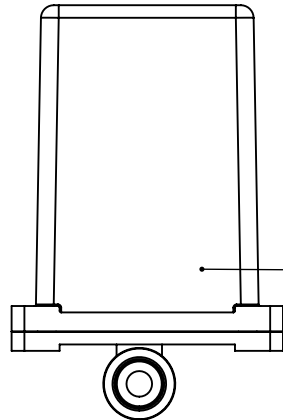
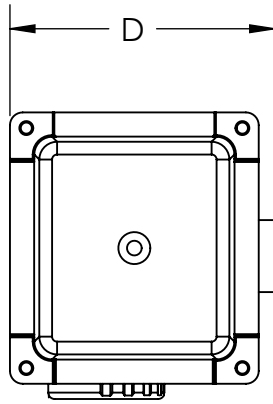
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35 GREEN STREET, P.O. BOX 653, MALDEN, MA.



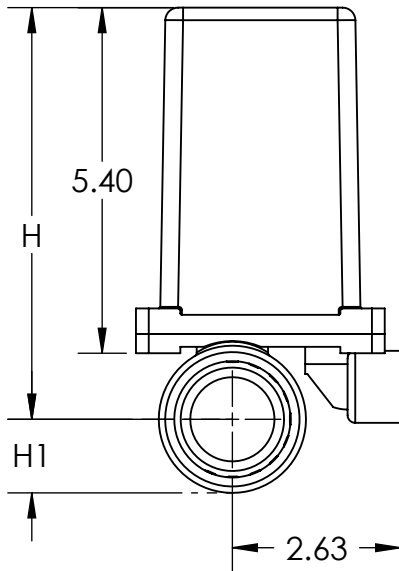
ELECTROMNI
WIRING DIAGRAM
12/24 VDC

SIZE A	DWG. NO. 0004EL	REV A
SCALE NTS	SHEET 1 OF 1	

REV	DATE	DESCRIPTION	DR	APPD
A	3/8/10	FIRST ISSUE	CW	DH



SIZE	H1	H	W	D
1/2"	.61	5.93	3.82	4.14
3/4"	.94	6.15	4.06	4.14
1"	1.16	6.35	4.45	4.14
1-1/4"	1.15	6.36	5.00	4.14
1-1/2"	1.45	6.75	5.94	4.14
2"	1.74	7.04	6.97	4.37

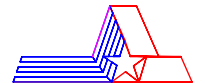


ITEM	DESCRIPTION	MATERIAL	QTY
1	OMNI BALL VALVE	PVC, CPVC, PP, PVDF	1
2	ELECTROMNI ACTUATOR	ABS & PVC	1
3	COUPLING	303 STAINLESS STEEL	1
4	ALLEN SET SCREW	STAINLESS STEEL	2

UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
MACHINING TOLERANCES:	2 PL DECIMALS ±.01 3 PL DECIMALS ±.005 ANGULAR ± 1/2° FRACTIONAL ± 1/64
FABRICATION TOLERANCES:	1/2" - 8" ± 1/4 10" AND UP ± 1/2 ANGULAR ± 1.0°
MATERIAL:	
FINISH:	N/A

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NAME	DATE
DR <i>C. Williams</i>	<i>3/8/10</i>
APPD <i>D. Hurley</i>	<i>3/8/10</i>
PROD	
PRODUCT:	
WO#/CO#	

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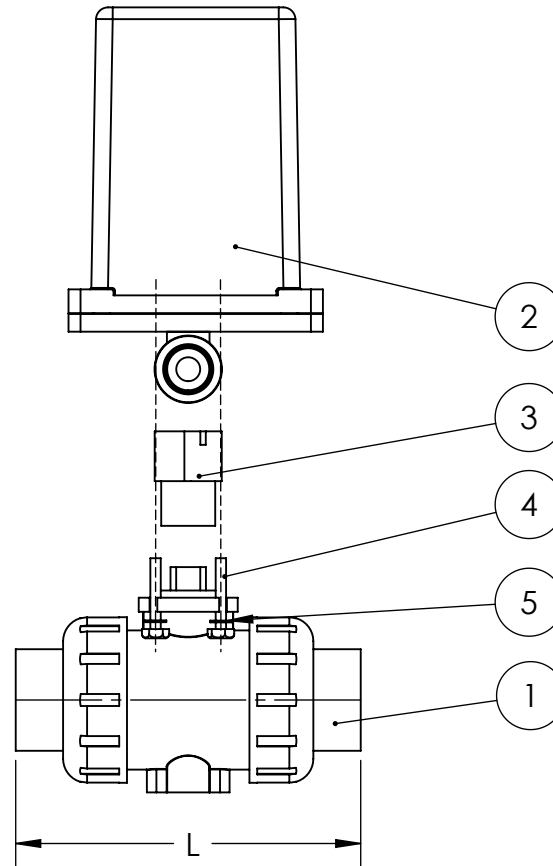
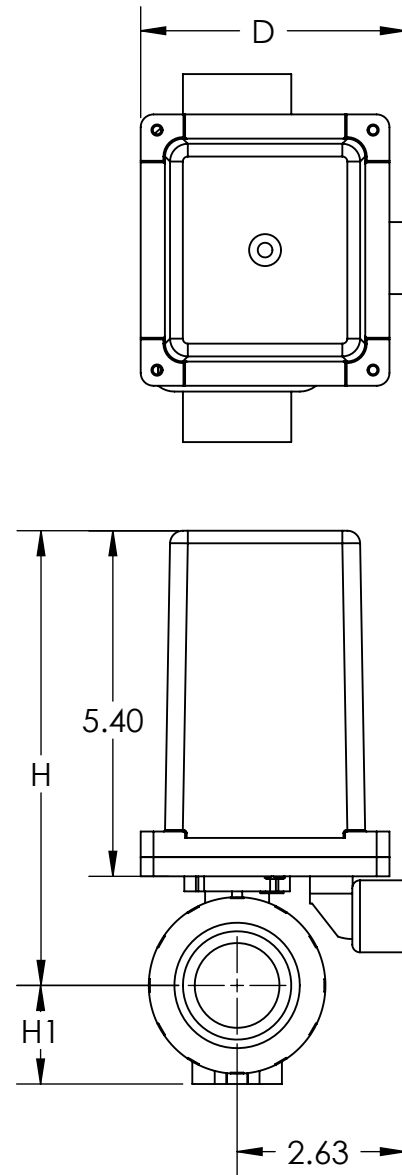


**1/2" THRU 2" OMNI BALL VALVE
ELECTROMNI**

SIZE A	DWG. NO. 0119BV83	REV A
SCALE 1:5	SHEET 1 OF 1	

NOTE: The shape and appearance of assembly differ a little with nominal size

REV	DATE	DESCRIPTION	DR	APPD
A	3/8/10	FIRST ISSUE	CW	DH



SIZE	H1	H	L	D
1/2"	1.14	6.58	4.45	4.14
3/4"	1.38	6.83	5.08	4.14
1"	1.54	7.10	5.75	4.14
1-1/4"	1.85	7.46	6.46	4.24
1-1/2"	2.17	7.79	7.24	4.60
2"	2.60	8.25	8.23	4.90

*PVC/CPVC/SOCKET/THREAD FOR FLANGED/OTHER SEE CATALOG

ITEM	DESCRIPTION	MATERIAL	QTY
1	T-21 BALL VALVE	PVC, CPVC, PP, PVDF	1
2	ELECTROMNI ACTUATOR	ABS & PVC	1
3	COUPLING	303 STAINLESS STEEL	1
4	BOLT	STAINLESS STEEL	4
5	FLAT WASHER	STAINLESS STEEL	4

NOTE: The shape and appearance of assembly differ a little with nominal size

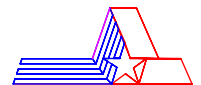
1 - ELECTROMNI (SERIES 83) ACTUATOR IS AVAILABLE IN 110 VAC, 220 VAC, 24 VAC, 12 VAC, 24 VDC, AND 12 VDC MODELS

UNLESS OTHERWISE SPECIFIED		DIMENSIONS ARE IN INCHES	
MACHINING TOLERANCES:	2 PL DECIMALS	±.01	
	3 PL DECIMALS	±.005	
	ANGULAR	± 1/2°	
	FRACTIONAL	± 1/64	
FABRICATION TOLERANCES:	1/2" - 8"	± 1/4	
	10" AND UP	± 1/2	
	ANGULAR	± 1.0°	
MATERIAL:	PRODUCT:		
FINISH:	N/A	WO#/CO#	

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NAME	DATE
DR <i>C. Williams</i>	3/8/10
APPD <i>D. Hurley</i>	3/8/10
PROD	

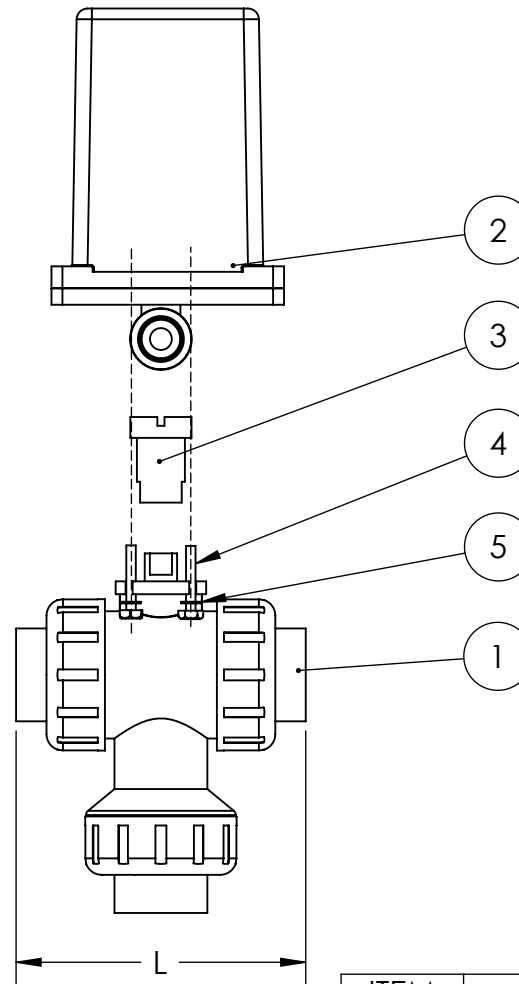
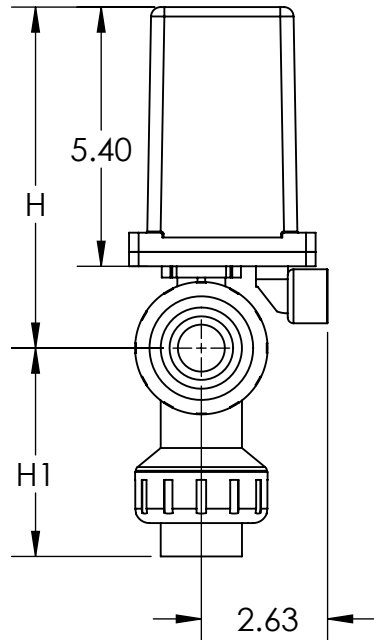
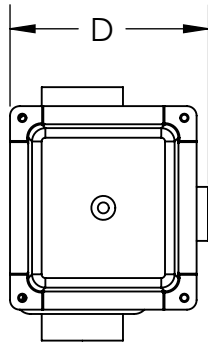
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1/2" THRU 2" T-21 BALL VALVE TO SERIES 83 ACTUATOR

SIZE A	DWG. NO. 0046BV83	REV A
SCALE 1:5	SHEET 1 OF 1	

REV	DATE	DESCRIPTION	DR	APPD
A	3/8/10	FIRST ISSUE	CW	DH



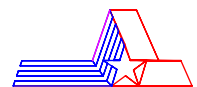
SIZE	H1	H	L	D
1/2"	3.05	6.58	4.45	4.14
3/4"	3.56	6.83	5.08	4.14
1"	4.34	7.11	5.75	4.14
1-1/2"	6.09	7.80	7.24	4.59
2"	6.87	8.25	8.23	5.10

*PVC/CPVC/SOCKET/THREAD FOR FLANGED/OTHER SEE CATALOG

ITEM	DESCRIPTION	MATERIAL	QTY
1	T-21 BALL VALVE	PVC,CPVC,PP,PVDF	1
2	ELECTROMNI ACTUATOR	ABS & PVC	1
3	COUPLING	303 STAINLESS STEEL	1
4	BOLT	STAINLESS STEEL	4
5	FLAT WASHER	STAINLESS STEEL	4

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DIMENSIONS ARE IN INCHES			
MACHINING TOLERANCES:	2 PL DECIMALS	±.01	
	3 PL DECIMALS	±.005	
	ANGULAR	± 1/2°	
	FRACTIONAL	± 1/64	
FABRICATION TOLERANCES:	1/2" - 8"	± 1/4	
	10" AND UP	± 1/2	
	ANGULAR	± 1.0°	
MATERIAL:	PRODUCT:		
FINISH: 125μ"	WO#/CO#		

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1/2" THRU 2" T-23 BALL VALVE TO ELECTROMNI ACTUATOR

DR	<i>C. Williams</i>	DATE	<i>3/8/10</i>
APPD	<i>D. Hurley</i>	DATE	<i>3/8/10</i>
PROD			
SIZE	A	DWG. NO.	0132BV83
SCALE	1:5	REV	A
SHEET		1	OF 1

NOTE: The shape and appearance of assembly differ a little with nominal size