

Product Announcement

Connected Products PA-00637

Life Is On

Schneider
Electric

New SmartX M3xxxxx Floating and Proportional Ball Valve Actuators



New SmartX M3 Actuators

Schneider Electric is pleased to announce the next generation of SmartX ball valve actuators for the ½" and ¾" VBB/VBS Series valve bodies. Built on the success of the first generation M1 actuators, the M3 delivers new features and mechanical upgrades that make selection, installation and configuration easy. In addition, new more robust gear train components and a more intelligent PCBA mean the M3 actuators have a longer life and are more reliable, giving peace of mind to customers and building owners.

Next Generation Enhancements

The new M3 line of actuators keeps everything you love about the M1 line, but adds some key component and feature enhancements.

- **Longer Life**
 - Enhanced Top Plate design with stainless steel bearings for Internal gears.
 - 50% increase in face width on critical gears.
 - More robust and sturdy internal gear design and manufacturing equates to a longer, more reliable life for Schneider Electric's best selling ball valve line.
- **Easier to Configure**
 - New PCBA design now uses DIP switches to change control options, instead of needing to fumble with jumpers.
 - Additional 2-10vdc control signal option added. Range now Includes 0-10vdc, 2-10vdc, 0-5vdc, and 4-20ma options in a single model (DIP switch selectable).
 - Access door allows for easy manipulation of the control signal DIP switches without having to remove the cover. Saving the customer time and labor when this is required.
- **More Precise Control**
 - Completely new control circuit design with motor control logic ensures precise and consistent actuator position.

Product at a Glance

Product Announcement Number:
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- Proportional and Floating control actuators used with the VBB/VBS ½" and ¾" valve body line.
- Typical applications include: VAV Reheat, Fan Coil Units, Hot and Chilled Water Coils in AHU's, Heat Pumps and Unit Ventilators.
- Spring Return and Non-Spring Return models available.
- Robust gear train improvements; increased face width on critical gears, stainless steel bearings.
- New PCBA for better control logic
- Fast, easy, one handed actuator installation; "Poptop" no linkage or tools required.
- DIP switch selectable proportional models (0-5vdc, 0-10vdc, 2-10vdc, 4-20ma), Direct Acting or Reverse Acting DIP switch.
- Dip switch access door.
- VBB (Brass Ball) and VBS (Stainless Steel Ball) compatibility; 0.3 to 10 Cv; 2 or 3 way.
- 300:1 Rangeability for assembly family.
- ANSI IV Seat Leakage for 2-way and 3-way valves.
- Equal Percentage Flow
- 5 Year SmartX Warranty

Specifications

Voltage	24 Vac
Control Signal	Proportional (0...5 Vdc, 0...10 Vdc, 2...10 Vdc, 5...10 Vdc, 4...20 mA dc)
Timing, Full Open to Full Close	135 sec.
Timing, Spring Return	145 sec.
Manual Operating Lever/ Position Indicator	Standard on all Models

Materials	Thermoplastic Base and Cover. Approved for use in air plenum
Shipping & Storage Temp Limit	-40...169 °F (-40...76 °C)
Operating Temperature Limit at max. fluid temp.	32...140 °F (0...60 °C)
Humidity	5...95% relative humidity, non-condensing
Locations	NEMA 2, IEC IP31, Indoor Use Only



M3xxxxx SmartX Actuators – Non-Spring Return Floating & Proportional

Actuator Part Number	Replaces	Control Signal	Spring Return Action	Leads
M332A00	M131A00 & M132A00	Floating	None	Terminal Block
M332A01	M131A01 & M132A01			10 ft. Plenum Cable
M333A00	M133A00	Proportional		Terminal Block
M333A01	M133A01			10 ft. Plenum Cable



M3xxxxx SmartX Actuators – Spring Return Floating & Proportional

Actuator Part Number	Replaces	Control Signal	Spring Return Action	Leads
M312A00	M112A00	Floating	Normally Open	Terminal Block
M312A01	M112A01			10 ft. Plenum Cable
M322A00	M122A00		Normally Closed	Terminal Block
M322A01	M122A01			10 ft. Plenum Cable
M313A00	M113A00	Proportional	Normally Open	Terminal Block
M313A01	M113A01			10 ft. Plenum Cable
M323A00	M123A00		Normally Closed	Terminal Block
M323A01	M123A01			10 ft. Plenum Cable

VBx2, 2-Way, Characterized Ball Valves



2-Way Brass & Stainless Steel Ball Valves Specifications

Service	Hot and chilled water, up...60% glycol
System Static Pressure Limit	600 psi (4137 kPa)
Fluid Temperature Limit	20...250 °F (-7...121 °C)
Cv (Kv)	See Cv Table
Close-off Pressure	130 psi Two-Way
Differential Pressure	30 psi normal operation
20 psi Quiet Operation	Standard on all models
Seat Leakage	ANSI class IV (0.01%) at both A and B ports with pressure at inlet
End Connections	NPT Threaded
Rangeability	Greater than 300:1
Body Material	Forged Brass
Stem Material	Stainless Steel Anti-blow Out Stem with dual Viton O-Rings
Ball Material	Chrome-Plated Brass (VBB) Stainless Steel (VBS)

CV Table

Part Number	Spring Return Action	VA/ Voltage
1/2"	VBx2N00	0.3
	VBx2N00	0.3
	VBx2N01	0.7
	VBx2N02	1.2
	VBx2N03	2.1
	VBx2N04	3.5
	VBx2N05	4.7
	VBx2N06	7.7
3/4"	VBx2N07	10
	VBx2N10	0.3
	VBx2N11	0.7
	VBx2N12	1.2
	VBx2N13	2.1
	VBx2N14	3.5
	VBx2N15	4.7
	VBx2N16	7.7
	VBx2N17	10

*x=B for Brass Ball Material,
S for Stainless Steel Ball Material

New SmartX M3xxxxx Floating and Proportional Ball Valve Actuators (cont'd)



3-Way Brass & Stainless Steel Ball Valves Specifications

Service	Hot and chilled water, up...60% glycol
System Static Pressure Limit	600 psi (4137 kPa)
Fluid Temperature Limit	20...250 °F (-7...121 °C)
Cv (Kv)	See Cv Table
Close-off Pressure	70 psi Three-Way
Differential Pressure	30 psi normal operation
20 psi Quiet Operation	Standard on all models
Seat Leakage	ANSI class IV (0.01%) at both A and B ports with pressure at inlet
End Connections	NPT Threaded
Rangeability	Greater than 300:1
Body Material	Forged Brass
Stem Material	Stainless Steel Anti-blow Out Stem with dual Viton O-Rings
Ball Material	Chrome-Plated Brass (VBB) Stainless Steel (VBS)

CV Table

Part Number	Spring Return Action	VA/ Voltage
1/2"	VBx3N00	0.3
	VBx3N01	0.6
	VBx3N02	1.0
	VBx3N03	2.0
	VBx3N04	3.0
	VBx3N05	4.5
	VBx3N06	7.3
	VBx3N07	10
	VBx3N07	10
3/4"	VBx3N10	0.3
	VBx3N11	0.6
	VBx3N12	1.0
	VBx3N13	2.0
	VBx3N14	3.0
	VBx3N15	4.5
	VBx3N16	7.3
	VBx3N17	10

*x=B for Brass Ball Material,
S for Stainless Steel Ball Material

VBB/VBS Ball Valve Assembly Selection

Ordering the correct assembly part number is as easy as:

$$\text{Valve Body P/N} + \text{Actuator P/N} = \text{Assembly P/N}$$



VBB2N01

+



M312A00

=



VBB2N01+M312A00

SmartX M3xxxxx Ball Valve Assemblies Ordering and Shipments

All shipments of factory assembled SmartX M3xxxxx valve assemblies or separately purchased components have a 4 day lead time typically. Large orders might experience longer lead times, please consult factory for these projects.

SmartX VBB/VBS Ball Valves with M3xxxxx Actuator Literature (available at iPortal)

Literature F Number	Description	Content	Specification Data Sheet	Installation Sheet
F-27394	VBB/VBS Series Ball Valve Assemblies	SmartX VBB/VBS Ball Valve Selection Guide		
F-27681	SmartX VBB/VBS Ball Valve Color Brochure	High Level Color Family Overview		
F-27630	SmartX VBB/VBS Ball Valve Color Brochure	High Level Color Family Overview Tri-Fold		
F-27394	M3xxxxx Proportional Actuators			√
F-27393	M3xxxxx Floating Actuators			√
F-28089	M3xxxxx Floating Actuators		√	
F-28102	M3xxxxx Proportional Actuators		√	
F-28100	VBB/VBS 2-Way Valve Bodies		√	
F-28101	VBB/VBS 3-Way Valve Bodies		√	

Availability and M1xxxxx Discontinuation

The New M3 Actuators will be available for ordering and shipping September 6th, and will replace all SKUs containing M1 actuators, M1 Actuators will be obsoleted the same day. The new M3 Series actuators are a direct replacement of the M1 series. The part number conversion from M1 to M3 is simply M1xxxxx to M3xxxxx for most models. The only exception is M131Axx models, which did not include Time Out feature, have been removed from the part number matrix. The new M3 series offers Time Out feature standard on all models. Please see next page for a detailed view of actuator part number cross references.

Please note: once M1 product withdrawal is complete on September 6th, existing orders will be converted to the M3.

Cross Reference of M1xxxxx to New M3xxxxxx Parts

OLD M1 Part Number	NEW M3 Replacement Part Number	Description
M112A00	M312A00	ACT FL SR 24V TB
M112A01	M312A01	ACT FL SR 24V PL
M113A00	M313A00	ACT PR SR 24V TB
M113A01	M313A01	ACT PR SR 24V PL
M122A00	M322A00	ACT FL SR 24V TB
M122A01	M322A01	ACT FL SR 24V PL
M123A00	M323A00	ACT PR SR 24V TB
M123A01	M323A01	ACT PR SR 24V PL
M131A00	M332A00	ACT FL NSR 24V TB
M131A01	M332A01	ACT FL NSR 24V PL
M132A00	M332A00	ACT FL NSR 24V TB
M132A01	M332A01	ACT FL NSR 24V PL
M133A00	M333A00	ACT PR NSR 24V TB
M133A01	M333A01	ACT PR NSR 24V PL

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