

AVA Modulating Electric Actuator Function: PROPORTIONAL CONTROL , STAYS PUT ON POWER FAILURE



Type: EA-1105

AVS Smart modulating actuator shown direct mounted to 2" brass ball valve



Very compact design

AVA Basic electric actuator features:

- Compact size.
- Fully weatherproof basic industrial actuator.
- All external electrical connections, no need to remove cover .
- Individual voltage motors.
- Position setting using cams and micro-switches.
- Manual override facility.
- Electronic torque limiter.
- Thermostatic anti-condensation heater.
- End of travel switches for remote open/ closed indication.
- CE Marked.
- ABS housing (aluminium option).

Ball valve information:

Full bore 2 piece construction, providing full unrestricted flow and a very low pressure drop across the valve. Approved in the UK for use on potable water by WRAS. Designed for automation with integrally cast ISO5211 actuator mounting platform. Turning the ball through 90° fully opens the valve, turning back through 90° fully closes the valve and isolates the flow. End connections are threaded BSP female.



Typical Kv Values

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Kv	16.3	29.5	43	89	230	265

Kv = m³ per hour with a 1 bar pressure drop across the valve
 CV = US gallons per hour with a 1psi pressure drop across the valve
 Cv = Kv / 0.86

AVA Smart Modulating electric actuator features:

- Compact size.
- Fully weatherproof smart industrial actuator.
- All external electrical connections, no need to remove cover .
- Multi-voltage power supply.
- Position control uses digital magnetic electronics, no cams.
- Manual override facility.
- Electronic torque limiter.
- Thermostatic anti-condensation heater.
- End of travel relays for remote open/ closed indication.
- CE Marked.
- ABS housing (aluminium option).

Modulating function:

The position of the valve is set proportionally to an input control signal. The AVA actuator compares the signal with the physical position and if a difference exists, runs the motor to eliminate the difference.

Applications:

Potable water, oil, air and most non-corrosive media, subject to compatibility with wetted parts in contact with media. This assembly is NOT recommended for use on steam.

Valve actuators sized on a maximum differential pressure of 10 bar wet service, operated at least once per day. If the intended duty differs from these parameters, or is dry (air or gas), please call to check the actuator sizing as a larger output electric actuator may be required.

Maximum working temperature of a direct mounted assembly is +60C. For higher working temperatures , consider models that have a mounting kit between the valve and the AVA electric actuator which uses air cooling to dissipate the rising heat from the valve away from the actuator. Should the AVA electric actuator see more than +60C it will malfunction.

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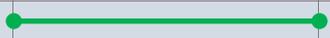
Specifications:

	AVA BASIC ACTUATOR	AVA SMART ACTUATOR
Actuator housing	-	ABS
Supply voltage range	-	12-24V AC/DC 85-265V AC/DC
Motor Control	-	Magnetic digital position sensing & control
Position Confirmation	-	Electronic relays
IP Rating	-	IP67
Actuator temp limits	-	-20 to +60°C
Control Signal	-	0-10V, 4-20mA (Options 2-10V, 0-20mA)
Assembly temp limits	Not available with modulating function	EAS-1105 +60°C AVS Direct mounted
	-	EAS-1115 +95°C AVS mounted via kit
Valve body	-	Nickel plated brass
Valve ball	-	Chrome plated brass
Valve seats	-	PTFE
Valve seals	-	NBR
Ends	-	Screwed BSPP
Valve Pressure rating	-	UT1 2" 40 bar at ambient temp
Valve temp limits	-	-20 to +95°C
Valve Size range	-	1/2" to 2"

Wiring Diagrams:

Note: AVS Model 20 actuator supplied with approx 0.8m flying lead (6 colour coded cores as per wiring diagram below).

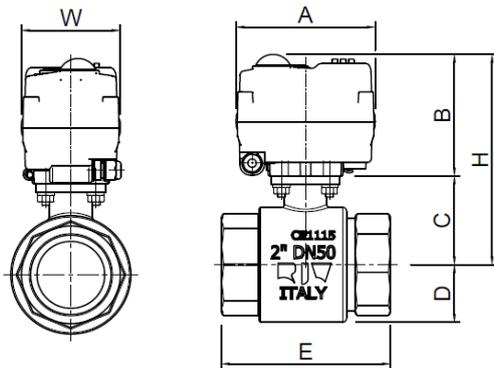
UK Stock wiring:

Neutral	Blue wire		N / -	MOTOR CONTROL
Live	Red wire		L / +	
Control Signal Output/ Feedback	Brown wire		-	CONTROL SIGNAL I/O (Typically 0-10V or 4-20mA)
Control (-)	White wire		-	
Control (+)	Grey wire		+	
Earth	Green wire		E	EARTH

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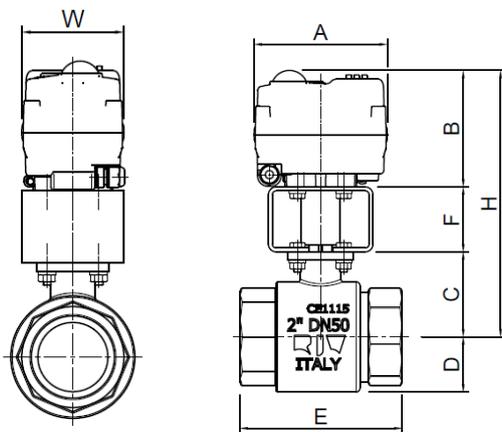
Typical Dimensions: Note: Overall dimensions are the same for basic and smart AVS actuators

Type: EA-1105 AVA Actuator direct mounted to valve, maximum working temperature +60C



	Model	A	B	C	E	H	W	Kilos
1/2"	20	102	88	31	59	119	70	1.1
3/4"	20	102	88	37	69	125	70	1.2
1"	20	102	88	41	83	129	70	1.5
1 1/4"	20	102	88	49	94	137	70	1.9
1 1/2"	20	102	88	58	102	146	70	2.2
2"	20	102	88	66	124	154	70	3.0

Type: EA-1115 AVA Actuator fitted to valve via a bracket and drive adapter, maximum working temperature +95C



	Model	A	E	F	H	W	Kilos
1/2"	20	177	59	50	169	70	1.4
3/4"	20	177	69	50	175	70	1.5
1"	20	177	83	50	179	70	1.8
1 1/4"	20	177	94	50	187	70	2.2
1 1/2"	20	177	102	50	196	70	2.5
2"	20	177	124	50	204	70	3.3

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Brief Comparison Between AVA Models:

AVA BASIC ACTUATOR	FEATURE	AVA SMART ACTUATOR
		
ABS plastic (aluminium base)	Housing	ABS plastic (aluminium base)
Internal cams and micro-switches	Motor Control	Digital magnetic position sensing
Internal cams and micro-switches	Position Confirmation Signal	Electronic relays
Dome mechanical indicator	Position Confirmation Visual	Dome mechanical indicator + OLED screen
IP67	Weatherproof	IP67
Yes, pre-wired	Anti-condensation Heater	Yes, pre-wired
-20°C to +60°C	Ambient Temperature	-20°C to +60°C
24VDC, 24VAC, 110VAC, 240VAC	Voltages/ Range	24V AC/DC or 95-265V AC/DC
Yes, with supplied hexagon tool	Manual Override	Yes, with supplied hexagon tool
Pre-wired with multi-colour 0.8m cable	Electrical Connection	Pre-wired with multi-colour 0.8m cable
F03, F04 (at 45°), F05 x 14mm octagon	Valve Mounting	F03, F04 (at 45°), F05 x 14mm octagon
Not available	Local Control	Yes with OLED screen and 3 push buttons
Remove cover and adjust cams	Working Angle Control	Yes with OLED screen and 3 push buttons
Not available	Speed Control	Yes with OLED screen and 3 push buttons
Not available	3 Position Control	Yes with OLED screen and 3 push buttons
	OPTIONS	
Yes	Aluminium Cover	Yes
Yes, by capacitor	Failsafe	Yes, by capacitor
Not available	Fast Acting	Yes, 1 second working time (90°)
Not available	Modulating	Yes, 0-10V, 2-10V, 4-20mA, 0-20mA
Not available	Bus Communications	Yes, Modbus, Profibus, Canbus
Not available	Wireless	Yes, RF Ocean, RF-Lora
Not available	Timer	Yes
Not available	Alarm Function	Yes