



**Type: EA-2103E**

AVS Smart actuator shown direct mounted to stainless ball valve



Very compact design

### AVA Compact Basic On-Off 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).

### AVA Compact Smart On-Off electric actuator features:

- Compact size.
- Fully weatherproof basic 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).

### Ball valve information:

Full bore 3 piece construction, providing full unrestricted flow and a very low pressure drop across the valve. Swing-out centre section allows in-line maintenance of ball, stem, seats and seals. Blow-out proof stem. 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.

### Applications:

Water, oil, air and most non-corrosive media, subject to being fully compatible with the wetted parts in contact with media. 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.

### Typical Kv Values

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Kv	24	43	83	130	205	340

Kv = m<sup>3</sup> 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 Electric Actuator Function: POWER OPEN - POWER CLOSE, STAYS PUT ON POWER FAILURE

### Specifications:

	AVA BASIC ACTUATOR	AVA SMART ACTUATOR
Actuator housing	ABS	ABS
Supply voltage range	24VDC, 24VAC, 100VAC, 240VAC	12-24V AC/DC 85-265V AC/DC
Motor Control	Cam and mechanical micro-switches	Magnetic digital position sensing & control
Position Confirmation	Cam and mechanical micro-switches	Electronic relays
IP Rating	IP67	IP67
Actuator temp limits	-20 to +60°C	-20 to +60°C
Assembly temp limits	EA-1103-B +60°C Actuator Direct mounted	EA-1103-S +60°C Actuator Direct mounted
	EA-1113-B +95°C Actuator mounted via kit	EA-1113-S +95°C Actuator mounted via kit
Valve body	Nickel plated brass	Nickel plated brass
Valve ball	Chrome plated brass	Chrome plated brass
Valve seats	PTFE	PTFE
Valve seals	NBR	NBR
Ends	Screwed BSPP	Screwed BSPP
Valve Pressure rating	UTI 2" 40 bar at ambient temp	UTI 2" 40 bar at ambient temp
Valve temp limits	-20 to +95°C	-20 to +95°C
Valve Size range	1/2" to 2"	1/2" to 2"

### Wiring Diagrams:

Note: AVS Model 20 actuator supplied with approx 0.75m flying lead (9 colour coded cores as per wiring diagram below).

UK Stock wiring: 3 Wire with switching live between open and closed (SPDT)

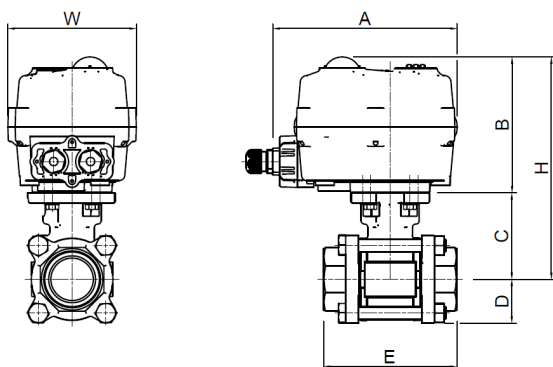
Neutral	Blue wire		N / -	MOTOR CONTROL for open & closed positions
Live Close Motor Stop	Red wire		L / +	
Live Open Motor Stop	Black wire		L / +	
Common for Position Confirmation	White wire		N / -	POSITION CONFIRMATION for open & closed positions
Open Position Confirmation	Grey wire		L / +	
Closed Position Confirmation	Brown wire		L / +	
Earth	Green wire		E	EARTH

Factory option wiring: 3 Wire with permanent live on closed and switch for open (SPST). Shown in closed position

Neutral	Blue wire		N / -	MOTOR CONTROL for open & closed positions
Live Close Motor Stop	Red wire		L / +	
Live Open Motor Stop	Black wire		L / +	
Common for Position Confirmation	White wire		N / -	POSITION CONFIRMATION for open & closed positions
Open Position Confirmation	Grey wire		L / +	
Closed Position Confirmation	Brown wire		L / +	
Earth	Green wire		E	EARTH

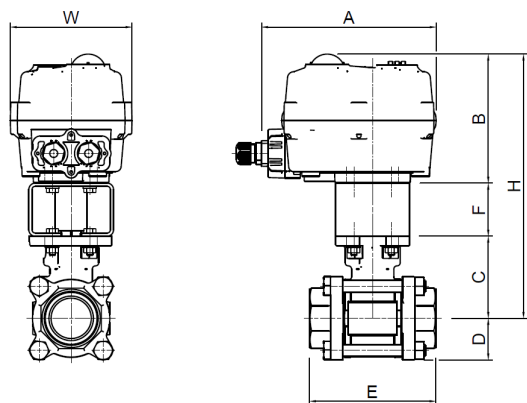
**Typical Dimensions:** Note: Overall dimensions are the same for basic and smart AVS actuators

**Type: EA-2103E** AVA Actuator direct mounted to valve, maximum working temperature +60C



	Model	A	B	C	E	H	W	Kilos
1/2"	20	102	88		56		70	
3/4"	20	102	88		73		70	
1"	20	102	88		82		70	
1 1/4"	20	102	88		91		70	
1 1/2"	60	165	122		104		115	
2"	60	165	122		120		115	
2 1/2"	60	165	122		155		115	
3"	110	166	122		182		115	

**Type: EA-2113E** AVA Actuator fitted to valve via a bracket and drive adapter, maximum working temperature +120C



	Model	A	B	C	F	H	W	Kilos
1/2"	20	102	88		50		70	
3/4"	20	102	88		50		70	
1"	20	102	88		50		70	
1 1/4"	20	102	88		50		70	
1 1/2"	60	165	122		50		115	
2"	60	165	122		50		115	
2 1/2"	60	165	122		70		115	
3"	110	165	122		70		115	

### Brief Comparison Between AVS Compact Actuator Models:

AVA BASIC ACTUATOR	FEATURE	AVSA 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