



Main Features:-

- ◆ 25Nm Break - 20Nm Run Torque
- ◆ Basic Series On Off, Failsafe & Hi Speed
- ◆ Smart Series On Off, Modulating, Failsafe, Bus Communication, EXD, Hi Speed
- ◆ F03-04-05 x 14mm ISO 5211 - IP67 Housing



Basic series



Smart series

Approvals & Certification Available:



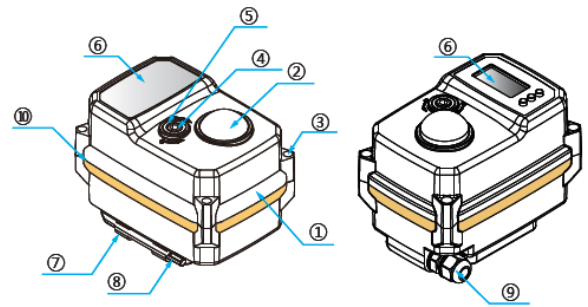
*Check for details and availability on EXD Versions

SERIES: AVA-20

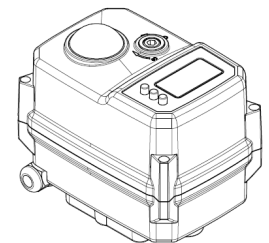
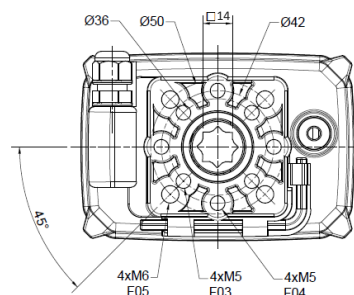
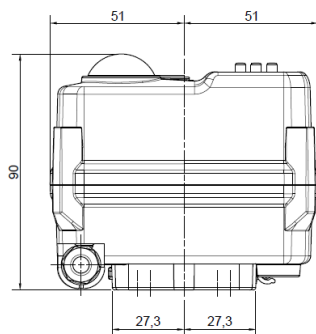
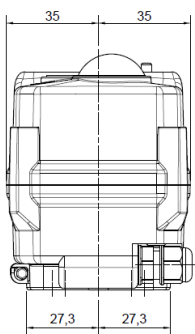
MANUFACTURER:



No	PART	MATERIALS
1	ACTUATOR HOUSING	ABS
2	INDICATOR	TRANSPARENT AS
3	SCREWS IN COVER	304
4	MANUAL OVERRIDE SHAFT	304
5	MANUAL OVERRIDE SEAL	NBR
6	LABEL	PVC
8	MANUAL OVERRIDE WRENCH	STEEL
9	WEATHERPROOF CABLE CONNECTOR	NYLON
10	COVER SEAL	NBR



DIMENSIONS



ACTUATOR DIMENSIONS

UNIQUE SMART ACTUATOR SERIES INTRODUCING SMART SCREEN AND MENU SYSTEM



- M button is used to enter and switch menus.
- K2 is used in conjunction with K3 for adjusting values.
- K3 is used for changing settings, navigating menus, exiting and saving.
- OLED Screen with clear blue letters against a black background

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AVA is a feature rich, compact actuator series. Whilst small in size, the actuator offers all the features you would want from your electric actuator, IP67 housing, heater and position feedback !



SERIES: AVA-20

BASIC ON OFF AND FAILSAFE ACTUATOR SERIES TECHNICAL DATA

Model: AVA B20 20Nm BASIC ON-OFF & AVA B24 FAILSAFE ELECTRIC ACTUATORS

Specification	AC 1ph 50/60Hz			DC	
	AC230V	AC110V	AC24V	DC24V	DC12V
Rated Voltage	AC230V	AC110V	AC24V	DC24V	DC12V
Voltage Range	AC 190-250V	AC90-130V	AC22-28V	DC22-28V	DC10-15V
Consumption B20	13.2W run, 0W hold	15W run, 0W hold	10.8W run, 0W hold	9.6W run, 0.3W hold	93.5W run, 0.3W hold
Peak current B20	60mA for 5ms	135mA for 5ms	450mA for 5ms	500mA for 5ms	1A for 5ms
Consumption B24	40W run, 1.6W hold	40W run, 1.6W hold	36W run, 0.25W hold	36W run, 0.25W hold	36W run, 0.25W hold
Peak current B24	90mA for 5ms	90mA for 5ms	1500mA for 5ms	1500mA for 5ms	1500mA for 5ms
Fuse B20	1A	1A	2A	2A	2A
Fuse B24	1A	1A	5A	5A	5A
Maximum Break Torque Nm	25			25	25
Run & Reseat Torque Nm	20			20	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied				
Run time B20	≈ 15 sec			≈ 10 sec	≈ 12 sec
Run time B24	≈ 15-20 sec			≈ 15-20 sec	≈ 15-20 sec

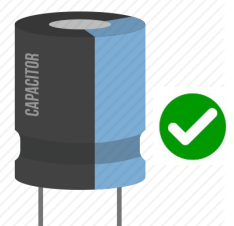
STANDARD FEATURES:

Operating frequency	Not continuous, allow ≥ 1 minute between cycles
Position Indication	Mechanically driven dome style visual 2 colour indicator
Mounting restriction	None, can be mounted at any angle. Leave room for space to operate manually, and for electrical connection
End Position indication	Micro-switches operated by adjustable internal cams , set slightly ahead of the final motor stop position.
ISO:5211	F03 & F05 (+ F04 which mounts at 45 degrees)
Working Angle	Factory set at 90° ±2°, maximum angle of rotation 360°
Female drive	14mm x 17mm deep
Ingress protection	IP67
Max media temp	≤ 80C
Ambient temp	-20 to +60C (ABS) -20 to +80C (Aluminium) Non-operating temp ; ≤ -40C to ≥80C
Cable Length	Flying lead 0.8m as standard with 7 core cable 0.2mm voltage rated AC300V
Ambient humidity	5-95% RH non-condensing
Explosion proof	No, prohibited. Do not use in hazardous areas
Housing	Plastic (ABS)
Weight	With standard ABS housing 0.78kg (With optional aluminium housing 0.98kg)
Options	Extended flying lead option, per metre. Aluminium housing.

ACTUATOR SPECIFICATIONS

AVA'S FAILSAFE CAPACITOR OPTION EXPLAINED - AVA ACTUATORS DO NOT USE BATTERIES!

AVA Actuators do not use Lithium batteries to achieve its failsafe functionality. Unlike most other actuators offering failsafe, AVA uses the latest electrical capacitor technology. This is seen as the next best thing for fail-safe solution if a mechanical spring is not available. AVA actuators use the opening (or closing if normally open) to charge the actuator and ensure the actuator will close on power loss.



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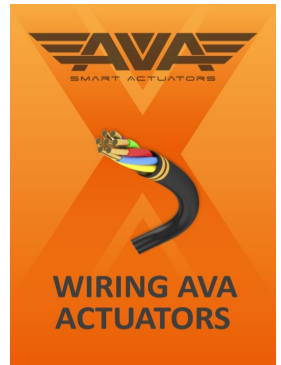
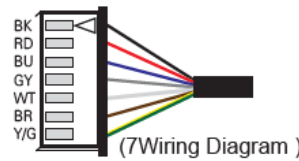
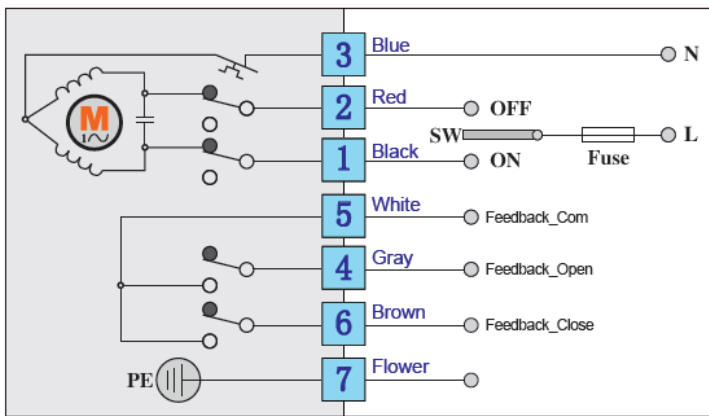
AVA is a revolutionary range of compact actuators offering 20Nm through to 400Nm with On Off, Failsafe, Modulating, Hi Speed functionality. All actuators are IP67 as standard, ISO 5211 direct mount.

SERIES: AVA-20

BASIC ON OFF AND FAILSAFE ACTUATOR SERIES TECHNICAL DATA

Standard Wiring for our ON-OFF Actuators B20

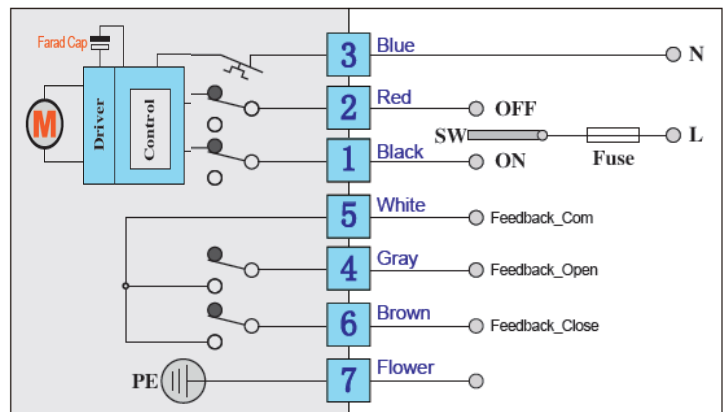
Standard Wiring for our AVA Basic 20 series actuators including all voltages, 12VDC, 24VDC, 24VAC, 110VAC, 220VAC, 24VAC/DC and 95-265VAC 50/60Hz. Our ON-OFF actuators use a simple 3 wire system for control and 3 wire feedback connection as below. Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate.



Standard Wiring for our FAILSAFE Actuators B24

Standard Wiring for our AVA Basic 24 series actuators including all voltages, 12VDC, 24VDC, 24VAC, 110VAC, 220VAC, 24VAC/DC and 95-265VAC 50/60Hz. Our Failsafe actuators use a simple 2 wire system for control and 3 wire feedback connection as below. The Failsafe actuators use capacitors and as such will require an initial charge period. After this point, the actuator will charge whilst opening and on removing power from Pin 2 (Red) the actuator will close. Re applying power to Pin 2 will Open the actuator and again charge the capacitor.

Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate.



WIRING DIAGRAMS





AVA is a revolutionary range of compact actuators offering 20Nm through to 400Nm with On Off, Failsafe, Modulating, Hi Speed functionality. All actuators are IP67 as standard, ISO 5211 direct mount.

SERIES: AVA-20

SMART ON OFF AND SMART FAILSAFE ACTUATOR SERIES TECHNICAL DATA

Model: AVA S2010 20Nm SMART ON-OFF & AVA S2014 SMART FAILSAFE

Specification	High Voltage		Low Voltage	
Rated Voltage	95-265VAC		24VAC/DC	DC12V
Voltage Range	AC 95-265V 50/60Hz DC 100-300V		AC 18-265V 50/60Hz, DC 2-23V	DC 2-32V
Consumption S2010	9.6W run, 0.12W hold		9.6W run, 0.85W hold	9.6W run, 0.85W hold
Peak current S2010	35mA (230V) 75mA (110V) for 5ms		350mA for 5ms	350mA for 5ms
Consumption S2014	9.6W run, 0.12W hold		9.6W run, 0.85W hold	9.6W run, 0.85W hold
Peak current S2014	35mA (230V) 75mA (110V) for 5ms		350mA for 5ms	350mA for 5ms
Fuse S2010	1A		2A	2A
Fuse S2014	5A		5A	5A
Maximum Break Torque Nm	25		25	25
Run & Reseat Torque Nm	20		20	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied			
Run time 0-90 degree S2010	~ 10-12 sec		~ 10-12 sec	~ 10-12 sec
Run time 0-90 degree S2014	~ 15-20 sec		~ 15-20 sec	~ 15-20 sec

STANDARD FEATURES:

Operating frequency	Not continuous, 75% duty cycle but recommended to allow \geq 1 minute between cycles. DC uses Brushless Motor		
Position Indication	Mechanically driven dome style visual 2 colour indicator		
Mounting restriction	None, can be mounted at any angle. Leave room for space to operate manually, and for electrical connection		
End Position indication	Magnetic with digital sensing. No mechanical cams fitted.		
ISO:5211	F03 & F05 (+ F04 which mounts at 45 degrees) with 14mm x 17mm deep female drive.		
Working Angle	Factory set at $90^{\circ} \pm 2^{\circ}$, maximum angle of rotation 360°		
Smart Screen	1.3" Colour OLED screen with touch buttons used for display and menu to customise functionality of actuator		
Ingress protection	IP67		
Max media temp	$\leq 80C$		
Ambient temp	-20 to +60C (ABS) -20 to +80C (Aluminium) Non-operating temp ; $\leq -40C$ to $\geq 80C$		
Cable Length	Flying lead 0.8m as standard with 7 core cable 0.2mm voltage rated AC300V		
Ambient humidity	5-95% RH non-condensing		
Explosion proof	No, prohibited. Do not use in hazardous areas		
Housing	Plastic (ABS)		
Weight	With standard ABS housing 0.78kg (With optional aluminium housing 0.98kg)		
Options	Extended flying lead option, per metre. Aluminium housing. Alarm output relays		





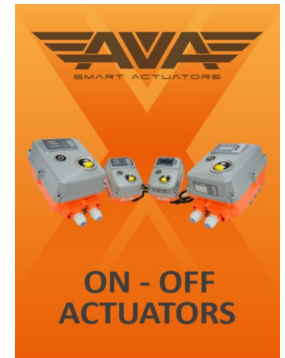
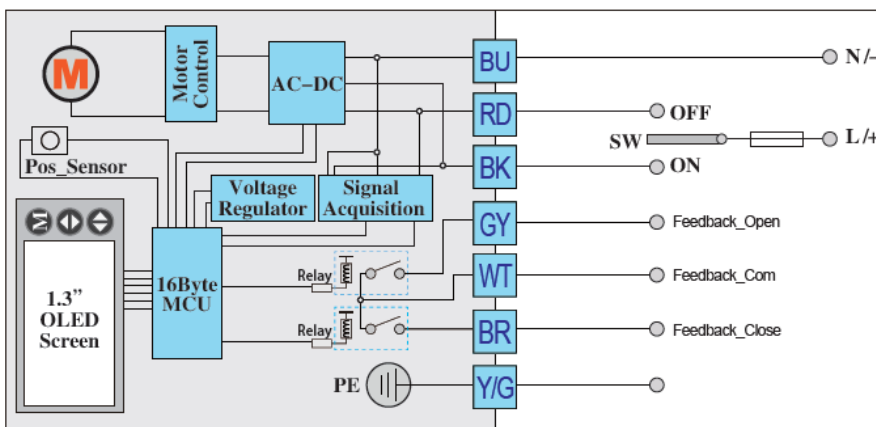
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SERIES: AVA-20

SMART ON OFF AND SMART FAILSAFE ACTUATOR SERIES TECHNICAL DATA

Standard Wiring for our ON-OFF Actuators 2010

Standard Wiring for our AVA Smart 20 series actuators including all voltages, 12VDC, 24VAC/DC and 95-265VAC 50/60Hz. Our ON-OFF actuators use a simple 3 wire system for control and 3 wire feedback connection as below. Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate. [See page 13 for additional wiring configurations](#)



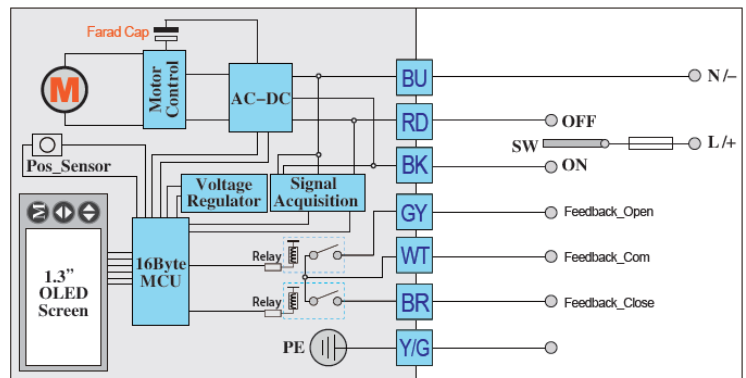
WIRING DIAGRAMS

Standard Wiring for our FAILSAFE Actuators S2014

Standard Wiring for our AVA Smart Failsafe actuators including all voltages, 12VDC, 24VAC/DC and 95-265VAC 50/60Hz. Our Failsafe actuators use a simple 2 wire system for control and 3 wire feedback connection as below. The Failsafe actuators use capacitors and as such will require an initial charge period. After this point, the actuator will charge whilst opening and on removing power from Pin 2 (Red) the actuator will close. Re applying power to Pin 2 will Open the actuator and again charge the capacitor.



Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate.





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SERIES: AVA-20

SMART MODULATING AND MODULATING FAILSAFE TECHNICAL DATA

Model: AVA S2025 20Nm SMART MODULATING & AVA S2026 SMART MODULATING FAILSAFE			
Specification	High Voltage	Low Voltage	
Rated Voltage	95-265VAC	24VAC/DC	DC12V
Voltage Range	AC 95-265V 50/60Hz DC 100-300V	AC 18-265V 50/60Hz, DC 22-32V	DC 22-32V
Consumption S2025	9.6W run, 0.12W hold	9.6W run, 0.85W hold	9.6W run, 0.85W hold
Peak current S2025	35mA (230V) 75mA (110V) for 5ms	350mA for 5ms	350mA for 5ms
Consumption S2026	9.6W run, 0.12W hold	9.6W run, 0.85W hold	9.6W run, 0.85W hold
Peak current S2026	35mA (230V) 75mA (110V) for 5ms	350mA for 5ms	350mA for 5ms
Fuse S2025	1A	2A	2A
Fuse S2026	5A	5A	5A
Maximum Break Torque Nm	25	25	25
Run & Reseat Torque Nm	20	20	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied		
Run time 0-90 degree S2025	~ 10-12 sec	~ 10-12 sec	~ 10-12 sec
Run time 0-90 degree S2026	~ 15-20 sec	~ 15-20 sec	~ 15-20 sec
STANDARD FEATURES:			
Operating frequency	Not continuous, 75% duty cycle but recommended to allow ≥ 1 minute between cycles. DC uses Brushless Motor		
Position Indication	Mechanically driven dome style visual 2 colour indicator		
Mounting restriction	None, can be mounted at any angle. Leave room for space to operate manually, and for electrical connection		
End Position indication	Magnetic with digital sensing. No mechanical cams fitted.		
ISO:5211	F03 & F05 (+ F04 which mounts at 45 degrees) with 14mm x 17mm deep female drive.		
Working Angle	Factory set at $90^{\circ} \pm 2^{\circ}$, maximum angle of rotation 360°		
Smart Screen	1.3" Colour OLED screen with touch buttons used for display and menu to customise functionality of actuator		
Ingress protection	IP67		
Max media temp	$\leq 80C$		
Ambient temp	-20 to +60C (ABS) -20 to +80C (Aluminium) Non-operating temp ; $\leq -40C$ to $\geq 80C$		
Cable Length	Flying lead 0.8m as standard with 7 core cable 0.2mm voltage rated AC300V		
Ambient humidity	5-95% RH non-condensing		
Explosion proof	No, prohibited. Do not use in hazardous areas		
Housing	Plastic (ABS)		
Weight	With standard ABS housing 0.78kg (With optional aluminium housing 0.98kg)		
Options	Extended flying lead option, per metre. Aluminium housing. Alarm output relays		

ACTUATOR SPECIFICATIONS



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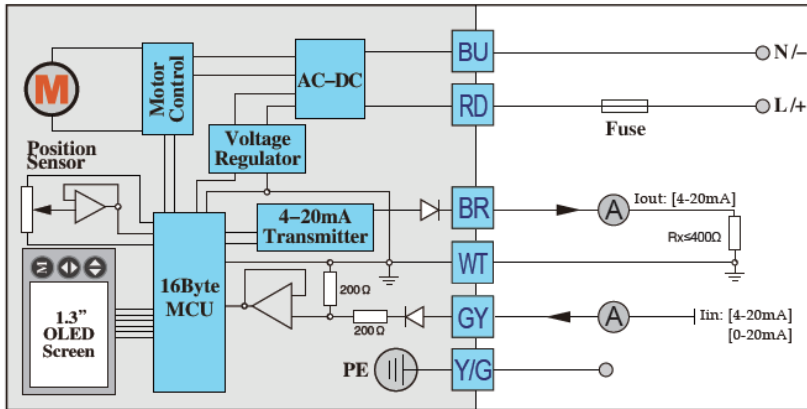
SERIES: AVA-20

SMART MODULATING AND MODULATING FAILSAFE TECHNICAL DATA

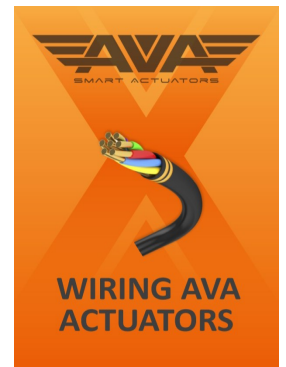
Standard Wiring for our Modulating Actuators 2025

Standard Wiring for our AVA Smart 20 series actuators including all voltages, 12VDC, 24VAC/DC and 95-265VAC 50/60Hz. Our ON-OFF actuators use a simple 2 wire system for power and 3 wire control and feedback connection as below and 3 wire input/ output and common loop for modulating control. Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate. See page 13 for additional wiring configurations

4-20mA/0-20mA



If using 1-5V, 0-5V, 2-10V or 0-10V then in the wiring diagram A is replaced by V and Resistor is 10K. For 20 series, must order as Amp or Volt input/output.



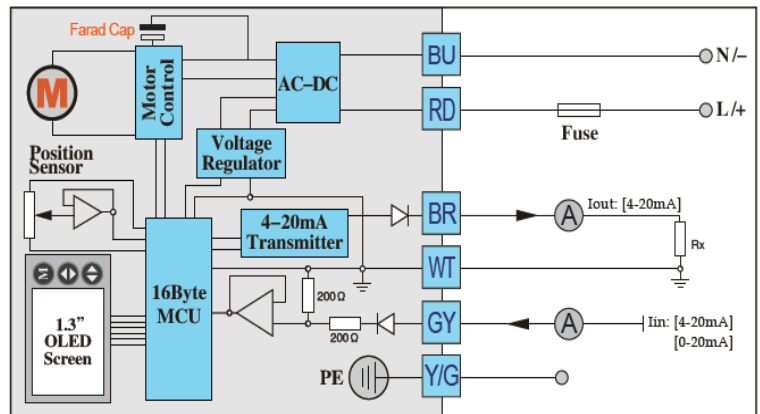
WIRING DIAGRAMS



Standard Wiring for our FAILSAFE Actuators S2026

Standard Wiring for our AVA Smart Modulating Failsafe actuators including all voltages, 12VDC, 24VAC/DC and 95-265VAC 50/60Hz. Our Failsafe actuators use a simple 2 wire system for power, 3 wire control and 3 wire feedback connection as below. The Failsafe actuators use capacitors and as such will require an initial charge period. After this point, the actuator will charge whilst opening and on removing power from Pin 2 (Red) the actuator will close. Re applying power to Pin 2 will Open the actuator and again charge the capacitor.

If using 1-5V, 0-5V, 2-10V or 0-10V then in the wiring diagram A is replaced by V and Resistor is 10K. For 20 series, must order as Amp or Volt input/output.





AVA is a revolutionary range of compact actuators offering 20Nm through to 400Nm with On Off, Failsafe, Modulating, Hi Speed functionality. All actuators are IP67 as standard, ISO 5211 direct mount.

SERIES: AVA-20

SMART HI SPEED AND MODULATING HI SPEED TECHNICAL DATA

Model: AVA S2019 20Nm SMART HI SPEED & AVA S2029 SMART MODULATING HI SPEED

Specification	High Voltage		Low Voltage	
Rated Voltage	95-265VAC		24VDC	DC12V
Voltage Range	AC 95-265V 50/60Hz DC 100-300V		50/60Hz, DC 22-28V	DC 22-28V
Consumption S2019	48W run, 0.58W hold		48W run, 0.58W hold	48W run, 0.58W hold
Peak current S2019	4.5mA for 5ms		4.5mA for 5ms	4.5mA for 5ms
Consumption S2029	48W run, 0.58W hold		48W run, 0.58W hold	48W run, 0.58W hold
Peak current S2029	5mA for 5ms		5mA for 5ms	5mA for 5ms
Fuse S2029	10A		10A	10A
Fuse S2019	10A		10A	10A
Maximum Break Torque Nm	20		20	20
Run & Reseat Torque Nm	15		15	
Manual operation	Yes, by hexagonal wrench (supplied in clip) when no power is being applied			
Run time 0-90 degree S2019	≈ 5-6 sec	≈ 1-2 sec	≈ 1-2 sec	
Run time 0-90 degree S2029	≈ 5-6 sec	≈ 1-2 sec	≈ 1-2 sec	

STANDARD FEATURES:

Operating frequency	Not continuous, 75% duty cycle but recommended to allow ≥ 1 minute between cycles. DC uses Brushless Motor
Position Indication	Mechanically driven dome style visual 2 colour indicator
Mounting restriction	None, can be mounted at any angle. Leave room for space to operate manually, and for electrical connection
End Position indication	Magnetic with digital sensing. No mechanical cams fitted.
ISO:5211	F03 & F05 (+ F04 which mounts at 45 degrees) with 14mm x 17mm deep female drive.
Working Angle	Factory set at 90° ±2°, maximum angle of rotation 360°
Smart Screen	1.3" Colour OLED screen with touch buttons used for display and menu to customise functionality of actuator
Ingress protection	IP67
Max media temp	≤ 80C
Ambient temp	-20 to +60C (ABS) -20 to +80C (Aluminium) Non-operating temp ; ≤ -40C to ≥80C
Cable Length	Flying lead 0.8m as standard with 7 core cable 0.2mm voltage rated AC300V
Ambient humidity	5-95% RH non-condensing
Explosion proof	No, prohibited. Do not use in hazardous areas
Housing	Plastic (ABS)
Weight	With standard ABS housing 0.78kg (With optional aluminium housing 0.98kg)
Options	Extended flying lead option, per metre. Aluminium housing. Alarm output relays

ACTUATOR SPECIFICATIONS



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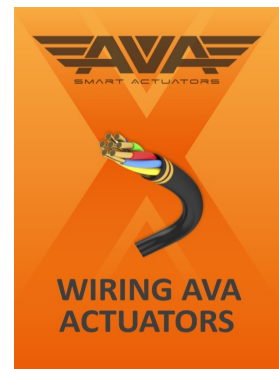
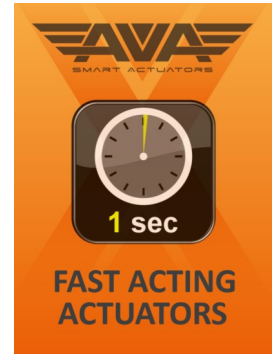
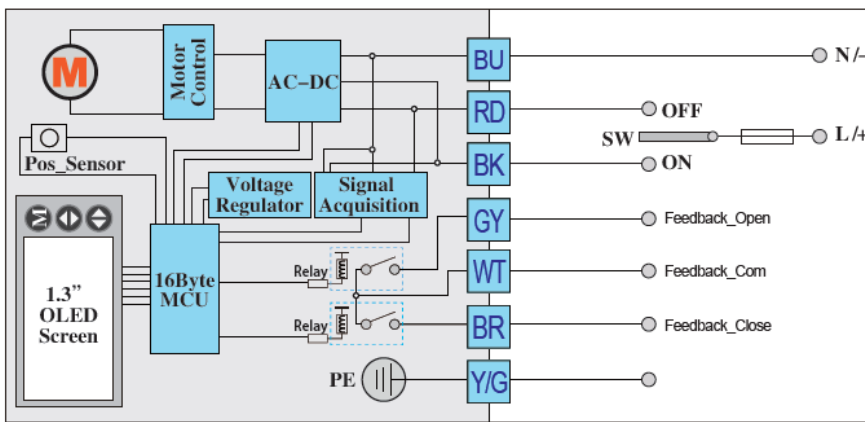
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SERIES: AVA-20

SMART HI SPEED AND MODULATING HI SPEED TECHNICAL DATA

Standard Wiring for our ON-OFF Actuators 2019

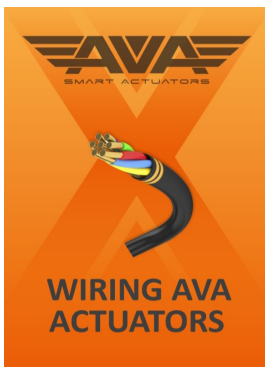
Standard Wiring for our AVA Smart 20 series actuators including all voltages, 12VDC, 24VAC/DC and 95-265VAC 50/60Hz. Our ON-OFF actuators use a simple 3 wire system for control and 3 wire feedback connection as below. Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate. **See page 11 for additional wiring configurations**



WIRING DIAGRAMS

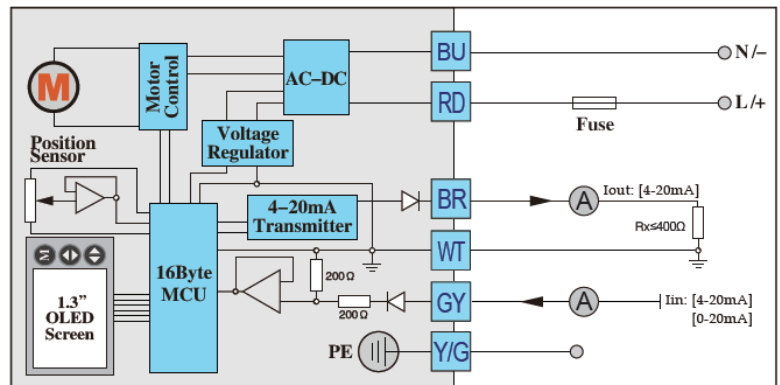
Standard Wiring for our Hi Speed Modulating Actuators S2029

Standard Wiring for our AVA Smart 20 series actuators including all voltages, 12VDC, 24VAC/DC and 95-265VAC 50/60Hz. Our ON-OFF actuators use a simple 2 wire system for power and 3 wire control and feedback connection as below and 3 wire input/ output and common loop for modulating control. Note that the internal Space heater is pre wired and doesn't require additional wiring. When the actuator is powered, the internal heater will operate. **See page X for additional wiring configurations**



If using 1-5V, 0-5V, 2-10V or 0-10V then in the wiring diagram A is replaced by V and Resistor is 10K. For 20 series, must order as Amp or Volt input/output.

4-20mA/0-20mA





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SERIES: AVA-20

WHAT ELSE IS AVAILABLE FROM AVA ?

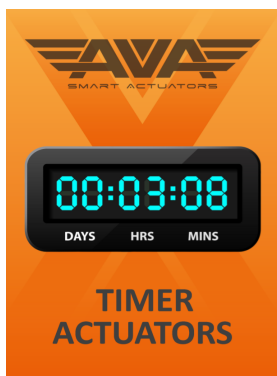


ATEX - EXD Approved 20 Series

Available for Basic and Smart series 20 only currently, we can offer a robust aluminium housed actuator suitable for On Off, Failsafe, Modulating and Modulating Failsafe actuators. Offering a very compact actuator for use in Hazardous areas, these actuators are limited to an 11mm output drive currently, F03/04/05 ISO 5211. Note that in 2019-2020 we will be launching a full range of ATEX/EXD/ UL certified actuators for full use in the European, USA and Canadian markets.

WIRELESS RF ACTUATORS

Available for the smart actuators that we offer, AVA offer a wireless controlled actuator that is using the latest technology in RF control. Using our smart actuators we are able to give open and close functionality over large distances uses a number of wireless / RF technologies. This is mainly designed for applications where long distance control is needed and where power is available but control is not, such as out buildings. The wireless control can be a 1 to 1 connection or 1 to 10 connection for example. Call your AVA sales team for more information.



TIMER ACTUATOR SERIES

AVA have a very unique offering in our Timer series actuators. The AVA Smart actuators use the onboard firmware and menu system to give the customer a programmable timer function within the actuator. The user can set various methods of opening and closing for example either as a PULSE timer (power open, wait a set period of time and automatically close) or DAY timer which allows a schedule of operations to be setup via the intuitive menu system. This actuator series removes the need of PLC's to control your actuator. All you need is power.

ADDITIONAL FUNCTIONALITY FROM AVA



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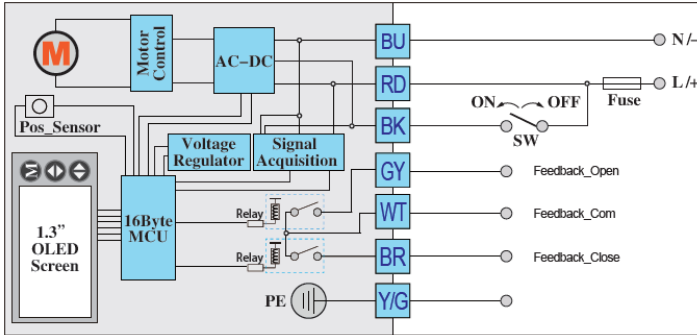
F +44 (0)1386 554227

AVA is a revolutionary range of compact actuators offering 20Nm through to 400Nm with On Off, Failsafe, Modulating, Hi Speed functionality. All actuators are IP67 as standard, ISO 5211 direct mount.

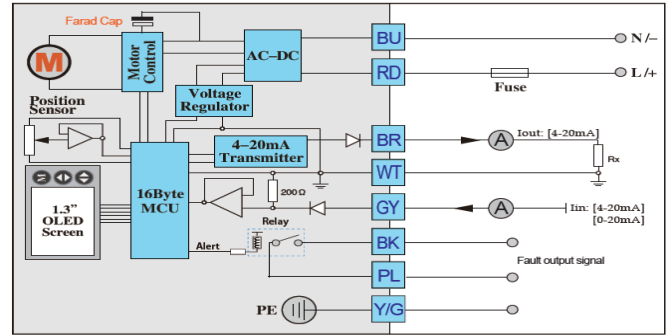
SERIES: AVA-20

ALTERNATIVE WRING CONFIGURATIONS AVAILABLE FROM AVA

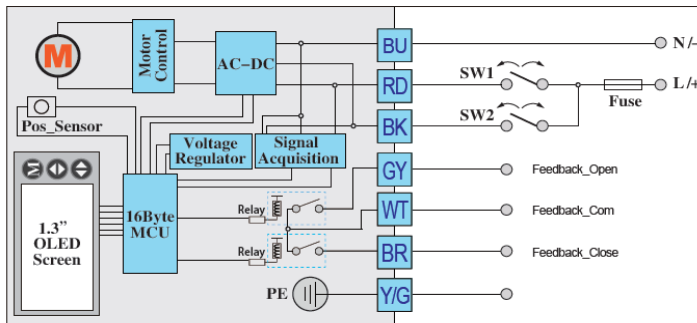
ACTUATOR WRING OPTIONS



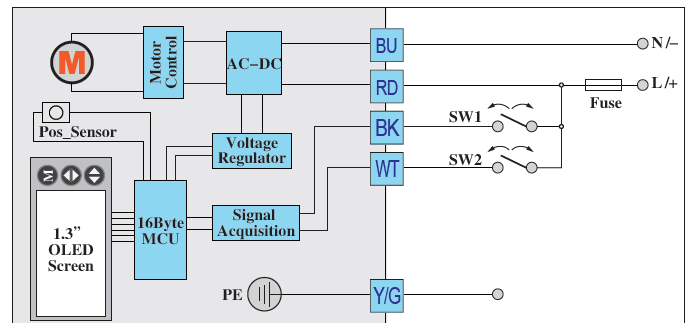
Wiring G: BD3J - SPST / Relay Position Confirmation



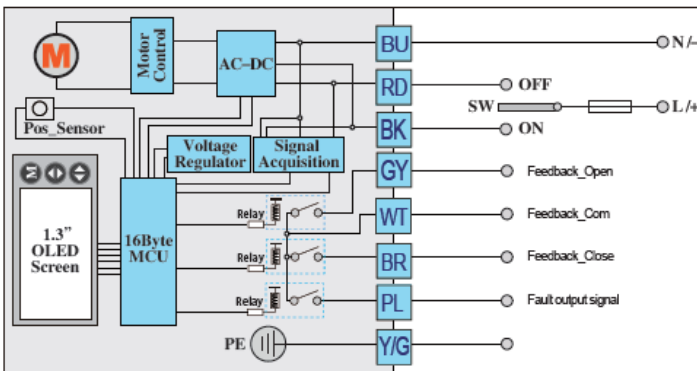
Wiring P2: 4-20ma Failsafe with alarm output



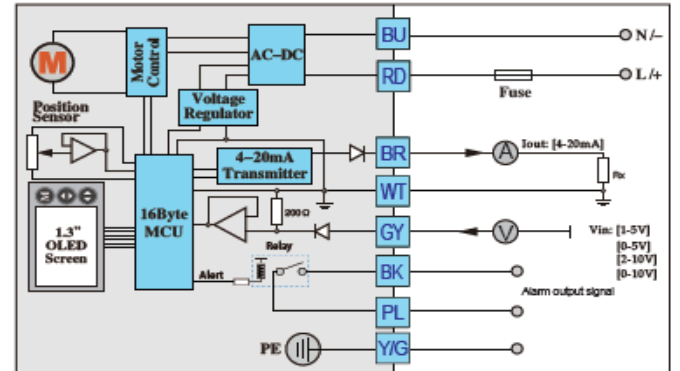
Wiring J: B3J2 2 x SPST / Relay Position Confirm (3 position)



Wiring M: B4 SPST / No position confirmation (4 position)



Wiring F: B3JA 2 x SPDT/Relay Position Confirm + Alarm Output



Wiring U5: 0-10V Control/ Feedback with Alarm Output

AVA Wiring Options

As you will see from the previous page, our AVA electric actuators are capable of various wiring configurations based on what your application requires. As detailed, our standard for our Basic actuators is what we call B - B3S which is a SPDT with volt free position confirmation. Our Smart actuators use E - B3J which is SPDT Relay position confirmation. Remember that all of our Smart units don't use mechanical cams and micro switches. A digital encoder and relays are used. The following are some of the additional wiring diagrams that you might find of interest, that are available for our Smart actuators including 3 and 4 position wiring configurations. **Check with your AVA reseller for lead time on non stock wiring configurations.**

