TECHNICAL DATASHEET

SERIES 20



BASIC SERIES

- Our most popular series of actuator, most sold type globally each year
- Very compact housing offering 20Nm torque output. Ideal for actuating your small bore valve sizes, such as brass, stainless or PVC ball / butterfly valves.
- Multi Voltage 24VAC/DC or 95-265VAC voltage range, reducing stock required to be held to cover possible on site voltages.
- Fast Acting option of 1 second version available when operating on 24VDC motor.
- Available with internal super capacitor fitted for Failsafe functionality.

Version 001: 3/10/22 subject to change without notice

Technical Specifications

Rated Torque Nm (in.lbs):	25Nm Break (221) / Run 20Nm (178)	Enclosure:	PC+ PET Plastic Housing **
ISO 5211:	F03/04/05 x 14mm Output Drive	LED Status Light:	Yes, RGB Open, Close, Alarm, 3rd Position
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-15 seconds
Connecting Cable:	0.8m pre wired AC300V rated 7 core*	IP Rating:	IP67 / Nema 4x
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 › +80C ***
Duty Cycle:	75% rated	Shock Resistance:	‹300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical Dome Window. As above	Installation :	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS****
Explosion Proof:	No, not to be used in a hazardous location. Can only be used in safe area applications.		

* Standard cable length is 0.8m, we can supply extended cables to the required length. Note cable extension at additional cost

** PC+PET plastic housing as standard. Aluminium cover available on 3-4 week lead times typically.

*** Note that we can extend the lower temperature range through special lubricant and grease and upgraded heater system. Speak to your sales representative.

**** AVA has began the process to have all of our electric actuators approved for UL and CSA

Main Ordering Codes for Basic Series: *indicates standard options for stock product

Example : B205-PHB-14

Series ›		Function ›		Voltage ›		Housing ›		Heater ›		Wiring ›		Output Drive ›	
B	Basic	20	On Off	1	220VAC	P	PC+PET*	H	Included*	A	3 wire SPST	11	11mm
		24	Failsafe	2	110VAC	A	Aluminium	0	Without	B	*3 wire SPDT	14	*14mm
		219	Hi Speed	3	24VAC					G	2 wire		
				4	24VDC								
				5	95-265VAC*								
				6	24VAC/DC*								
				7	12VDC								

*For single voltage actuators, the actuator will not have an LED light. For multi voltage actuators the LED is standard. For 1 second operation, this is only available with 24VDC single voltage motor. All actuators are as standard supplied with a heater.
For 11mm output drive, these are on an extended delivery time. 14mm is our standard stocked option.

English version. Available in Spanish

Join the orange and grey revolution

TECHNICAL DATASHEET

SERIES 20

SMART SERIES

- Introduces OLED screen with colour display, providing the user with visual display of actuator status including any Alert conditions that might occur.
- SmartMenu provides onboard Firmware and enables user to change certain parameters in the actuator including speed, angle, accuracy.
- Local Control as standard allows the user to operate the actuator open › close via the touch buttons.
- Increased functionality including Modulating, Failsafe Modulating, Modulating Hi Speed, Modbus RS485/RTU, Multi Turn and Timer series.



Version 001: 3/10/22 subject to change without notice

Technical Specifications:

Rated Torque Nm (in.lbs):	25Nm Break (221) / Run 20Nm (178)	Alarm Relay:	Yes, option for fault alarm output
ISO 5211:	F03/04/05 x 14mm Output Drive	LED Status Light:	Yes, RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-15 seconds
Connecting Cable:	0.8m pre wired AC300V rated 7 core*	3 Position Function:	Yes, setup via SmartMenu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via SmartMenu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	Yes, DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Pre set at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Yes via SmartMenu using touch buttons	Reverse Acting:	Yes, set via SmartMenu
Speed Control:	PWM or PULSE speed control via SmartMenu	Fail to 3rd Position:	Yes, set via SmartMenu
Explosion Proof:	No, not to be used in a hazardous location. Can only be used in safe area applications.		

** See previous page for details on options available on pre wired cable lengths, temperature rating, cover and upcoming approvals.

Main Ordering Codes for Smart Series: *indicates standard options for stock product

Example : S2010-6PHE-14

Series ›		Function ›		Voltage ›		Housing ›		Heater ›		Wiring ›		Output Drive ›	
S20	Smart	10	On Off	4	24VDC	P	*PC+PET	H	*Included	E	*3 wire SPDT	11	11mm
		14	Failsafe	5	95-265VAC	A	Aluminium	0	Without	P	4-20mA	14	*14mm
		19	Hi Speed	6	24VAC/DC					U	0-10V	Alarm Relay ›	
		25	Modulating	7	12VDC					V	2-10V	A	Alarm
		26	Modulating Failsafe							W	RS485 Modbus		
		29	Modulating Hi Speed										
		31	Modbus On Off										
		34	Modbus Failsafe										
		35	Modbus Modulating										

*For Smart series we only offer Multi Voltage versions, unless Hi Speed 24VDC to achieve 1 second run time. Note that we cannot currently offer Hi Speed Failsafe function.

SCAN ME

New feature, we are adding a QR label to all of our products that will enable users of our product to have quicker and more direct access to support documents via our new purpose built QR website. Simply scan the QR code using your Smart phone camera and you will be taken directly to the specific actuator you have on site and will have access to Technical Datasheets, Firmware guides and product support videos.

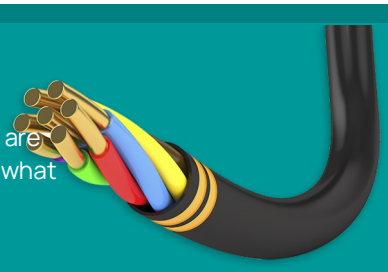
Technical Support: +44(0)1386 556847 | **technical@avactuators.co.uk**

TECHNICAL DATASHEET

SERIES 20

POWER & WIRING

All you need to know for sizing the correct power supply for the actuators you are installing including the power requirements when the actuator is running and what we would call Peak or maximum power requirements.

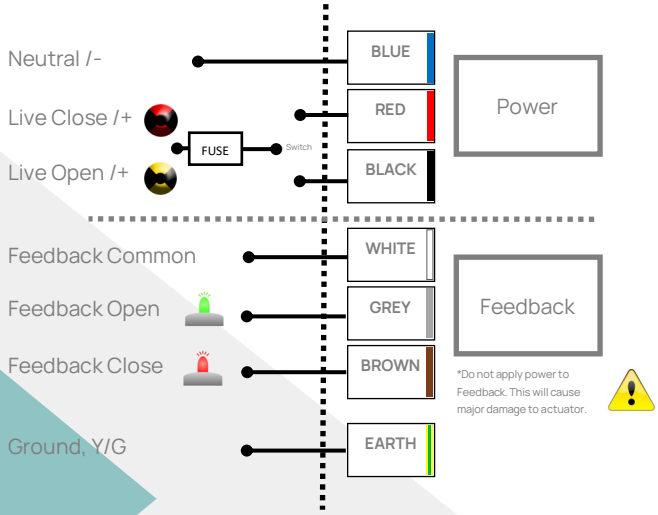


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Power Ratings for most common series: including run torque and peak current for sizing power supply

Code	Voltage	Power	Time	Fuse	Peak	Code	Voltage	Power	Time	Fuse	Peak
B205-PHB-14	95-265VAC	15W	10s	2A	1A	S2025-5PHP/U-14	95-265VAC	15W	10s	2A	1A
B206-PHB-14	24VAC/DC	15W	10s	2A	1A	S2025-6PHP/U-14	24VAC/DC	15W	10s	2A	1A
B245-PHB-14	95-265VAC	36W	10s	4A	1A	S2026-5PHP/U-14	95-265VAC	36W	10s	4A	1A
B246-PHB-14	24VAC/DC	36W	10s	4A	1A	S2026-6PHP/U-14	24VAC/DC	36W	10s	4A	1A
B2195-PHB-14	95-265VAC	85W	6s	10A	1A	S2029-5PHP/U-14	95-265VAC	85W	6s	10A	1A
B2194-PHB-14	24VDC	85W	1s	10A	1A	S2029-4PHP/U-14	24VDC	85W	1s	10A	1A
S2010-5PHE-14	95-265VAC	15W	10s	2A	1A	S2031-5PHW-14	95-265VAC	15W	10s	2A	1A
S2010-6PHE-14	24VAC/DC	15W	10s	2A	1A	S2031-6PHW-14	24VAC/DC	15W	10s	2A	1A
S2014-5PHE-14	95-265VAC	15W	10s	4A	1A	S2034-5PHW-14	95-265VAC	36W	10s	4A	1A
S2014-6PHE-14	24VAC/DC	36W	10s	4A	1A	S2034-6PHW-14	24VAC/DC	36W	10s	4A	1A
S2019-5PHE-14	95-265VAC	85W	6s	10A	1A	S2035-5PHW-14	95-265VAC	85W	6s	10A	1A
S2019-4PHE-14	24VDC	85W	1s	10A	1A	S2035-6PHW-14	24VDC	85W	1s	10A	1A

Standard On Off, Failsafe and Hi-Speed Open/Close Wiring: Additional wiring options available online.

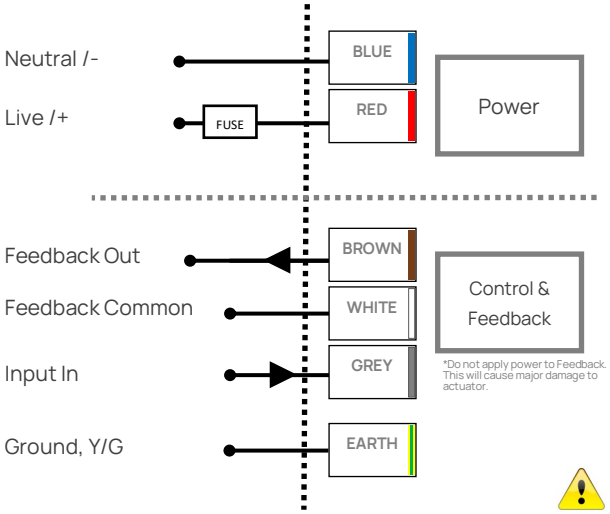


Failsafe versions have internal capacitor, this is charged whilst power is applied. When power is removed, the actuator will close or open depending on what you have ordered. Re-apply power and the capacitor will charge again and is always being charged when power is applied. When actuator is powered, heater is working.



*Failsafe via internal super capacitor

Standard Modulating including Failsafe and Hi-Speed Wiring: Additional wiring options available online.



Note that Black is not used as standard unless Alarm Relay option is selected. Separate wiring schematic available for actuators with alarm. For Series 10, you must order the specific Control you require, you cannot select between Control input via firmware as you can with Series 50-400.

Our complete range covers 10-400Nm

TECHNICAL DATASHEET

SERIES 20

MATERIALS & DIMENSIONS

Below are the materials of construction, including any options available for this spe-cific series. Dimensional drawing can also be found below detailing key dimension details including ISO 5211 mounting details.

Version 001: 3/10/22 subject to change without notice





Cover and base is PC+PET

Screen has UV rated cover. Labels are PVC. Touch buttons on Smart series are rubber

Manual override shaft is plated steel, seal is NBR rubber.

Transparent AS plastic dome indicator.

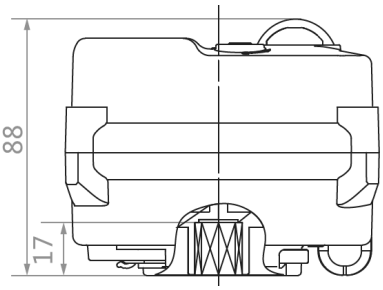


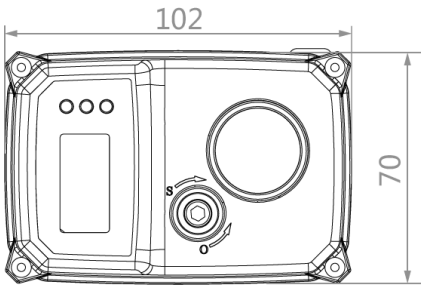
Manual Override Key is steel

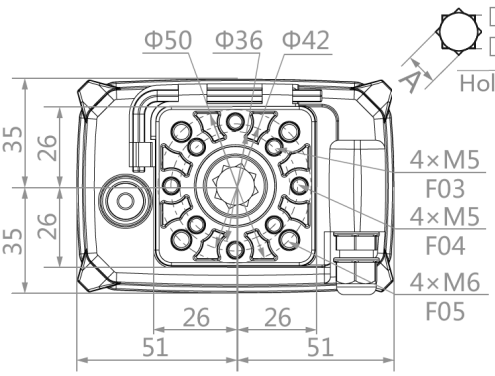
F03 and F05 inserts are plated. F04 @ 45 degrees is brass.

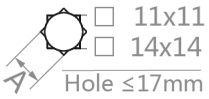
Output drive is Carbon Steel.

Cable entry is Nylon









* Note that the Basic and Smart series are the same physical size.



WEiPU® Connector



We are able to supply our actuators with a prewired cable with IP67/68 weatherproof rated plug and play connector. We can supply both male and female connectors with a pre determined cable length required. We are able to terminate the cable for your PLC as required, loose for you to terminate or with a panel mount connector for example. Options include screw terminal and welded (soldered) con-nection.

To access our website for additional support documents, con-tact information and latest news, simply scan the QR code. You can find our list of official distributors at our website.

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