USER GUIDE VERSION 14.0

- Screen by screen user guide
- Covers Smart Series Modulating, Modulating /w Failsafe and Modulating Hi Speed versions.
- For On Off, Modbus, Multi Turn or Timer, see specific guides.
- Our products are continually developed through Firmware revisions.
- We will release an update to show changes between software as and when we release new firmware versions.
- Check our Product Library online at www.avactuators.co.uk/support

Version 001: 13/10/22 subject to change without notice

SMART ACTUATORS WITH OLED SCREEN, TOUCH BUTTONS AND SMARTMENU™

All of our Smart actuators have a colour OLED screen and 3 x touch buttons. The screen will typically tell you all you need to know about your actuator, from the input command to the actual position, any problems with the actuator such as loss of power (if failsafe) or flash ALERT if the actuator as an alarm condition such as an over torque situation or valve jam. As standard, all of our actuators have Local Control as explained below. The touch buttons are used to navigate our onboard firmware to adapt and change the actuator settings to enable you, the user to customise our Smart actuators to your application and own specific requirements.

How to access the main customer accessible menus:	
Main Menu:	Hold M for 3 seconds and enter the password 333 to access main user Main Menu.
Local Control:	Hold K3 (bottom button) for 3 seconds and enter the password 111 to access Local Control / manual override
Reset:	Need to go back to factory reset/default settings? Hold all 3 buttons for 3 seconds and enter 6666.
Note:	If the actuators is left in a menu screen without a change in 120 seconds, the actuator will exit the menu.

Understanding the default screen: this is the screen you will see when not in a menu but the actuator is powered				
1.	Input Command: ON = Open OFF = Closed	5.	K2 = Button used in SmartMenu	9. On power up shows the total number of errors. You can also view this screen whenever exiting a menu. *Note that this information turns off quickly.
2.	Angle: Shown as %. 0% is Closed 100% Open	6.	K3 = Button used SmartMenu/Local Control	
3.	IDLE: Actuator is waiting next command	7.	On power up, shows Firmware Version Number	
4.	M = Button to enter / use in SmartMenu	8.	On power up, shows total number of cycles	

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.

SCAN ME

English version. Available in Spanish

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UserSET PassWord: XXX	User settings are accessed by holding down the 'M' button for ~3 seconds, after this time the screen will request a password. The User Settings password is simply: 333 Use 'K2' to select the column and 'K3' to change the number.
UserSET DisMod: English	Display Mode allows the user to choose English or Chinese. If you hard reset the actuator using 6666 password, this will default the actuator to Chinese. To change back to English, simply hold M, enter 333, press M to go to the first screen and press K2 to select English.
UserSET Channel: 4To20mA	When modulating you will wire the actuator based on 4-20mA or 0-10V. The default is 4-20mA. Other options include 1-5V, 0-20mA and 2-10V. Note that in Series 10/20 you must order specific to your requirement. You cannot change via firmware. Series 50-110 you can change via firmware, but should always re calibrate your actuator. See page 6.
UserSET MVF_FiltCoe: 15	The actuator will digitally filer the input signal. The bigger value, the better filter effect, but the responding time of the actuator to the signal will be longer. So, this value should not be too high. *Not recommended to change default setting*.
UserSET LPF_FiltCoe: 15	LPF_FiltCoe: Low-Pass-Filter. The smaller coefficient, the more stable filtering effect, the lower sensitivity; The bigger coefficient, the higher sensitivity, the more unstable filtering effect;. *Not recommended to change default setting*.
UserSET SampPerod: XXms	SampPerod is sampling period of control signal. The shorter the period, the more sensitivity of sampling to control signal. *Not recommended to change default setting*.
UserSET Ctrl_Mode: Dir	Control Mode is our onboard feature which allows a signal to be swapped. For example, with 'Dir' selected 4mA would be Closed or with 'Rev' selected 4mA would be Open.
UserSET NoCtr_Act: On	When the input signal is lost, for example 4-20mA or 0-10V, but actuator still has power, the actuator can use the power to move to a preset position. This can be ON (open) OFF (closed) KEEP (keep current position) or B33 (this is a 3rd position set in firmware)
UserSET IsGo_Hyste: Yes	This setting is a prerequisite to the next option 'Hysteresis'. This option simply enables or disables the Hysteresis function. The default is 'NO'.

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UserSET **Hysteres: X.X%**	As per the previous screen, you must select 'YES' to enable this function. This option would be used if the output drive does not engage with the valve stem immediately. The actuator will move to the set % before it starts its 90° turn.
UserSET **DeadZone: X.X%**	DeadZone is a sensitivity feature which allows for much more accurate positioning. The AVA default setting stops the actuator from hunting on a signal.
UserSET **DW_Close: X.X%**	DW_Close is the system default parameter. It is not necessary to adjust this value. The system default is 0.8-1.5. _Not recommend to change default setting_.
UserSET **SpeedMax: XXX%**	Maximum speed setting: mainly to adjust the maximum speed of the actuator when running, the value range is "minimum speed" ‹ operation Speed ‹ 100%. The higher the value, the higher the operating speed, and the maximum speed will not exceed its rated speed. _Note speed control can reduce torque output_
UserSET **SpeedMin: XXX%**	Minimum speed setting: mainly adjust the minimum speed of the actuator operation, the value range is 25%‹ the operating speed is ‹Maximum speed. The smaller the value, the slower the running speed, and the minimum speed will not be less than 25% of the rated speed. _Note speed control can reduce torque output_
UserSET **PosiFOFSpd: XX%**	PosiFOFSpd is the actuator running speed in the range of deadzone. The system default is 85%. _Not recommend to change default setting_.
UserSET **RangeAdj: XX.X%**	Set the actuator to reach the control range for the specified position. The default is 10.0%
UserSET **Manu_Spd: XXX%**	Manual Speed allows the user to dictate the speed in which the 'Manual' operation runs.
UserSET **StallTime: 1X**	Stall Time represents the delay between the actuator detecting an error and the actuator triggering the alert signal (LED will light BLUE).

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UserSET **BrkDelay: 100ms**	Break Delay allows the actuator to delay its movement from one position to another.
UserSET **PosiOFBrk: 100ms**	PosiOFBrk is the brake delay time in the range of Deadzone of full-close. The default is 80ms.
UserSET **SWDIR_Dly: 0ms**	Switch Direction Delay is similar to the above setting, although this is based on a sudden change of direction rather than end of travel. _Not recommend to change default setting_.
UserSET **PDChk_Time: 20x**	Power Down Check Time dictates the delay on the actuator using the capacitors to close on loss of power. E.g. if loss if power lasts 2 seconds the actuator would not immediately begin to close. *Only applicable if actuator is Failsafe type*
UserSET **CapCharge: XXX%**	Failsafe actuator capacitors should be fully charged before the actuator is operable and therefore the default setting reflects this. But with this setting you can change the actuator to power on at an earlier %. *Only applicable if actuator is Failsafe type*
UserSET **B33Posi: XX%**	B33 is the AVA version of a 3rd position. This setting allows the user to adjust the angle of that 3rd position. Note that the range of the actuator for open and close is 0-100%. Example, if you set the B33 to 50% it will set the mid position as 45 degrees or 50% open.
UserSET **Posi_0: XXX%**	This setting allows the user to adjust the angle of to open position.
UserSET **Posi_90: XXX%**	This setting allows the user to adjust the angle of the closed position.
UserSET **RevDis: Normal**	4-20mA: Control direction: Direct acting (Dir), Reverse acting (Rev). Direct acting: 4mA means valve is totally off, 20mA means valve is totally on. Reverse acting: 4mA means valve is totally on, 20mA means valve is totally off

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UserSET DisPosi: Pos420	DisPosi is the setting to displaying mode. This parameter is setting to the display value of Posi 4mA and Posi 20mA. 0-100%:is logic displaying value;Pos420 is practical position value.
UserSET FKChkMod: FK_ERR	FKChkMod is setting the mode of feedback signal and LED, If you set as ERR , then the LED light means the actuator is in alarm status If you set as B33 ,then the LED light blue means the actuator arrive to the B33 position
UserSET Out_4mA: X.X%	If the deviation value of the output current of 4mA is large, it can be adjusted by modifying this value
UserSET Out_20mA: XX%	If the deviation value of the output current of 20mA is large, it can be adjusted by modifying this value
UserSET PDAction: 20x	Power Down Action allows the user to dictate the failsafe position. Whether that be Open, Close, complete the last signal given or Keep in position.
UserSET TestAlarm: ON	To replicate an 'Alert' situation we can set the 'Test Alarm' to 'ON'. This will turn the LED Blue, if you purchased your actuator with an alarm relay, this will also generate a signal.
UserSET AlarmFreq: XX/m	Alarm Freq is one kind of warning words. It means the actuator will flash HF SW on the top right corner on the screen when the number of switching control signals is over the set number. HFSW will appear if a high level of switching of signal occurs.
UserSET StartUpDelay: X.Xs	StartUpDly is the displaying time of the start-up interface. The default value is 0.5s.
UserSET Cycles: XXXXXXXX	Cycles is a parameter which displays the running numbers of the actuator.

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UserSET ErrStall: XXXXXX	Shows the amount of times the actuator has gone into alert .
UserSET SoftVer: vXX.X	Shows the firmware version number.
UserSET ExitSET: Push K3	Once you have made any of the necessary changes, please press K3 to save and exit. You will see the message 'SaveOK' appear and the actuator will display a 'Thank you for your use' message and default back to the default screen that displays actuator input and actual position.

Local Control / Manual Control under power:

This mode is to control the actuator locally when power is applied to the actuator. Simply hold the bottom button (K3) for 3-4 seconds and enter the password 111 and press M.

Once in the menu you will see Manual displayed on screen, the actuator can now be controlled by pressing K2 (middle button) and K3. This will open/close the actuator. To exit the screen simply press M and you will return to the powered mode and the actuator will return to the signal currently being applied. If the actuator is left in Local Control, after approx. 45 seconds the actuator will return to the powered mode.

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Manual:    OFF
Angle:     XX.XX%
           K2 OFF
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Remember to not use the Manual Override via Allen key when power is applied. Refer to the Installation, Operation and Maintenance guide.

Open 100% 10V/20mA 90° Yellow/Yellow Green LED	Closed 0% 0°= 0V/2V/4mA Red / Red Red LED	Blue LED shows ALERT mode. Motor failure or overload torque from valve

It is possible to set the actuator 0-180 degree working angle for example, 0 = 4mA and 180 = 20mA. Contact us for more information.

*See specific guide on how to re calibrate your actuator from 4-20mA to 2-10V or 0-10V. Online at www.avactuators.co.uk/support

For more support documents, video and general product information visit www.avactautors.co.uk.

To view other Firmware guides for Modulating actuators and Series 200-400, click on the image of the actuator. As we update our Firmware guides, we will make superseded versions available for download on our website.

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