



USER GUIDE VERSION 11.6

- Screen by screen user guide
- Covers Smart Series Multi Turn On Off
- For Standard, Modulating, Modbus or Timer, see specific guides.
- Firmware guides are updated on a continuous basis for on going development and improvement of our actuators.
- 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 AVA 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.



English version. Available in Spanish



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<p>UserSET PassWord: XXX</p>	<p>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.</p>
<p>UserSET DisMod: English</p>	<p>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.</p>
<p>UserSET SetTurns: XX.XX</p>	<p>Here you can set the number of turns required for your valve. Series 20 has a max number of turns of 5, Series 50 has a max number of turns of 15 and the Series 80-110 have a max number of turns of 20. See our Multi Turn datasheet for more details.</p>
<p>UserSET Md360° 1x:XX.XX%</p>	<p>Md360 allows you set a different % of a turn with a set turn. So for example you can adjust each turn individually in addition to setting the above overall turns of the actuator. <i>In general this setting is not required to be changed.</i> The number of screens determines how many screens are shown. For example, for Series 20, there are 5 additional screens. Range is 90-110%</p>
<p>UserSET DeadZone: X.X%</p>	<p>DeadZone is a sensitivity feature which allows for much more accurate positioning. The AVA default setting stops the actuator from hunting on a signal.</p>
<p>UserSET Hysteres: X.X%</p>	<p>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.</p>
<p>UserSET CIPosAdj: XX%</p>	<p>This setting allows you to make a small adjust to angle of the closed position.</p>
<p>UserSET B33Posi: XX%</p>	<p>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.</p>
<p>UserSET RB1Mode: REMOTE</p>	<p>Refers to the feedback mode, the option as following: REMOTE: Remote function. The LED will show blue and alarm signal will be remoting signal when someone press the key. Out_4mA:4-20mA feedback.</p>



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<p>UserSET FK_Refer: ANGLE</p>	<p>FK_Refer :By2CMD:Feedback is execute according to the feedback mode CM_POS: Feedback is according to the angle corresponding with the command. At this mode, the above "feedback mode" is invalid and the feedback is only execute according to the angle.</p>
<p>UserSET FK_Mode: FK_ERR</p>	<p>This setting sets the feedback mode. FK_ERR means the feedback is for the alarm and the LED will light blue . If user choose the B33 , the led will change to Blue when the actuator is in the 3rd position. Blue LED will also show when actuator is in ALERT condition.</p>
<p>UserSET Out_4mA: X.X%</p>	<p>If the deviation value of the output current of 4mA is large, it can be adjusted by modifying this value</p>
<p>UserSET Out_20mA: XX%</p>	<p>If the deviation value of the output current of 20mA is large, it can be adjusted by modifying this value</p>
<p>UserSET Speed_PUL: XXX%</p>	<p>PULSE mode (PUL): the bigger the setting is the slower the working time is, the smaller the setting is the faster the working time is. Note that this cannot increase the standard set working time, it can only slow it down.</p> <p style="text-align: right;"><i>Note speed control can reduce torque output</i> </p>
<p>UserSET Speed_PWM: XXX%</p>	<p>The method of speed control. The bigger the value the faster the actuator will operate, the lower the value the slower the actuator will work.</p> <p style="text-align: right;"><i>Note speed control can reduce torque output</i> </p>
<p>UserSET StallTime: XXx</p>	<p>Stall Time represents the delay between the actuator detecting an error and the actuator triggering the alert signal (LED will light BLUE). Range 5X to 90X</p>
<p>UserSET BrkDelay: XXms</p>	<p>Break Delay allows the actuator to delay its movement from one position to another. Range is 0ms to 990ms.</p>
<p>UserSET SWDIRDly: XXms</p>	<p>Switch Direction Delay is similar to the above setting, although this is based on a sudden change of direction rather than end of travel. Range is 20ms to 2000ms.</p> <p><i><u>Not recommend to change default setting.</u></i></p>



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<p>UserSET PDAction: 20x</p>	<p>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.</p> <p style="text-align: right;"><i>*Failsafe not yet available for MT Series.</i> </p>
<p>UserSET PDChk_Time: 20x</p>	<p>Power Down Check Time dictates the delay on the actuator using the capacitors to close on loss of power. E.g. if loss of power lasts 2 seconds the actuator would not immediately begin to close. <i>Not recommended to change default setting.</i></p> <p style="text-align: right;"><i>*Failsafe not yet available for MT Series.</i> </p>
<p>UserSET CapCharge: XXX%</p>	<p>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 %.</p> <p style="text-align: right;"><i>*Failsafe not yet available for MT Series.</i> </p>
<p>UserSET CMD_Swap: Yes</p>	<p>Command swap is to reverse the input command from the standard. You can reverse the signal so that the standard ON command would be OFF and OFF would be ON.</p>
<p>UserSET BothIN_ON: KEEP</p>	<p>This setting allows you to set how you want the actuator to respond on receiving input voltage to both the ON and OFF command. Usually you will operate the actuator by either powering ON (open) or powering OFF (closed) but if you apply power to both ON and OFF at the same time, we can set the actuator to keep current position, Open/Close or go to a 3rd (B33) position.</p>
<p>UserSET MVF_FiltCoe: 15</p>	<p>The actuator will digitally filter 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. <i>Not recommended to change default setting.</i></p>
<p>UserSET LPF_FiltCoe: 15</p>	<p>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; <i>Not recommended to change default setting.</i></p>
<p>UserSET TestAlarm: ON</p>	<p>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.</p>
<p>UserSET BrkDelay: 100ms</p>	<p>Break Delay allows the actuator to delay its movement from one position to another.</p>



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<p>UserSET StartUpDelay: X.Xs</p>	<p>Break Delay allows the actuator to delay its movement from one position to another.</p>
<p>UserSET Cycles: XXXXX</p>	<p>This is a counter of how many full open and close cycles that the actuator has completed</p>
<p>UserSET ErrStall: XXXXX</p>	<p>This is a counter of how many time the actuator has gone into error</p>
<p>UserSET ExitSET: Push K3</p>	<p>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.</p>
<div data-bbox="172 1216 488 1456" data-label="Image">  </div> <div data-bbox="132 1485 501 1659" data-label="Text"> <p>Manual: OFF Angle: XX.XX% K2 OFF</p> </div>	<p>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.</p> <p>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.</p> <p>Remember to not use the Manual Override via Allen key when power is applied. Refer to the Installation, Operation and Maintenance guide.</p>

For more support documents, video and general product information visit www.avactuators.co.uk. As we update our Firmware guides, we will make superseded versions available for download on our website.

Need help with selecting the right actuator for your valve or application? Get in touch today, we have many years experience in automating valves.

See our full range of actuators online at www.avactuators.co.uk



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