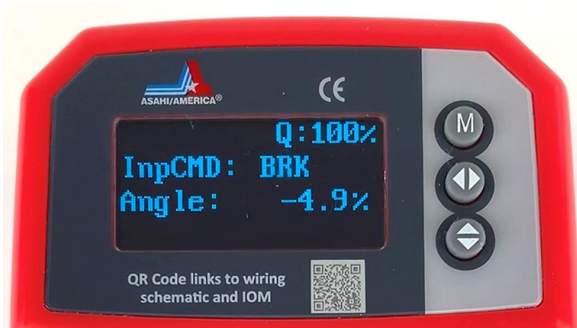


Series 19 SMART Modulating Electric Actuator User Manual



Description

The Series 19 smart modulating electric actuator features a reversing motor with multi-voltage capabilities, 95 VAC to 265 VAC (50/60 Hz) or 24 VAC/VDC, an OLED screen, an internal heater, positioner, transmitter, alarm/fault contacts, a NEMA Type 4X enclosure, manual override, visual beacon position indication, LED fault indicator (blue), ISO mounting, and flying leads. The alarm/fault contacts are SPST and rated for 0.1 Amp @ 250 VAC/0.5 Amp @ 30 VDC, and are factory calibrated.

Cover removal is NOT required for installation and will void warranty!!

Additional options are NOT available for this model.

Electrical Requirement

WARNING: Do not open actuator cover as warranty will be void!!

Model Number	Torque (in-lbs)	95 VAC to 265 VAC		24 VAC/24 VDC		Cycle Time per 90 Degrees (Seconds)	Weight (Pounds)
		Amp Draw	Duty Cycle	Amp Draw	Duty Cycle		
S20HC1C3W	177	0.18	75%	0.96	75%	10 seconds	1.7
S50HC1C3W	442	0.24	75%	1.20	75%	10 seconds	3.5
S110HC1C3W	973	0.84	75%	4.80	75%	10 seconds	4.8

NOTE: Amp rating is considered running.

Duty cycles are for ambient temperature (73° F)

The Series 19 electric actuator has a sealed cable gland with 2 meter flying leads. The electrician is required to make field connections as per the wiring schematic shown in this manual for model numbers and voltages listed above. The electrician is responsible for following all and any, local and/or agency wiring practices.

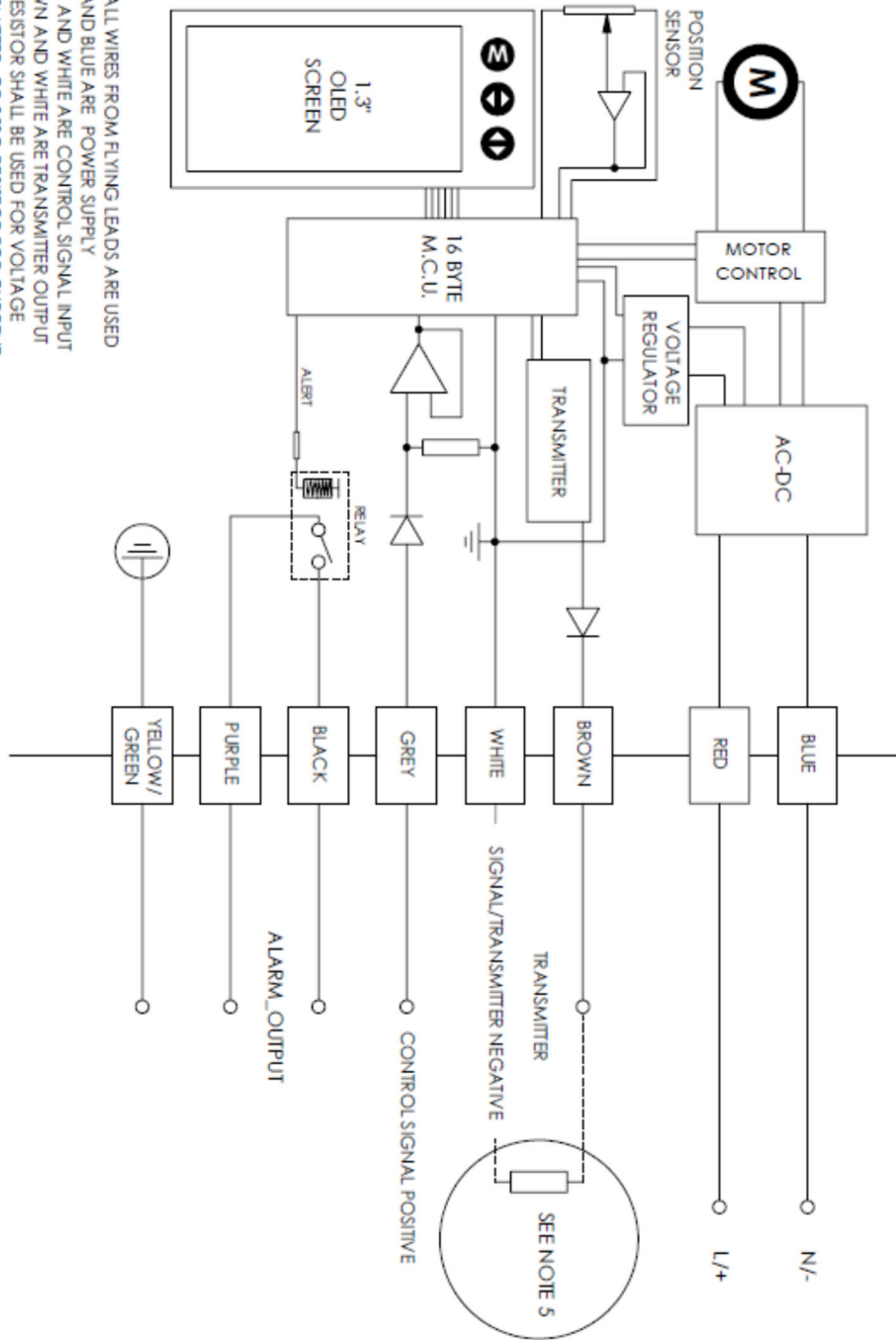
Note: Not all wires provided will be used.

Heater is internally wired and operational as long as actuator is powered.

Size 20 ONLY

Size 20 is specific to accept only voltage or current as a control signal/loop

- NOTES:
1. NOT ALL WIRES FROM FLYING LEADS ARE USED
 2. RED AND BLUE ARE POWER SUPPLY
 3. GREY AND WHITE ARE CONTROL SIGNAL INPUT
 4. BROWN AND WHITE ARE TRANSMITTER OUTPUT
 5. 10K RESISTOR SHALL BE USED FOR VOLTAGE TRANSMITTER, OR 250Ω RESISTOR FOR CURRENT TRANSMITTER
 6. USER CAN SET "NO CONTROL" DEFAULT POSITION IN FIRMWARE SETTINGS (FAIL IN PLACE, OPEN, CLOSE) FOR 4-20mA, 1-5V, AND 2-10V CONTROL SIGNAL. STANDARD IS FAIL IN PLACE. THIS SETTING IS NOT POSSIBLE IF USING A CONTROL SIGNAL OF 0-20mA, 0-5V, OR 0-10V
 7. HEATER IS INTERNALLY WIRED & OPERATIONAL AS LONG AS ACTUATOR IS POWERED

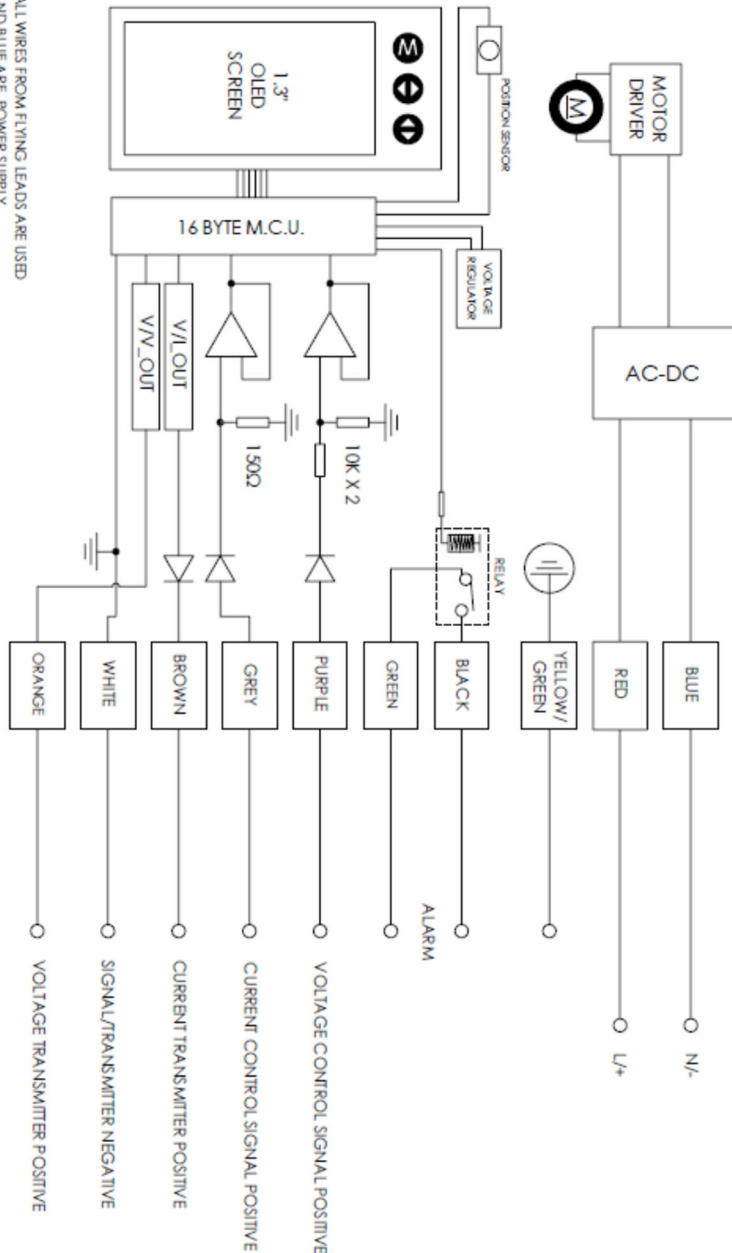


Size 20 will be labelled specifically as a voltage or current control signal/loop, and cannot be changed via onboard firmware. If a different control signal/loop is required, then another unit with the specific control signal/loop must be used.

Size 50 – 110

Size 50 – 110 can be calibrated for EITHER a voltage or a current control signal/loop via onboard firmware. Please contact the factory for instructions.

- NOTES:
1. NOT ALL WIRES FROM FLYING LEADS ARE USED
 2. RED AND BLUE ARE POWER SUPPLY
 3. PURPLE AND WHITE ARE VOLTAGE CONTROL SIGNAL,
 4. ORANGE AND WHITE ARE VOLTAGE TRANSMITTER
 5. GREY AND WHITE ARE CURRENT CONTROL SIGNAL, BROWN AND WHITE ARE CURRENT TRANSMITTER
 6. 10K RESISTOR SHALL BE USED FOR VOLTAGE TRANSMITTER OR 250Ω RESISTOR FOR CURRENT TRANSMITTER
 7. USER CAN SET "NO CONVERT" DEFAULT POSITION IN FIRMWARE SETTINGS (FAIL IN PLACE, OPEN, CLOSE) FOR 4-20mA, 1-5V, AND 2-10V CONTROL SIGNAL. STANDARD IS FAIL IN PLACE, THIS SETTING IS NOT POSSIBLE IF USING A CONTROL SIGNAL OF 0-20mA, 0-5V, OR 0-10V



Manual Override Operation

Remove manual override hex key from storage position located on the bottom of actuator, which is secured by stainless clips. To operate the manual override, insert hex key into hex socket located on top of actuator and rotate to manually cycle valve (CCW

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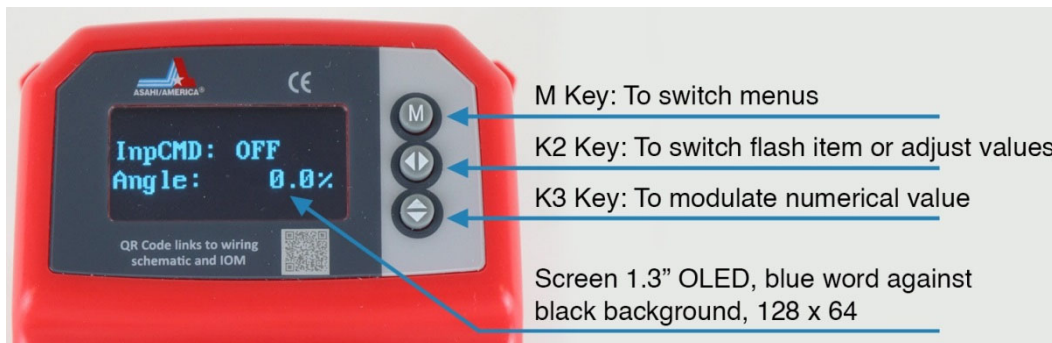
to open, CW to close). When finished using the manual override, it is imperative to remove the hex key and place it back into storage on actuator base, making sure that it “clicks” into the locking position.

CAUTION: The manual override should only be used when there is no power applied to actuator. When power is restored the actuator will automatically resume normal operation.

Local Controls Operation

The actuator can be locally controlled and driven to the open or closed position via OLED screen and push buttons. This simple procedure is detailed below.

Press and hold the “↕” button for 3 seconds. “K3” will flash in the top right hand corner and the unit will ask for a password. At this time, the password of “111” can be entered with “↕” selecting numbers and “↔” selecting the field. Once password is entered, press the “M” button to enter manual mode. The actuator can now be opened and closed via the push buttons. Press the “↕” button to OPEN the actuator. Press the “↔” button to CLOSE the actuator. To exit manual mode, press the M button or wait approximately 120 seconds and the manual mode will time out and exit. The actuator will not respond to control signals from the PLC until taken out of manual mode.



Troubleshooting

Actuator does not respond

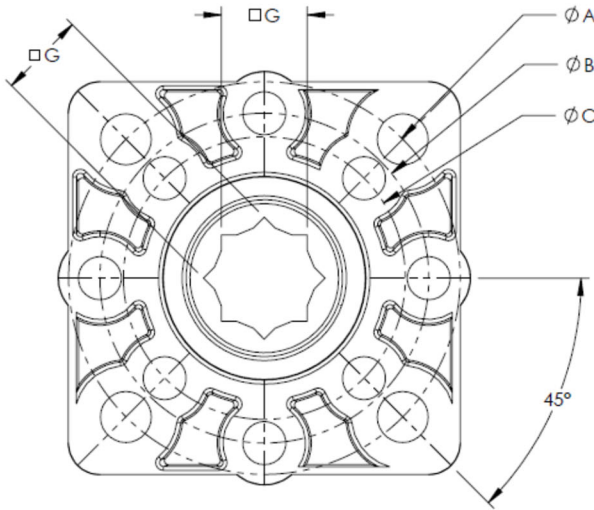
Power not connected	Connect power
Voltage below level or incorrect	Confirm correct voltage
Torque limiter tripped	Power unit in opposite direction, then power to original position to confirm a tripped torque limiter
Loose/poor termination	Confirm proper termination
Incorrect signal provided to actuator	Verify that control signal from PLC matches control signal of actuator. *Size 20 is provided as ONLY accepting a mA signal or ONLY accepting a current control signal

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Crossed signal wiring

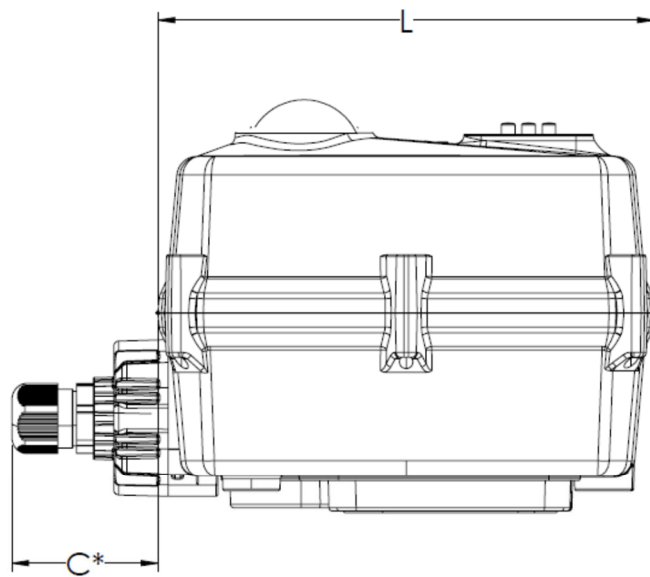
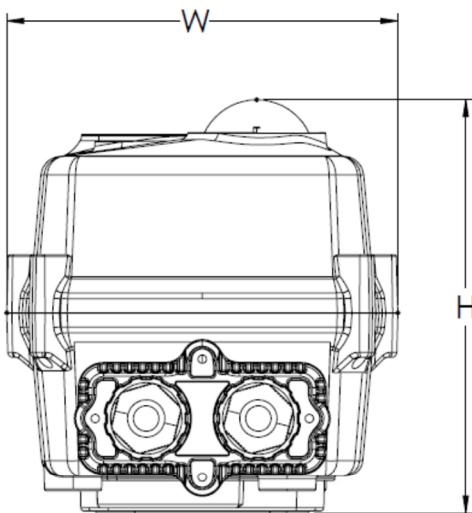
Confirm that control signal wiring is terminated at the appropriate wiring location of actuator (0-10 VDC signal connected to 4-20 mA actuator wiring, as an example)

Series 19 ISO 5211 Output



ACTUATOR SIZE	ϕA	ϕB	ϕC	$\square G$
S20	F05 (M6)	F04 (M5)	F03 (M5)	14MM
S50	F07 (M8)	F05 (M6)	N/A	14MM
S110	F07 (M8)	F05 (M6)	N/A	17MM

Series 19 Envelope Dimensions



	L	W	H	C
S20	4.01"	2.76"	3.54"	N/A
S50	5.13"	4.33"	4.72"	N/A
S110	5.75"	4.53"	4.80"	1.69"

*DIMENSION C IS ONLY FOR S110