

REVISION HISTORY

REV	DATE	BY	DESCRIPTION
E	16AUG2018	DJG/KAM	PRN: P2018-1945

NOTES:

- A. MATERIAL AND FINISH:
ELECTRIC ACTUATOR: PLASTIC (NYLON AND ACETAL), AND METAL COMPONENTS
- B. ELECTRICAL SPECIFICATIONS:
OPERATING VOLTAGE: 5 VDC +/-10%
TYPICAL OPERATING CURRENT: LESS THAN 300 MILLIAMPS AT 5 VDC
PEAK / STALL OPERATING CURRENT: 0.52A MAX AT 5 VDC (NO STALL PROTECTION INCLUDED)
TOTAL STANDBY CURRENT: RETRACTED: 0 AMPS
EXTENDED: NA
TRIGGER COMMAND: ACTUATOR WILL FULLY EXTEND AND THEN BE FREE TO RETRACT
CONTROL SIGNAL PULSE REQUIRED FOR TRIGGER COMMAND:
5 VDC +/-10%, 520 MILLIAMPS MAX PULSE
PULSE DURATION 1000 +/-10% MILLISECONDS

CAUTION! NO STALL PROTECTION IS PROVIDED IN ACTUATOR. USE APPROPRIATE CIRCUIT PROTECTION.
TYPICAL ACTUATOR TRANSIT TIME TO CYCLE EXTENDED AND RETRACTED: 1.35 SECONDS NO LOAD, 1.6 SECOND MAX NO LOAD.

- C. ENVIRONMENTAL SPECIFICATIONS:
OPERATING TEMPERATURE RANGE: -20C TO 60C NON-ICING, NON-CONDENSING ENVIRONMENT
OPERATING HUMIDITY: 85% MAX.
NOT INTENDED FOR DIRECT EXPOSURE TO OUTDOOR ELEMENTS.

- D. ELECTRICAL CONNECTIONS AND HOOKUP:
A BASIC SWITCH CONTROL ELECTRICAL HOOKUP DIAGRAM IS PROVIDED FOR REFERENCE.
CONSULT WITH A SOUTHCO REPRESENTATIVE FOR ADDITIONAL ELECTRICAL HOOKUP INFORMATION.
- CONNECT POWER, GROUND AND CONTROL SIGNAL WIRES TO AN APPROPRIATE DC POWER SUPPLY
- A DC POWER SUPPLY CAPABLE OF SUPPLYING 5 VDC AT 1 AMP MINIMUM PER ACTUATOR IS RECOMMENDED
- POWER MUST BE AVAILABLE TO OPERATE THE ACTUATOR AND MUST REMAIN AVAILABLE DURING THE FULL TRANSIT TIME OF THE ACTUATOR DURING EXTENDING OR RETRACTING.
CAUTION! ACTUATOR CAN BE DAMAGED IF WIRED INCORRECTLY, OR IF IMPROPER VOLTAGE IS APPLIED!
WIRE COLOR CODE / CONNECTOR PIN ASSIGNMENT: SEE CONNECTOR PINOUT LOCATION DETAILS
- PIN1/BROWN WIRE: GROUND(-)
- PIN2/RED WIRE: POWER(+)
- PIN3/ORANGE WIRE: CONTROL PULSE(+)

- E. ELECTRICAL OPERATION:
TO TRIGGER THE ACTUATOR:
PROVIDE THE FOLLOWING CONTROL SIGNAL TO THE ORANGE WIRE OR CONNECTOR PIN 3
- CONTROL SIGNAL HIGH(+5 VDC) FOR 1000 +/-10% MILLISECONDS.
- IF THE CONTROL SIGNAL PULSE IS LESS THAN 900 MILLISECONDS THE ACTUATOR WILL NOT START ITS CYCLE.
- IF THE CONTROL SIGNAL PULSE IS LONGER THAN 1100 MILLISECONDS THE ACTUATOR MAY CYCLE MORE THAN ONCE.
- THE ACTUATOR WILL EXTEND AND PUSH A MECHANICAL LOAD AND THEN BE FREE TO RETRACT. THE ACTUATOR WILL NOT PULL A LOAD.

CAUTION! TO PREVENT LONG TERM DAMAGE TO THE ELECTRICAL COMPONENTS IT IS IMPORTANT TO NOT BLOCK (STALL) THE ACTUATOR DURING ELECTRICAL OPERATION.
- THE ACTUATOR CANNOT REVERSE A CYCLE.
- THE ACTUATOR MUST BE ALLOWED TO REACH ITS FULL EXTENDED TRAVEL TO COMPLETE A CYCLE.

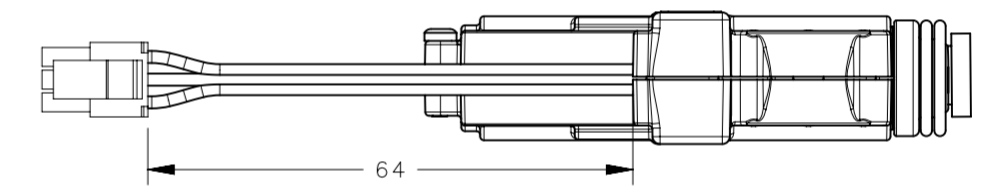
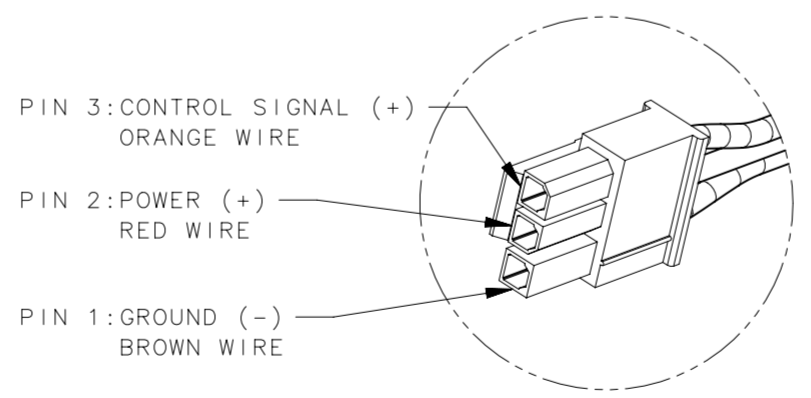
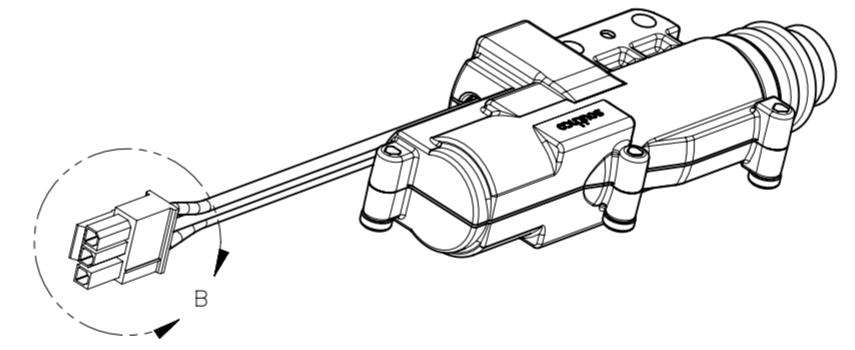
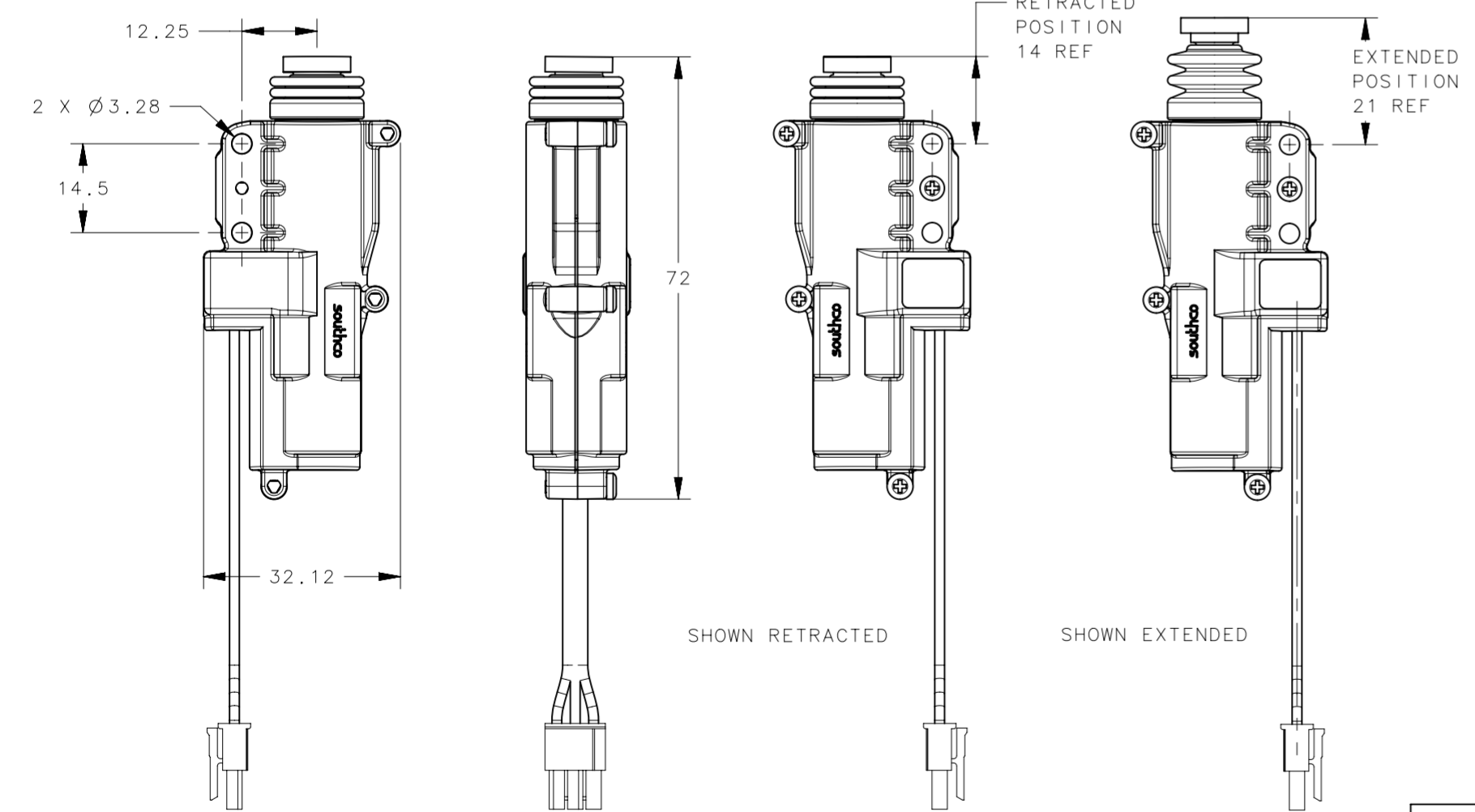
- F. OPTIONAL CONNECTOR:
MANUFACTURER: MOLEX, SERIES: MICROFIT 3.0
- CONNECTOR RECEPTACLE, SINGLE ROW, 3 CIRCUITS, 3mm, MOLEX P/N: 43645-0300
- CONTACTS: FEMALE CRIMP TERMINAL (SOCKET) MOLEX P/N: 43030-0010
WIRE: 22 AWG STYLE AWM 1569, PVC JACKET 3 COLOR
WIRE LENGTH: SEE TABLE FOR AVAILABLE LENGTHS
MATE FOR CONNECTOR (NOT SUPPLIED)
MANUFACTURER: MOLEX, SERIES: MICROFIT 3.0
- CONNECTOR PLUG 3 CIRCUITS 3 mm, MOLEX P/N: 43640-0301
- RECOMMENDED CONTACTS (3 MAX REQUIRED): MOLEX, MALE CRIMP TERMINAL (PIN), MOLEX P/N: 43031-0007
- RECOMMENDED WIRE GAGE: 22 AWG
- G. MOUNTING:
- TWO Ø3.28MM THROUGH HOLES ARE PROVIDED FOR THROUGH HOLE MOUNTING WITH M3 OR 4-40 BOLTS, OR FOR USE WITH M4 THREAD FORMING SCREWS FOR PLASTICS COMPATIBLE WITH A Ø3.28 MM PILOT HOLE.
- MAXIMUM ALLOWABLE INSTALL TORQUE FOR THREAD FORMING SCREWS, 226 N-cm [20 in-lbs].
- H. OPTIONAL ACCESSORIES
- PAIR WITH AC-EM-059-1 R4-10 MOUNTING KIT AND APPLICABLE R4-10, SEE J-AC-EM-059-1 FOR DETAILS.

ASSEMBLY PART NUMBER

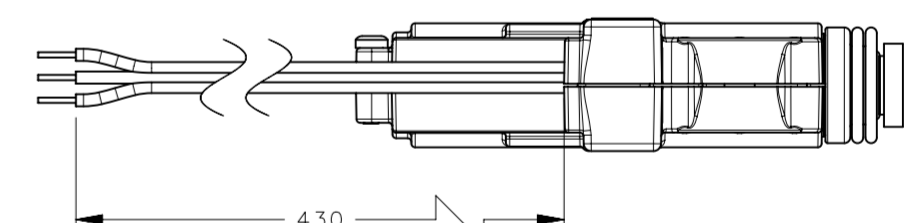
AC-EM-100-50C1-P

P DESIGNATES PACKAGING:
BLANK = INDIVIDUAL
1 = BULK

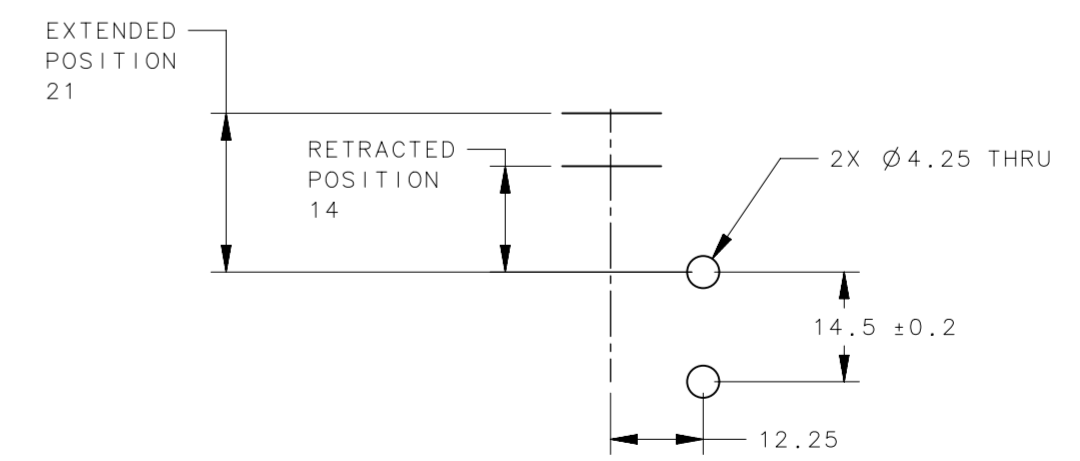
C DESIGNATES CONNECTOR:
1 = MOLEX
2 = STRIPPED AND TINNED



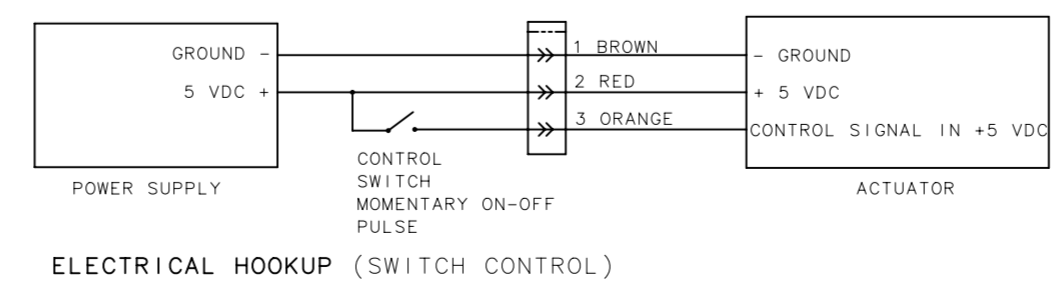
AC-EM-100-5011, ACTUATOR WITH CONNECTOR



AC-EM-100-5021, ACTUATOR WITHOUT CONNECTOR



PANEL PREPARATION
ACTUATOR ONLY
SEE NOTE G



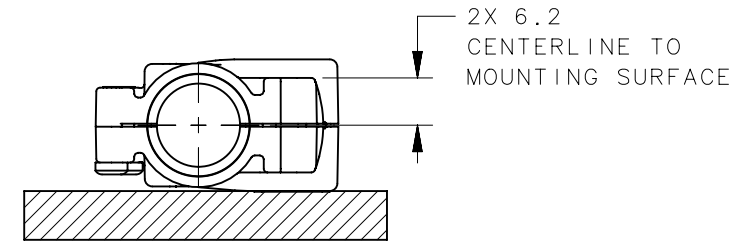
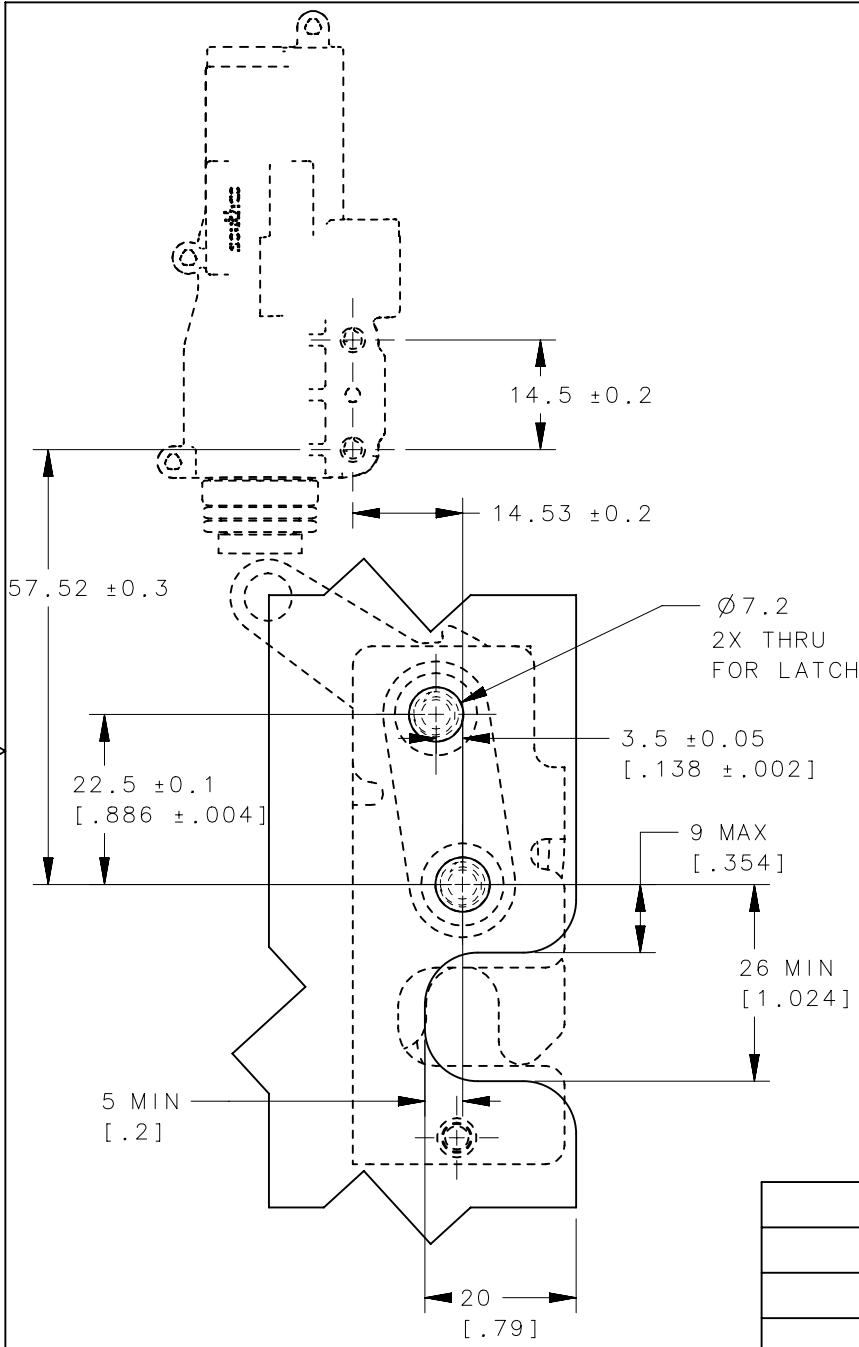
ELECTRICAL HOOKUP (SWITCH CONTROL)

THIRD ANGLE PROJECTION		southco CONNECT · CREATE · INNOVATE	
MILLIMETERS [IN]			
TOLERANCES UNLESS OTHERWISE NOTED		DESCRIPTION	
ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.		ELECTRONIC ACCESS SOLUTION ELECTRO-MECHANICAL ACTUATOR	
PROPRIETARY ITEM EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.	SIZE SYSTEM A2 NX	DWG NO. J-AC-EM-10-1	
PER ASME Y14.5M-1994	DRAWN BY DJG/KAM	DATE 16AUG2018	SCALE 1:1 SHEET 1 OF 2

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NOTES

- THE AC-EM-10 ACTUATOR IS COMPATIBLE WITH BOTTOM ACTUATED R4-10 ROTARY LATCHES
PART NUMBERS: R4-10-1X-501-XX AND R4-10-2X-501-XX. SEE J-R4-10-10-501, J-R4-10-20-501 FOR LATCH INFORMATION.
 - R4-10 LATCH AND NECESSARY MOUNTING HARDWARE SOLD SEPARATELY.
 - AN OPTIONAL MOUNTING KIT INCLUDING A MOUNTING PLATE AND SCREWS IS AVAILABLE FOR USE WITH SOUTHCO R4-10 SERIES ROTARY LATCH SEE J-AC-EM-059-1 FOR PART NUMBERS AND MORE INFORMATION.
 - MAXIMUM ALLOWABLE TORQUE WITH ACTUATOR M4 THREAD FORMING SCREWS IS 226 N.cm [20 in.lbs]
 - MAXIMUM ALLOWABLE TORQUE WITH R4-10 LATCH 550 N.cm [48 in.lbs]
 - CONTACT SOUTHCO FOR RECOMMENDED ACCESSORIES.
- CAUTION! IT IS IMPORTANT TO NOT OBSTRUCT THE MOTION OF THE LATCH TRIGGER DURING ELECTRICAL OPERATION TO PREVENT LONG TERM DAMAGE TO THE ELECTRICAL COMPONENTS IN THE ACTUATOR.



PANEL PREPARATION

	THIRD ANGLE PROJECTION					 CONNECT • CREATE • INNOVATE			
	MILLIMETERS [IN]								
	TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION				ELECTRONIC ACCESS SOLUTION			
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	ELECTRO-MECHANICAL ACTUATOR				J-AC-EM-10-1			
	PROPRIETARY ITEM	SIZE	SYSTEM	DWG NO.					
	EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.	A4	NX	J-AC-EM-10-1					
	PER ASME Y14.5M-1994	DRAWN BY	DATE	SCALE	SHEET				
		DJG/KAM	16AUG2018	1:1	2 OF 2				