

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
B	12MAR2018	ELA/GGG	PRN: P2018-0414

NOTES

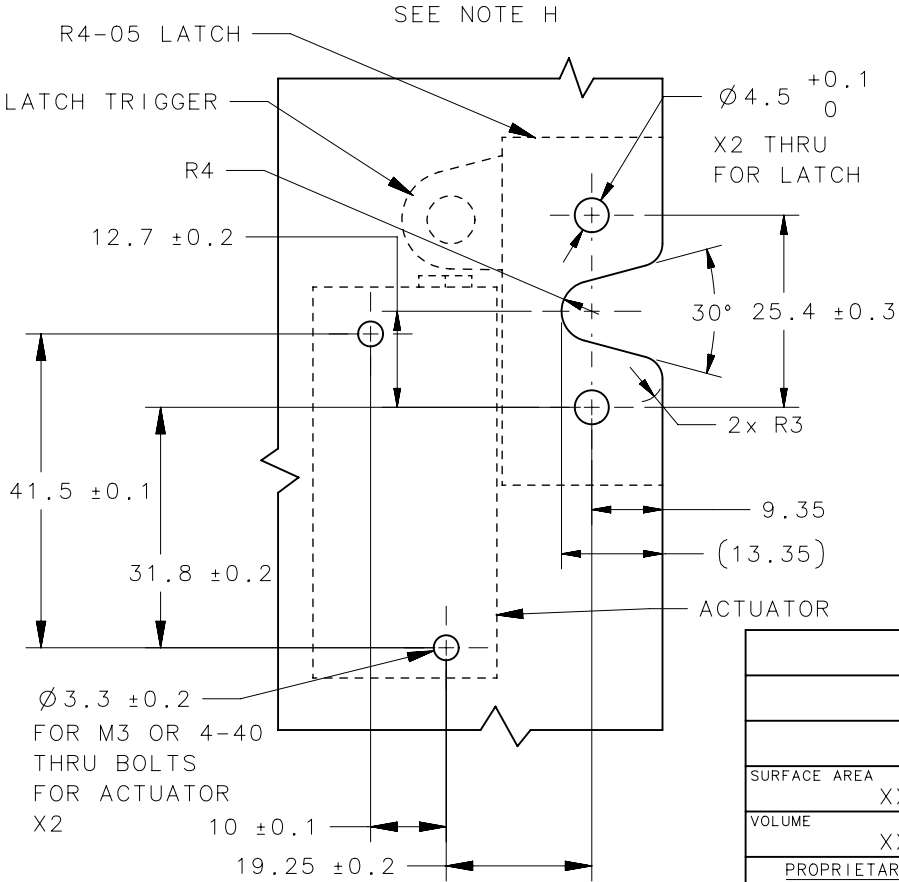
H. THE AC-EM-05 ACTUATOR IS COMPATIBLE WITH BOTTOM ACTUATED R4-05 ROTARY LATCHES

PART NUMBERS: R4-05-XX-505-10 AND R4-05-XX-505-20. SEE J-R4-05-10, J-R4-05-20 FOR LATCH INFORMATION.

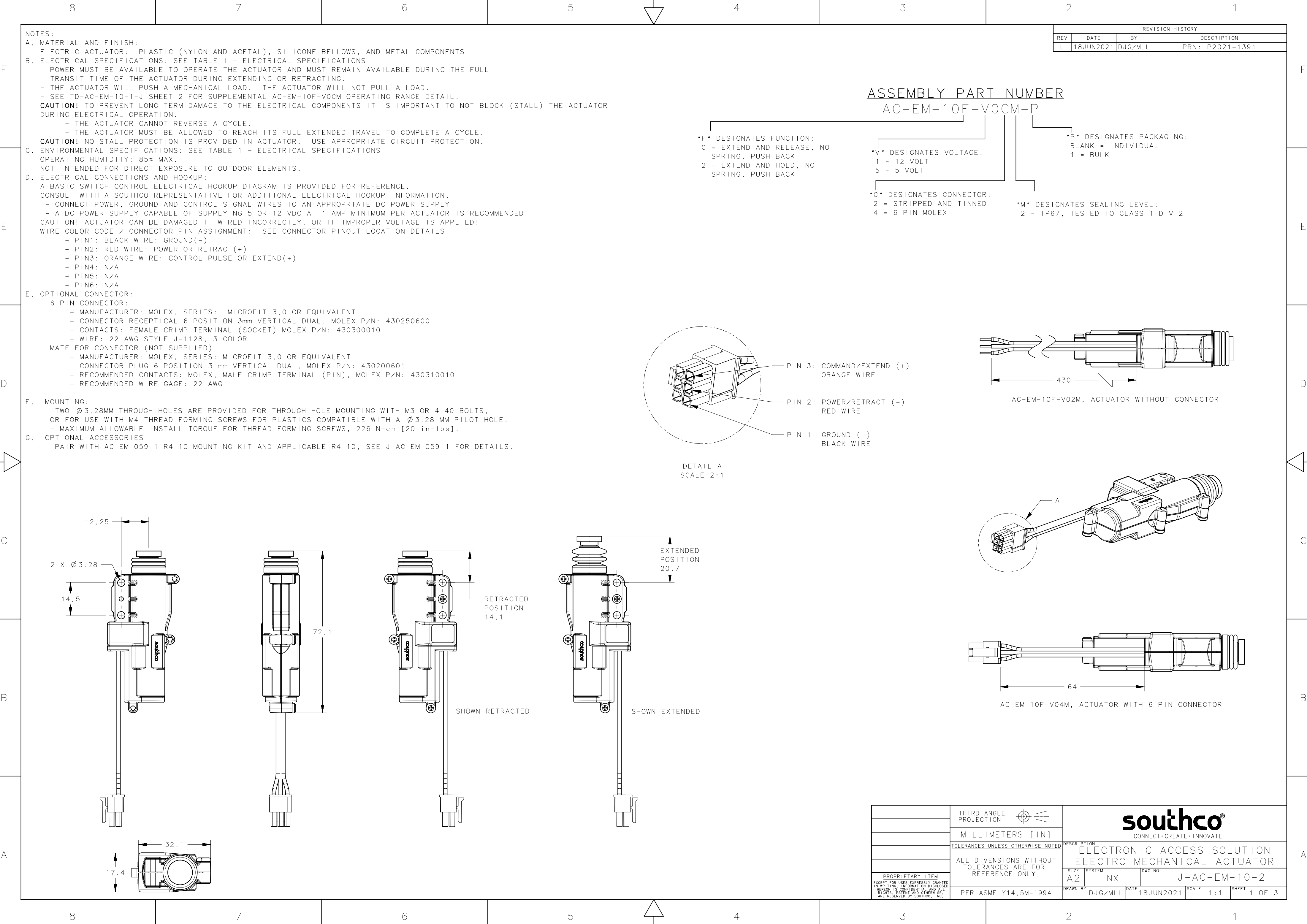
- R4-05 LATCH AND NECESSARY MOUNTING HARDWARE SOLD SEPARATELY.
- AN OPTIONAL MOUNTING KIT INCLUDING A MOUNTING PLATE AND SCREWS IS AVAILABLE FOR USE WITH SOUTHCO R4-05 SERIES ROTARY LATCH SEE J-AC-EM-020 FOR PART NUMBERS AND MORE INFORMATION.
- MAXIMUM ALLOWABLE TORQUE WITH ACTUATOR M4 THREAD FORMING SCREWS IS 135 N.cm [12.0 in.lbs]
- MAXIMUM ALLOWABLE TORQUE WITH ACTUATOR THROUGH HOLE M3 OR 4-40 SOCKET HEAD CAP SCREWS 60 N.cm [5.3 in.lbs]
- CONTACT SOUTHCO.COM 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
AC-EM-05 ACTUATOR WITH R4-05 LATCH



<div>THIRD ANGLE PROJECTION</div> <div>MILLIMETERS [IN]</div> <div>TOLERANCES UNLESS OTHERWISE NOTED</div> <div>ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY</div> <div>PER ASME Y14.5M-1994</div>	<div> <div> <div></div> <div></div> </div> </div>		<div> <div> <div>southco®</div> <div>CONNECT • CREATE • INNOVATE</div> </div> </div>			
	<div> <div> <div>SIZE</div> <div>A4</div> </div> <div> <div>SYSTEM</div> <div>NX</div> </div> </div>		<div> <div> <div>DESCRIPTION</div> <div>ELECTRONIC ACCESS SOLUTION ELECTRO-MECHANICAL ACTUATOR</div> </div> </div>			
	<div> <div> <div>DRAWN BY</div> <div>GGG</div> </div> </div>		<div> <div>DATE</div> <div>12MAR2018</div> </div>	<div> <div>SCALE</div> <div>1 : 1</div> </div>	<div> <div>SHEET</div> <div>2 OF 2</div> </div>	<div> <div>DWG NO.</div> <div>J-AC-EM-05-1</div> </div>



NOTES:

A. MATERIAL AND FINISH:
ELECTRIC ACTUATOR: PLASTIC (NYLON AND ACETAL), SILICONE BELLOWS, AND METAL COMPONENTS

B. ELECTRICAL SPECIFICATIONS: SEE TABLE 1 - ELECTRICAL SPECIFICATIONS

- POWER MUST BE AVAILABLE TO OPERATE THE ACTUATOR AND MUST REMAIN AVAILABLE DURING THE FULL TRANSIT TIME OF THE ACTUATOR DURING EXTENDING OR RETRACTING.
- THE ACTUATOR WILL PUSH A MECHANICAL LOAD. THE ACTUATOR WILL NOT PULL A LOAD.
- SEE TD-AC-EM-10-1-J SHEET 2 FOR SUPPLEMENTAL AC-EM-10F-V0CM OPERATING RANGE DETAIL.

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.

CAUTION! NO STALL PROTECTION IS PROVIDED IN ACTUATOR. USE APPROPRIATE CIRCUIT PROTECTION.

C. ENVIRONMENTAL SPECIFICATIONS: SEE TABLE 1 - ELECTRICAL SPECIFICATIONS

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 OR 12 VDC AT 1 AMP MINIMUM PER ACTUATOR IS RECOMMENDED

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: BLACK WIRE: GROUND(-)
- PIN2: RED WIRE: POWER OR RETRACT(+)
- PIN3: ORANGE WIRE: CONTROL PULSE OR EXTEND(+)
- PIN4: N/A
- PIN5: N/A
- PIN6: N/A

E. OPTIONAL CONNECTOR:
6 PIN CONNECTOR:

- MANUFACTURER: MOLEX, SERIES: MICROFIT 3.0 OR EQUIVALENT
- CONNECTOR RECEPTICAL 6 POSITION 3mm VERTICAL DUAL, MOLEX P/N: 430250600
- CONTACTS: FEMALE CRIMP TERMINAL (SOCKET) MOLEX P/N: 430300010
- WIRE: 22 AWG STYLE J-1128, 3 COLOR

MATE FOR CONNECTOR (NOT SUPPLIED)

- MANUFACTURER: MOLEX, SERIES: MICROFIT 3.0 OR EQUIVALENT
- CONNECTOR PLUG 6 POSITION 3 mm VERTICAL DUAL, MOLEX P/N: 430200601
- RECOMMENDED CONTACTS: MOLEX, MALE CRIMP TERMINAL (PIN), MOLEX P/N: 430310010
- RECOMMENDED WIRE GAGE: 22 AWG

F. 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].

G. 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-10F-V0CM-P

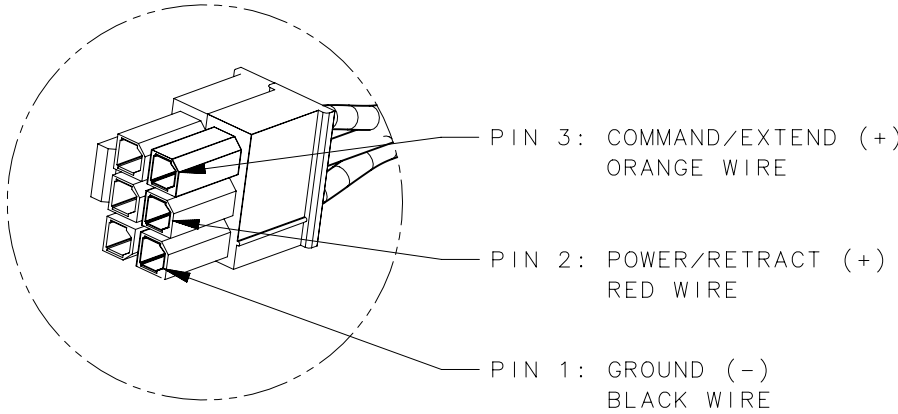
F DESIGNATES FUNCTION:
0 = EXTEND AND RELEASE, NO SPRING, PUSH BACK
2 = EXTEND AND HOLD, NO SPRING, PUSH BACK

V DESIGNATES VOLTAGE:
1 = 12 VOLT
5 = 5 VOLT

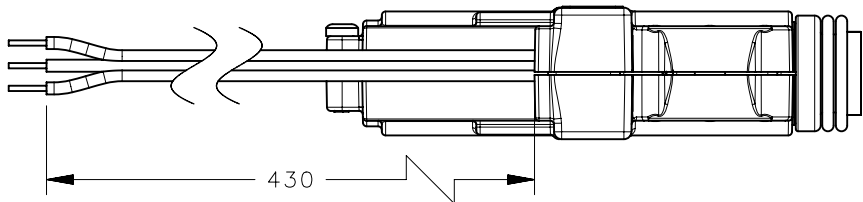
C DESIGNATES CONNECTOR:
2 = STRIPPED AND TINNED
4 = 6 PIN MOLEX

P DESIGNATES PACKAGING:
BLANK = INDIVIDUAL
1 = BULK

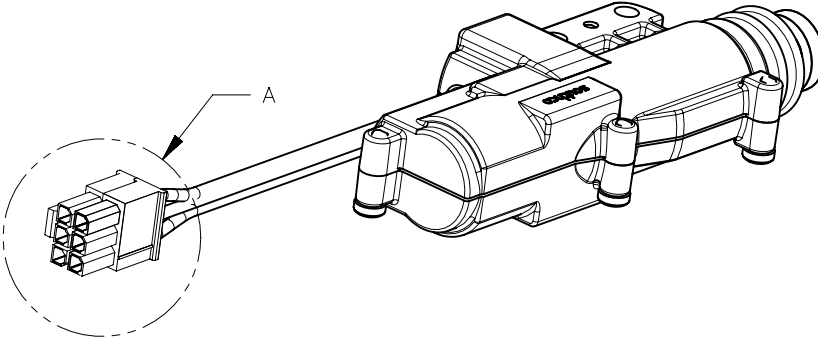
M DESIGNATES SEALING LEVEL:
2 = IP67, TESTED TO CLASS 1 DIV 2



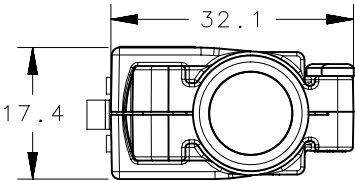
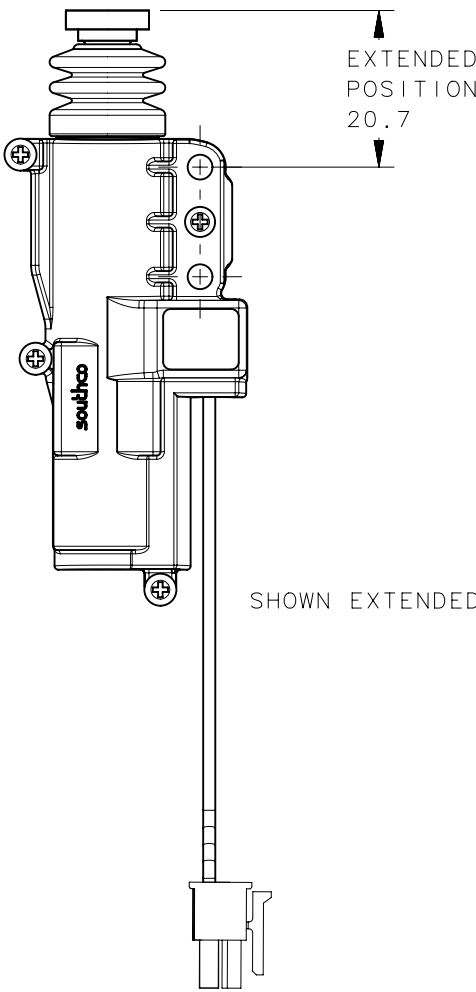
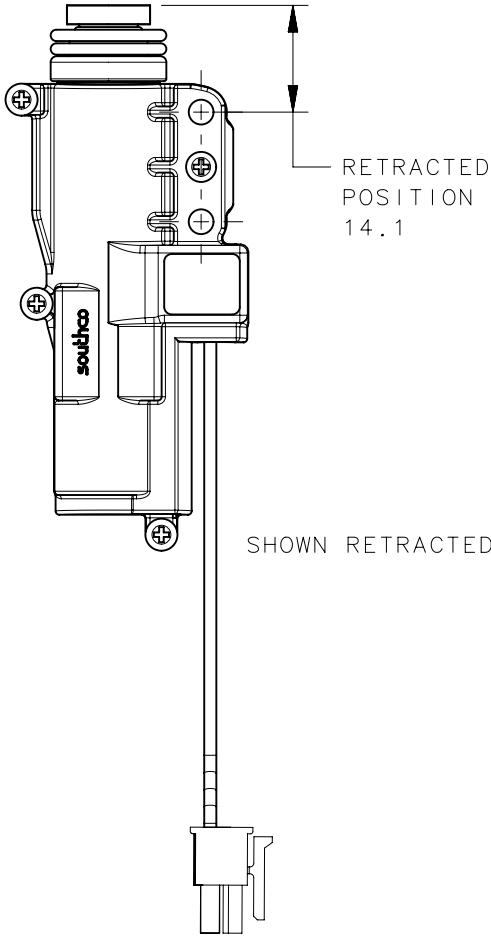
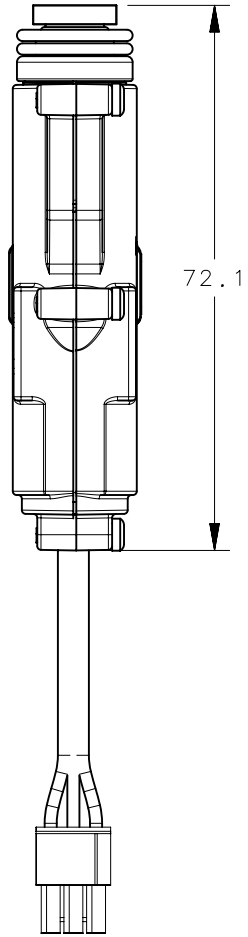
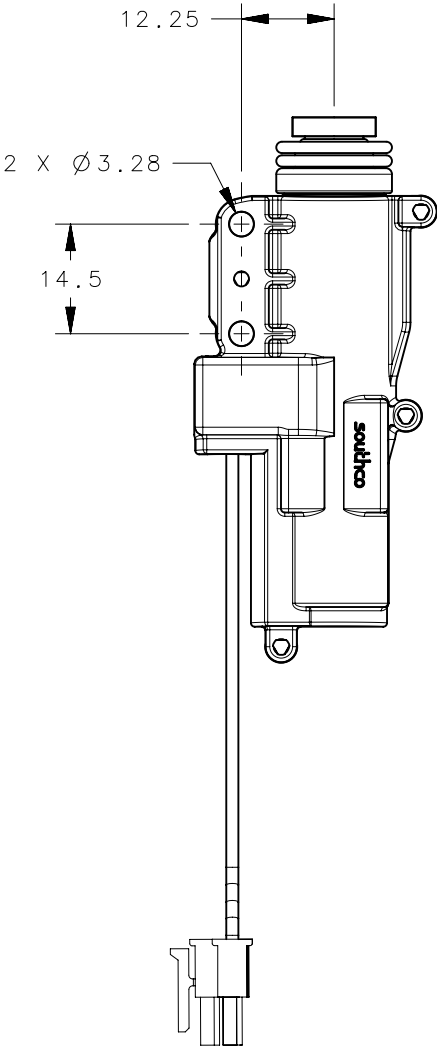
DETAIL A
SCALE 2:1

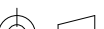



AC-EM-10F-V02M, ACTUATOR WITHOUT CONNECTOR



AC-EM-10F-V04M, ACTUATOR WITH 6 PIN CONNECTOR



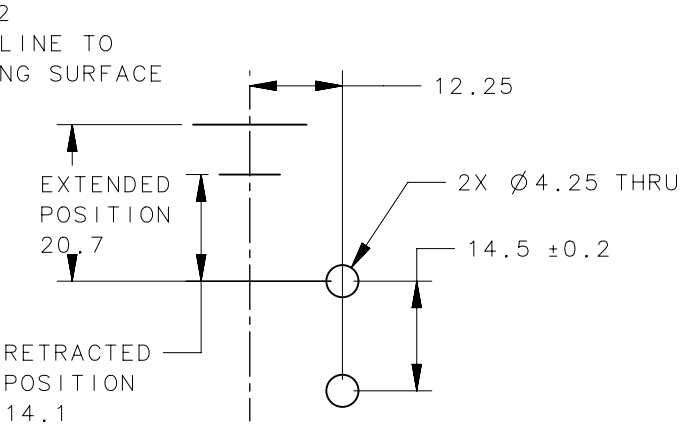
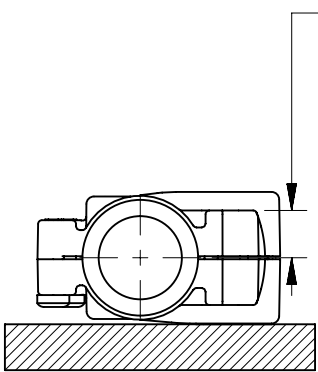
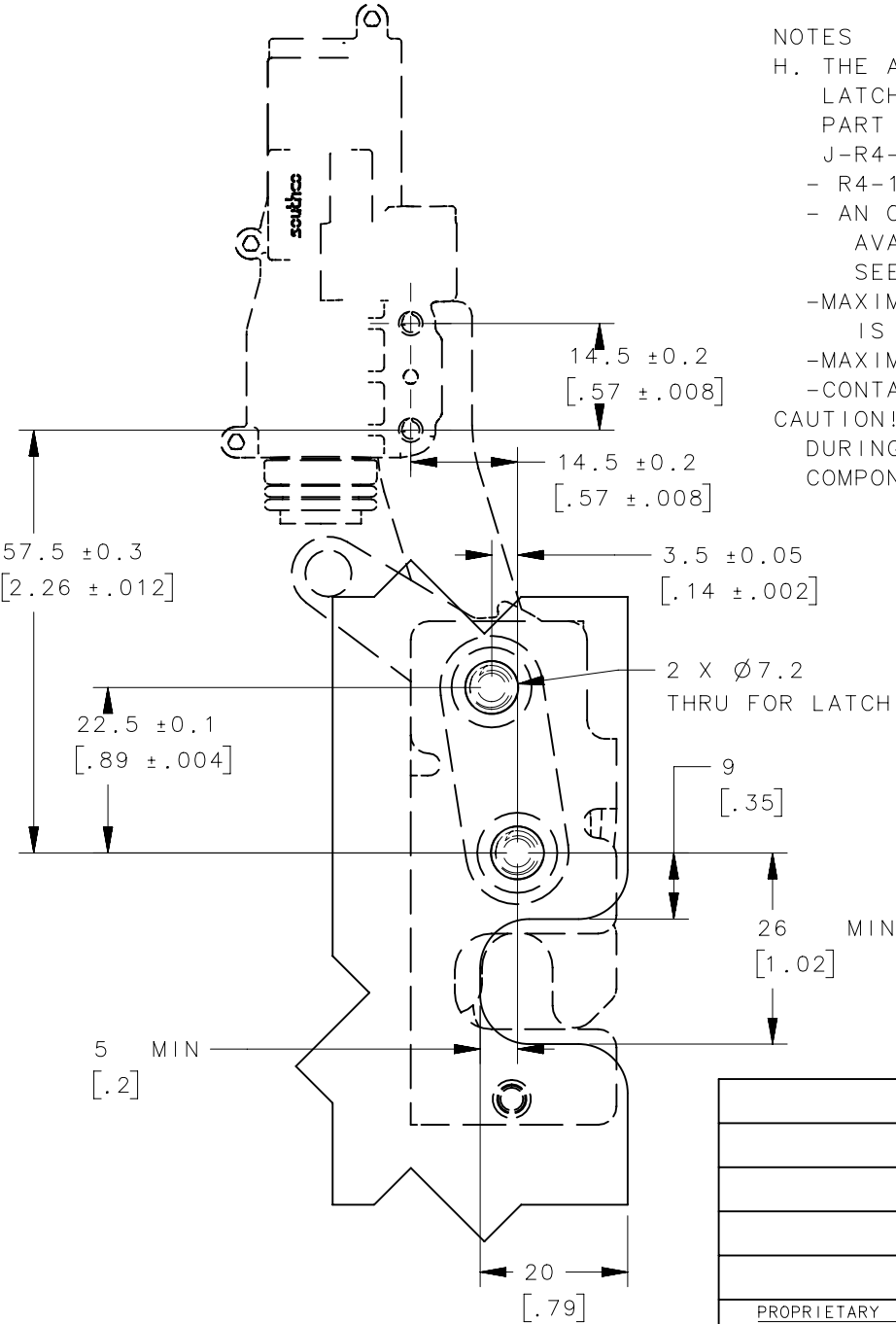
	THIRD ANGLE PROJECTION		 CONNECT • CREATE • INNOVATE			
	MILLIMETERS [IN]		DESCRIPTION			
	TOLERANCES UNLESS OTHERWISE NOTED		ELECTRONIC ACCESS SOLUTION ELECTRO-MECHANICAL ACTUATOR			
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.		SIZE A2	SYSTEM NX	DWG NO. J-AC-EM-10-2	
PROPRIETARY ITEM EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.	PER ASME Y14.5M-1994		DRAWN BY DJG/MLL	DATE 18JUN2021	SCALE 1:1	SHEET 1 OF 3

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
L	18JUN2021	DJG/MLL	PRN: P2021-1391

NOTES

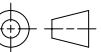
- H. THE AC-EM-10 ACTUATOR IS COMPATIBLE WITH BOTTOM ACTUATED R4-10 ROTARY LATCHES
- PART NUMBERS: R4-10-1X-501-XX AND R4-10-2X-501-XX. SEE J-R4-10-10-501, J-R4-10-20-501 FOR LATCH INFORMATION.
- R4-10 LATCH AND NECESSARY MOUNTING HARDWARE SOLD SEPARATELY.
 - AN OPTIONAL MOUNTING KIT INCLUDING A MOUNTING 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
ACTUATOR ONLY
SEE NOTE G

PANEL PREPARATION
ACTUATOR WITH R4-10 ROTARY LATCH

	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 <small>EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.</small>			SIZE A4	SYSTEM NX	DWG NO. J-AC-EM-10-2	
	PER ASME Y14.5M-1994		DRAWN BY DJG/MLL	DATE 18JUN2021	SCALE 1:1	SHEET 2 OF 3

F

E

D

C

B

A

F

E

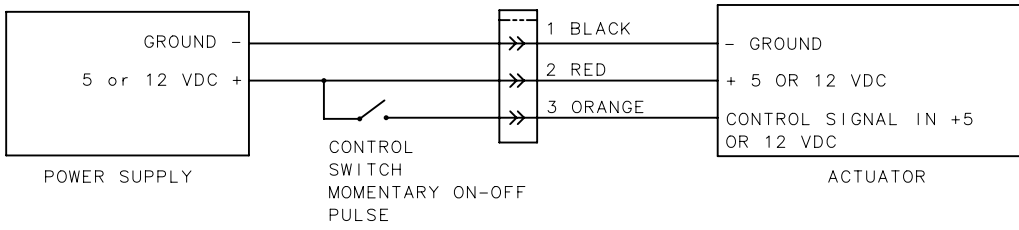
D

C

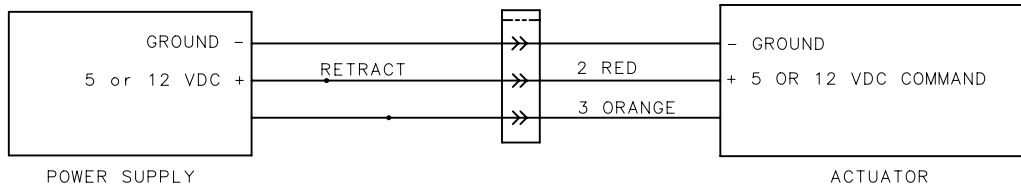
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REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
L	18JUN2021	DJG/MLL	PRN: P2021-1391



ELECTRICAL HOOKUP (EXTEND AND RELEASE)



ELECTRICAL HOOKUP (EXTEND AND HOLD)

TABLE 1 - ELECTRICAL SPECIFICATIONS

PARAMETER	UNITS	EXTEND AND RELEASE		EXTEND AND HOLD	
		AC-EM-100-50CM	AC-EM-100-10CM	AC-EM-102-50CM	AC-EM-102-10CM
OPERATING TEMPERATURE RANGE (NOTE 1)	° C	-20 TO +60	-20 TO +60	-20 TO +60	-40 TO +60
OPERATING VOLTAGE	VDC	5 +/- 10%	12 +/- 25%	5 +/- 10%	12 +/- 10%
PEAK STALL CURRENT	A	0.52 AT 5VDC	0.6 AT 12VDC	0.52 AT 5VDC	0.6 AT 12VDC
TOTAL STANDBY CURRENT - RETRACTED	A	-	-	-	-
TOTAL STANDBY CURRENT - EXTENDED	A	N/A	N/A	-	-
CONTROL SIGNAL OR COMMAND VOLTAGE REQUIRED	V	5 +/- 10%	12 +/- 25%	5 +/- 10%	12 +/- 10%
CONTROL SIGNAL OR COMMAND CURRENT REQUIRED	A	0.52 AT 5VDC	0.6 AT 12VDC	0.52 AT 5VDC	0.6 AT 12VDC
CONTROL PULSE OR COMMAND DURATION (NOTE 2)	ms	1000	475	1600	1000
TYPICAL ACTUATOR TRANSIT TIME	ms	1350-1600	700-1000	1350-1600	700-1000

NOTE 1 - NON-ICING, NON-CONDENSING ENVIRONMENT
NOTE 2 - CONTROL SIGNAL PULSE DURATION REQUIRED FOR TRIGGER COMMAND AND TRANSIT TIMES ARE DEPENDENT ON ACTUAL APPLICATION CONDITIONS INCLUDING VOLTAGE, LOAD, AND TEMPERATURE. USERS MUST TEST POTENTIAL PRODUCT SOLUTIONS UNDER THE ACTUAL APPLICATION CONDITIONS AND ENVIRONMENT TO DETERMINE THE SUITABILITY OF THE PRODUCT. PULSE DURATION AT THE GIVEN VOLTAGES ASSUME AMBIENT TEMPERATURES AND 44.5 N (10lbf) TENSILE FORCE (DIRECTION 1) ON R4-10-11-501-10

THIRD ANGLE PROJECTION	MILLIMETERS [IN]		DESCRIPTION	
	TOLERANCES UNLESS OTHERWISE NOTED		ELECTRONIC ACCESS SOLUTION	
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.		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	DWG NO.	
	A2	NX	J-AC-EM-10-2	
PER ASME Y14.5M-1994		DRAWN BY	DATE	SCALE
		DJG/MLL	18JUN2021	1:1
		SHEET		3 OF 3

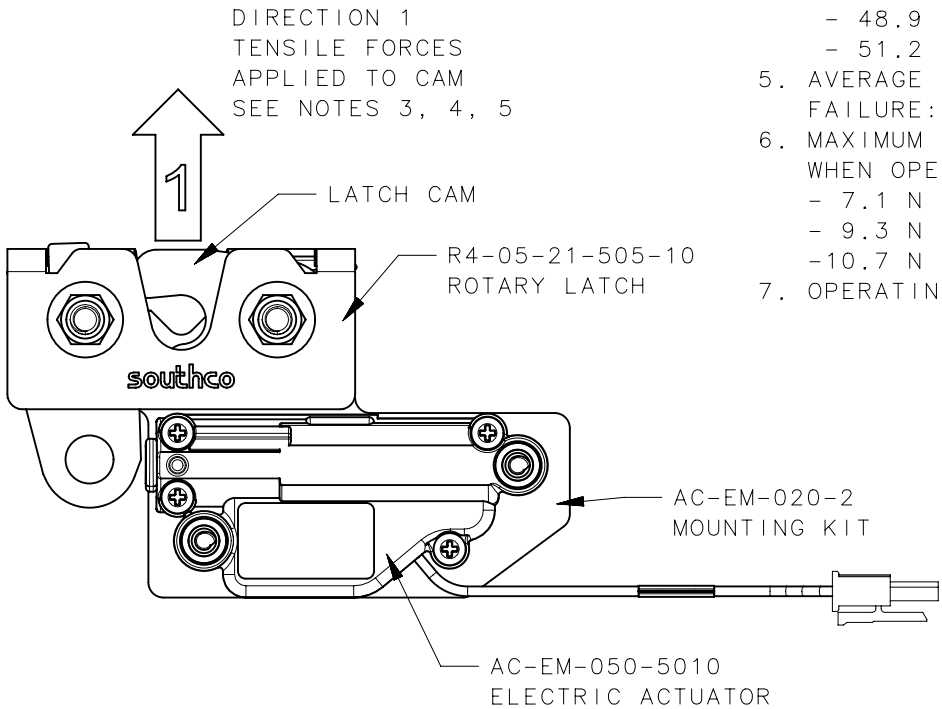
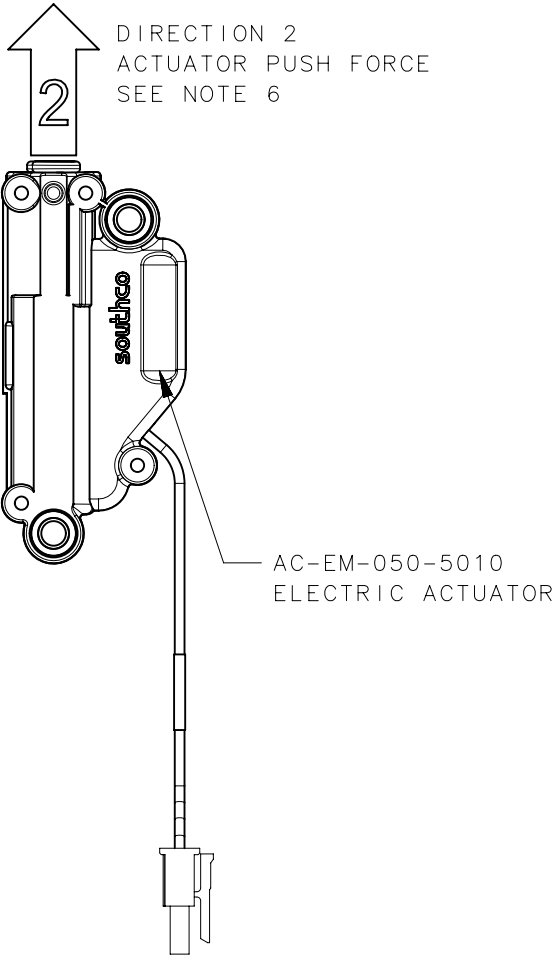
REVISION HISTORY			
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SOUTHCO PERFORMANCE GUIDELINES


THE PERFORMANCE GUIDELINES SHOWN ON THIS PAGE ARE SUPPLIED AS A GENERAL GUIDE ONLY, AS CONDITIONS VARY WITH EACH APPLICATION AND METHOD OF INSTALLATION. STRENGTH DATA GIVEN IS FOR FAILURE OF THE PRODUCT OR FOR SUFFICIENT DEFORMATION TO MAKE THE PRODUCT INOPERABLE. NO SAFETY FACTOR HAS BEEN APPLIED. IT'S RECOMMENDED THAT THE USER REQUEST A PRODUCT SAMPLE FOR TESTING TO DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE PURPOSE INTENDED AND THE USER'S PARTICULAR APPLICATION.

PERFORMANCE VALUES FOR AC-EM-050-50X0 ACTUATORS AND R4-05-21-505-10 ROTARY LATCH
ALSO SEE J-AC-EM-05-1, J-AC-EM-020, AND J-R4-05-10

1. TESTING PERFORMED ON AC-EM-050-5010 ACTUATOR.
SOME TESTS PERFORMED WITH OPTIONAL R4-05-21-505-10 ROTARY LATCH AND AC-EM-020-2 MOUNTING KIT.
2. TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
3. CYCLE LIFE OF AC-EM-050-5010 ACTUATOR WHEN USED WITH R4-05-21-505-10 ROTARY LATCH.
 - CYCLE LIFE: 50,000 CYCLES
 - CYCLE TEMPERATURE PROFILE: 40,000 AT AMBIENT TEMP, 5,000 AT -20C, 5,000 AT +60C
 - CYCLE LOAD: 17.8 N (4 lbf) TENSILE FORCE (DIRECTION 1) ON LATCH CAM.
 - SEE TD-R4-05-J FOR R4-05 LATCH CYCLE DATA
4. MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
 - 25.4 N (5.7 lbf) AT 4.25 VOLTS
 - 48.9 N (11.0 lbf) AT 5.00 VOLTS
 - 51.2 N (11.5 lbf) AT 5.75 VOLTS
5. AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-05-J FOR LATCH STRENGTH DATA
6. MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-05 LATCH):
 - 7.1 N (1.6 lbf) AT 4.25VDC
 - 9.3 N (2.1 lbf) AT 5.00 VDC
 - 10.7 N (2.4 lbf) AT 5.75 VDC
7. OPERATING TEMPERATURE -20 TO 60 C



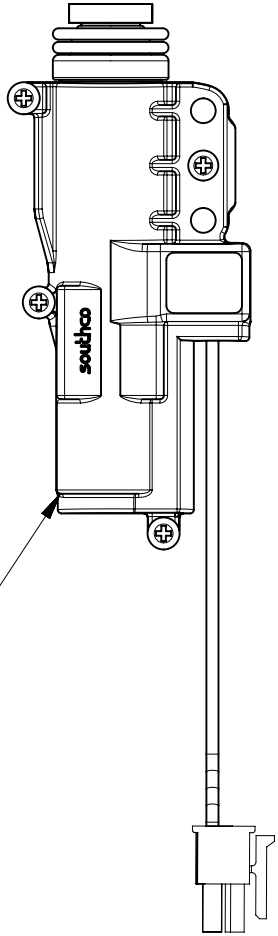
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	THIRD ANGLE PROJECTION	<div> CONNECT • CREATE • INNOVATE</div>			
	MILLIMETERS [IN]				
SURFACE AREA	XXXXXmm ²	TOLERANCES UNLESS OTHERWISE NOTED ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.			
VOLUME	XXXXXmm ³				
PROPRIETARY ITEM <small>EXCEPT FOR USES EXPRESSLY GRANTED IN WRITING, INFORMATION DISCLOSED HEREON IS CONFIDENTIAL AND ALL RIGHTS, PATENT AND OTHERWISE, ARE RESERVED BY SOUTHCO, INC.</small>		PER ASME Y14.5M-1994	SIZE A3	SYSTEM NX	DWG NO. TD-AC-EM-05-1-J
			DRAWN BY GGG	DATE 15FEB2018	SCALE 1:1
					SHEET 1 OF 1

PERFORMANCE VALUES FOR AC-EM-100-50C1 ACTUATORS AND R4-10-11-501-10 ROTARY LATCH
ALSO SEE J-AC-EM-10-1, J-AC-EM-059-1, AND J-R4-10-11

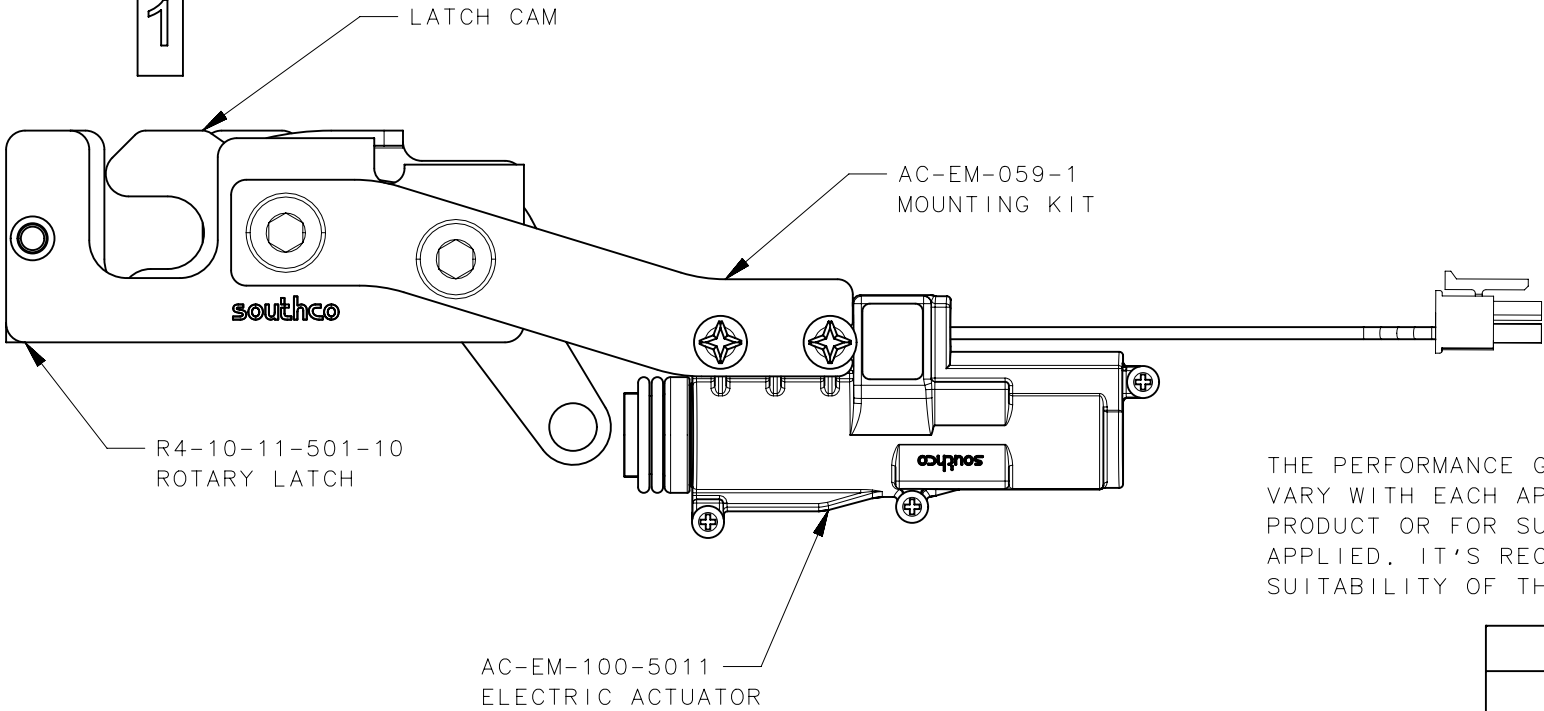
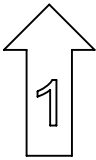
1. TESTING PERFORMED ON AC-EM-100-5021 ACTUATOR.
SOME TESTS PERFORMED WITH OPTIONAL R4-10-11-501-10 ROTARY LATCH AND AC-EM-059-1 MOUNTING KIT.
2. TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
3. CYCLE LIFE OF AC-EM-100-5021 ACTUATOR WHEN USED WITH R4-10-11-501-10 ROTARY LATCH.
 - CYCLE LIFE: 50,000 CYCLES
 - CYCLE TEMPERATURE PROFILE: 40,000 AT AMBIENT TEMP, 5000 AT -20C, 5,000 AT +60C
 - CYCLE LOAD: 44.5 N (10 lbf) TENSILE FORCE (DIRECTION 1) ON LATCH CAM.
 - SEE TD-R4-10-J FOR R4-10 LATCH CYCLE DATA
4. MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE R4-10 LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
 - 89.0 N (20.0 lbf) AT 4.25 VDC
 - 155.7 N (35.0 lbf) AT 5.00 VDC
 - 200.2 N (45.0 lbf) AT 5.75 VDC
5. AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-10-J FOR LATCH STRENGTH DATA
6. MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 7.5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-10 LATCH):
 - 24.5 N (5.5 lbf) AT 4.25 VDC
 - 35.6 N (8.0 lbf) AT 5.00 VDC
 - 44.5 N (10.0 lbf) AT 5.75 VDC
7. OPERATING TEMPERATURE -20 TO 60 C

DIRECTION 2
ACTUATOR PUSH FORCE
SEE NOTE 6



AC-EM-100-5011
ELECTRIC ACTUATOR

DIRECTION 1
TENSILE FORCES
APPLIED TO CAM
SEE NOTES 3, 4, 5



SOUTHCO PERFORMANCE GUIDELINES

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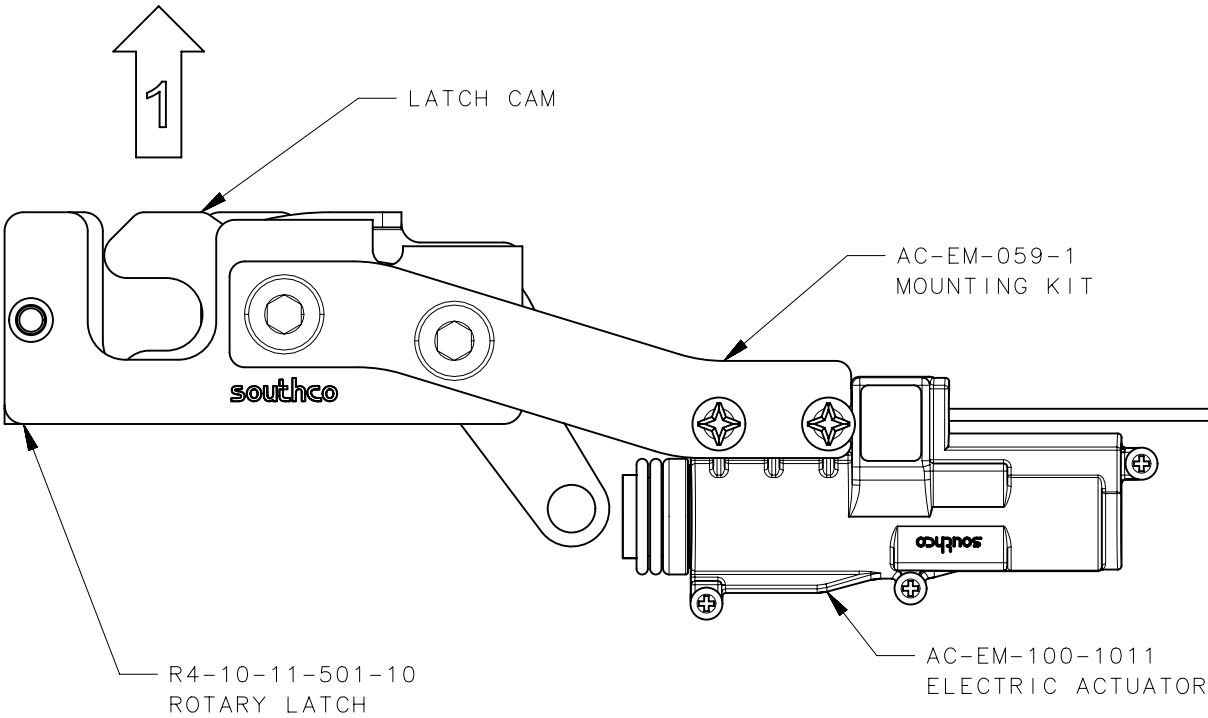
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	THIRD ANGLE PROJECTION	southco [®] CONNECT • CREATE • INNOVATE			
	MILLIMETERS [IN]	DESCRIPTION ACTUATOR			
	TOLERANCES UNLESS OTHERWISE NOTED	SIZE A3	SYSTEM NX	DWG NO. TD-AC-EM-10-1	
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	DRAWN BY DJG/KAM	DATE 11JUL2018	SCALE 1:1	SHEET 1 OF 3
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.	PER ASME Y14.5M-1994				

PERFORMANCE VALUES FOR AC-EM-100-10CS ACTUATORS AND R4-10-11-501-10 ROTARY LATCH
ALSO SEE J-AC-EM-10-1, J-AC-EM-059-1, AND J-R4-10-11

- TESTING PERFORMED ON AC-EM-100-1021 ACTUATOR.
SOME TESTS PERFORMED WITH OPTIONAL R4-10-11-501-10 ROTARY LATCH AND AC-EM-059-1 MOUNTING KIT.
- TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
- CYCLE LIFE OF AC-EM-100-1021 ACTUATOR WHEN USED WITH R4-10-11-501-10 ROTARY LATCH.
 - SEE TABLE 2 FOR CYCLE PROFILE
 - SEE TD-R4-10-J FOR R4-10 LATCH CYCLE DATA
- MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE R4-10 LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
 - 133 N (30 lbf) AT 9 VDC
 - 222 N (50 lbf) AT 12 VDC
 - 311 N (70 lbf) AT 15 VDC
- AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-10-J FOR LATCH STRENGTH DATA
- MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 7.5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-10 LATCH):
 - 40 N (9.0 lbf) AT 9 VDC
 - 53 N (12.0 lbf) AT 12 VDC
 - 65 N (14.5 lbf) AT 15 VDC
- OPERATING TEMPERATURE -20 TO 60 C

DIRECTION 1
TENSILE FORCES
APPLIED TO CAM
SEE NOTES 3, 4, 5



DIRECTION 2
ACTUATOR PUSH FORCE
SEE NOTE 6

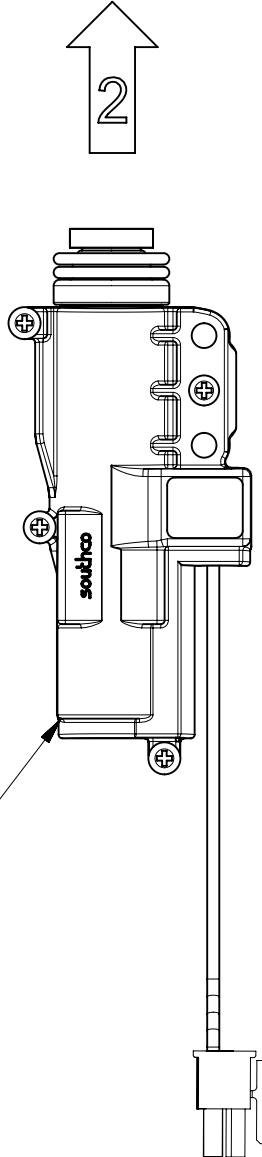


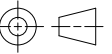
TABLE 2 - CYCLE LIFE PROFILE

NUMBER OF CYCLES	LOAD	VOLTAGE (VDC)	TEMPERATURE (DEG C)
40,000	44.5 N (10 lbf) TENSILE FORCE (DIRECTION 1) ON LATCH CAM	12	25
5,000		9	25
5,000		15	25
5,000	NONE	9	-20
5,000	NONE	15	-20
5,000	NONE	9	60
5,000	NONE	15	60

SOUTHCO PERFORMANCE GUIDELINES

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REF: trAC-37480

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	MILLIMETERS [IN]							
	TOLERANCES UNLESS OTHERWISE NOTED				DESCRIPTION <div>ACTUATOR</div>			
	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.							
PROPRIETARY ITEM			SIZE A3	SYSTEM NX	DWG NO. TD-AC-EM-10-1			
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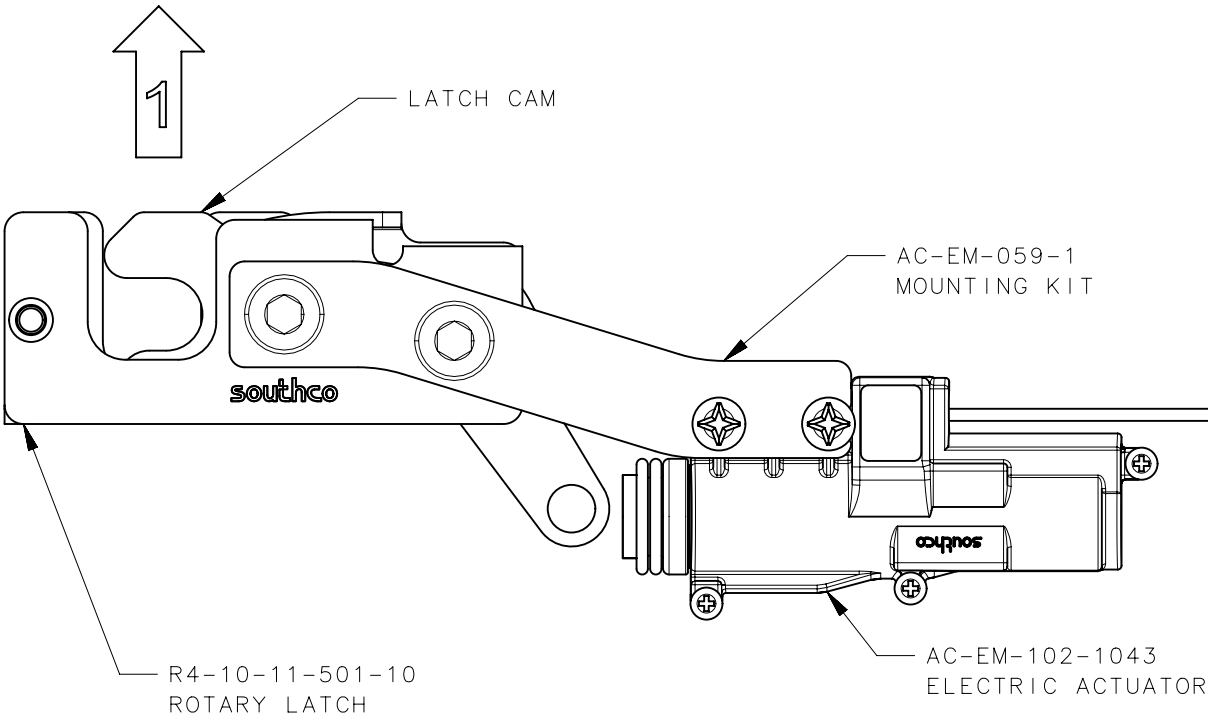
PERFORMANCE VALUES FOR AC-EM-102-10CS ACTUATORS AND R4-10-11-501-10 ROTARY LATCH
ALSO SEE J-AC-EM-10-1, J-AC-EM-059-1, AND J-R4-10-11

1. TESTING PERFORMED ON AC-EM-102-1043 ACTUATOR.
SOME TESTS PERFORMED WITH OPTIONAL R4-10-11-501-10 ROTARY LATCH AND AC-EM-059-1 MOUNTING KIT.
2. TENSILE FORCES (DIRECTION 1) ARE APPLIED AT THE NOMINAL LATERAL POSITION OF THE LATCH (ZERO MISALIGNMENT).
3. CYCLE LIFE OF AC-EM-102-1043 ACTUATOR WHEN USED WITH 2 LB LOAD.
- SEE TABLE 3 FOR CYCLE PROFILE
4. MAXIMUM TENSILE FORCE (DIRECTION 1) ON THE CAM THAT THE R4-10 LATCH CAN RELEASE (OPEN) ELECTRICALLY ONE TIME:
- 275 N (62 lbf) AT 10.8 VDC
- 315 N (71 lbf) AT 12.0 VDC
- 342 N (77 lbf) AT 13.2 VDC
5. AVERAGE ULTIMATE TENSILE LOAD (DIRECTION 1) ON THE CAM BEFORE LATCH CAM FAILURE: SEE TD-R4-10-J FOR LATCH STRENGTH DATA
6. MAXIMUM CONSTANT LOAD THE ACTUATOR CAN PUSH, WITH 7.5MM TRAVEL, IN DIRECTION 2 WHEN OPERATED ELECTRICALLY ONE TIME (WITHOUT R4-10 LATCH):
- 42.0 N (9.5 lbf) AT 10.8 VDC
- 46.5 N (10.5 lbf) AT 12.0 VDC
- 51.0 N (11.5 lbf) AT 13.2 VDC
7. OPERATING TEMPERATURE -40 TO 60 C

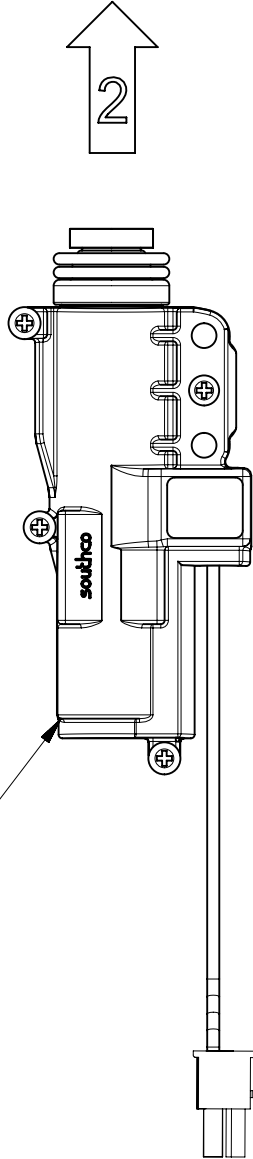
NUMBER OF CYCLES	LOAD	VOLTAGE (VDC)	TEMPERATURE (DEG C)
40,000	8.9 N (2 lbf) PUSH FORCE (DIRECTION 2) ON ACTUATOR	12	25
5,000		12	-40
5,000		12	60

TABLE 3 - CYCLE LIFE PROFILE

DIRECTION 1
TENSILE FORCES
APPLIED TO CAM
SEE NOTES 4 AND 5



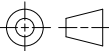
DIRECTION 2
ACTUATOR PUSH FORCE
SEE NOTE 6



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REF: trAC-43471

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