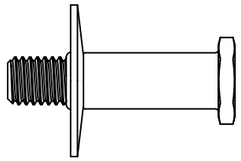
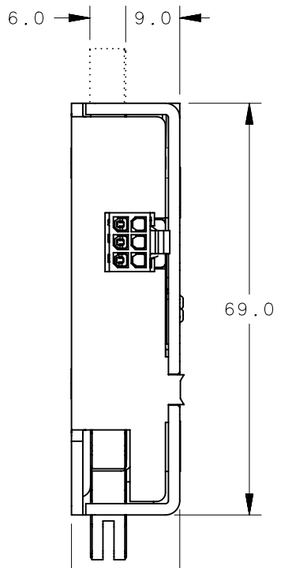
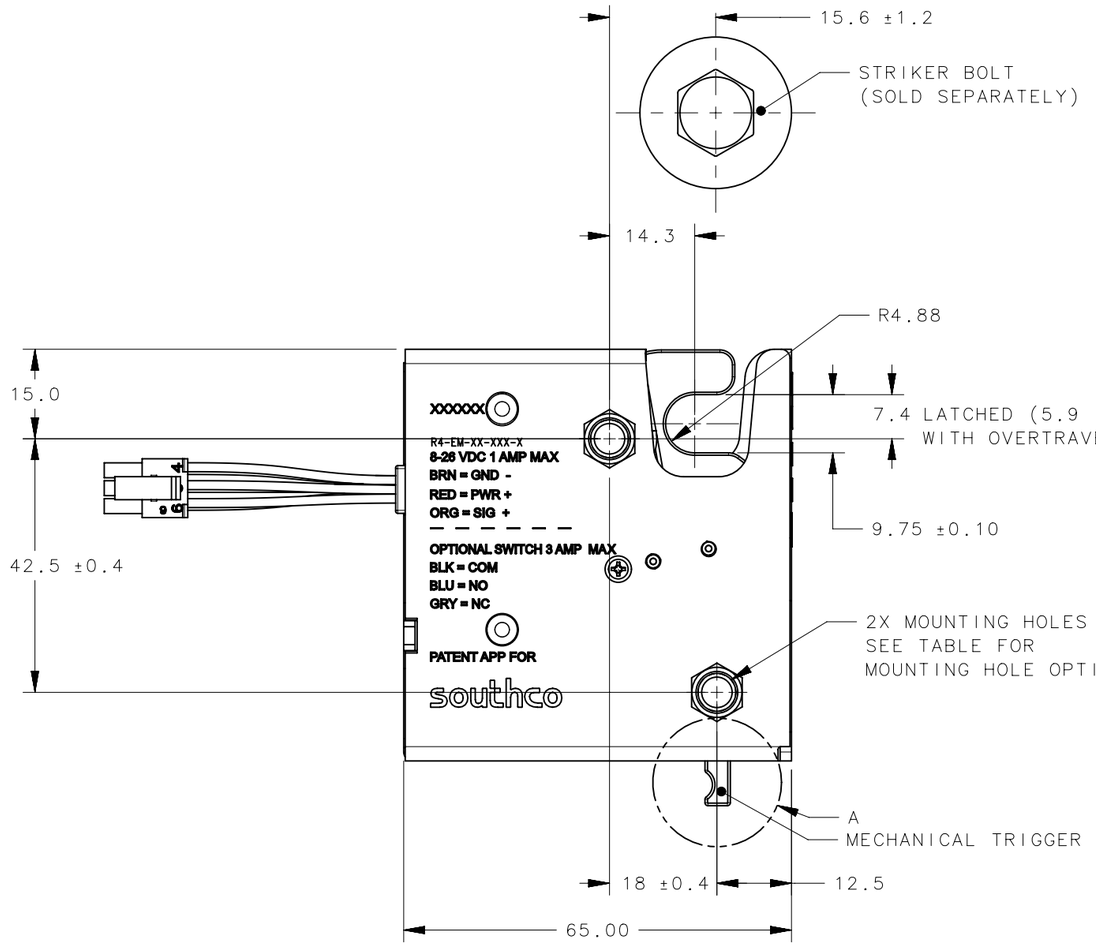
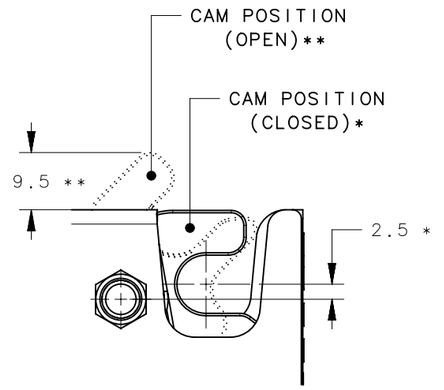
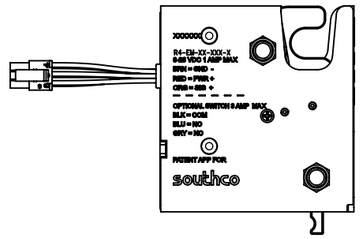
REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
C	05OCT2021	CRM/DMS	PRN: P2021-1941



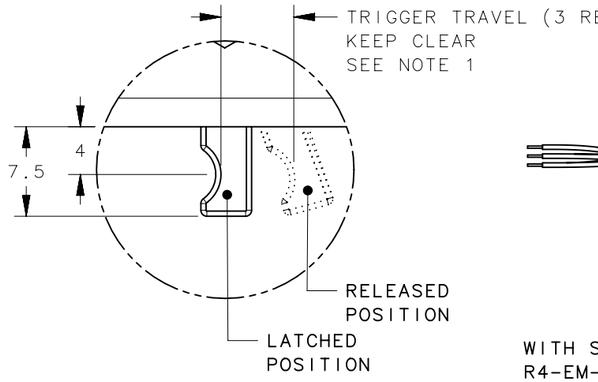




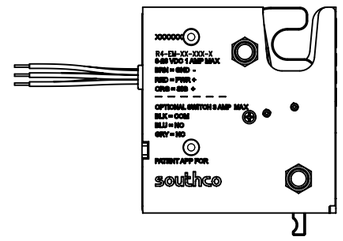




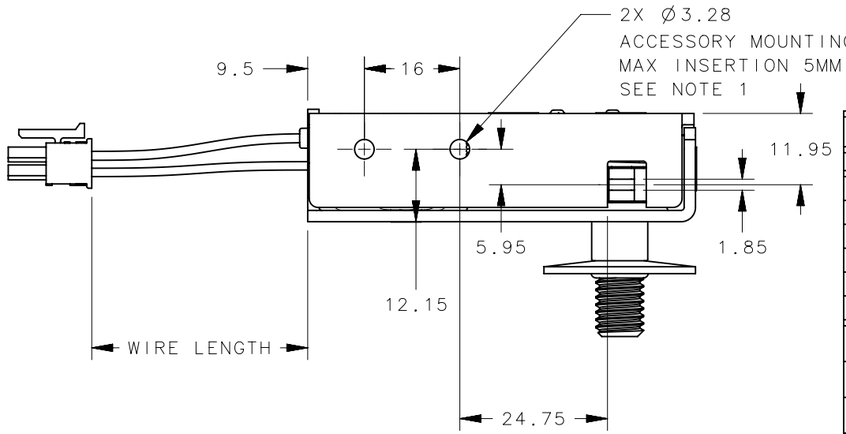
WITH SWITCH AND CONNECTOR
R4-EM-R21-161
R4-EM-R22-161
R4-EM-R23-161



DETAIL A
SCALE 2:1



WITH SWITCH, NO CONNECTOR
R4-EM-R21-162
R4-EM-R22-162
R4-EM-R23-162



LATCH PART NUMBERS				
ASSEMBLY PART NUMBER	MOUNTING HOLE OPTION	WIRE LENGTH	CONNECTOR	SWITCH
R4-EM-R21-161	1/4-20 UNC THREAD	150MM	YES	YES
R4-EM-R22-161	M6 x 1 THREAD			
R4-EM-R23-161	Ø7.0 THRU HOLE			
R4-EM-R21-162	1/4-20 UNC THREAD	425MM	NO	
R4-EM-R22-162	M6 x 1 THREAD			
R4-EM-R23-162	Ø7.0 THRU HOLE			

THIRD ANGLE PROJECTION

MILLIMETERS [IN]

TOLERANCES UNLESS OTHERWISE NOTED

ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.

PER ASME Y14.5M-1994

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CONNECT·CREATE·INNOVATE

DESCRIPTION
R4-EM ROTARY, REAR TRIGGER
TIME DELAYED RE-LOCK WITH SWITCH

SIZE	SYSTEM	DWG NO.
B	NX	J-R4-EM-R21-161

DRAWN BY	DATE	SCALE	SHEET
BGL/CLB	11NOV2012	1:1	1 OF 2

NOTE:

A. MATERIAL AND FINISH:
HOUSING, CAM, TRIGGER AND PINS: STEEL ZINC PLATED
ELECTRONIC ACTUATOR: PLASTIC AND ACETALS AND METAL COMPONENTS.

B. ELECTRICAL SPECIFICATION:
OPERATING VOLTAGE: 8 TO 26 VDC
TYPICAL OPERATING CURRENT: LESS THAN 500 mA AT 12VDC
PEAK/STALL OPERATING CURRENT: 1A MAX AT 12VDC STALL LIMITED TO 1.4 SECONDS
STANDBY CURRENT LESS THAN 185 MICROAMP
CONTROL SIGNAL HIGH (UNLOCK COMMAND): 6 TO 26VDC, 25 mA MAX
CONTROL SIGNAL LOW (LOCK COMMAND): 0 TO 1VDC (OPEN)
LATCH TRANSIT TIME TO RELEASE: 600 MILLISECONDS NO LOAD, 1 SECOND MAX.
OPERATING TEMPERATURE RANGE -20C TO 60C

C. 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 1 AMP MINIMUM IS RECOMMENDED.
-POWER MUST BE AVAILABLE TO OPERATE THE LATCH AND MUST REMAIN AVAILABLE DURING THE FULL TRANSIT TIME OF THE LATCH DURING LOCKING OR UNLOCKING.

⚠ **CAUTION!** LATCH CAN BE DAMAGED IF WIRED INCORRECTLY, OR IF IMPROPER VOLTAGE IS APPLIED!
WIRE COLOR CODE/CONNECTOR PIN ASSIGNMENT
PIN1: BROWN: GROUND (-)
PIN2: RED: POWER (+12V TYPICAL)
PIN3: ORANGE: CONTROL SIGNAL (+12V TYPICAL)
PIN4: BLACK: SWITCH COMMON
PIN5: BLUE: SWITCH N.O. CONTACT
PIN6: GREY: SWITCH N.C. CONTACT

D. ELECTRICAL OPERATION:
TO UNLOCK OR RELEASE THE LATCH:
PROVIDE THE FOLLOWING CONTROL SIGNAL TO THE ORANGE WIRE OR CONNECTOR PIN 3
-PROVIDE 6 TO 26VDC (CONTROL SIGNAL HIGH) FOR A MINIMUM OF 50 MILLISECONDS
-THE CONTROL SIGNAL CAN REMAIN HIGH INDEFINITELY
-THE LATCH WILL STAY UNLOCKED FOR A MINIMUM OF 1 SECOND OR AS LONG AS THE SIGNAL IS HIGH
TO LOCK THE LATCH:
PROVIDE THE FOLLOWING CONTROL SIGNAL TO THE ORANGE WIRE OR CONNECTOR PIN 3
-PROVIDE 0 TO 1VDC (CONTROL SIGNAL LOW). POWER MUST BE AVAILABLE DURING TRANSIT TO LOCKED POSITION
NOTE:
-THE DOOR IS NOT LATCHED WHEN IN THE UNLOCKED POSITION. ENSURE THAT YOUR DOOR IS BIASED CLOSED OR DETENTED IN THE CLOSED POSITION. THE CAM MUST REMAIN IN THE CLOSED POSITION TO RE-LOCK
-FROM THE LOCKED POSITION WITH THE CAM IN THE OPEN POSITION THE DOOR CAN BE PUSHED TO CLOSE AND WILL LOCK

E. LATCH CLOSED POSITION FEEDBACK SWITCH:
-NORMALLY OPEN CONTACT (BLUE WIRE) PROVIDES SWITCH CLOSURE WHEN LATCH CAM IS CLOSED
-NORMALLY CLOSED CONTACT (GREY WIRE) PROVIDES SWITCH OPEN WHEN LATCH CAM IS CLOSED
-SWITCH COMMON (BLACK WIRE)
SWITCH RATING: 3A AT 12 VDC MAX

⚠ **WARNING** SWITCH CIRCUIT IS NOT FUSED OR ELECTRICALLY PROTECTED! USE APPROPRIATE EXTERNAL PROTECTION. WIRE SWITCH CORRECTLY PER ELECTRICAL HOOKUP DIAGRAM AND DO NOT SHORT CIRCUIT. A SHORT CIRCUIT CAN DAMAGE LATCH AND MAY POSE AN ELECTRICAL FIRE HAZARD!

F. OPTIONAL LATCH CONNECTOR:
MANUFACTURER: MOLEX, SERIES MICROFIT 3.0
-CONNECTOR RECEPTICAL 6 POSITION 3MM VERTICAL DUAL: MOLEX P/N: 43025-0600
-CONTACTS: FEMALE CRIMP TERMINAL (SOCKET) MOLEX P/N: 43030-0007
WIRE: 24 AWG STYLE 1007
WIRE LENGTH: SEE TABLE FOR AVAILABLE LENGTHS

G. MATE CONNECTOR (NOT SUPPLIED)
MANUFACTURER: MOLEX, SERIES: MICROFIT 3.0
-CONNECTOR PLUG 6 POSITION 3MM VERTICAL DUAL MOLEX P/N: 43020-0601
-RECOMMENDED CONTACTS (6 REQUIRED): MOLEX, MALE CRIMP TERMINAL (PIN) MOLEX P/N 43031-0007
-RECOMMENDED WIRE GAGE: 24 AWG

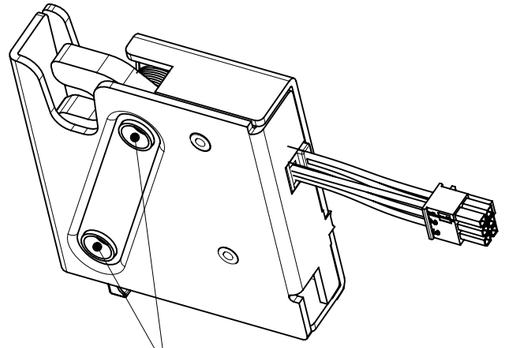
H. MOUNTING:
-MOUNT THE LATCH SECURELY USING TWO (2) SCREWS IN THE MOUNTING HOLES PROVIDED (SCREWS NOT PROVIDED)
-MOUNTING HOLES ARE AVAILABLE WITH 1/4-20 UNC THREAD, M6 x 1 THREAD OR Ø7.0 THRU HOLE
-MAXIMUM ALLOWABLE TORQUE ON THREADED MOUNTING SCREWS IS 650 N.cm (57.5 in. lbs)

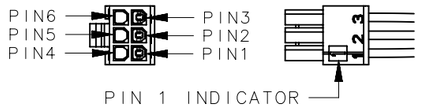
I. MECHANICAL OPERATION
THE LATCH IS PROVIDED WITH A MECHANICAL TRIGGER TO RELEASE THE LATCH.
THE MAXIMUM TRAVEL OF THE TRIGGER IS SHOWN IN DETAIL A. THE TRIGGER MOVES THROUGH ITS FULL TRAVEL DURING ELECTRICAL OPERATION OF THE LATCH.

⚠ **CAUTION** IT IS IMPORTANT TO NOT OBSTRUCT THE MOTION OF THE TRIGGER DURING ELECTRICAL OPERATION TO PREVENT LONGTERM DAMAGE TO THE ELECTRICAL COMPONENTS IN THE LATCH.
TWO HOLES PROVIDED CAN BE USED TO MOUNT MECHANICAL OVERRIDE LINKAGE RETAINING BRACKETS. STANDARD 1/8" BLIND RIVETS CAN BE USED FOR FASTENING. FOLLOW MAX INSERTION DEPTH INDICATED AND ENSURE THAT NO PARTICLES ENTER THE LATCH. CONTACT SOUTHCO FOR MECHANICAL RELEASE CABLES AND ACTUATORS.
AN OPTIONAL KIT WITH ONE CABLE MOUNTING BRACKET AND TWO RIVETS IS AVAILABLE AS PART NUMBER R4-EM-87
SEE CUSTOMER DRAWING J-R4-EM-87 FOR MORE INFORMATION

J. STRIKER BOLT ASSEMBLY SOLD SEPARATELY
STRIKER BOLT PART NUMBER: R4-90-121-10, REFER TO CUSTOMER DRAWING J-R4-90-121 FOR ADDITIONAL INFORMATION

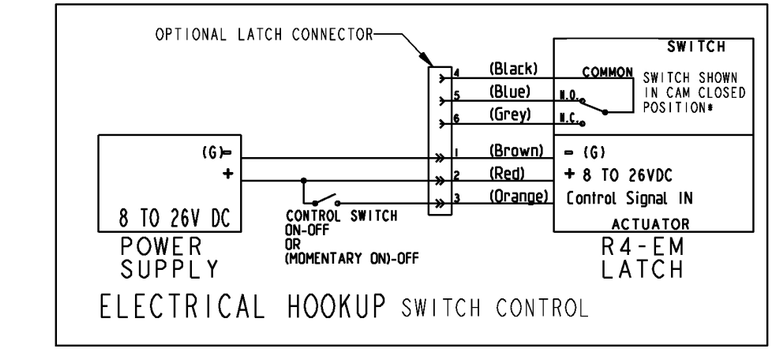
K. PACKAGED IN INDIVIDUAL BOXES OR ADD -1 TO PART NUMBER FOR BULK PACKAGING
EXAMPLE: R4-EM-R21-161
R4-EM-R21-161-1



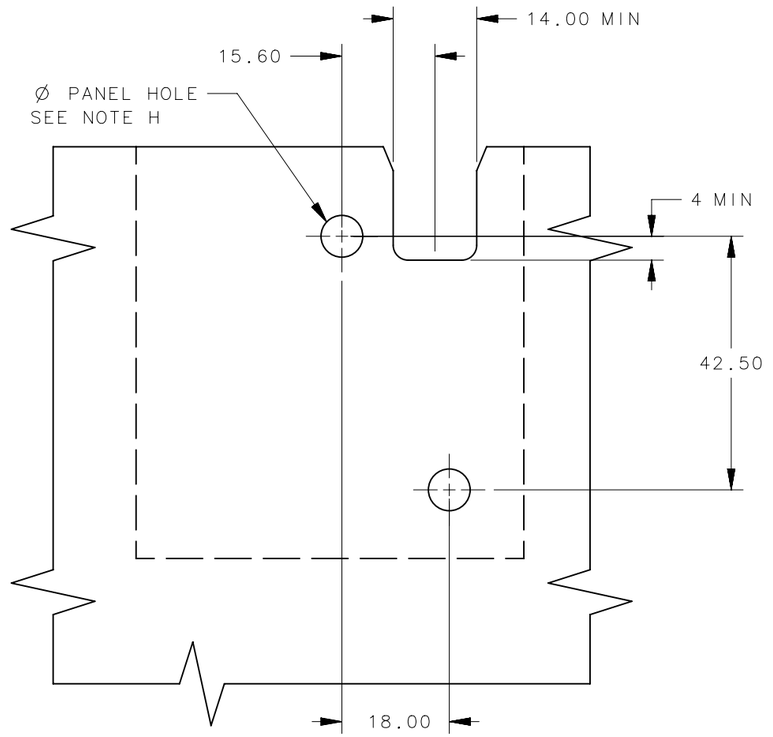


LATCH CONNECTOR

RESISTOR CHART		
SUPPY VOLTAGE	STANDARD RESISTOR VALUE	RESISTOR
26	2.26kΩ	RESISTOR CASE STYLE: AXIAL LEADED POWER RATING: 250mW RESISTANCE TOLERANCE: ±1% RESISTOR ELEMENT TYPE: METAL FILM TEMPERATURE COEFFICIENT: ±50ppm/° C
24	2.00kΩ	
22	1.78kΩ	
20	1.50kΩ	
18	1.27kΩ	
16	1.00kΩ	
14	750kΩ	
12	499kΩ	
10	255kΩ	



ELECTRICAL HOOKUP SWITCH CONTROL



PANEL PREPARATION

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
C	05OCT2021	CRM/DMS	PRN: P2021-1941

THIRD ANGLE PROJECTION
MILLIMETERS [IN]
TOLERANCES UNLESS OTHERWISE NOTED
ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.
PER ASME Y14.5M-1994

southco®
CONNECT·CREATE·INNOVATE

DESCRIPTION: R4-EM ROTARY, REAR TRIGGER, WITH MICROSWITCH

SIZE	SYSTEM	DWG NO.
B	NX	J-R4-EM-R21-161

DRAWN BY	DATE	SCALE	SHEET
BGL/CLB	11NOV2012	1:1	2 OF 2