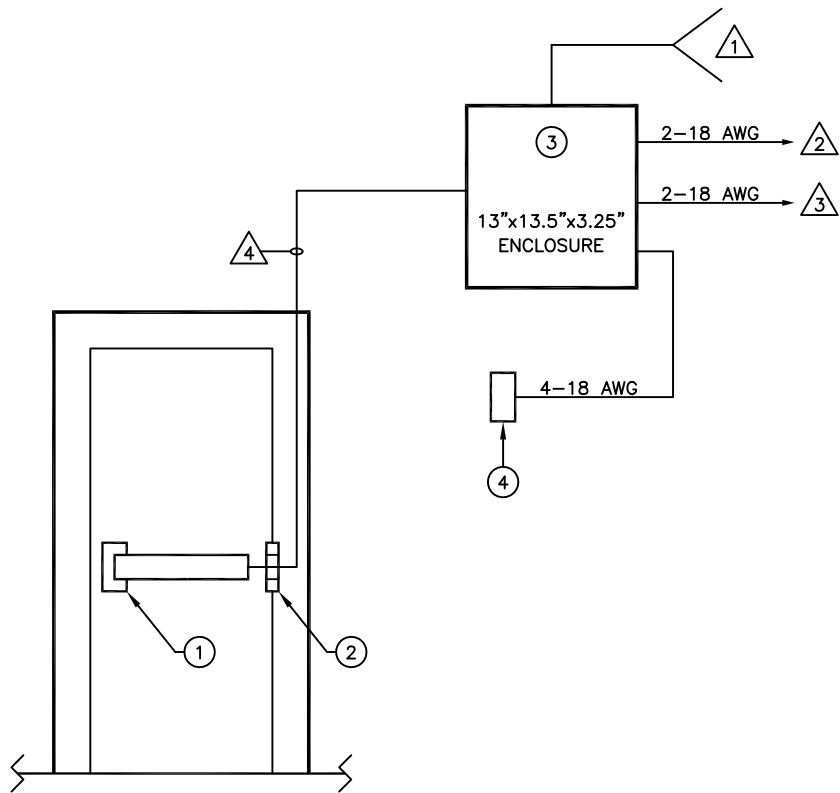




ACSI Series 1550K-MD and 1550-MD Motor Drive Electric Latch Retraction

**Riser and Point-to-Point Drawings for
Standard Access Control Applications
Using Maintained Latch Retraction Control or
Momentary Latch Retraction Control with
Field-Adjustable Time Delay
For Use with ACSI Part Numbers
1451 and 1451-TD**

**Riser and Point-to-Point Drawings for
Standard Access Control and
Day/Night Applications for Openings
Using Automatic Door Operators
For Use with ACSI Part Numbers
1451-AO and 1451-DN**



NOTES:


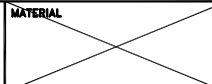
- ① TO 115V., 60HZ., 15A SERVICE.
- ② TO N.C. FIRE ALARM, IF REQUIRED.
- ③ TO A CONTROL DEVICE USING MAINTAINED SWITCH CONTACTS (PUSHBUTTON SWITCH, KEY SWITCH) OR A CONTROL DEVICE RELAY OUTPUT EQUIPPED WITH BUILT-IN TIME DELAY (CARD READER, KEYPAD, MOTION SENSOR).

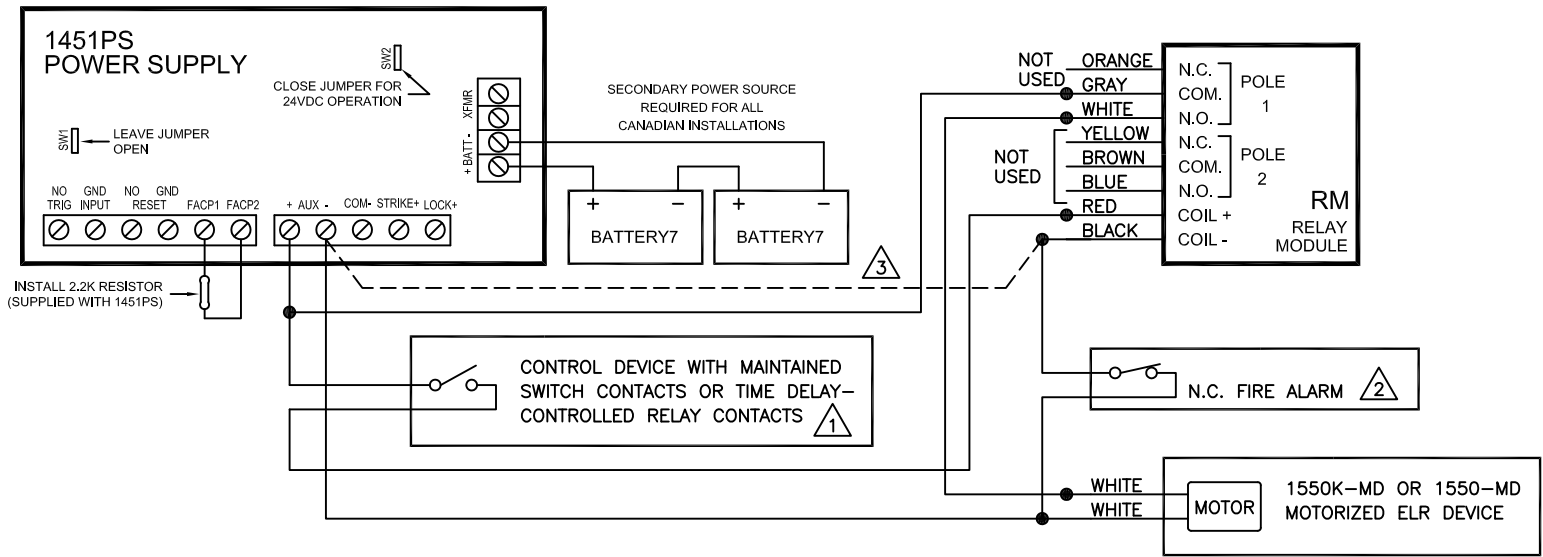
④	WIRE GAUGE	MAX. LENGTH 2-COND. CABLE
	22 AWG	70 FEET
	20 AWG	110 FEET
	18 AWG	180 FEET
	16 AWG	280 FEET
	14 AWG	450 FEET
	12 AWG	720 FEET

RISER DIAGRAM FOR STANDARD ACCESS CONTROL WITH MAINTAINED ELECTRIC LATCH RETRACTION, OR MOMENTARY RETRACTION BY CONTROL DEVICES WITH BUILT-IN TIME DELAY, USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

ACSI SUPPLIED EQUIPMENT:

- ① SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELECTRIC LATCH RETRACTION
- ② SERIES 1100 POWER TRANSFER HINGE
- ③ 1451PS POWER SUPPLY
- ④ RM RELAY MODULE
NOTE: DO NOT LOCATE MORE THAN 10 FT. FROM POWER SUPPLY

 ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°		DRILL +.007 -.001 REAM +.001 -.000 PUNCH +.004 -.001			
	DESCRIPTION ACSI P/N 1451 ELR ACCESS CONTROL	DRAWING NO. REF 6039-1	MATERIAL 	DATE 2/6/15	RELEASED CRH	APPRV. CRH
			SCALE <i>N</i>	DRAWN BY CRH	DATE 2/6/15	
			SHEET 1 OF 1	APPRV. BY CRH	DATE 2/6/15	
DO NOT SCALE THIS DRAWING						

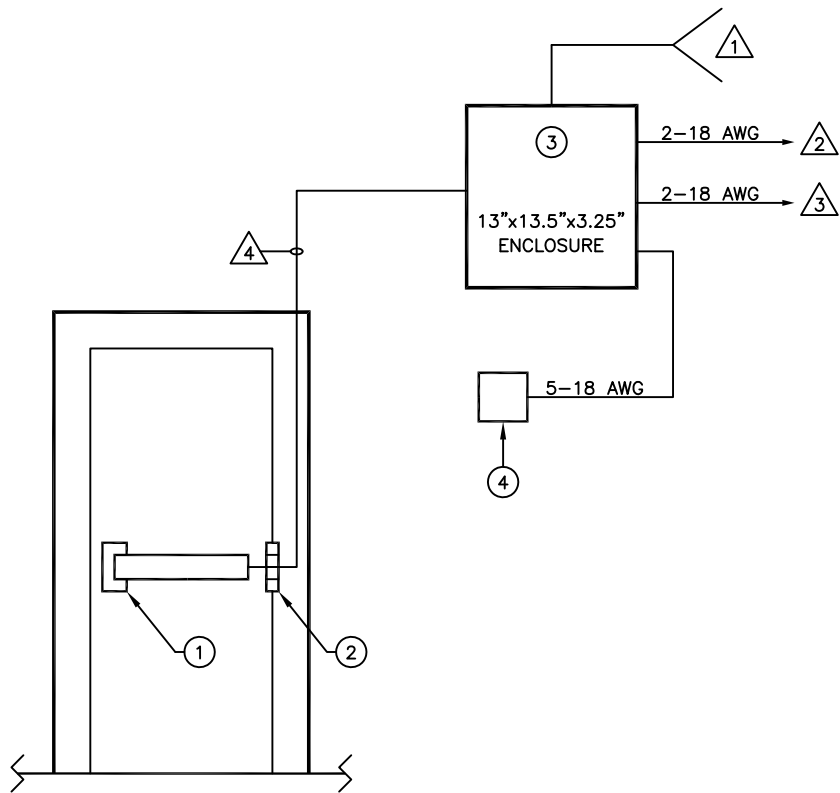


POINT-TO-POINT WIRING DIAGRAM
 STANDARD ACCESS CONTROL WITH MAINTAINED ELECTRIC
 LATCH RETRACTION, OR MOMENTARY RETRACTION BY
 CONTROL DEVICES WITH BUILT-IN TIME DELAY, USING
 SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

NOTES:

- 1 LATCHBOLT IS PROJECTED WITH SWITCH IN OPEN POSITION, AS SHOWN. CLOSING SWITCH CONTACTS WILL RETRACT LATCHBOLT.
- 2 A FIRE ALARM CONDITION WILL IMMEDIATELY PROJECT THE LATCHBOLT WHEN CURRENTLY RETRACTED.
- 3 IF FIRE ALARM IS NOT REQUIRED, CONNECT A WIRE BETWEEN THE COIL NEGATIVE (-) OF RELAY RM AND THE AUXILIARY OUTPUT NEGATIVE (-) TERMINAL (SHOWN AS DOTTED LINE).

ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°	+.007 DRILL -.001 +.001 REAM -.000 +.004 PUNCH -.001			
	DESCRIPTION ACSI P/N 1451 ELR ACCESS CONTROL	DRAWING NO. REF 6039-P1	MATERIAL <div style="border: 1px solid black; width: 100%; height: 100%; display: flex; align-items: center; justify-content: center;"> X </div>	DATE 2/3/15	REV. RELEASED
SCALE <i>TL</i>	DRAWN BY CRH	DATE 2/3/15	DO NOT SCALE THIS DRAWING		
SHEET 1 OF 1	APPRV. BY CRH	DATE 2/3/15			



NOTES:


- ① TO 115V., 60HZ., 15A SERVICE.
- ② TO N.C. FIRE ALARM, IF REQUIRED.
- ③ TO A MOMENTARY PUSHBUTTON OR KEY SWITCH FOR TIMED MOMENTARY DOOR CONTROL USING THE TM TIMER MODULE'S FIELD-ADJUSTABLE TIME DELAY.

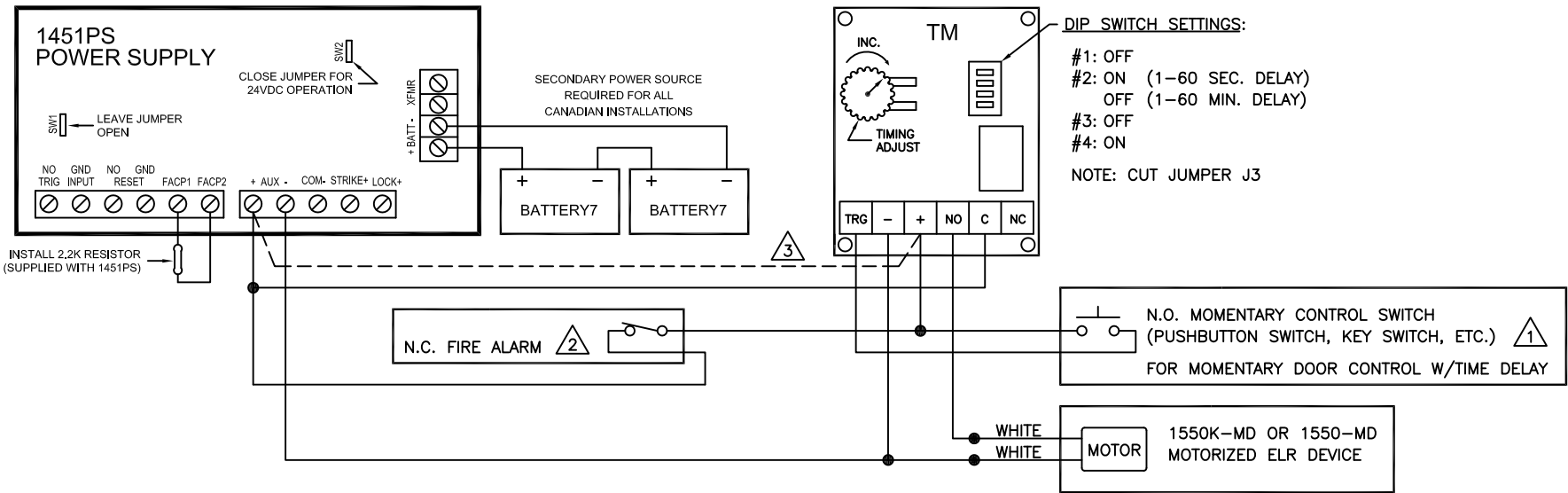
④ WIRE GAUGE	MAX. LENGTH 2-COND. CABLE
22 AWG	70 FEET
20 AWG	110 FEET
18 AWG	180 FEET
16 AWG	280 FEET
14 AWG	450 FEET
12 AWG	720 FEET

RISER DIAGRAM FOR STANDARD ACCESS CONTROL WITH FIELD-ADJUSTBLE TIME DELAY USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

ACSI SUPPLIED EQUIPMENT:

- ① SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELECTRIC LATCH RETRACTION
- ② SERIES 1100 POWER TRANSFER HINGE
- ③ 1451PS POWER SUPPLY
- ④ TM TIMER MODULE
NOTE: DO NOT LOCATE MORE THAN 10 FT. FROM POWER SUPPLY

 ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°	DRILL +.007 -.001 +.001 REAM -.000 +.004 PUNCH -.001			
			2/6/15	RELEASED	CRH
DESCRIPTION ACSI P/N 1451-TD ELR ACCESS CONTROL			DRAWING NO. REF 6039-R2		MATERIAL
SCALE <i>N</i>			DRAWN BY CRH		DATE 2/6/15
SHEET 1 OF 1			APPRV. BY CRH		DATE 2/6/15
DO NOT SCALE THIS DRAWING					

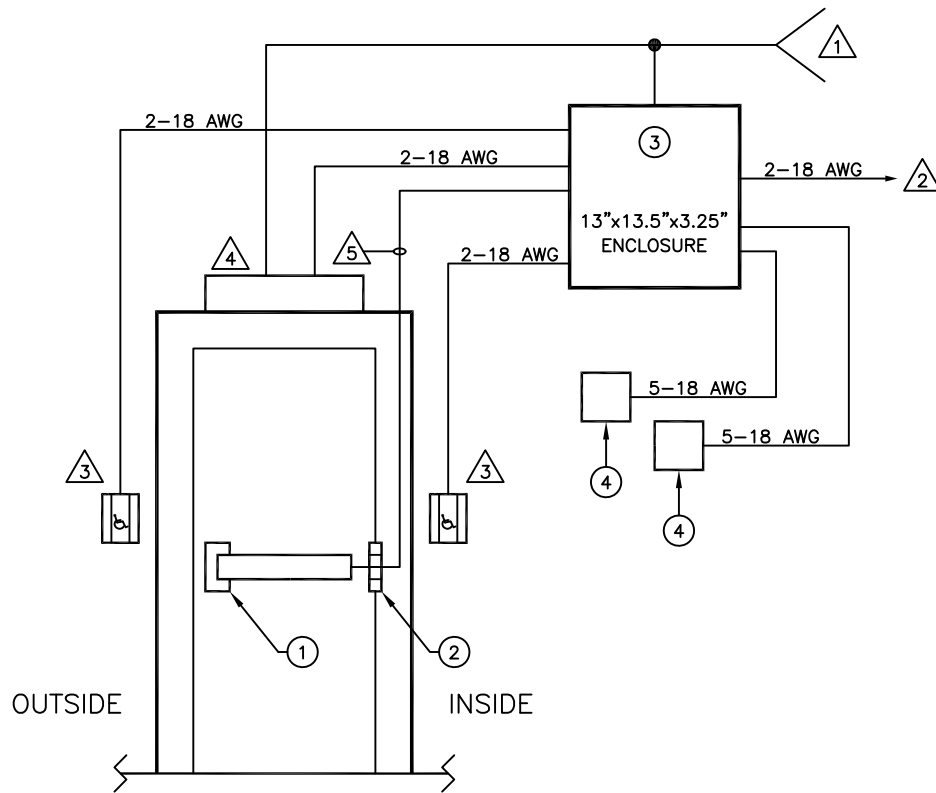


POINT-TO-POINT WIRING DIAGRAM
STANDARD ACCESS CONTROL WITH
FIELD-ADJUSTABLE TIME DELAY USING SERIES
1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

NOTES:

- 1 LATCHBOLT IS NORMALLY PROJECTED. A MOMENTARY CLOSURE OF SWITCH CONTACTS WILL RETRACT LATCHBOLT. DEVICE'S LATCHBOLT WILL REMAIN RETRACTED FOR PERIOD OF TIME AS DETERMINED BY SETTING OF ADJUSTMENT WHEEL ON TM TIMER MODULE AND TIME RANGE DIP SWITCH SETTING (SECONDS OR MINUTES). LATCHBOLT PROJECTS AFTER DELAY PERIOD TIMES OUT.
- 2 A FIRE ALARM CONDITION WILL IMMEDIATELY PROJECT LATCHBOLT (WHEN CURRENTLY RETRACTED) AND RESET TIMER MODULE.
- 3 IF FIRE ALARM IS NOT REQUIRED, CONNECT A WIRE BETWEEN THE POSITIVE (+) TERMINAL OF TIMER TM AND THE AUXILIARY OUTPUT POSITIVE (+) TERMINAL (SHOWN AS DOTTED LINE).

ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°		+.007 DRILL -.001 +.001 REAM -.000 +.004 PUNCH -.001		
	DESCRIPTION ACSI P/N 1451-TD ELR ACCESS CONTROL	DRAWING NO. REF 6039-P2	MATERIAL	DATE 2/4/15	RELEASED REV. CRH
SCALE <i>TL</i>			DRAWN BY CRH	DATE 2/4/15	
SHEET 1 OF 1			APPRV. BY CRH	DATE 2/4/15	
DO NOT SCALE THIS DRAWING					



NOTES:


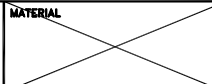
- ① TO 115V., 60HZ., 15A SERVICE.
- ② TO N.C. FIRE ALARM, IF REQUIRED.
- ③ WALL SWITCH
- ④ AUTOMATIC DOOR OPERATOR
- ⑤

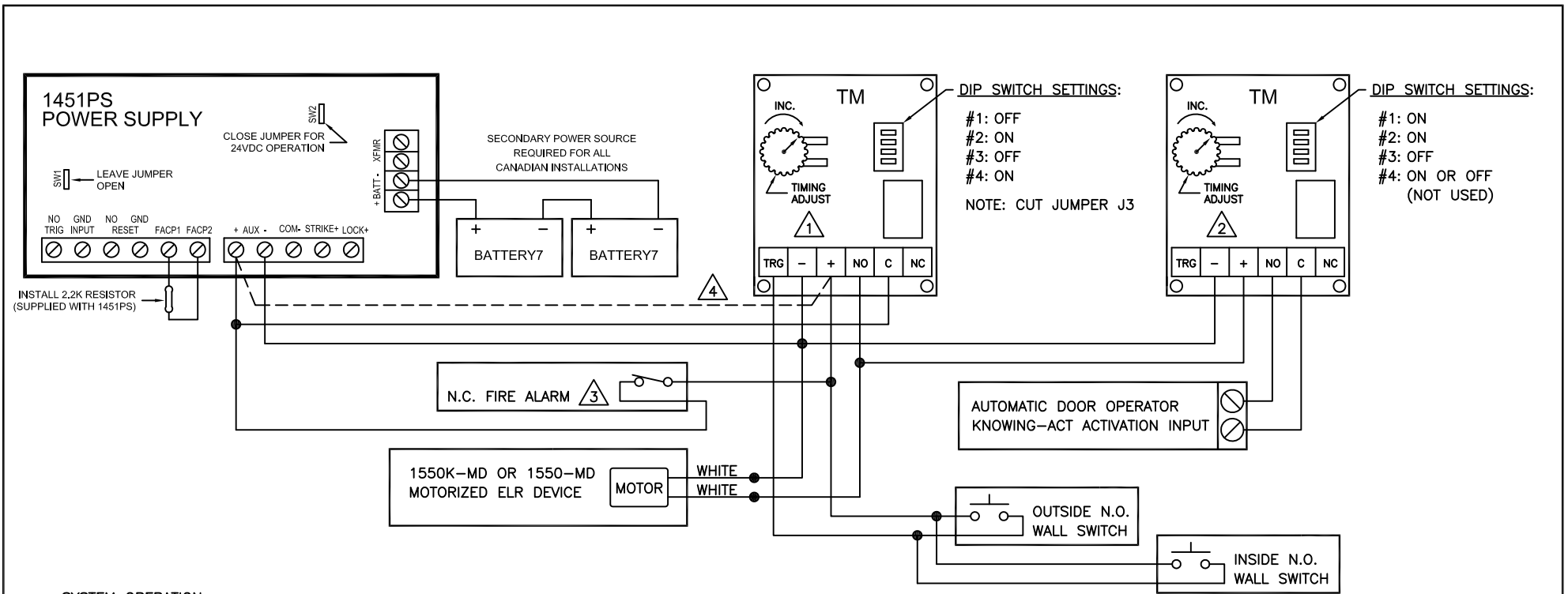
WIRE GAUGE	MAX. LENGTH 2-COND. CABLE
22 AWG	70 FEET
20 AWG	110 FEET
18 AWG	180 FEET
16 AWG	280 FEET
14 AWG	450 FEET
12 AWG	720 FEET

**RISER DIAGRAM FOR STANDARD AUTOMATED
DOOR OPENING SYSTEM APPLICATION USING SERIES
1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES**

ACSI SUPPLIED EQUIPMENT:

- ① SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELECTRIC LATCH RETRACTION
- ② SERIES 1100 POWER TRANSFER HINGE
- ③ 1451PS POWER SUPPLY
- ④ TM TIMER MODULE
NOTE: DO NOT LOCATE MORE THAN 10 FT. FROM POWER SUPPLY

 ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°		+.007 DRILL -.001 +.001 REAM -.000 +.004 PUNCH -.001					
	DESCRIPTION ACSI P/N 1451-AO ELR ACCESS CONTROL	DRAWING NO. REF 6039-R3	MATERIAL 	2/6/15 DATE	RELEASED REV.	CRH APPRV.	SCALE <i>N</i> SHEET 1 OF 1	DRAWN BY CRH APPRV. BY CRH
DO NOT SCALE THIS DRAWING								



SYSTEM OPERATION:

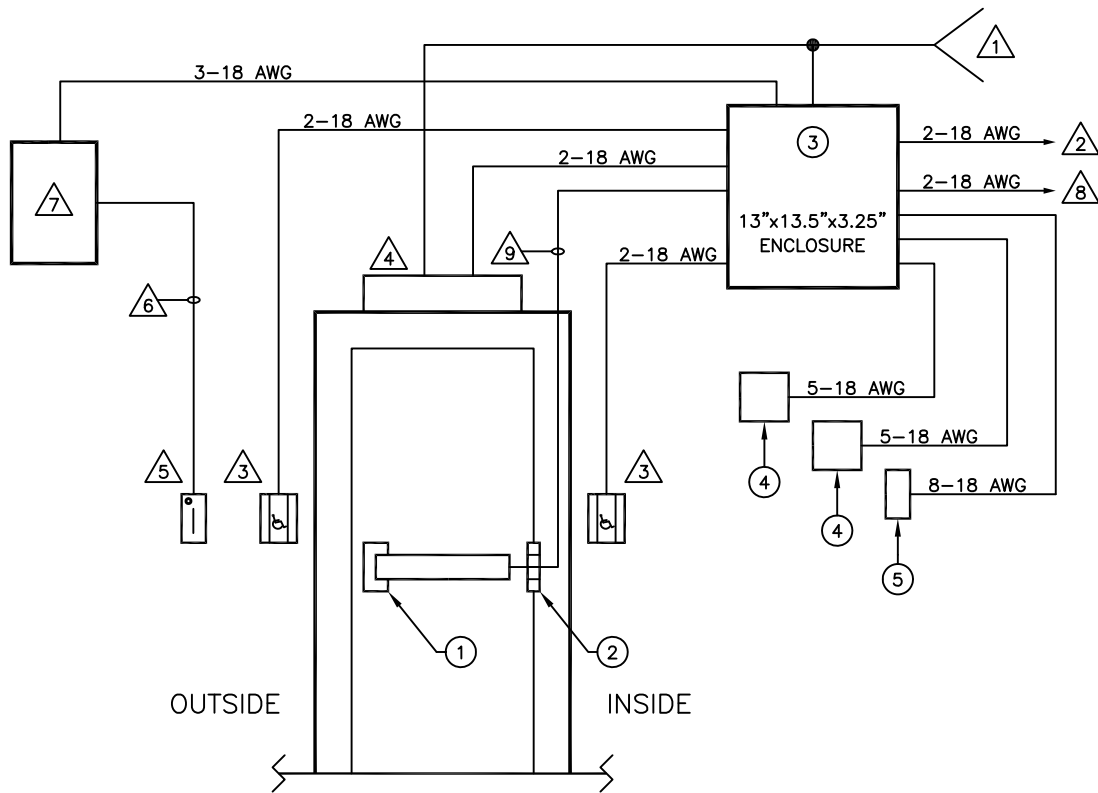
OUTSIDE OR INSIDE WALL SWITCH SEQUENTIALLY RETRACTS LATCHBOLT AND ACTIVATES AUTOMATIC DOOR OPERATOR.

NOTES:

- 1 ADJUST LATCH RETRACTION DELAY TIMER FOR 3-5 SEC. TO ENSURE LATCHBOLT IS FULLY RETRACTED BEFORE AUTO OPERATOR OPENS DOOR, AND TO ENSURE DOOR WILL LATCH WHEN IT CLOSES.
- 2 ADJUST AUTO OPERATOR DELAY-BEFORE-ACTIVATE TIMER FOR 1-2 SEC. TO ALLOW ENOUGH TIME FOR LATCHBOLT TO FULLY RETRACT BEFORE OPERATOR IS ACTIVATED. NOTE: THE "TRG" TERMINAL IS NOT USED WITH THIS TIMER.
- 3 A FIRE ALARM CONDITION WILL IMMEDIATELY PROJECT LATCHBOLT (WHEN CURRENTLY RETRACTED), DISABLE USE OF WALL SWITCHES AND RESET TIMER MODULES.
- 4 IF FIRE ALARM IS NOT REQUIRED, CONNECT A WIRE BETWEEN THE POSITIVE (+) TERMINAL OF LATCH RETRACTION DELAY TIMER TM AND THE AUXILIARY OUTPUT POSITIVE (+) TERMINAL (SHOWN AS DOTTED LINE).

**POINT-TO-POINT WIRING DIAGRAM
STANDARD ACCESS CONTROL WITH AUTOMATIC DOOR OPERATOR
USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES**

	ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°	DRILL +.007 -.001 REAM +.001 -.000 PUNCH +.004 -.001		
	DESCRIPTION ACSI P/N 1451-AO ELR ACCESS CONTROL	DRAWING NO. REF 6039-P3	MATERIAL		
			2/4/15	RELEASED	CRH
			DATE	REV.	APPRV.
SCALE <i>N</i>	DRAWN BY CRH	DATE 2/4/15			
SHEET 1 OF 1	APPRV. BY CRH	DATE 2/4/15			
DO NOT SCALE THIS DRAWING					



NOTES:


- ① TO 115V., 60HZ., 15A SERVICE.
 - ② TO N.C. FIRE ALARM, IF REQUIRED.
 - ③ WALL SWITCH
 - ④ AUTOMATIC DOOR OPERATOR
 - ⑤ CARD READER UNIT
 - ⑥ CARD READER POWER/DATA CABLE
 - ⑦ CARD ACCESS CONTROL UNIT CONTAINING DOOR CONTROL RELAY RESPONDING TO CARD READER SWIPE FOR MOMENTARY AUTHORIZED ENTRY (NIGHT MODE)
 - ⑧ ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT (TIME CLOCK, COMPUTER-CONTROLLED TIME SCHEDULE, ETC.)
 - ⑨ WIRE GAUGE MAX. LENGTH 2-COND. CABLE
- | | |
|--------|----------|
| 22 AWG | 70 FEET |
| 20 AWG | 110 FEET |
| 18 AWG | 180 FEET |
| 16 AWG | 280 FEET |
| 14 AWG | 450 FEET |
| 12 AWG | 720 FEET |

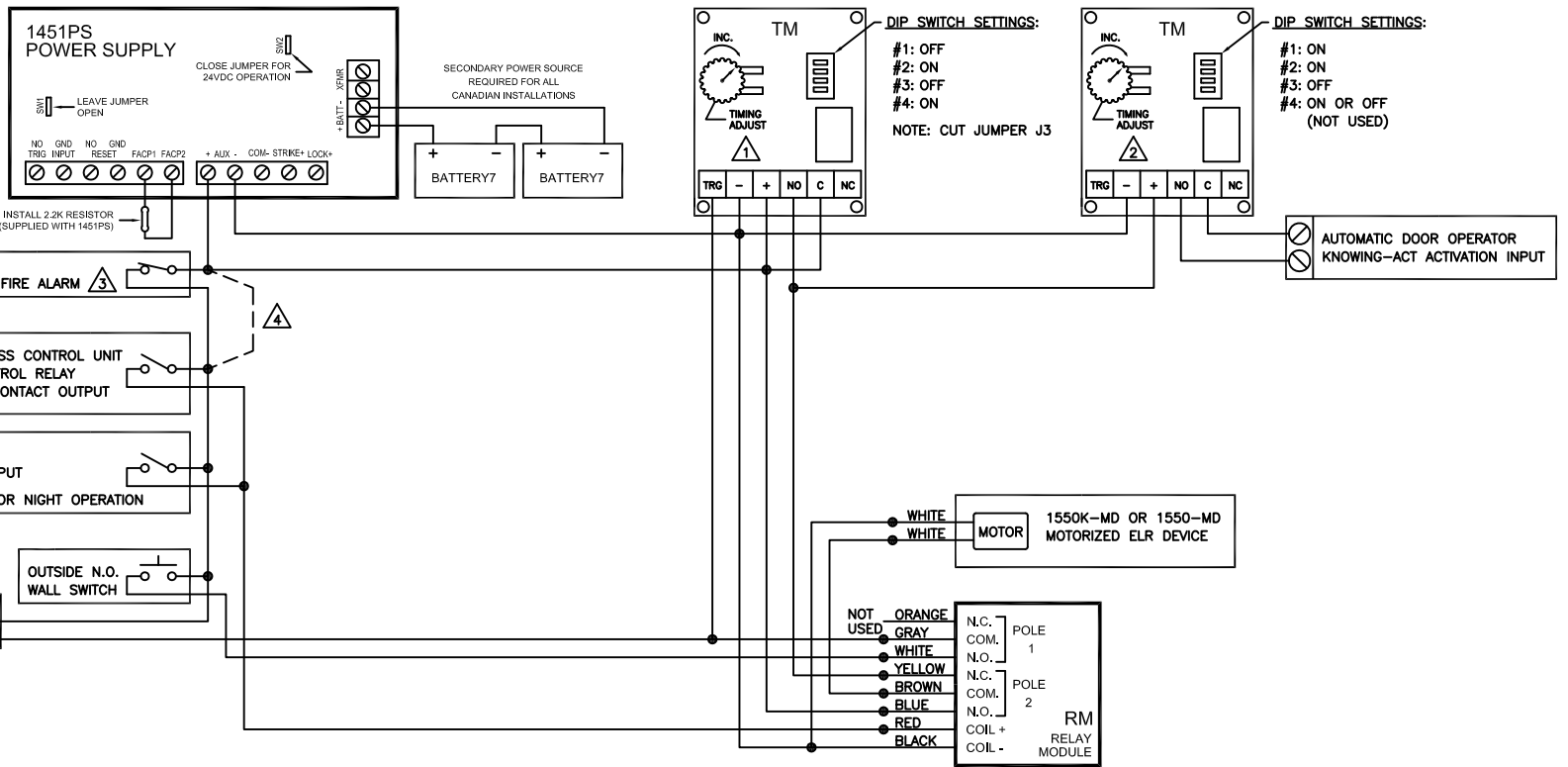
**RISER DIAGRAM FOR DAY/NIGHT AUTOMATED
DOOR OPENING SYSTEM APPLICATION USING SERIES
1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES**

ACSI SUPPLIED EQUIPMENT:

- ① SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELECTRIC LATCH RETRACTION
- ② SERIES 1100 POWER TRANSFER HINGE
- ③ 1451PS POWER SUPPLY
- ④ TM TIMER MODULE*
- ⑤ RM RELAY MODULE*

*DO NOT LOCATE MORE THAN 10 FT. FROM POWER SUPPLY

 ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION ±1/64 DECIMAL ±.005 ANGULAR ±1°	+.007 DRILL -.001 +.001 REAM -.000 +.004 PUNCH -.001			
			2/6/15	RELEASED	CRH
DESCRIPTION	DRAWING NO.	MATERIAL	DATE	REV.	APPRV.
ACSI P/N 1451-DN ELR ACCESS CONTROL	REF 6039-R4		SCALE <i>N</i>	DRAWN BY CRH	DATE 2/6/15
			SHEET 1 OF 1	APPRV. BY CRH	DATE 2/6/15
DO NOT SCALE THIS DRAWING					



SYSTEM OPERATION:


WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR DAY OPERATION (DRY CONTACTS CLOSED), THE LATCHBOLT WILL RETRACT. PUSHING THE OUTSIDE OR INSIDE WALL SWITCH WILL ACTIVATE THE AUTOMATIC DOOR OPERATOR.

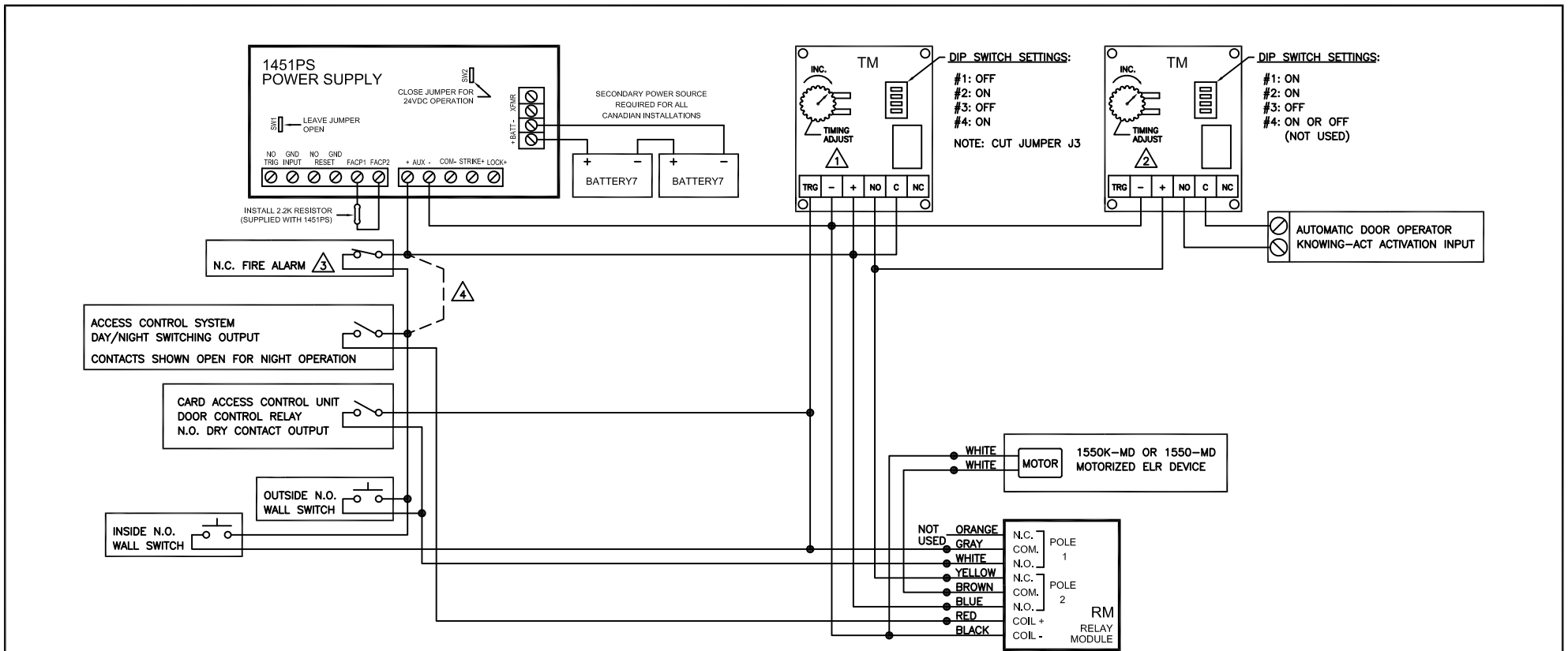
WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR NIGHT OPERATION (DRY CONTACTS OPEN), THE LATCHBOLT WILL PROJECT AND THE OUTSIDE WALL SWITCH BECOMES DISABLED. A VALID SWIPE FROM THE CARD READER WILL TEMPORARILY RETRACT THE LATCHBOLT. WHILE THE CARD READER IS IN ITS ACTIVATED STATE, THE OUTSIDE WALL SWITCH IS ENABLED FOR ACTIVATING THE AUTOMATIC DOOR OPERATOR. THE INSIDE WALL SWITCH IS ALWAYS ENABLED IN NIGHT MODE AND WILL SEQUENTIALLY RETRACT THE LATCHBOLT AND ACTIVATE THE AUTOMATIC DOOR OPERATOR.

NOTES:

- 1. ADJUST LATCH RETRACTION DELAY TIMER FOR 3-5 SEC. TO ENSURE LATCHBOLT IS FULLY RETRACTED BEFORE AUTO OPERATOR OPENS DOOR, AND TO ENSURE DOOR WILL LATCH WHEN IT CLOSSES.
- 2. ADJUST AUTO OPERATOR DELAY-BEFORE-ACTIVATE TIMER FOR 1-2 SEC. TO ALLOW ENOUGH TIME FOR LATCHBOLT TO FULLY RETRACT BEFORE OPERATOR IS ACTIVATED. NOTE: THE "TRG" TERMINAL IS NOT USED WITH THIS TIMER.
- 3. A FIRE ALARM CONDITION OCCURRING WHILE IN DAY MODE WILL IMMEDIATELY PROJECT LATCHBOLT AND DISABLE USE OF OUTSIDE AND INSIDE WALL SWITCHES. WHEN A FIRE ALARM CONDITION OCCURS IN NIGHT MODE, LATCHBOLT WILL REMAIN PROJECTED, AND BOTH OUTSIDE AND INSIDE WALL SWITCHES WILL BECOME DISABLED. NOTE: IF A FIRE ALARM OCCURS AT THE BEGINNING OF A DOOR OPEN CYCLE, THE SYSTEM APPLICATION WILL ALLOW THE OPENING CYCLE TO BE COMPLETED BEFORE DISABLING LATCH RETRACTION AND USE OF BOTH WALL SWITCHES.
- 4. IF FIRE ALARM IS NOT REQUIRED, CONNECT ONE SIDE OF THE CARD ACCESS RELAY OUTPUT, ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT, OUTSIDE WALL SWITCH AND INSIDE WALL SWITCH (ALL SHOWN BUSSED TOGETHER) TO THE AUXILIARY OUTPUT POSITIVE (+) TERMINAL (SHOWN AS DOTTED LINE).

POINT-TO-POINT WIRING DIAGRAM
 DAY/NIGHT APPLICATION - VARIATION #1
 USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

 ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION 1/64 DECIMAL ±.008 ANGULAR ±1°		DRILL ±.001 REAM ±.001 PUNCH ±.004 ±.001				
	DESCRIPTION AC SI P/N 1451-DN ELR ACCESS CONTROL	DRAWING NO. REF 6039-P4-1	MATERIAL	SCALE 1/1	DRAWN BY CRH	DATE 2/5/15	RELEASED CRH
SHEET 1 OF 1			DATE 2/5/15		DO NOT SCALE THIS DRAWING		



SYSTEM OPERATION:

WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR DAY OPERATION (DRY CONTACTS CLOSED), THE LATCHBOLT WILL RETRACT. PUSHING THE OUTSIDE OR INSIDE WALL SWITCH WILL ACTIVATE THE AUTOMATIC DOOR OPERATOR.

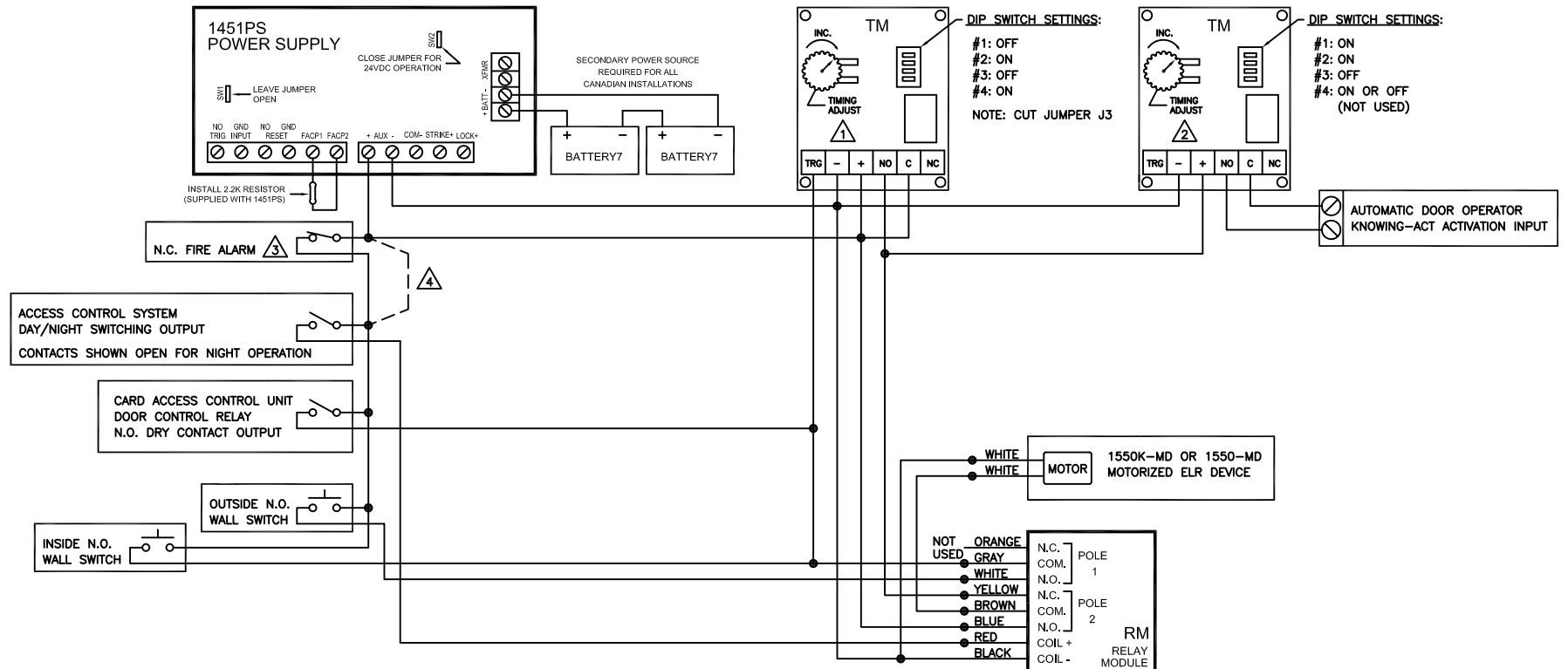
WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR NIGHT OPERATION (DRY CONTACTS OPEN), THE LATCHBOLT WILL PROJECT AND THE OUTSIDE WALL SWITCH BECOMES DISABLED. A VALID SWIPE FROM THE CARD READER WILL TEMPORARILY ENABLE THE OUTSIDE WALL SWITCH TO SEQUENTIALLY RETRACT THE LATCHBOLT AND ACTIVATE THE AUTOMATIC DOOR OPERATOR. THE INSIDE WALL SWITCH IS ALWAYS ENABLED IN NIGHT MODE AND WILL SEQUENTIALLY RETRACT THE LATCHBOLT AND ACTIVATE THE AUTOMATIC DOOR OPERATOR.

NOTES:

- 1. ADJUST LATCH RETRACTION DELAY TIMER FOR 3-5 SEC. TO ENSURE LATCHBOLT IS FULLY RETRACTED BEFORE AUTO OPERATOR OPENS DOOR, AND TO ENSURE DOOR WILL LATCH WHEN IT CLOSES.
- 2. ADJUST AUTO OPERATOR DELAY-BEFORE-ACTIVATE TIMER FOR 1-2 SEC. TO ALLOW ENOUGH TIME FOR LATCHBOLT TO FULLY RETRACT BEFORE OPERATOR IS ACTIVATED. NOTE: THE "TRG" TERMINAL IS NOT USED WITH THIS TIMER.
- 3. A FIRE ALARM CONDITION OCCURRING WHILE IN DAY MODE WILL IMMEDIATELY PROJECT LATCHBOLT AND DISABLE USE OF OUTSIDE AND INSIDE WALL SWITCHES. WHEN A FIRE ALARM CONDITION OCCURS IN NIGHT MODE, LATCHBOLT WILL REMAIN PROJECTED, AND BOTH OUTSIDE AND INSIDE WALL SWITCHES WILL BECOME DISABLED. NOTE: IF A FIRE ALARM OCCURS AT THE BEGINNING OF A DOOR OPEN CYCLE, THE SYSTEM APPLICATION WILL ALLOW THE OPENING CYCLE TO BE COMPLETED BEFORE DISABLING LATCH RETRACTION AND USE OF BOTH WALL SWITCHES.
- 4. IF FIRE ALARM IS NOT REQUIRED, CONNECT ONE SIDE OF THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT, OUTSIDE WALL SWITCH AND INSIDE WALL SWITCH (ALL SHOWN BUSSED TOGETHER) TO THE AUXILIARY OUTPUT POSITIVE (+) TERMINAL (SHOWN AS DOTTED LINE).

POINT-TO-POINT WIRING DIAGRAM
 DAY/NIGHT APPLICATION - VARIATION #2
 USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION 1/64 DRILL -.001 DECIMAL .008 REAM -.001 ANGULAR ±1° PUNCH -.001				
	DESCRIPTION ACSI P/N 1451-DN ELR ACCESS CONTROL	DRAWING NO. REF 6039-P4-2	MATERIAL	DATE 2/5/15	RELEASED CRH
SCALE 1/4" = 1" SHEET 1 OF 1			DRAWN BY CRH	DATE 2/5/15	DO NOT SCALE THIS DRAWING



SYSTEM OPERATION:

WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR DAY OPERATION (DRY CONTACTS CLOSED), THE LATCHBOLT WILL RETRACT. PUSHING THE OUTSIDE OR INSIDE WALL SWITCH WILL ACTIVATE THE AUTOMATIC DOOR OPERATOR.

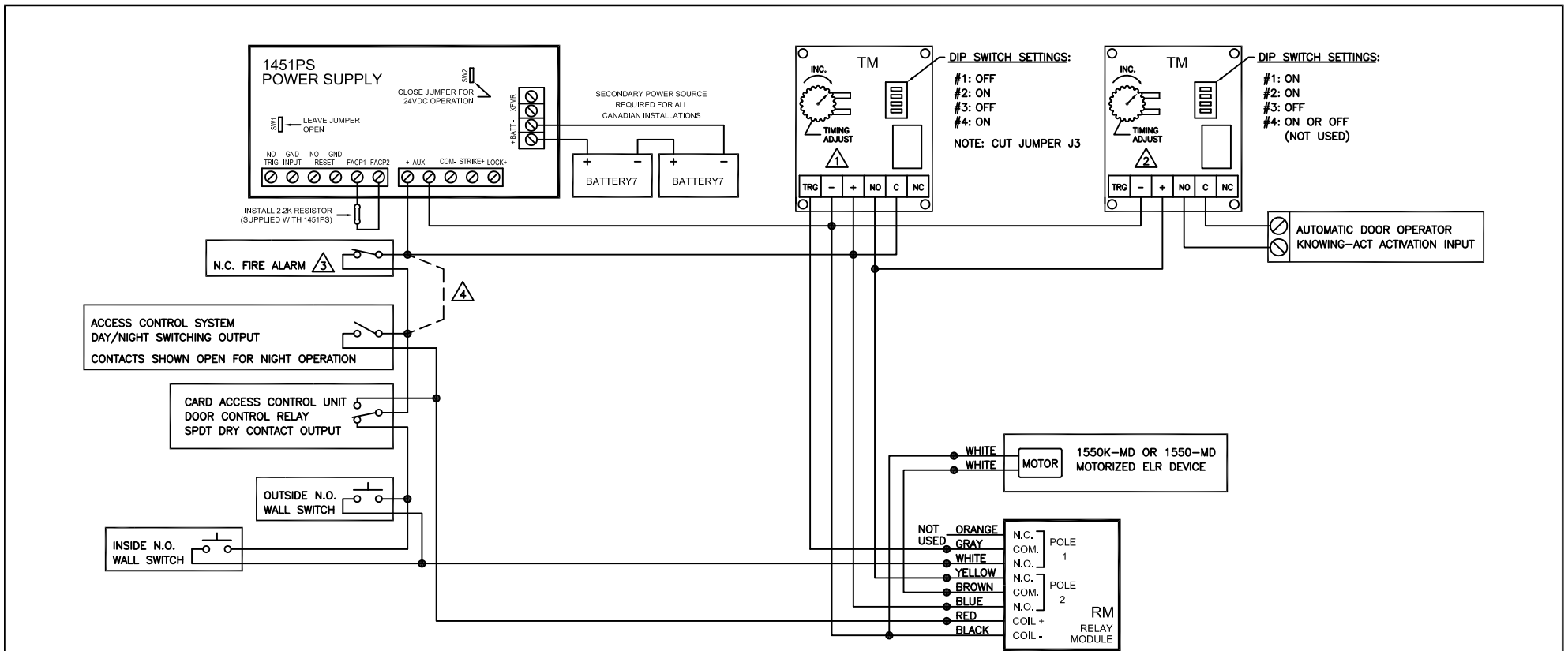
WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR NIGHT OPERATION (DRY CONTACTS OPEN), THE LATCHBOLT WILL PROJECT AND THE OUTSIDE WALL SWITCH BECOMES DISABLED. A VALID SWIPE FROM THE CARD READER WILL SEQUENTIALLY RETRACT THE LATCHBOLT AND ACTIVATE THE AUTOMATIC DOOR OPERATOR. THE INSIDE WALL SWITCH IS ALWAYS ENABLED IN NIGHT MODE AND WILL SEQUENTIALLY RETRACT THE LATCHBOLT AND ACTIVATE THE AUTOMATIC DOOR OPERATOR.

NOTES:

- 1. ADJUST LATCH RETRACTION DELAY TIMER FOR 3-5 SEC. TO ENSURE LATCHBOLT IS FULLY RETRACTED BEFORE AUTO OPERATOR OPENS DOOR, AND TO ENSURE DOOR WILL LATCH WHEN IT CLOSSES.
- 2. ADJUST AUTO OPERATOR DELAY-BEFORE-ACTIVATE TIMER FOR 1-2 SEC. TO ALLOW ENOUGH TIME FOR LATCHBOLT TO FULLY RETRACT BEFORE OPERATOR IS ACTIVATED. NOTE: THE "TRG" TERMINAL IS NOT USED WITH THIS TIMER.
- 3. A FIRE ALARM CONDITION OCCURRING WHILE IN DAY MODE WILL IMMEDIATELY PROJECT LATCHBOLT AND DISABLE USE OF OUTSIDE AND INSIDE WALL SWITCHES. WHEN A FIRE ALARM CONDITION OCCURS IN NIGHT MODE, LATCHBOLT WILL REMAIN PROJECTED, AND BOTH OUTSIDE AND INSIDE WALL SWITCHES WILL BECOME DISABLED. NOTE: IF A FIRE ALARM OCCURS AT THE BEGINNING OF A DOOR OPEN CYCLE, THE SYSTEM APPLICATION WILL ALLOW THE OPENING CYCLE TO BE COMPLETED BEFORE DISABLING LATCH RETRACTION AND USE OF BOTH WALL SWITCHES.
- 4. IF FIRE ALARM IS NOT REQUIRED, CONNECT ONE SIDE OF THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT, CARD ACCESS RELAY OUTPUT, OUTSIDE WALL SWITCH AND INSIDE WALL SWITCH (ALL SHOWN BUSSED TOGETHER) TO THE AUXILIARY OUTPUT POSITIVE (+) TERMINAL (SHOWN AS DOTTED LINE).

POINT-TO-POINT WIRING DIAGRAM
 DAY/NIGHT APPLICATION - VARIATION #3
 USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION 1/64 DECIMAL ± .008 ANGULAR ±°		DRILL ±.001 REAM ±.001 PUNCH ±.004				
	DESCRIPTION ACSI P/N 1451-DN ELR ACCESS CONTROL	DRAWING NO. REF 6039-P4-3	MATERIAL	DATE 2/6/15	RELEASED CRH	DATE 2/6/15	APPR. CRH
SCALE 1/1			DRAWN BY CRH		DATE 2/6/15		
SHEET 1 OF 1			APPR. BY CRH		DATE 2/6/15		
DO NOT SCALE THIS DRAWING							



SYSTEM OPERATION:

WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR DAY OPERATION (DRY CONTACTS CLOSED), THE LATCHBOLT WILL RETRACT. PUSHING THE OUTSIDE OR INSIDE WALL SWITCH WILL ACTIVATE THE AUTOMATIC DOOR OPERATOR.

WHEN THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT IS SET FOR NIGHT OPERATION (DRY CONTACTS OPEN), THE LATCHBOLT WILL PROJECT AND BOTH THE OUTSIDE AND INSIDE WALL SWITCHES BECOME DISABLED. A VALID SWIPE FROM THE CARD READER WILL ONLY RETRACT THE LATCHBOLT. THE DOOR MUST BE PULLED OPEN MANUALLY FOR ENTRY OR PUSHED OPEN MANUALLY FOR EXITING.

NOTES:

- 1. ADJUST LATCH RETRACTION DELAY TIMER FOR 3-5 SEC. TO ENSURE LATCHBOLT IS FULLY RETRACTED BEFORE AUTO OPERATOR OPENS DOOR, AND TO ENSURE DOOR WILL LATCH WHEN IT CLOSES.
- 2. ADJUST AUTO OPERATOR DELAY-BEFORE-ACTIVATE TIMER FOR 1-2 SEC. TO ALLOW ENOUGH TIME FOR LATCHBOLT TO FULLY RETRACT BEFORE OPERATOR IS ACTIVATED. NOTE: THE "TRG" TERMINAL IS NOT USED WITH THIS TIMER.
- 3. A FIRE ALARM CONDITION OCCURRING WHILE IN DAY MODE WILL IMMEDIATELY PROJECT LATCHBOLT AND DISABLE USE OF OUTSIDE AND INSIDE WALL SWITCHES. WHEN A FIRE ALARM CONDITION OCCURS IN NIGHT MODE, LATCHBOLT WILL REMAIN PROJECTED, AND BOTH OUTSIDE AND INSIDE WALL SWITCHES WILL BECOME DISABLED. NOTE: IF A FIRE ALARM OCCURS AT THE BEGINNING OF A DOOR OPEN CYCLE, THE SYSTEM APPLICATION WILL ALLOW THE OPENING CYCLE TO BE COMPLETED BEFORE DISABLING LATCH RETRACTION AND USE OF BOTH WALL SWITCHES.
- 4. IF FIRE ALARM IS NOT REQUIRED, CONNECT ONE SIDE OF THE ACCESS CONTROL SYSTEM DAY/NIGHT SWITCHING OUTPUT AND CARD ACCESS RELAY OUTPUT (BOTH SHOWN BUSSED TOGETHER) TO THE AUXILIARY OUTPUT POSITIVE (+) TERMINAL (SHOWN AS DOTTED LINE).

POINT-TO-POINT WIRING DIAGRAM
 DAY/NIGHT APPLICATION - VARIATION #4
 USING SERIES 1550K-MD OR 1550-MD MOTOR DRIVE ELR DEVICES

ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED ST. LOUIS, MISSOURI 1-800-753-5558	TOLERANCES UNLESS NOTED FRACTION 1/64 DRILL ±.001 DECIMAL ±.008 REAM ±.001 ANGULAR ±° PUNCH ±.004				
	DESCRIPTION ACSI P/N 1451-DN ELR ACCESS CONTROL	DRAWING NO. REF 6039-P4-4	MATERIAL	DATE 2/6/15	RELEASED CRH
SCALE 1/4" = 1" SHEET 1 OF 1			DRAWN BY CRH	DATE 2/6/15	DATE 2/6/15
DO NOT SCALE THIS DRAWING					





AL125UL • AL125ULX • AL125ULP • AL125ULE Access Control Power Supply/Chargers

Overview:

AL125UL Series power-limited Power Supply/Chargers convert 115VAC 50/60Hz input into two individually PTC protected 12VDC or 24VDC outputs (see specifications). They are intended for use in applications requiring UL Listing for Access Control (UL294) and applications requiring an interface with Fire Alarm Control Panels.

Specifications:

Agency Listings:

- UL Listed for Access Control Systems (UL294). 
- CUL Listed - CSA Standard C22.2 No.205-M1983, Signal Equipment.
- MEA - NYC Department of Buildings Approved. 
- NFPA 101 (Life Safety).

Input:

- AL125UL, AL125ULX - 115VAC 50/60 Hz, 0.6A.
- AL125ULP, AL125ULE - 24VAC @ 40VA.

Output:

- Two (2) 12VDC or 24VDC, Class 2 Rated Power-Limited Outputs.
- 1A total supply current @ 12VDC or 24VDC (AL125UL & AL125ULX).
- 1A total supply current @ 12VDC, 0.5A total supply current @ 24VDC (AL125ULP & AL125ULE).
- Filtered and electronically regulated output.*

Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Maximum charge current: 400mA.
- Automatic switch over to stand-by battery when AC fails.

Special Features:

- AC power and unit status indicator on the front panel.
- Normally Open [NO] trigger input.
- Supervised Fire Alarm Disconnect (Latching w/reset or Non-Latching).

Configurations:

- **AL125UL** - includes power supply, transformer, cam lock, and enclosure.
8.5" x 7.5" x 3.5" (215.9mm x 190.5mm x 88.9mm).
Accommodates one (1) 12VDC/4AH battery.
- **AL125ULP** - includes power supply, 24VAC/40VA plug-in transformer, cam lock, and enclosure.
8.5" x 7.5" x 3.5" (215.9mm x 190.5mm x 88.9mm).
Accommodates one (1) 12VDC/7AH battery or two (2) 12VDC/4AH batteries.
- **AL125ULE** - includes power supply, cam lock, and enclosure.
8.5" x 7.5" x 3.5" (215.9mm x 190.5mm x 88.9mm).
Accommodates up to two (2) 12VDC/4AH batteries.
- **AL125ULX** - includes power supply, transformer, cam lock, and enclosure
13.5" x 13" x 3.25" (342.9mm x 330.2mm x 82.55mm).
Accommodates up to two (2) 12VDC/7AH batteries.

*Note: When unit is powered by battery back up (AC Fail condition), the voltage range is 9.3V-13.2V and 19.55V-26.4V for 12 and 24 volt operation respectively.

Power Supply Output Specifications: (AL125UL, AL125ULX)

Output VDC	Switch Position	Max. Stand-by Load DC	Max. Alarm Load DC	Battery (optional)
12VDC	SW2 OFF	1A	1A	12VDC
24VDC	SW2 ON	1A	1A	24VDC

Power Supply Output Specifications: (AL125ULP, AL125ULE)

Output VDC	Switch Position	Max. Stand-by Load DC	Max. Alarm Load DC	Battery (optional)
12VDC	SW2 OFF	1A	1A	12VDC
24VDC	SW2 ON	0.5A	0.5A	24VDC

Stand-by Specifications:

Output	4hr. of Stand-by & 5 min. of Alarm
12VDC / 4AH Battery	0.5A / 1A
24VDC / 4AH Battery	0.5A / 1A

Output	4hr. of Stand-by & 5 min. of Alarm
12VDC / 7AH Battery	1A / 1A
24VDC / 7AH Battery	1A / 1A

Installation Instructions:

The units should be installed in accordance with article 760 of The National Electrical Code and NFPA 72 as well as all applicable Local Codes.

See Terminal Identification Chart on page 2 for a description of each terminal function.

1. Mount unit in the desired location. Mark and predrill holes in the wall to line up with the top two keyholes in the enclosure. Install two upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two upper screws, level and secure. Mark the position of the lower two holes. Remove the enclosure. Drill the lower holes and install two fasteners. Place the enclosure's upper keyholes over the two upper screws. Install two lower screws and make sure to tighten all screws (*Enclosure Dimensions, pg. 4*). Secure green wire lead to the earth ground.

2. Power connections:

- a. **AL125UL, AL125ULX** - Connect 115VAC 50/60Hz to the black and white flying leads of the transformer. Use 18 AWG or larger for all power connections (Battery, AC input, DC outputs). Use 22 AWG to 18 AWG for power-limited circuits (Trigger inputs, Dry outputs, DC outputs).
- b. **AL125ULP, AL125ULE** - Connect 24VAC from UL Listed 40VA plug-in transformer (included with AL125ULP) to terminals marked [XFMR].


Keep power-limited wiring separate from non power-limited wiring (115VAC / 60Hz Input, Battery Wires). Minimum 0.25" spacing must be provided.


CAUTION: Do not touch exposed metal parts. Shut branch circuit power before installing or servicing equipment. There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.



3. **Measure output voltage before connecting any devices to ensure proper operation. Improper or high voltage will damage these devices.**
4. Set the desired DC output voltage by setting switch SW2 (*Fig. 1a - Application Diagram, pg. 3*) to the appropriate position (*Power Supply Output Specifications Table, pg. 1*).
5. Connect Fail-Safe locking devices to the terminals marked [COM- and LOCK+]. Connect Fail-Secure locking devices to the terminals marked [COM- and STRIKE+] (*Fig. 1 - Application Diagram, pg. 3*).
6. Connect normally open access control device (i.e. card reader, request to exit device, access control system) to the terminals marked TRG INPUT [NO, GND] (*Fig. 1 - Application Diagram, pg. 3*).
7. Connect FACP interface to the terminals marked [FACP1 and FACP2]. Wire the 2.2K resistor (supplied) in series for a normally closed input or in parallel for a normally open input (*Fig. 1 - Application Diagram, pg. 3*). If required, set the latching FACP interface mode by turning SW1 ON (*Fig. 1a - Application Diagram, pg. 3*) and connect a normally open reset device to the terminals marked RESET [NO, GND].
Note: If 2.2K resistor is not installed unit will be in alarm condition.
8. Connect battery to terminals marked [+ BAT -] (battery leads included). Use two (2) 12VDC batteries connected in series for 24VDC operation.
Note: For Access Control applications batteries are optional. When batteries are not used, a loss of AC will result in the loss of output voltage. When the use of stand-by batteries is desired, they must be lead acid or gel type.
9. Please ensure that the cover is secured with the provided cam lock.

Terminal Identification:

Terminal Legend	Function/Description
XFMR	Low voltage transformer connections.
+ AUX –	Aux. power output terminals. These terminals supply 12VDC or 24VDC not affected by trigger, reset or fire alarm interface.
LOCK + STRIKE + COM –	Switched power output. Fail-Safe [LOCK+] supplies positive power when unit is not triggered and FACP interface is inactive. Fail-Secure [STRIKE+] supplies positive power when unit is triggered and/or fire alarm interface is activated. [COM–] supplies negative power.
FACP1 FACP2	Supervised by 2.2K end of line resistor FACP interface. Short or open will cause power to be dropped to terminal marked [LOCK+] and supply power to terminal marked [STRIKE+]. Condition can be maintained even after restoration of the circuit (latching mode).
TRG INPUT NO, GND	Short between these two terminals will cause power to be dropped to the terminal marked [LOCK+] and supplied to the terminal marked [STRIKE+].
RESET NO, GND	Momentary short between these terminals would end latching FACP interface condition. Feature active only if latching FACP is selected (SW1 ON).
+ BAT –	Stand-by battery connections.

 The lightning flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of an insulated DANGEROUS VOLTAGE within the product's enclosure that may be of sufficient magnitude to constitute an electric shock.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

 **CAUTION** **RISK OF ELECTRIC SHOCK** **DO NOT OPEN**  **CAUTION:** To reduce the risk of electric shock do not open enclosure. There are no user serviceable parts inside. Refer servicing to qualified service personnel.

Maintenance:

Unit should be tested at least once a year for the proper operation as follows:

Output Voltage Test: Under normal load conditions, the DC output voltage should be checked for proper voltage level (*Power Supply Output Specifications Table, pg. 1*).

Battery Test: Under normal load conditions check that the battery is fully charged, check specified voltage both at battery terminal and at the board terminals marked [+ BAT -] to ensure that there is no break in the battery connection wires.

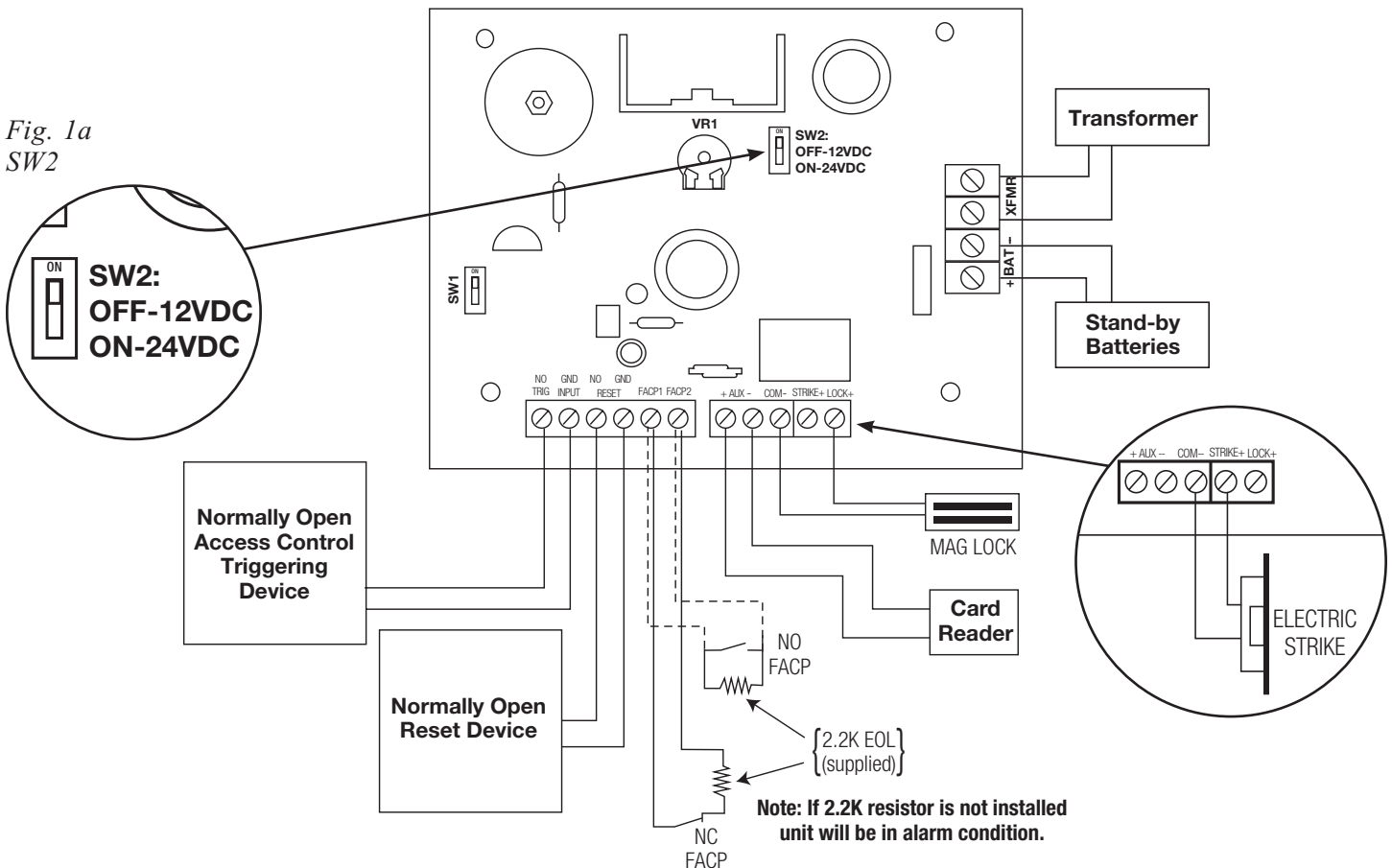
Note: Maximum charging current under discharge is 400mA.

Note: Expected battery life is 5 years; however, it is recommended changing batteries in 4 years or less if needed.

LED Diagnostics:

Red	Power Supply Status
ON	Normal function.
OFF	No DC output.
Slow Blink	Loss of AC.
Rapid Blink	Unit is triggered, awaiting reset. Fire alarm interface activated.

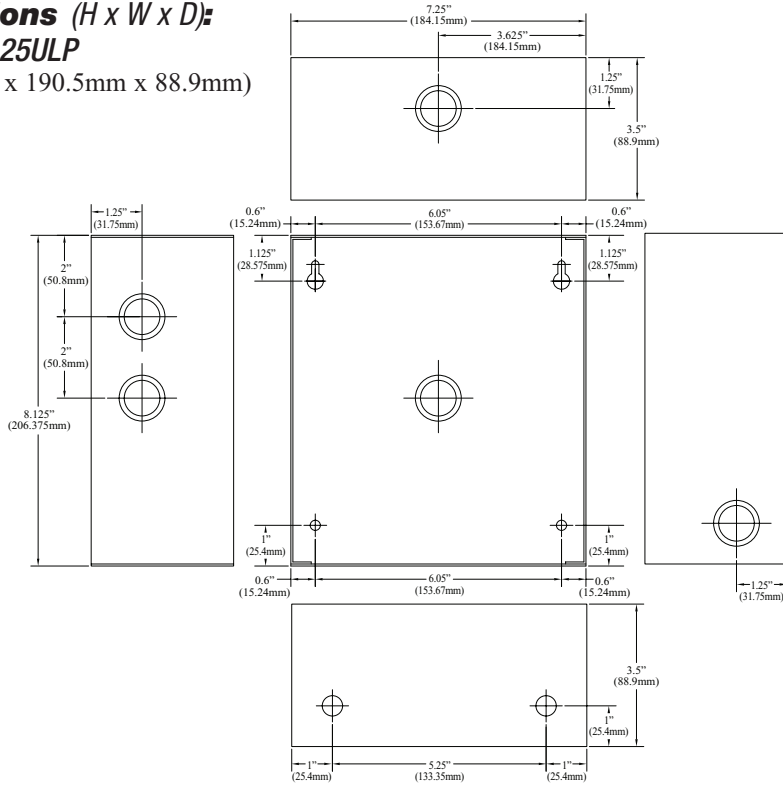
Fig. 1 - Application Diagram:



Enclosure Dimensions (H x W x D):

AL125UL, AL125ULE, AL125ULP

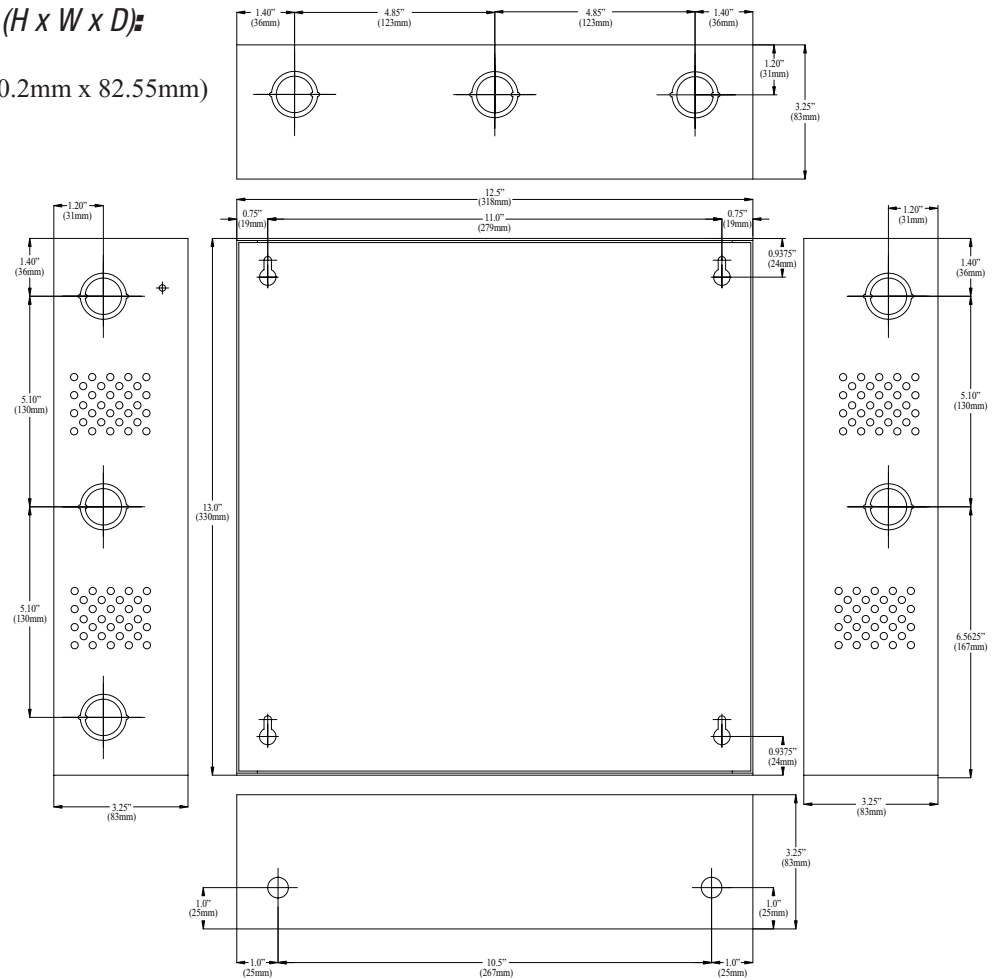
8.5" x 7.5" x 3.5" (215.9mm x 190.5mm x 88.9mm)



Enclosure Dimensions (H x W x D):

AL125ULX

13.5" x 13" x 3.25" (342.9mm x 330.2mm x 82.55mm)



Altronix is not responsible for any typographical errors.

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 IAL125ULseries Rev. 050803

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