

11 pages



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ELECTRIC LATCH RETRACTION CONTROLLER
INSTALLATION INSTRUCTIONS
REV. A

INSTALLATION

The 1406 enclosure should be securely fastened to the wall using the four-¼ inch diameter mounting holes located in the back of the box. Position the enclosure so that the transformer is located on the left-hand side. The 1406 must not be installed outdoors.

For the 120VAC power input, terminal block TB1 will accommodate up to 12 AWG wire. Conduit must be used to provide an adequate earth ground to the enclosure.

NOTE: The maximum input current is 750mA.

The 1406 is designed to be used with all ACSI 1550 exit devices modified for electric latch retraction. Use the chart below to determine the correct wire gauge per given length of two-conductor cable that will be run from the 1406 to each exit device. Do not exceed the maximum length listed with each wire gauge.

| WIRE GAUGE CABLE | MAXIMUM LENGTH OF TWO-CONDUCTOR |
|---------------------|---------------------------------|
| 16 AWG | 40 FEET |
| 14 AWG | 60 FEET |
| 12 AWG | 100 FEET |

Up to two devices can be used with the 1406. If only one device is to be used, wire to the "DEVICE ONE" location at TB3, terminals 5 and 6.

NOTE: Be sure to observe polarity when connecting devices 1 and 2 to TB3.
(Refer to the wiring diagram located on the lid of the controller.)

STANDARD OPERATION

The 1406 provide a choice of two methods of electric latch retraction: Single System or Dual System.

SINGLE SYSTEM LATCH RETRACTION

This method allows one input to control two devices sequentially. A momentary switch closure across terminals 1 and 2 of TB3 will retract DEVICE ONE first, followed by DEVICE TWO. Use this method for single door applications or on a pair of doors using a device on one or both leaves. The 1406 comes from the factory already all set up for this method.

DUAL SYSTEM LATCH RETRACTION (OPTIONAL)

This method allows independent control of DEVICE ONE and DEVICE TWO outputs by their own separate

Input. A momentary switch closure across terminals 1 and 2 of TB3 will retract DEVICE ONE only.

A momentary switch closure across terminals 7 and 8 of TB3 will retract DEVICE TWO. No more than

One device can be used per output. Use this option for applications requiring two single door systems or two pair door systems using one device on each pair of doors. To change over to the optional dual system latch retraction, move the program jumper PJ1 from between the middle post and the end post, marked "S" (SINGLE SYSTEM), to the middle post and the end post, marked "D" (DUAL SYSTEM).

NOTE: When using the optional method, DEVICE ONE and DEVICE TWO can never be activated at the same time in the event that both input switches are actuated simultaneously. If this should occur, DEVICE ONE will always activate first, followed by DEVICE TWO.

When using a momentary, normally open switch for activating latch retraction, adjust pot R2 (for DEVICE ONE) or pot R4 (for DEVICE TWO) on the p.c. board to the desired latch retract delay time from 1 to 20 seconds. Turn the pot clockwise to increase the delay time.

When using normally open contacts from a keypad, card reader or a maintain switch, turn pot R2 (or R4) fully counterclockwise to the minimum delay time. A contact closure will activate latch retraction. Upon opening the contacts, the device will latch within one second.

Each modified exit device contains a pulse module which delivers a pulse at 24VDC to a high current coil inside the exit device every 6 seconds until the latch is finally pulled back all the way. At this point, a control rod passes over a reflective sensor and signals the module to stop pulsing. There is always an initial

pulse that occurs at the moment the system is activated. During the period the system remains activated, 24VDC is applied to a low current secondary coil. This coil is responsible for holding the latch in the retracted position until instructed to return to the "fail secure" position (See note 2 on page 4.)

OPERATION WITH AUTOMATIC DOOR OPERATOR

The 1406 is provided with two outputs (one output associated with DEVICE ONE and the other output associated with DEVICE TWO) for controlling separate automatic door operators. Each output consists of normally open relay contacts that are field wired directly to the "DOOR ACTIVATION" input of the automatic door operator. These outputs are activated within a moment after activation of their corresponding devices to allow time for the doors to be fully unlatched before automatic opening begins.

Time delay pots R2 and R4 are factory set at 5 seconds, which are appropriate when using this controller with automatic door operators. When the delay times out, power is removed from the exit device and the signal to the auto door operator input is terminated, thus allowing the operator's "DOOR HOLD OPEN" delay to time out and close the door.

NOTE: When using the single system latch retraction method with automatic door operator interface and both devices are being used, the operator control input must be wired to the 1406 automatic door operator output for DEVICE TWO (TB3, terminals 9 and 10).

OPERATION WITH FIRE ALARM

The 1406 can be wired to the fire alarm relay normally closed contacts. When a fire alarm occurs, any door that is currently unlatched, whether by momentary time delay or by maintained switch, will immediately latch secure. During the time that the fire alarm is active, electronic control of the automatic door opening system by wall switch, card reader, keypad, etc., is disabled. The door then can only be opened manually.

The 1406 comes from the factory set up for use without fire alarm interface. If the fire alarm is to be used with this controller, move the program jumper PJ2 from between the middle post and the end post, marked "FA DIS" (Fire Alarm Disabled), to the middle post and the end post, marked "FA EN" (Fire Alarm Enabled).

NOTE: Maximum current through fire alarm relay contacts is 120mA @ 24VDC

AUXILIARY POWER SOURCE OUTPUTS

Electrified Latch Retraction Specifications:

Solenoid

- Continuous or Intermittent Duty 24 VDC *5 amps*
- Current Inrush Requirements (Approx. 300 Milliseconds) 10 Amps.
- Continuous holding (Approx. 300 Millamps) ~~5~~ *5* Amps. *5*

Jackson Electrified latch retraction provides remote and localized unlocking of the 20 series exit devices.

This feature is available with the 2085 concealed vertical rod and the 2095 rim exit device.

A continuous duty solenoid retracts the latch bolt for momentary or continuous periods of time.

The Electrified device can be used with automatic door operation, as well as automatic fire alarm system.

Jackson Electrified exit devices are always fail secure, in the event of a power failure the door will remain secure while allowing immediate egress.

A continuous electric transfer must be used for transferring power from the frame to the door.

pulse that occurs at the moment the system is activated. During the period the system remains activated, 24VDC is applied to a low current secondary coil. This coil is responsible for holding the latch in the retracted position until instructed to return to the "fail secure" position (See note 2 on page 4.)

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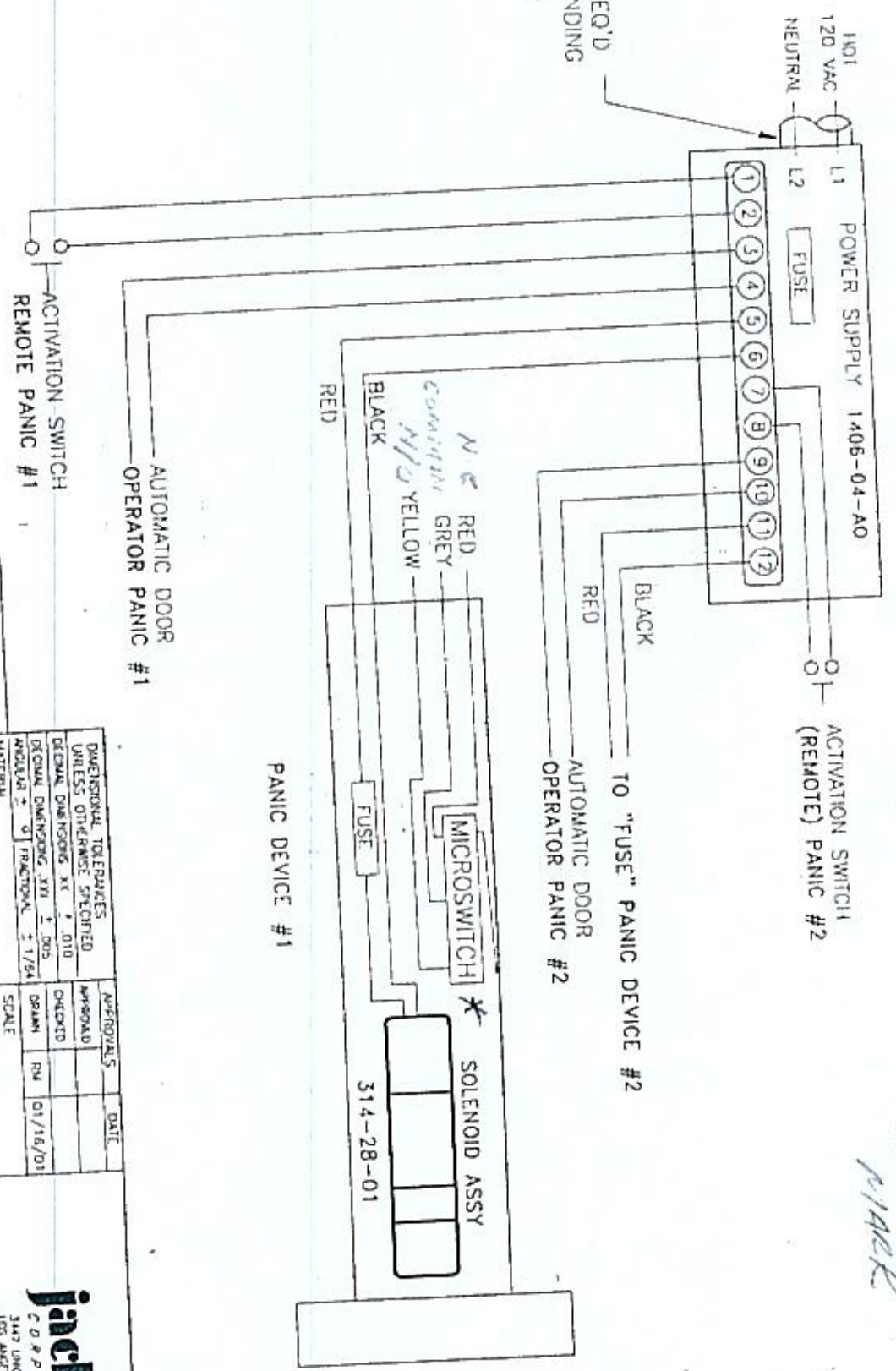
NOTE: Maximum current through fire alarm relay contacts is 120mA @ 24VDC

AUXILIARY POWER SOURCE OUTPUTS

Randy 24VDC

ATTN: PLACK

CONDUIT REQ'D FOR GROUNDING PULL BOX.



| | | | |
|-------------------------------------|--|--|----------|
| FILE NO. | | APPROVALS | DATE |
| NEXT ASSY. | | APPROVAL | |
| QTY. USED | | CHECKED | |
| | | DRAWN | 01/16/01 |
| | | SCALE | |
| SCHEMATIC 2000E SERIES EXIT DEVICES | | 3147 LINCOLN PROJECT BLDG. LOS ANGELES, CALIF. 90032 | |
| 10-1003 | | SHEET 1 OF 1 SHEETS | |
| C | | DWG. NO. | |

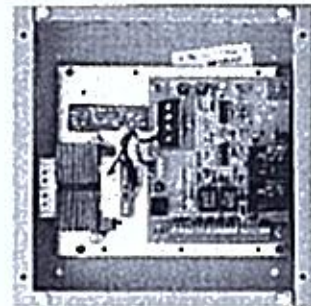




ELECTRIFIED 20 SERIES EXIT DEVICE



2085 EL
2086 EL
2095 EL



Power Supply
#30-2616

TECHNICAL INFORMATION

APPLICATION

- Aluminum or Hollow Metal Doors.

FEATURES

- Fail-secure operation
- Remote locking and unlocking capability
- Solenoid operated latch retraction
- Adjust for brief or extended unlocking periods (to replace manual dogging)
- Ideal for after hour card access, automatic fire alarm systems, automatic doors, etc.
- For information on standard 20 series features, see page B-8
- 10 Amp Inrush Power Supply Regulator.
- 24 Volt DC continuous duty solenoid.
- Jackson power supply recommended (30-2616)

MATERIALS

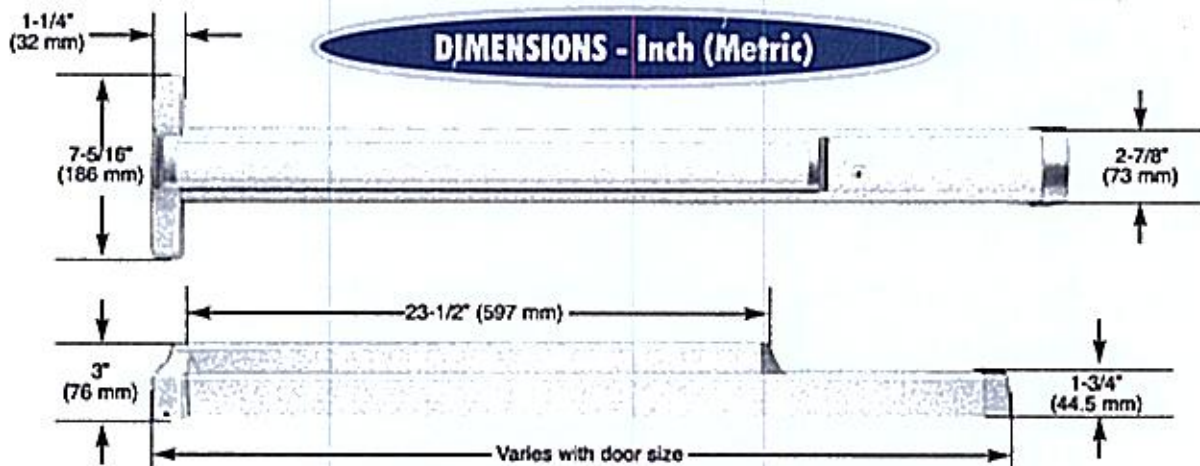
| | | |
|---------------------------|-------|----------------------------|
| Base Extrusion | | Extruded Aluminum |
| Push Pad | | Extruded Aluminum |
| Active Housing & End Caps | ... | Die Cast Aluminum |
| Mechanical Components | | Stainless & Hardened Steel |
| Top and Bottom Bolts | | Plated Hardened Steel |
| Top & Rim Latch | | Sintered Steel |
| Strikes | | Sintered Steel |

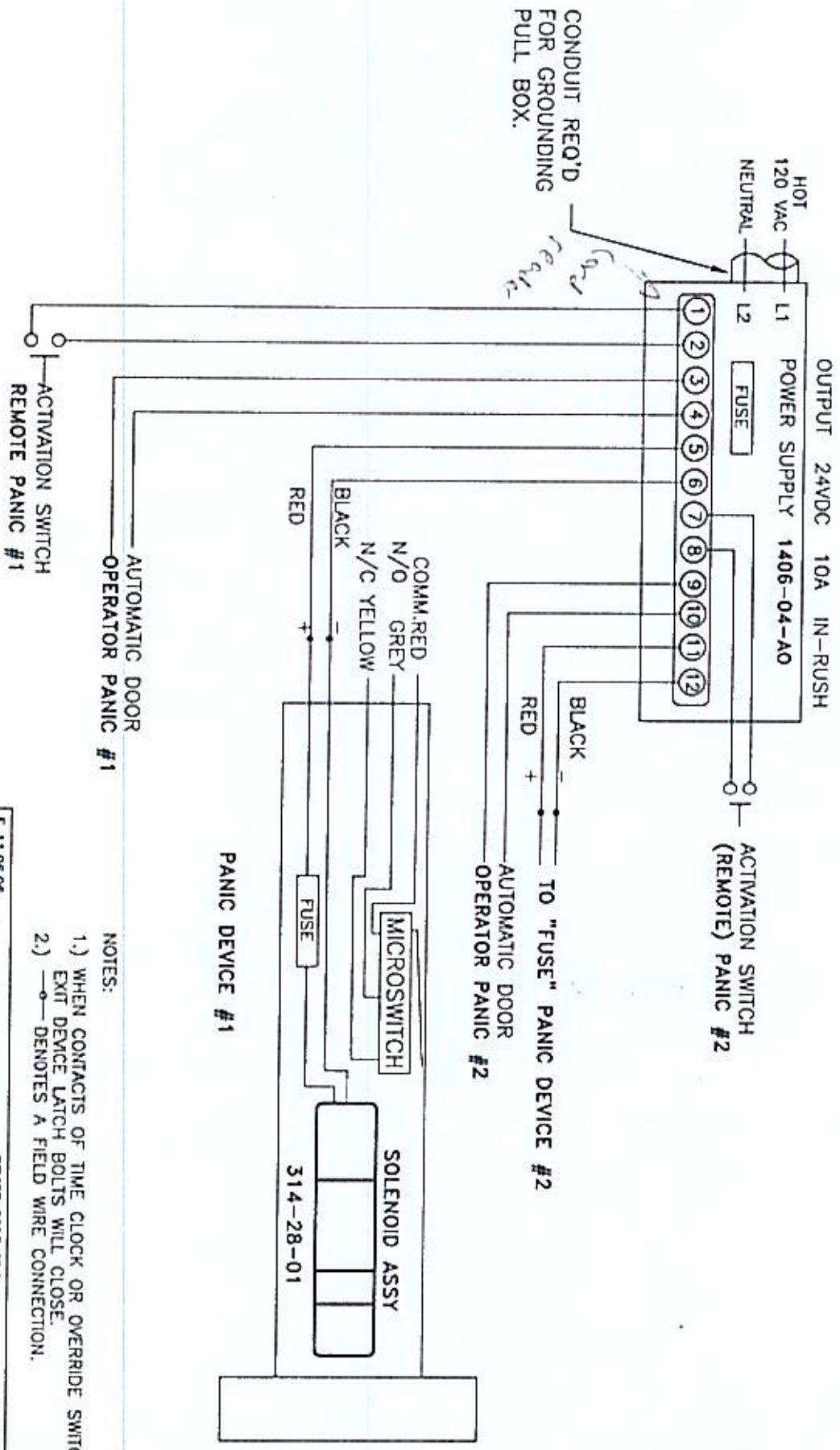
FINISH

| | | |
|--------------------------------|----------|-------------------|
| Standard Anodized Finish: | DBZ 313 | - Dark Bronze |
| | US28/628 | - Satin Aluminum |
| Standard Architectural Finish: | US26/625 | - Polished Chrome |
| | US3/605 | - Polished Brass |

WIRING RUN-DO NOT EXCEED MAXIMUM LENGTH

| | |
|-------------|----------|
| 16 AWG..... | 40 FEET |
| 14 AWG..... | 60 FEET |
| 12 AWG..... | 100 FEET |





- NOTES:
- 1.) WHEN CONTACTS OF TIME CLOCK OR OVERRIDE SWITCH CLOSE, EXIT DEVICE LATCH BOLTS WILL CLOSE.
 - 2.) —○— DENOTES A FIELD WIRE CONNECTION.

| | | | | | | | |
|---|--|---------------------|--|---------------------|--|----|--|
| E 11106 06 | | REVERSE CODE STATUS | | ECH1934 | | RM | |
| DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED | | APPROVALS | | DATE | | | |
| DECIMAL DIMENSIONS XX ± .010 | | APPROVED | | | | | |
| DECIMAL DIMENSIONS .XXX ± .005 | | CHECKED | | | | | |
| ANGULAR ± 0 FRACTIONAL ± 1/64 | | RM | | 01/16/01 | | | |
| MATERIAL | | SCALE | | | | | |
| FILE NO. | | FINISH | | | | | |
| NEXT ASSY. | | HEAT TREAT | | | | | |
| QTY. USED | | | | | | | |
| SCHEMATIC 2000E SERIES EXIT DEVICES | | | | SHEET 1 OF 1 SHEETS | | | |
| | | | | DWG. NO. 10-1003 | | | |
| | | | | REV. E | | | |



920L LVL 215

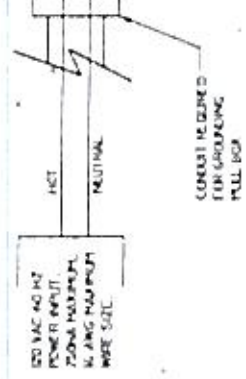
POT R2 & R4 SET AT 5 TO 6 SEC UNLOCK TIME,
 WHEN USING CARD READER AND ANOTHER 5 SEC DELAY,
 NEW ADJUSTMENT CAN BE DONE, INCREASE CW DECREASE CCW,
 DIPPER BETWEEN POTS FOR RATE OF DOOR CONTROL (R2, R4)

MOUNTING POSITION TOP

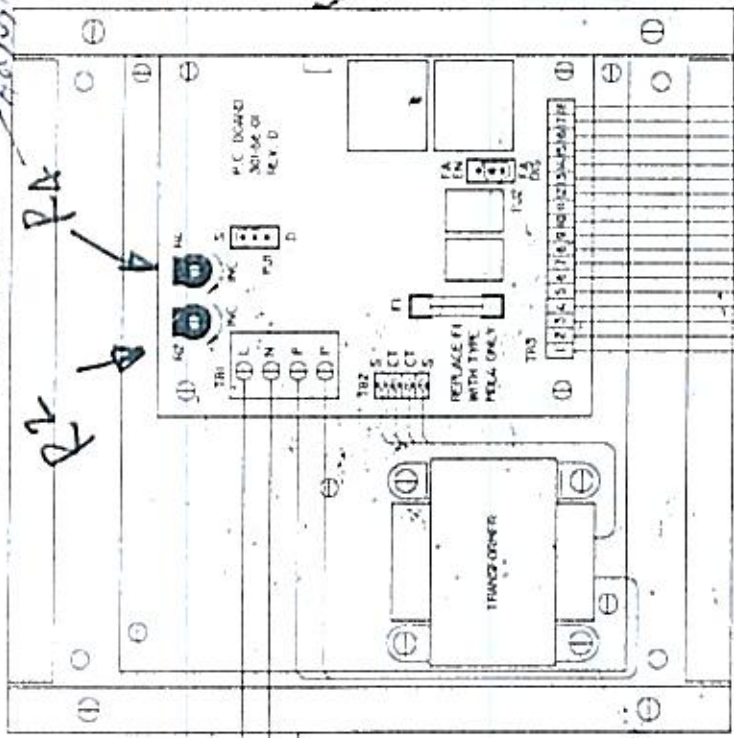
Adjust open time

CONTROLLER INTENDED FOR INDOOR USE ONLY.

TYPICAL WIRING DIAGRAM FOR 1406 01-AO ELECTRIC LATCH RETRACTION CONTROLLER. USE INSTALLATION INSTRUCTIONS I.D. 1089.

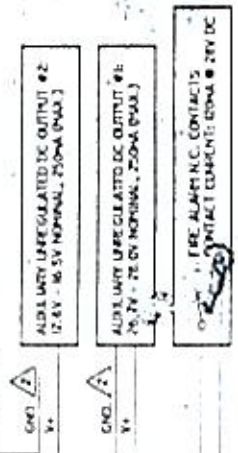


LISTED 4M73
UL
 ACCESS CONTROL SYSTEM UNIT
 ACCESSORY MODEL 9106
 MFG. DATE 9/11
 APPROVED FOR INSTALLATION



RED LED POWER INDICATOR

ARCHITECTURAL CONTROL SYSTEMS INCORPORATED
 ST. LOUIS, MISSOURI



NOTES

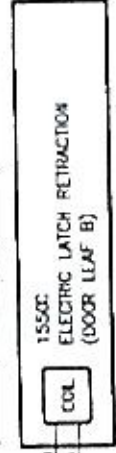
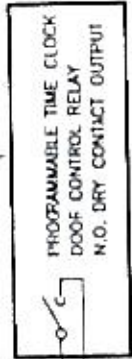
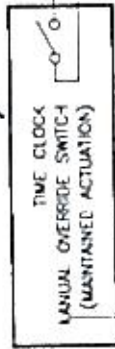
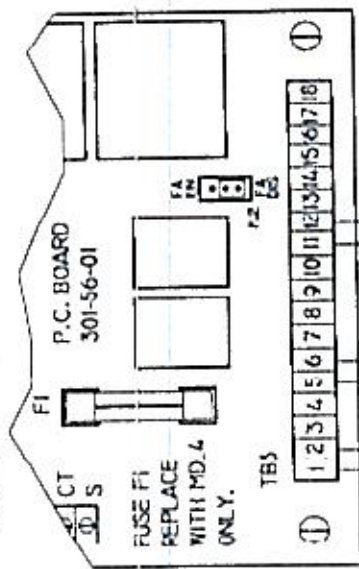
- DO NOT WIRE MORE THAN ONE EXIT DEVICE TO THIS OUTPUT.
- DO NOT Tie THE ALARM OUTPUT #1 GROUND (TR3, TERMINAL B3) COMMON TO THE ALARM OUTPUT #2 GROUND (TR3, TERMINAL B3). BOTH OF THESE POWER SOURCES MUST BE ISOLATED FROM EACH OTHER.

POWER SUPPLY 30-2616 FOR 2086E

3/08

1406-04-AD LATCH RETRACTION CONTROLLER

NOTE: REFER TO WIRING DIAGRAM ON COVER PLATE AND I.D. TAGS INSTALLATION INSTRUCTIONS FOR MAKING CONNECTIONS TO 120VAC POWER INPUT.



NOTES:

- 1.) WHEN CONTACTS OF TIME CLOCK OR OVERRIDE SWITCH CLOSE, EXIT DEVICE LATCHBOLTS WILL RETRACT.
- 2.) —●— DENOTES A FIELD WIRE CONNECTION.