11 pages

jackson Corporation

jackson EXIT DEVICE

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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	MAXIMUM LENGTH OF TWO-CONDUCTOR CABLE
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, fowled 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 contracts 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 contracts, 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 Milliamps) ~~5~~ 4 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.

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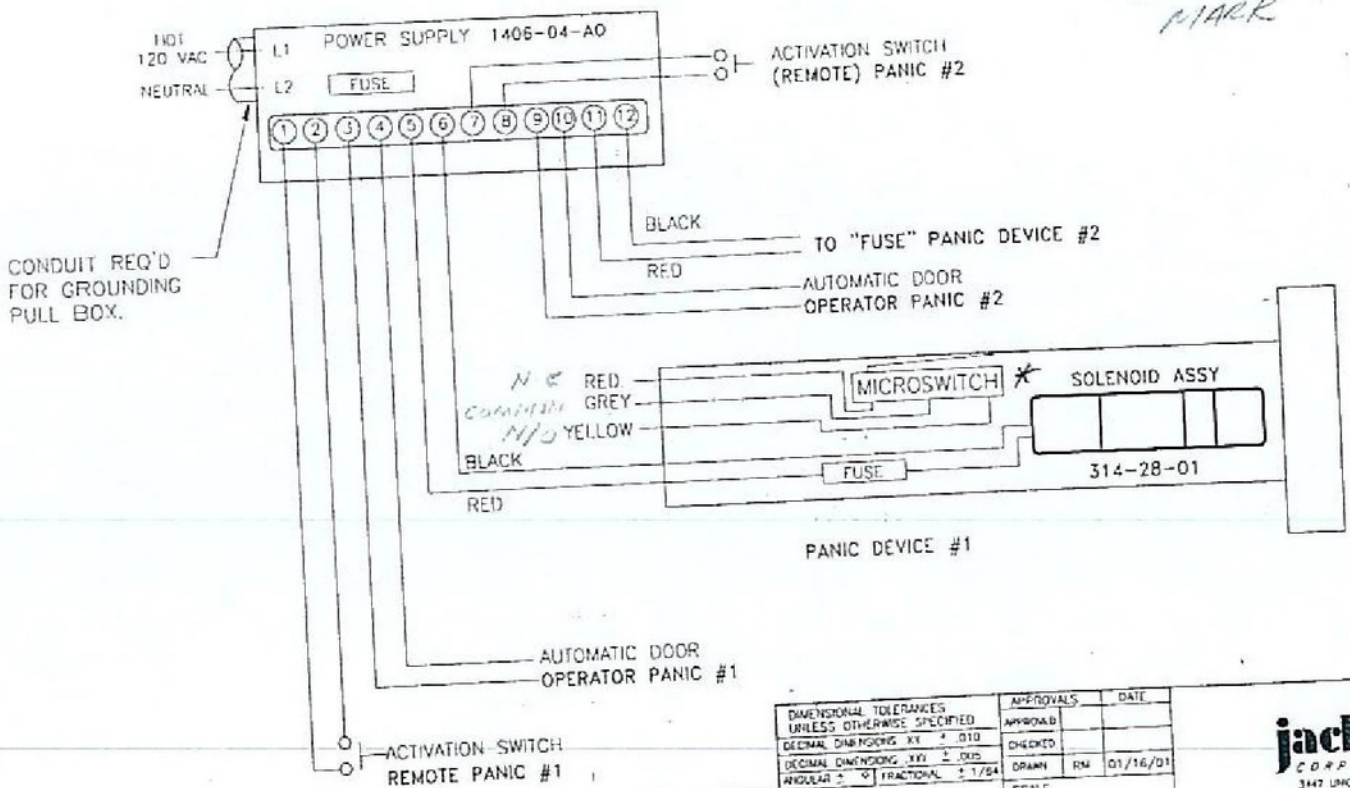
AUXILIARY POWER SOURCE OUTPUTS

Ramsey 24 VDC

ATTN: MARK



DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED		APPROVALS	DATE
DECIMAL DIMENSIONS XX ± .010		APPROVED	
DECIMAL DIMENSIONS XXX ± .005		CHECKED	
ANGULAR ± 0°	FRACTIONAL ± 1/64	DRAWN RM	01/16/01
FILE NO.	MATERIAL	SCALE	
NEXT ASSY.	FINISH	SCHEMATIC 2000E SERIES EXIT DEVICES	
QTY. USED	HEAT TREAT		

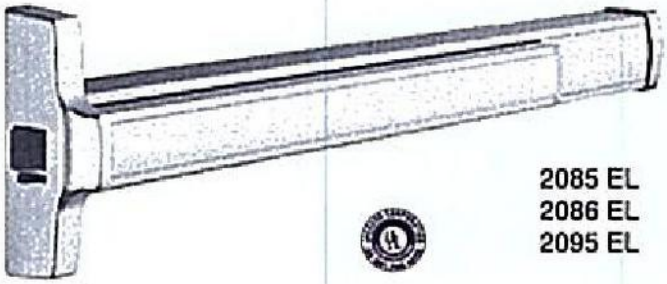
jackson CORPORATION
3447 UNION PACIFIC AVE.
LOS ANGELES, CALIF. 90023

SHEET 1 OF 1 SHEETS

DWG NO. 10-1003 REV C

jackson

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

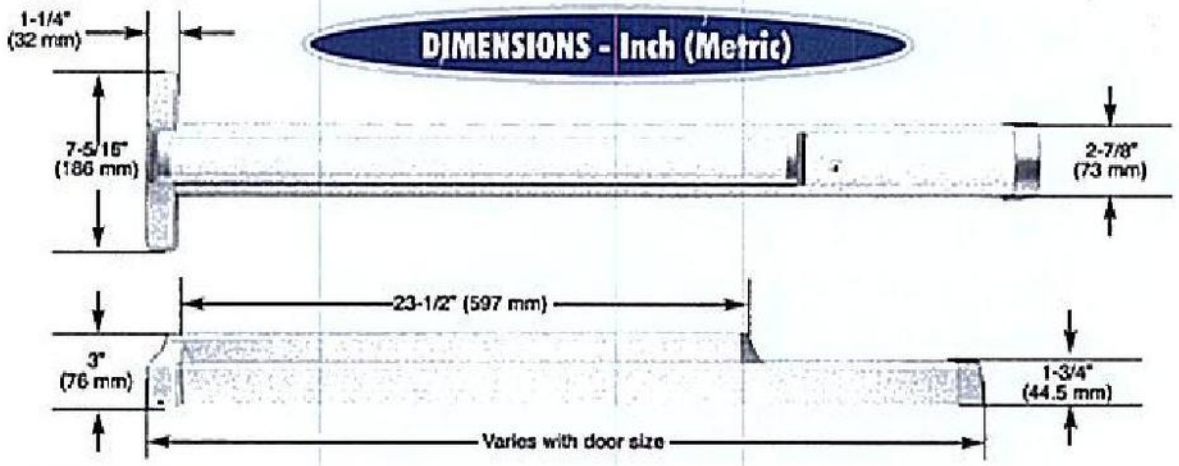
FINISH

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

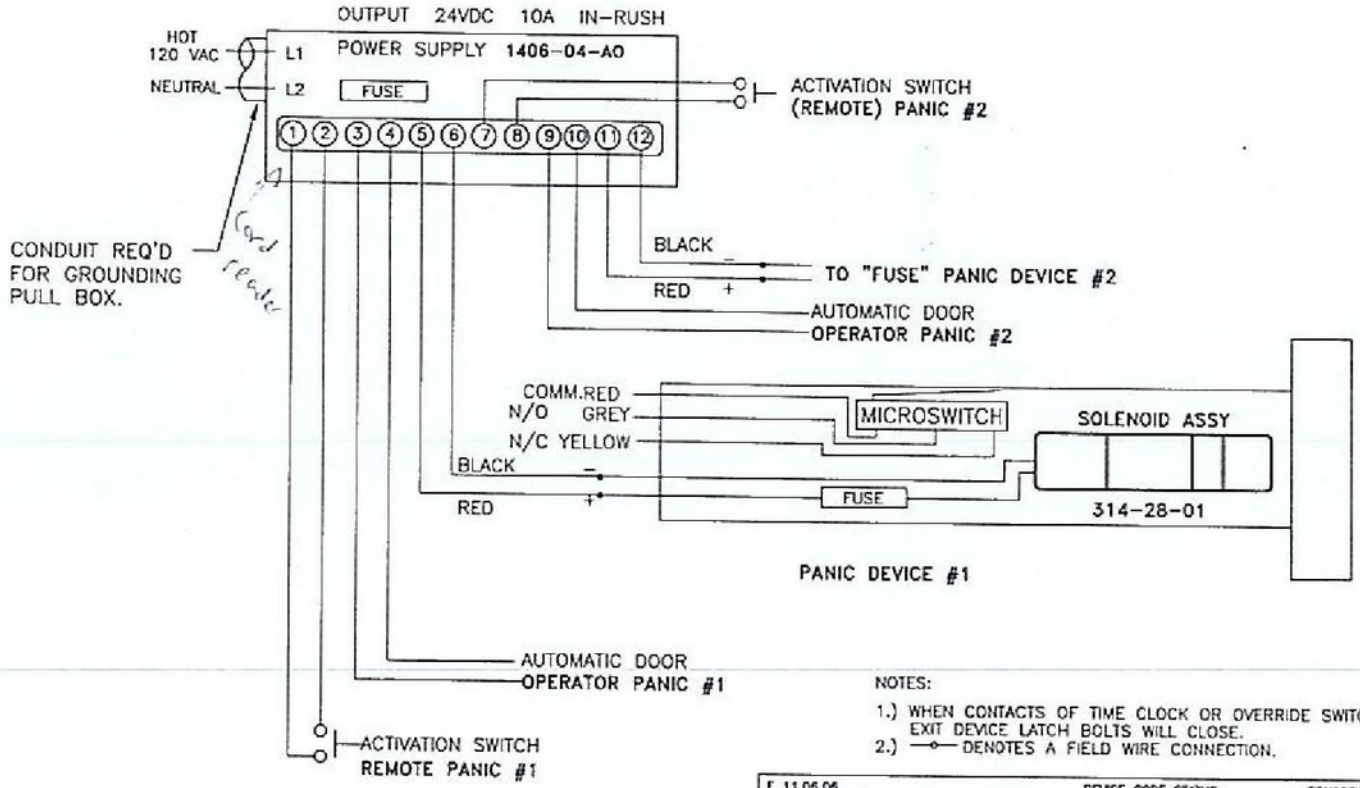
WIRING RUN - DO NOT EXCEED MAXIMUM LENGTH

16 AWG	40 FEET
14 AWG	60 FEET
12 AWG	100 FEET

DIMENSIONS - Inch (Metric)



RELEASE FOR PRODUCTION | DATE



NOTES:

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

E 11.06.06 | REVISE CODE STATUS | ECN1934 | RM

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED	APPROVALS	DATE
DECIMAL DIMENSIONS .XX ± .010	APPROVED	
DECIMAL DIMENSIONS .XXX ± .005	CHECKED	
ANGULAR ± ° FRACTIONAL ± 1/64	DRAWN RM	01/16/01
FILE NO.	MATERIAL	SCALE
NEXT ASSY.	FINISH	
QTY. USED	HEAT TREAT	

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3447 UNION PACIFIC AVE.
LOS ANGELES, CALIF. 90023

SCHEMATIC 2000E SERIES EXIT DEVICES

SHEET 1 OF 1 SHEETS
DWG. NO. 10-1003 REV. E

9201 LEL ELD

POT R2 & R4 SET AT 5 TO 6 SEC UNLOCK TIME,
WHEN USING CARD READER ADD ANOTHER 5 SEC DELAY
NEW ADJUSTMENT CAN BE DONE, INCREASE CW DECREASE CCW.
JUMPER BETWEEN POTS FOR PAIR OF DOORS CONTROL (R2/R4)

MOUNTING POSITION TOP

Adjust open time

CONTROLLER INTENDED FOR INDOOR USE ONLY.

TYPICAL WIRING DIAGRAM FOR 1406-04-AO ELECTRIC LATCH RETRACTION CONTROLLER. USE INSTALLATION INSTRUCTIONS I.D. 1089.

R2

R4

HOT

NEUTRAL

CONDUIT MUST BE USED FOR GROUNDING PULL BOX

TRANSFORMER

REPLACE F1 WITH TYPE MDL-2 ONLY

RED LED POWER INDICATOR

LISTED 4M73 ACCESS CONTROL SYSTEM UNIT ACCESSORY

MODEL 1406-04

MFG. DATE 9/11

ARCHITECTURAL CONTROL SYSTEMS, INCORPORATED
ST. LOUIS, MISSOURI

INPUT #1 N.O. ACTIVATION SWITCH 20 - 50MA @ 12V DC

OUTPUT #1 TO AUTOMATIC DOOR OPERATOR OUTPUT CONTACT RATING: 50MA - 5A @ 28V DC

ACSI SERIES 1000C MODIFIED EXIT DEVICE #1

(+) RED WIRE
(-) BLACK WIRE

INPUT #2 N.O. ACTIVATION SWITCH 20 - 50MA @ 12V DC

OUTPUT #2 TO AUTOMATIC DOOR OPERATOR OUTPUT CONTACT RATING: 50MA - 5A @ 28V DC

ACSI SERIES 1000C MODIFIED EXIT DEVICE #2

(+) RED WIRE
(-) BLACK WIRE

GND

V+

AUXILIARY UNREGULATED DC OUTPUT #2 (12.6V - 16.5V NOMINAL, 250MA MAX.)

AUXILIARY UNREGULATED DC OUTPUT #1 (26.2V - 28.0V NOMINAL, 250MA MAX.)

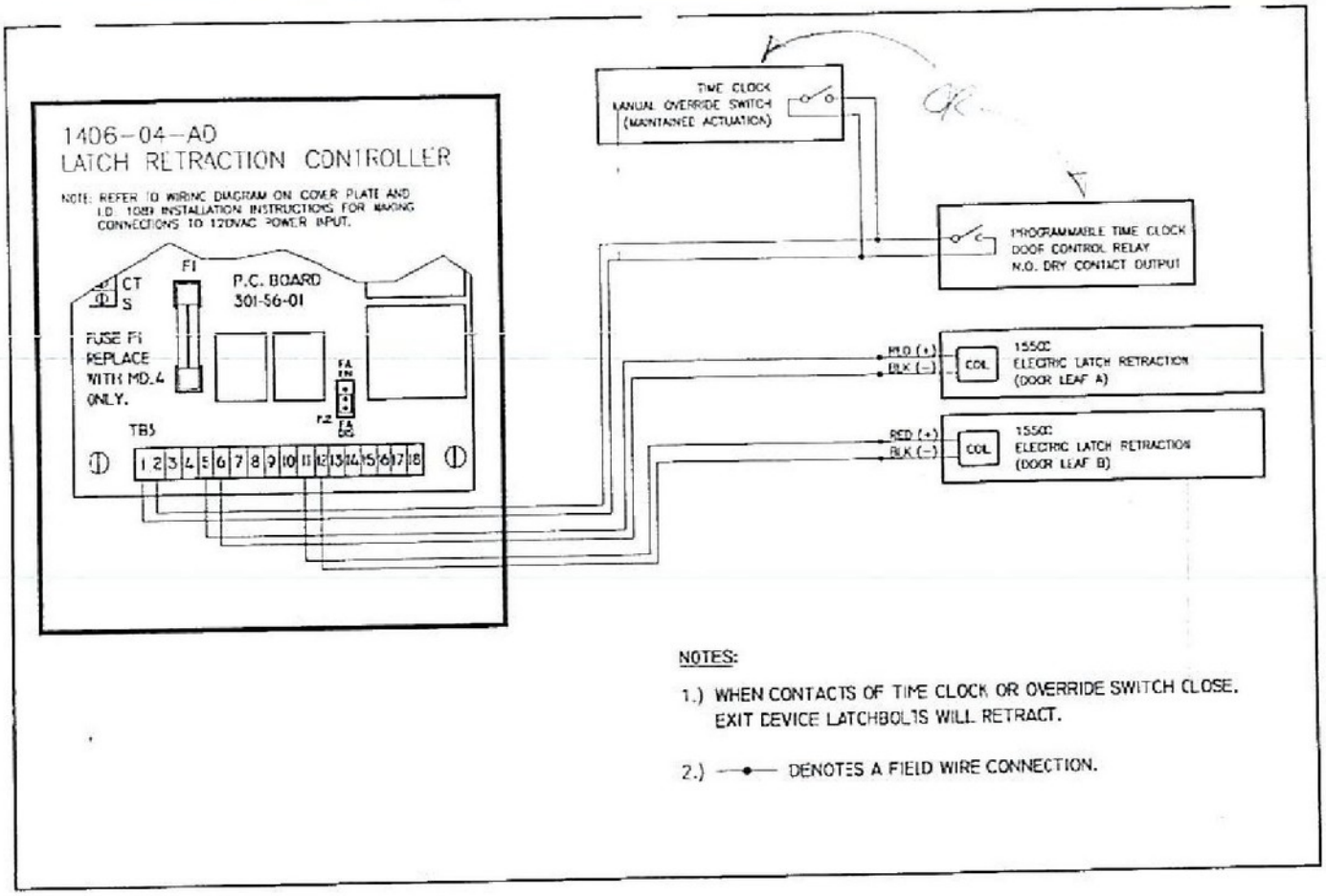
FIRE ALARM N.C. CONTACTS CONTACT CURRENT: 60MA @ 28V DC

NOTES

1. DO NOT WIRE MORE THAN ONE EXIT DEVICE TO THIS OUTPUT.
2. DO NOT TIE THE AUX. OUTPUT #1 GROUND (BRN, TERMINAL #3) COMMON TO THE AUX. OUTPUT #2 GROUND (BRN, TERMINAL #3). BOTH OF THESE POWER SOURCES MUST BE ISOLATED FROM EACH OTHER.

POWER SUPPLY 30-2616
FOR 2086E

3/01



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