Automatic Operator Controller – AOC 842

NU2's Automatic Operator Controller (AOC-842) is a PLC based controller designed to fulfill a variety of needs and configurations relating to Automatic Door Operators. AOC-842 is designed to supply and manage power to electrified locks, electrified panic hardware and synchronize needed timing for delayed operator action to commence only after electrified locks have been released. AOC-842 interfaces to any building's access control system for further reporting and control integration,

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NU2 Systems

BASIC SEQUENCE OF OPERATIONS

Normal operations:

1. Panic Hardware Vertical Rods are retracted and maglocks are enabled
2. Use of Card reader, REX motion, Hand Gesture etc causes:
   a. Unlock maglocks for a time interval (4sec-16sec) as selected by SW2 positions 5&6
   b. Pause for a time interval such as 500ms as selected by SW2 positions 7&8
   c. Trigger RLY4 to activate the automatic door operator
   d. Relock maglocks

Emergency operations:

1. Activation of fire alarm condition causes:
   a. Unlock maglocks
   b. Release (unretract) vertical rods to secure doors latch position
   c. Allow normal egress

HIGHLIGHTED FUNCTIONALITY

1. Four (4) separate and dedicated initiating (trigger) inputs for Card Readers, Request to Exit (REX) motions, Hand Gesture detectors, Push plates etc.
2. Initiating inputs can be normally Open (N/O) or Normally Closed (N/C) – field selectable
3. Electrified locks outputs are selectable as:
   a. 12VDC or 24VDC
   b. Fail Safe/ Fail Secure
   c. Solid state, automatically resettable after short/overload protection. NO FUSES!
   d. Dual color LED to indicate Normal/Short
   e. Unlock duration selectable as "Input follower" (0 sec.), 4 seconds, 8 seconds and 16 seconds – (use if Access control unlock pulse is too short)
4. Four (4) programmable form C dry relays rated at 10A for a variety of functions such as:
   a. Fire Alarm (F/A) follower
   b. Motorized Operator trigger
      i. Field selectable for 0.25 sec – 2 seconds at 0.25 seconds delay interval – field selectable
5. Two (2) protected AUX power ports (12v/24V) for REX motion, Hand Gesture detectors etc.
6. F/A IN and F/A OUT terminal for further interface to building's Access Control System.
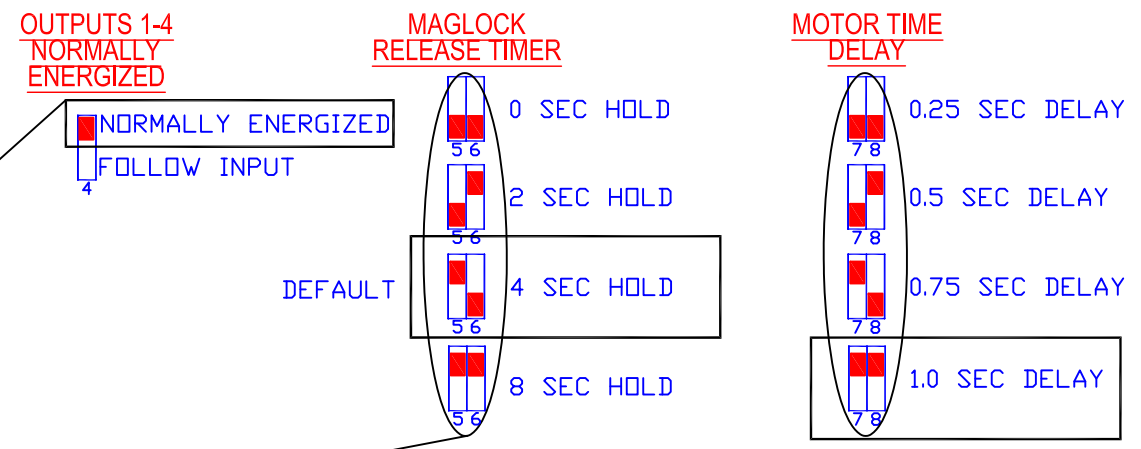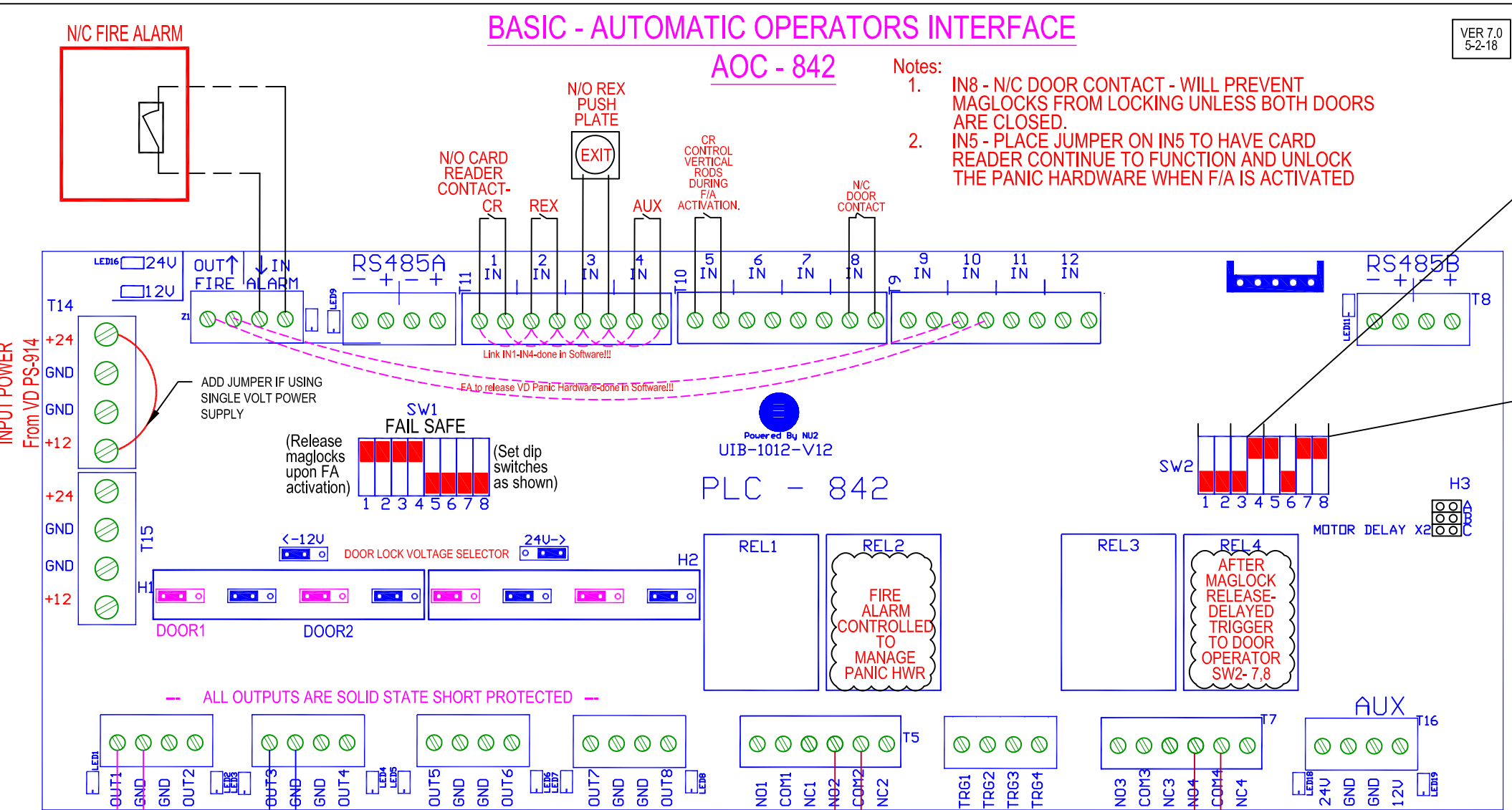7. Two (2) RS-485 communication ports

NOTE

** The above is the description of a basic sequence of operation. Consult factory for additional or custom features and functionality**

BASIC - AUTOMATIC OPERATORS INTERFACE
AOC - 842

VER 7.0
5-2-18

N/C FIRE ALARM
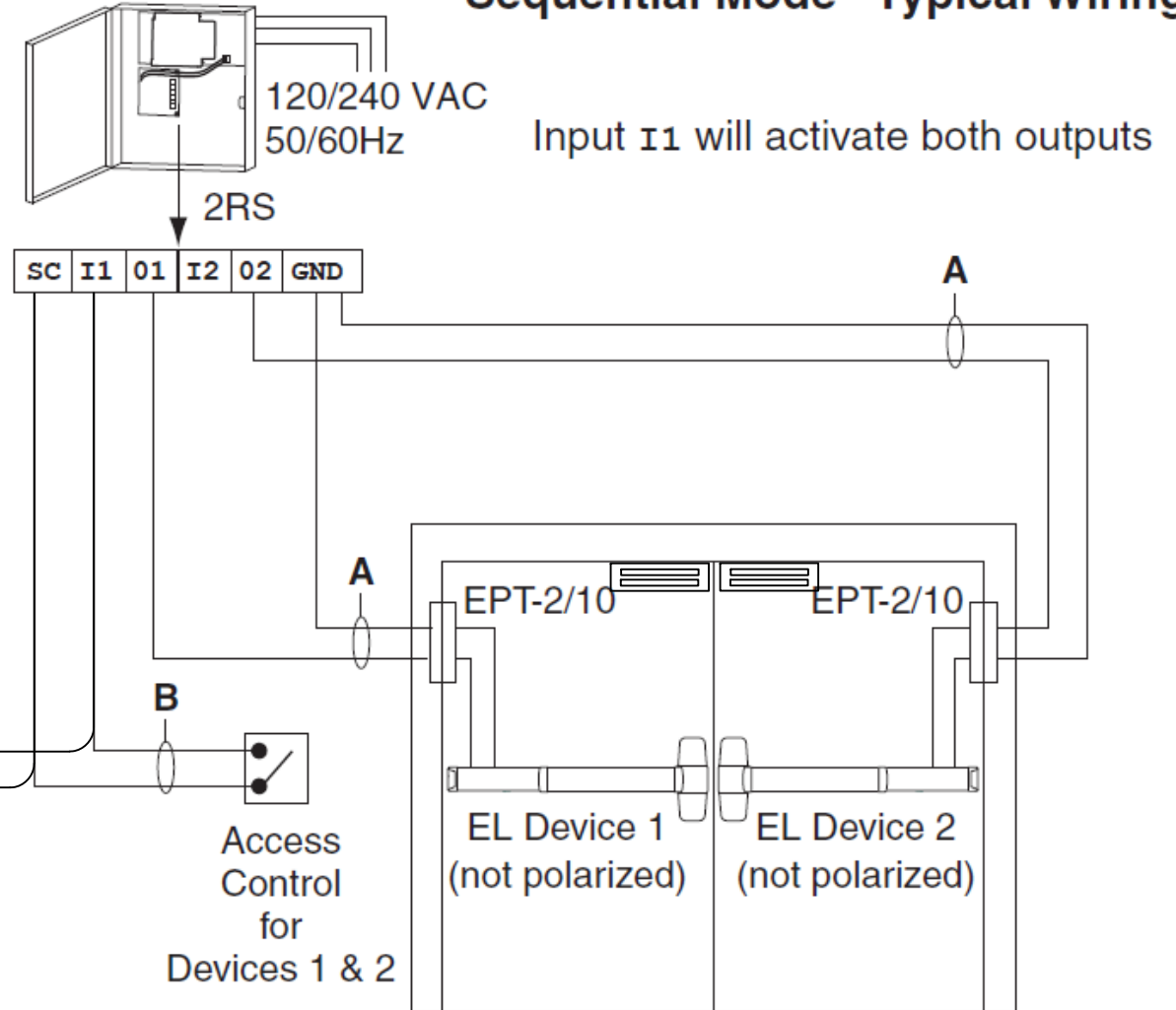
Notes:
1. IN8 - N/C DOOR CONTACT - WILL PREVENT MAGLOCKS FROM LOCKING UNLESS BOTH DOORS ARE CLOSED.
2. IN5 - PLACE JUMPER ON IN5 TO HAVE CARD READER CONTINUE TO FUNCTION AND UNLOCK THE PANIC HARDWARE WHEN F/A IS ACTIVATED

N/O REX PUSH PLATE
EXIT

N/O CARD READER CONTACT-CR
CR   REX   AUX

CR CONTROL VERTICAL RODS DURING F/A ACTIVATION.

N/C DOOR CONTACT

OUTPUTS 1-4 NORMALLY ENERGIZED

NORMALLY ENERGIZED
FOLLOW INPUT

MAGLOCK RELEASE TIMER
0 SEC HOLD
2 SEC HOLD
DEFAULT   4 SEC HOLD
8 SEC HOLD

MOTOR TIME DELAY
0.25 SEC DELAY
0.5 SEC DELAY
0.75 SEC DELAY
1.0 SEC DELAY

LED16 24V
12V

OUT↑ ↓IN
FIRE ALARM

RS485A
- + - +

1 IN 2 IN 3 IN 4 IN 5 IN 6 IN 7 IN 8 IN 9 IN 10 IN 11 IN 12 IN

RS485B
- + - +

T14   T8

INPUT POWER From VD PS-914

+24 GND GND +12

ADD JUMPER IF USING SINGLE VOLT POWER SUPPLY

Link IN1-IN4-done in Software!!!
FA to release VD Panic Hardware-done in Software!!!

SW1 FAIL SAFE
(Release maglocks upon FA activation)
(Set dip switches as shown)
1 2 3 4 5 6 7 8

Powered By NU2
UIB-1012-V12

PLC - 842

SW2
1 2 3 4 5 6 7 8

H3

MOTOR DELAY X2

VON DUPRIN PS914 POWER SUPPLY WITH 900-2rs MODULE

Sequential Mode - Typical Wiring

T15
+24 GND GND +12

<-12V   24V->
DOOR LOCK VOLTAGE SELECTOR

H1   H2

DOOR1   DOOR2

REL1   REL2   REL3   REL4

FIRE ALARM CONTROLLED TO MANAGE PANIC HWR

AFTER MAGLOCK RELEASE-DELAYED TRIGGER TO DOOR OPERATOR SW2- 7,8

AUX
T16

120/240 VAC
50/60Hz

Input I1 will activate both outputs

2RS

SC I1 O1 I2 O2 GND

A

-- ALL OUTPUTS ARE SOLID STATE SHORT PROTECTED --

OUT1 GND OUT2 OUT3 GND OUT4 OUT5 GND OUT6 OUT7 GND OUT8

NO1 COM1 NC1 NO2 COM2 NC2   TRG1 TRG2 TRG3 TRG4   NO3 COM3 NC3 NO4 COM4 NC4

T5   T7

24V GND GND 12V

AUTOMATIC OPERATOR CONTROLLER - AOC

NU2 - AOC CONTROLLER

FIRE ALARM CONTACT

FAIL SAFE MAGLOCK   OUT-1
FAIL SAFE MAGLOCK   OUT-3

STANLEY AUTOMATIC OPERATOR RELAY #4

CUSTOMER SUPPLIED CARD READER RELAY CONTACT

IN1 CR   IN3 REX

FAIL SAFE DOOR1

FAIL SAFE DOOR2

TO VON DUPRIN PS914 POWER SUPPLY

TO STANLEY OPERATOR TB4 9&10

TB4
EXT 12VAC (BK) 1
12VAC (RD) 2
COMMON (WH) 3
OPERATE SENSOR 4
INT 12VAC (BK) 5
12VAC (RD) 6
COMMON (WH) 7
SAFETY (GN) 8
PUSH PLATE 9
COMMON 10

STANLEY OPERATOR

Provided pulse duration is 2 seconds

A

EPT-2/10   EPT-2/10

A

B

Access Control for Devices 1 & 2

EL Device 1 (not polarized)   EL Device 2 (not polarized)

Notes:
1. Each "wet" maglock/electrified output is:
   -Selected for 12/24V
   -Built in short/overload protection. Automatic reset. No fuses
   -Red/Grn status LED

Notes:
1. set outputs 1,2,3,4 to be "Normally Energized" via SW2 - 4
2. Triggering inputs 1,2,3,4 triggers Outputs 1,2,3,4 for a predetermined amount of time such as 0, 2,4,8 seconds as selected by SW2 5,6
2. Triggering inputs 1,2,3,4 triggers RELAY 4 (motor) for a predetermined amount of time DELAY such as .25, .5, .75 and 1 second as selected by SW2 7,8
3. FA status is linked to RELAY#1 via software