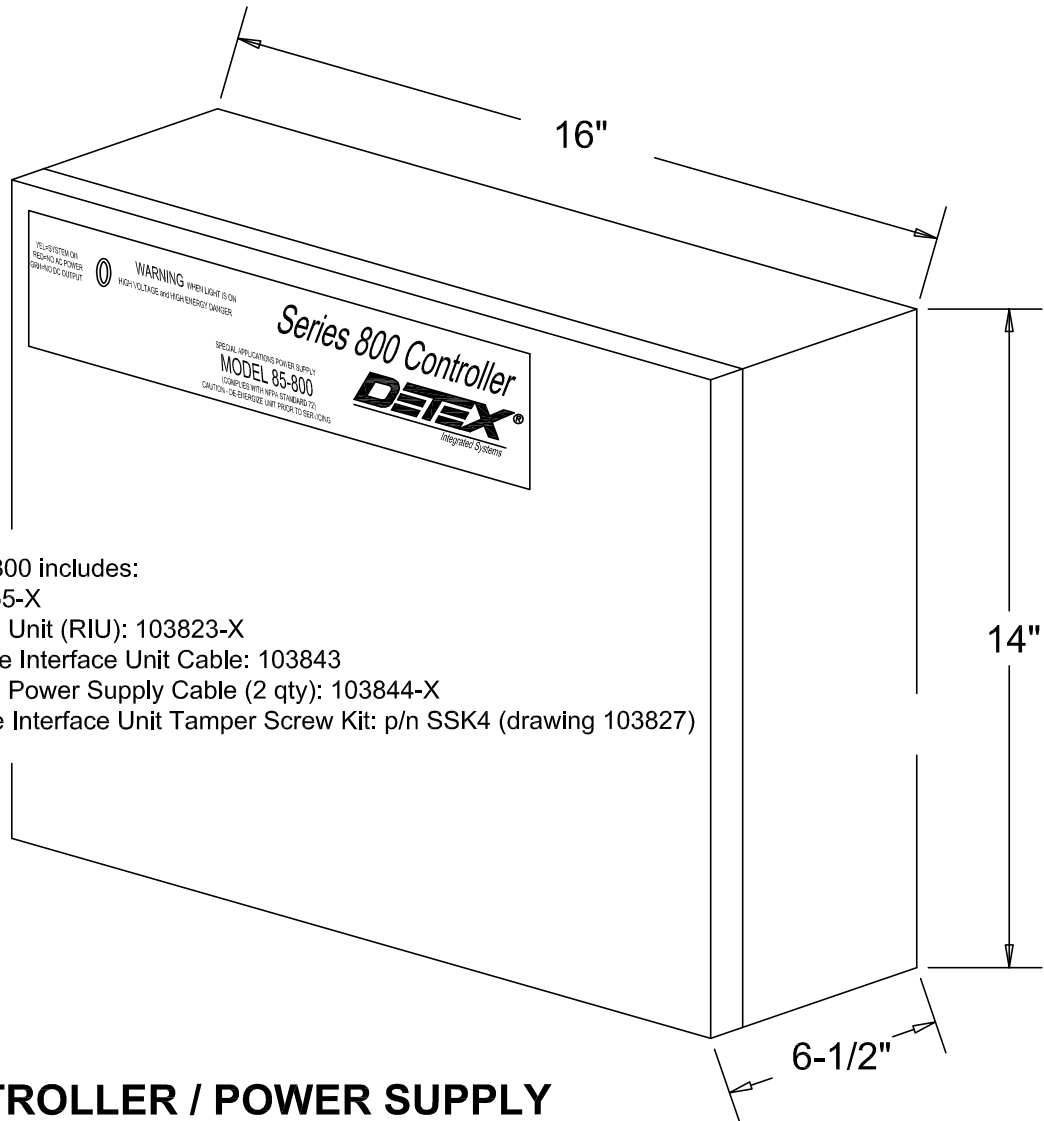




Detex Corporation, 302 Detex Drive, New Braunfels, Texas 78130-3045
(830)629-2900 / 1-800-729-3839 / Fax 1-800-653-3839 / Text: 1-830-481-6433 / INTERNET: www.detex.com

INSTRUCTIONS FOR 85-800 SYSTEM

Top level p/n: 85-800
Top level dwg #: 104050



Part number 85-800 includes:
Controller: 104055-X
Remote Interface Unit (RIU): 103823-X
EExER to Remote Interface Unit Cable: 103843
EExER to Device Power Supply Cable (2 qty): 103844-X
Optional: Remote Interface Unit Tamper Screw Kit: p/n SSK4 (drawing 103827)

85-800 CONTROLLER / POWER SUPPLY

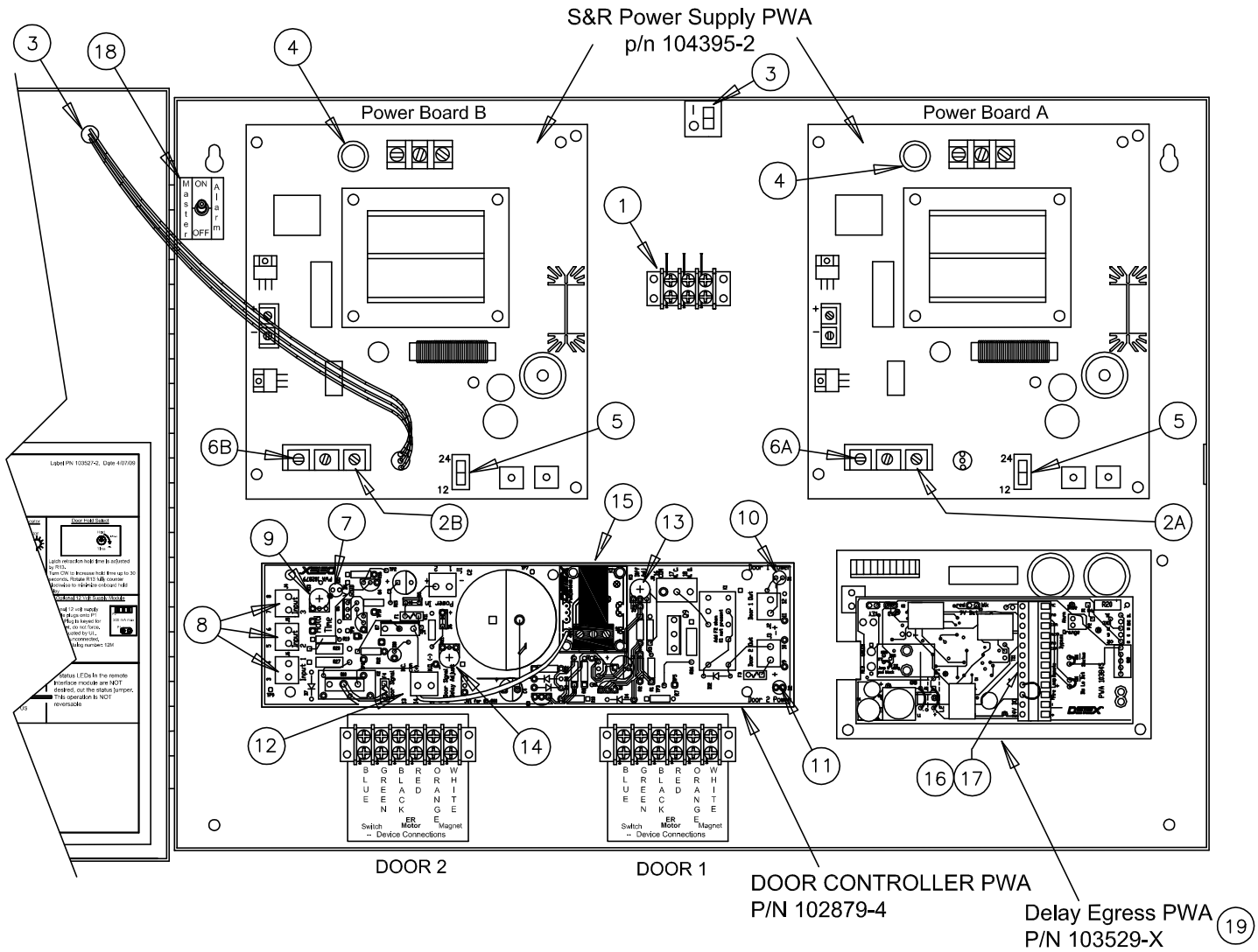
Description of use:

For use with dual door Delayed Egress with Latch Retraction devices (EExER)

Input requirements 120v @ 2 amps

For International orders:

Input requirements 240v @ .8 amps



DETEX Model 85-800
 Connection Diagram and Instructions

**WARNING! DEVICE MAY CYCLE WHEN FIRST POWERED UP.
 KEEP HANDS AND FINGERS CLEAR OF MOTOR AND CAM.**

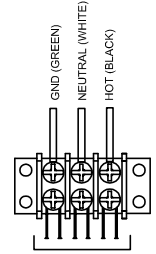
MAIN POWER PANEL

The 85-800 is a controller / power supply. The power supply boards are configured for 24VDC.

Refer to the appropriate drawing for connections and adjustments. All connections and adjustment must be made with the power supply de-energized **AND** main power switch (item 3) in the OFF position.

1: MAIN POWER CONNECTION.

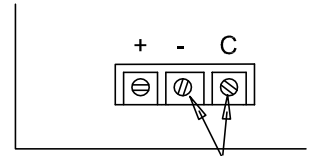
Observe correct terminal connections. Color code requires connections made per NFPA72. Leave circuit de-energized while installing and servicing unit.



**FACTORY INSTALLED
 CONNECTIONS
 DO NOT MODIFY!**

2A & 2B: FIRE LOOP CONTROL.

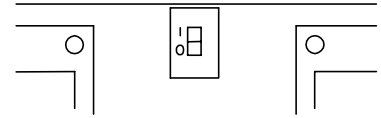
Connect the two wires from the building fire system relay to these terminals on power board "A". The power supply will operate normally as long as the connection between the (-) and (C) is maintained. When the building fire alarm system opens the circuit, the power supply de-energizes the output voltage. The fire loop uses 24 volt sense voltage. Power board "A" must have connection to the building fire safety system. Connection for power board "B" is optional. Fire alarm relay is required for power board "B" on fire rated openings. **NOTE: Each power supply should have an Independent fire alarm relay.**



Closed fire alarm loop. Must be supplied on Power Board "A"

3: MAIN ON-OFF SWITCH.

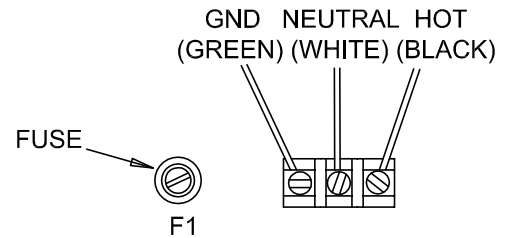
This switch can be used to de-energize the power supply for service and adjustments. High voltage is still present inside the enclosure as long as the main power feed is energized, so caution should still be used when service is performed using this switch. I = ON, O = OFF



Yellow LED = SYSTEM OK
 Green LED = NO DC OUTPUT
 No LED = No AC input

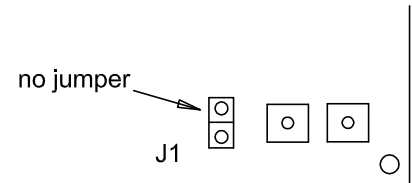
4: 1.5 AMP TIME DELAY FUSE (5 x 20mm).

This is intended to protect the device against high current loads and is part of the AC input circuit. Both power boards use this fuse. Detex p/n is 104267-2. Bussman p/n is GMD-1.5A Littlefuse p/n is 023901.6HXP

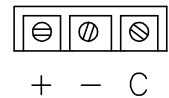


5: OUTPUT VOLTAGE.

Both boards are factory set for 24volts.



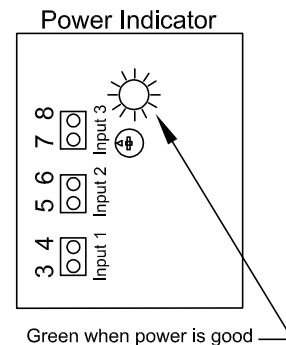
6: OUTPUT TERMINALS are pre-wired at factory (6A / 6B).



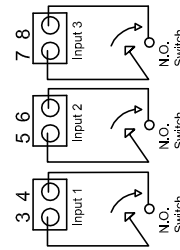
DOOR CONTROLLER PWA

7: POWER GOOD INDICATOR.

This LED will glow green if 24 volts is supplied to the controller board.



Control Inputs



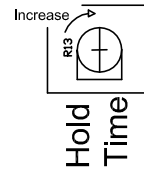
8: ACCESS CONTROL INPUTS.

These require a normally open dry contact. The door latch will activate and hold once the circuit between the terminals of inputs 1, 2 or 3 is made.

Door Hold Select

9: DOOR HOLD DELAY ADJUST.

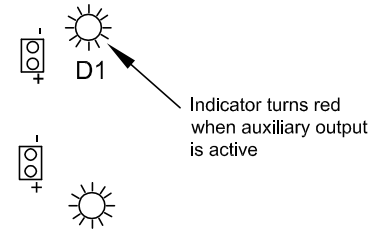
This potentiometer adjusts the length of time the latch is held retracted once the input switch is released. Turn clockwise to increase the latch hold time up to a maximum of about 30 seconds. TROUBLESHOOTING INFO: When adjusted to minimum, latch retraction may not function properly.



Auxiliary Output Indicator

10: AUXILIARY OUTPUT INDICATOR.

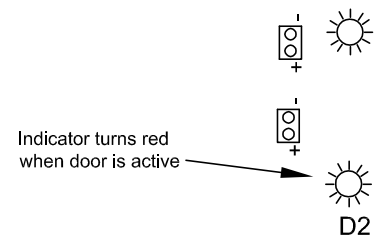
D1 glows red when the auxiliary output is active.



Door 1 Output Indicator

11: DOOR 1 OUTPUT ACTIVITY INDICATOR.

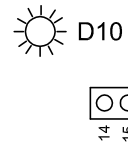
D2 glows red when the output voltage to the latch retraction device is energized.



Door 2 Output Indicator

12: DOOR 2 OUTPUT ACTIVITY INDICATOR.

The LED glows green when the output voltage to the latch retraction device is energized.



13: DELAY EGRESS TO LATCH RETRACTION DIFFERENTIAL ADJUST.

R5 is used to adjust the delay between the delay egress release and ER latch retraction. The delay is factory adjusted and should work correctly for most applications. The delay is adjustable from .25 to 1 second by R5. This is factory set and should not require adjustment. If a longer delay is needed, turn R5 clockwise.



14: DELAY BETWEEN EACH DOOR RETRACTING.

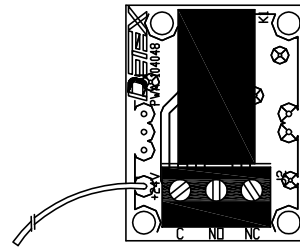
Potentiometer R21 adjusts the delay time between the latches being retracted on door 1 & door 2. It is set at the factory and should not require adjustment. Should a longer delay time be required, turn R21 clockwise to increase. Note: Additional delay is needed for door operator.

Door 1 to Door 2 Delay

Time is adjustable from 0.5 to 3 seconds



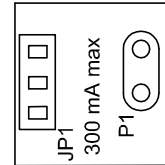
15b: DOOR SIGNAL MODULE. STANDARD (KIT P/N 104048)
 A door signal to control a door operator.
 (Not evaluated by UL)



15a: OPTIONAL 12 VOLT POWER MODULE. M12 KIT (P/N M12)
 An optional 12 volt power supply module is available where a 12 volt DC source is needed in addition to 24 volts. See the kit instructions for more information. 300 mA max current draw.
 (Not evaluated by UL)

Optional Module

Optional 12 volt supply module plugs onto P1 and JP1. Plug is keyed for alignment, do not force. **Order DETEX catalog number: M12**

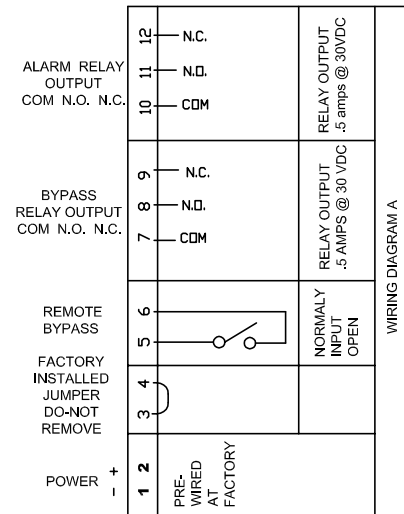


**WARNING! DEVICE MAY CYCLE WHEN FIRST POWERED UP
 KEEP HANDS AND FINGERS CLEAR OF MOTOR AND CAM**

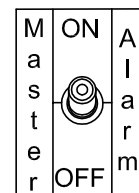
DELAYED EGRESS CONNECTION BLOCK

16: BYPASS RELAY OUTPUT: (7, 8, and 9)
 The BYPASS relay output is energized when the unit is disarmed by the KEY or REMOTE BYPASS to indicate to a remote indicator that the door is not armed.

17: ALARM RELAY OUTPUT: (10, 11 and 12)
 The ALARM relay output is energized when the unit is sounding its alarm to indicate to a remote indicator an unauthorized exit has been attempted.



18: MASTER SWITCH.
 This switch is intended for service and setup use. When it is set to "ON" the LED tip will glow red. This indicates the delayed egress and exit alarm are set to normal control and function. When set to "OFF", the delayed egress and alarm functions are bypassed and the LED tip will glow green.



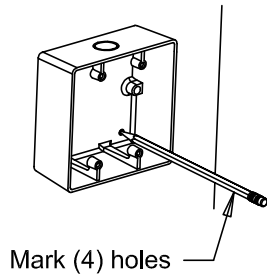
19. DELAYED EGRESS CIRCUIT BOARD.
 There is an arming delay of 15 seconds (other times are factory optional) between the unit being placed in the armed state and the delay egress becoming active.

NOTE:
 18 AWG wire is recommended for power circuits.
 22 AWG wire is recommended for signalling circuits.

REMOTE INTERFACE

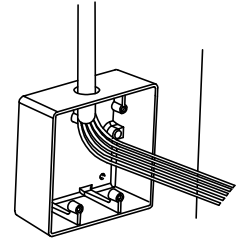
INSTALLATION INSTRUCTIONS

1 Mark Box Location:
(surface installation shown)



2 Pick best knockout location for routing wires.

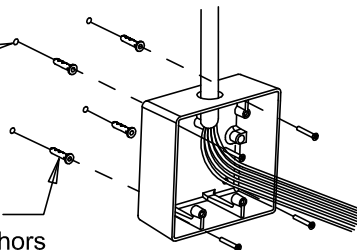
3 Route wires through knockout.



4 Mount box

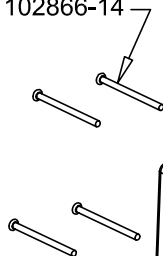
Recommended drill size for anchors: 1/4 diameter

Press-in wall anchors

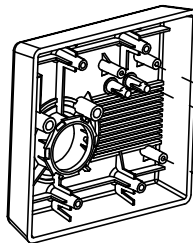


BACK BOX MUST BE GROUNDED PER NFPA 70

#6-32x1-1/2"
Machine screw
P/N: 102866-14



Cover
P/N: 105430-1 (Gray), 105430-2 (Black)



#4-20x1-1/4" Plastite screw (qty 3)
P/N: PP-5374-48

Tamper bracket
P/N: 102701

#4-20x1-1/4" Plastite screw (qty 1)
P/N: PP-5374-48

Cylinder nut
P/N: 100783

RUI circuit board kit
P/N: 105083

Cam assembly kit
P/N: 102660-1

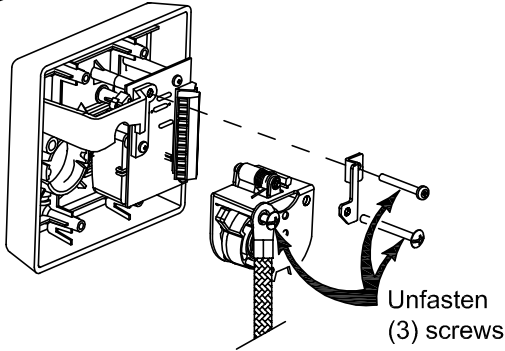
#8-32 Truss HD screw
P/N: 102627-15

Ground Strap
P/N: 104448

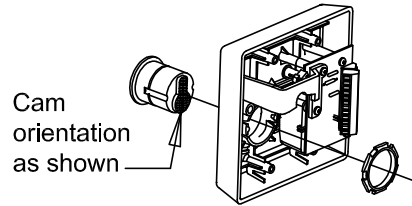
NOTE: Switch and cam assembly not used with dummy cylinder.

Figure 1. Parts breakdown depiction

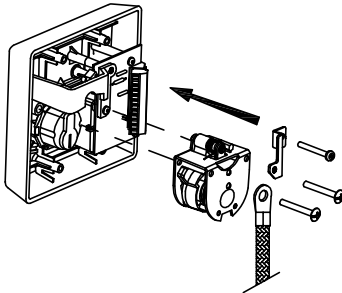
5a Remove cam assembly from cover



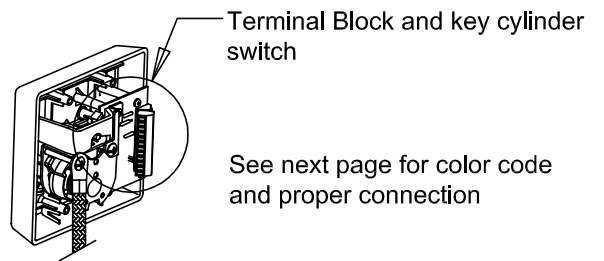
5b Install mortise or dummy cylinder with cylinder nut provided (standard Yale cam)



5c Re-install cam assembly



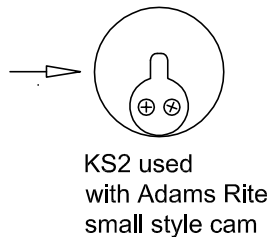
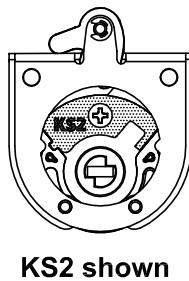
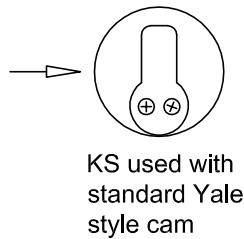
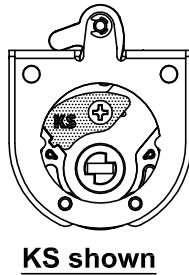
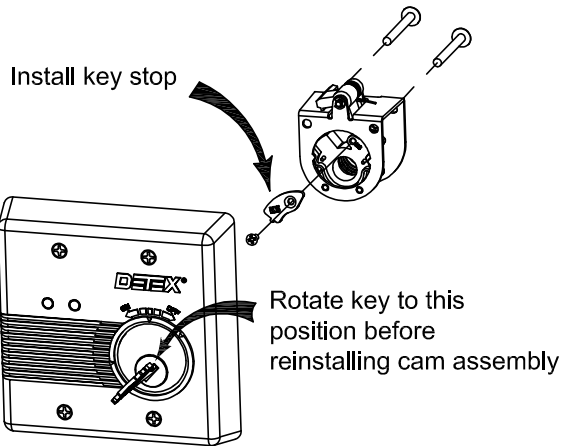
5d Install wiring functions (Table 1)



6 KEY STOP INSTALLATION (if required) - Optional
(Key stop set screw included in hardware kit)

Hardware Kit

P/N: 103824 Includes Keystop parts
P/Ns: 105770-1 (KS), 105770-2 (KS2),
& screw P/N 101976-1



**Front View
KEY STOP POSITIONS**

"ON" position
(Key can be removed)

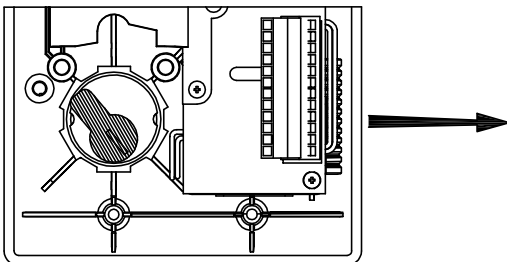


Key shown in 90° stop "ON" position

"OFF" position
(Key cannot be removed)



Key shown in "OFF" position

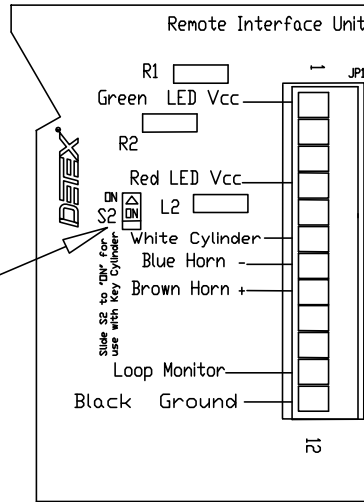


Cam orientation for Key Stop option

Back View

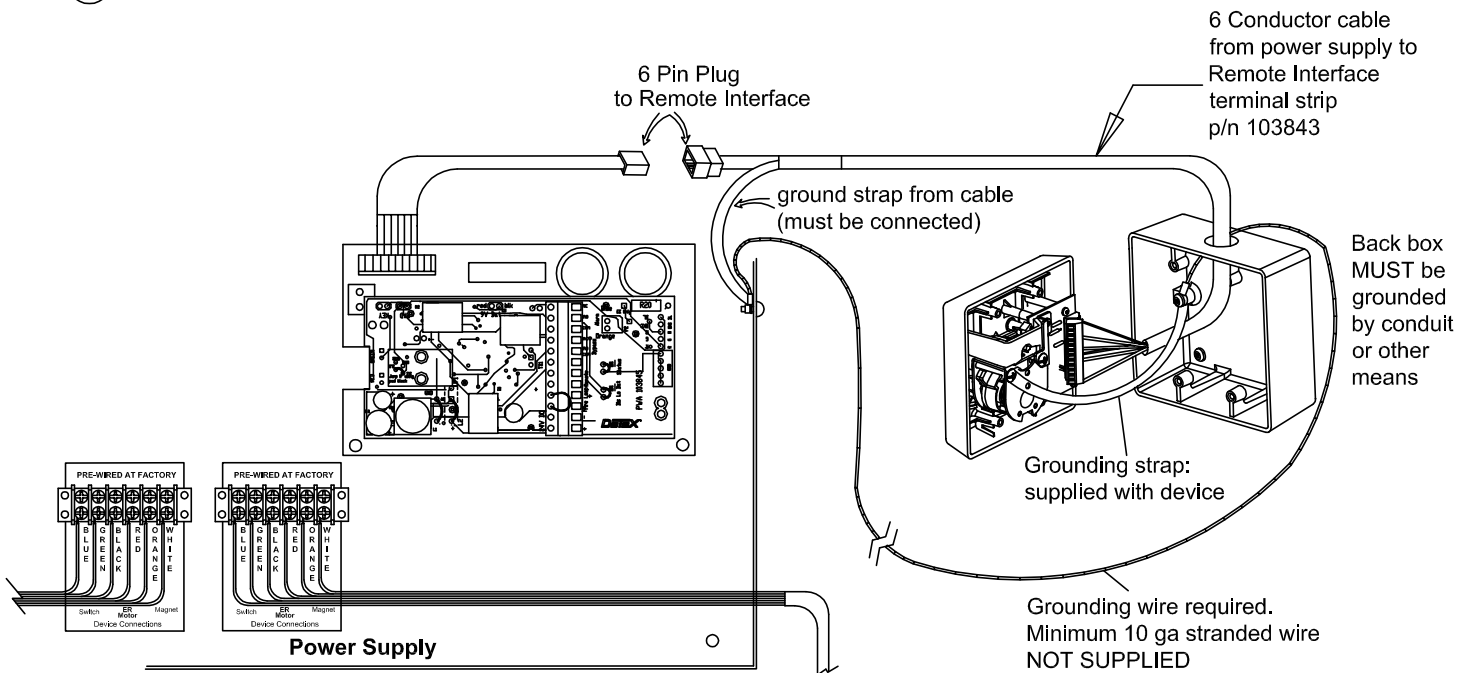
7 SELECT S2 POSITION (if required)

Slide S2 to "ON" for use with key cylinder, "OFF" for use with dummy cylinder

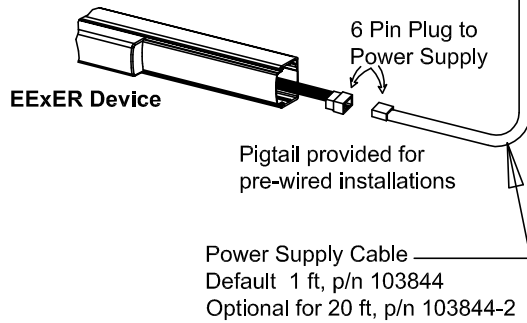


RUI circuit board kit
p/n 105083

8 CONNECT WIRES FROM CABLE TO TERMINAL BLOCK



If only 1 panic device is installed, install jumper across blue & green terminals in un-used terminal block



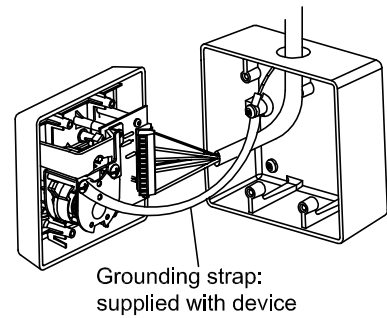
Power Supply Cable
Default 1 ft, p/n 103844
Optional for 20 ft, p/n 103844-2

Table 1
Wiring connections for Remote Interface Module

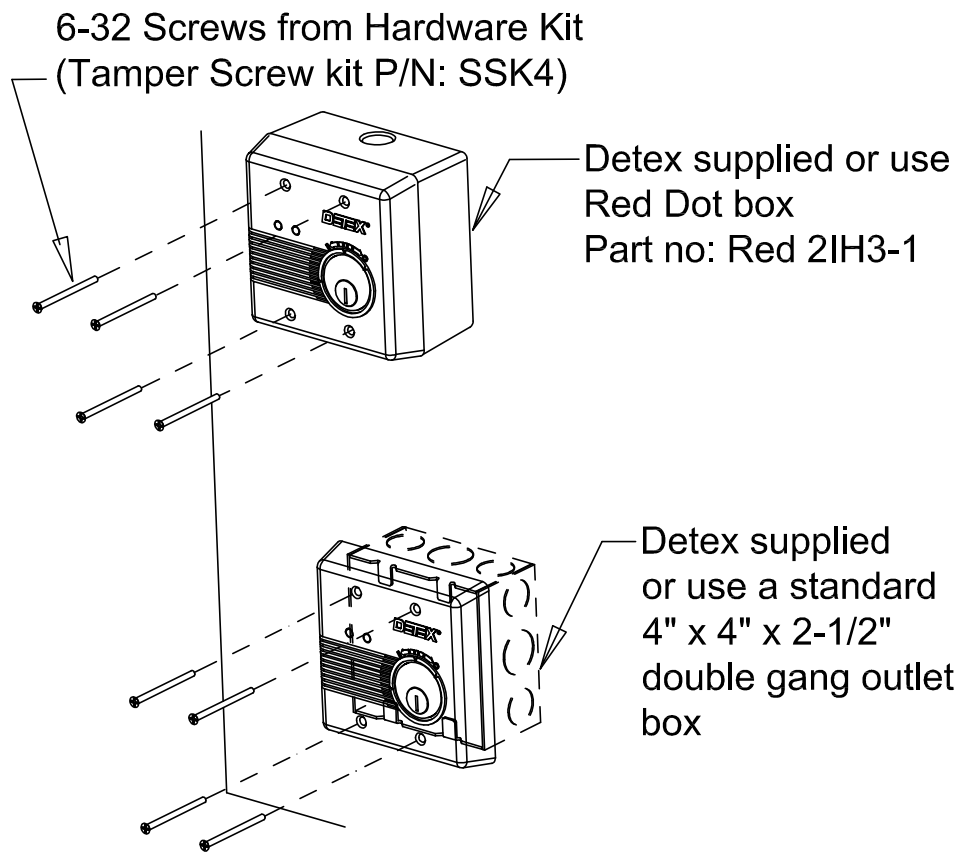
| Terminal Block | Functions | Wire Color |
|----------------|--------------------|------------|
| 1 | Green LED Control | Green |
| 2 | N/U | |
| 3 | N/U | |
| 4 | Red LED Control | Red |
| 5 | N/U | |
| 6 | Key Cylinder Input | White |
| 7 | Horn (-) | Blue |
| 8 | Horn (+) | Brown |
| 9 | N/U | |
| 10 | N/U | |
| 11 | N/U | |
| 12 | Ground | Black |

Terminal Block Connections

9 VERIFY GROUND STRAP CONNECTION



10 Install device with (4) #8-32 machine screws

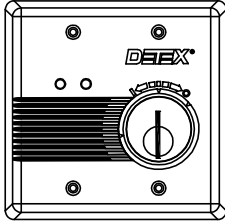


NOTE: The Electric Latch Retraction (ER) function is operated by an external entry/exit control device (such as card reader) that is connected to the power supply. Install per Manufacturers instructions.

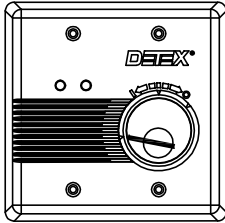
DELAYED EGRESS OPERATIONS

ARMING AND AUTHORIZED EXIT

Home Position:
Key can only be removed at 12 o'clock



To Arm (on):
Rotate key to 8 o'clock



To disarm (off):
Rotate key to 2 o'clock position



With **Key Stop** installed,
key only rotates between 12 & 2 o'clock:



Key at 2 o'clock disarms
Key at 12 o'clock arms
Key can only be removed with unit armed

With the door closed, insert key in the cylinder of the remote interface, turn CCW, then back to home key position and remove. Two red LED flashes occur, then green LED glows. Authorized personnel can exit the door during this rearming cycle. After a 15-second arming period, alarm issues three quick beeps and LED goes off, indicating the unit is armed (see table 3 for status options).

If a key cylinder is not used, the device is set to an armed state by default and only the three system control inputs on the ER control board (uses a normally open dry contact, closed to activate) can be used to bypass the alarm.

DISARMING

Insert key, turn CW to a stop. Green LED will blink twice to indicate the unit is disarmed, (see table 3). Device will operate as a normal exit device. If the key cylinder is not used, closing the contacts of one of the three system control inputs will activate the latch retraction mechanism and bypass the alarm.

Upon release of the Input contact, the latch will release, and the 15 second arming delay timer will start. The unit will issue three beeps, indicating the unit is now armed.

EXITING UNDER ALARM

To exit, push and maintain pressure on the pushpad. After a one second delay, (nuisance delay), LED flashes RED and alarm pulses on and off for 15/30 (not field programmable). After 15/30 seconds, alarm issues short and long pulses to indicate that one can exit by depressing the pushpad. Alarm sounds continuously and LED is steady red. Turn key CW to stop alarm or initiate authorized access. In case of fire, the fire alarm over-rides the 15/30 second delay and the door opens without delay when pushpad is pushed. The alarm will not sound since the power to the system is turned off in response to the fire alarm.

RESETTING THE ALARM

Turn key CW to reset the alarm. See the arming procedure above to rearm the device. If the key cylinder is not used the alarm must be reset by using one of the three system control inputs on the ER control board. The latch will retract and the alarm will turn off. Upon release of the system control input contact & retract time, the unit will start the 15 second arming delay timers, and will automatically rearm at the end of that time. In case of fire, the fire alarm overrides the 15 or 30 second exit delay and the door opens when the pushpad is pressed. The alarm will not sound since the power to the system is turned off in response to the fire alarm.

NUISANCE DELAY

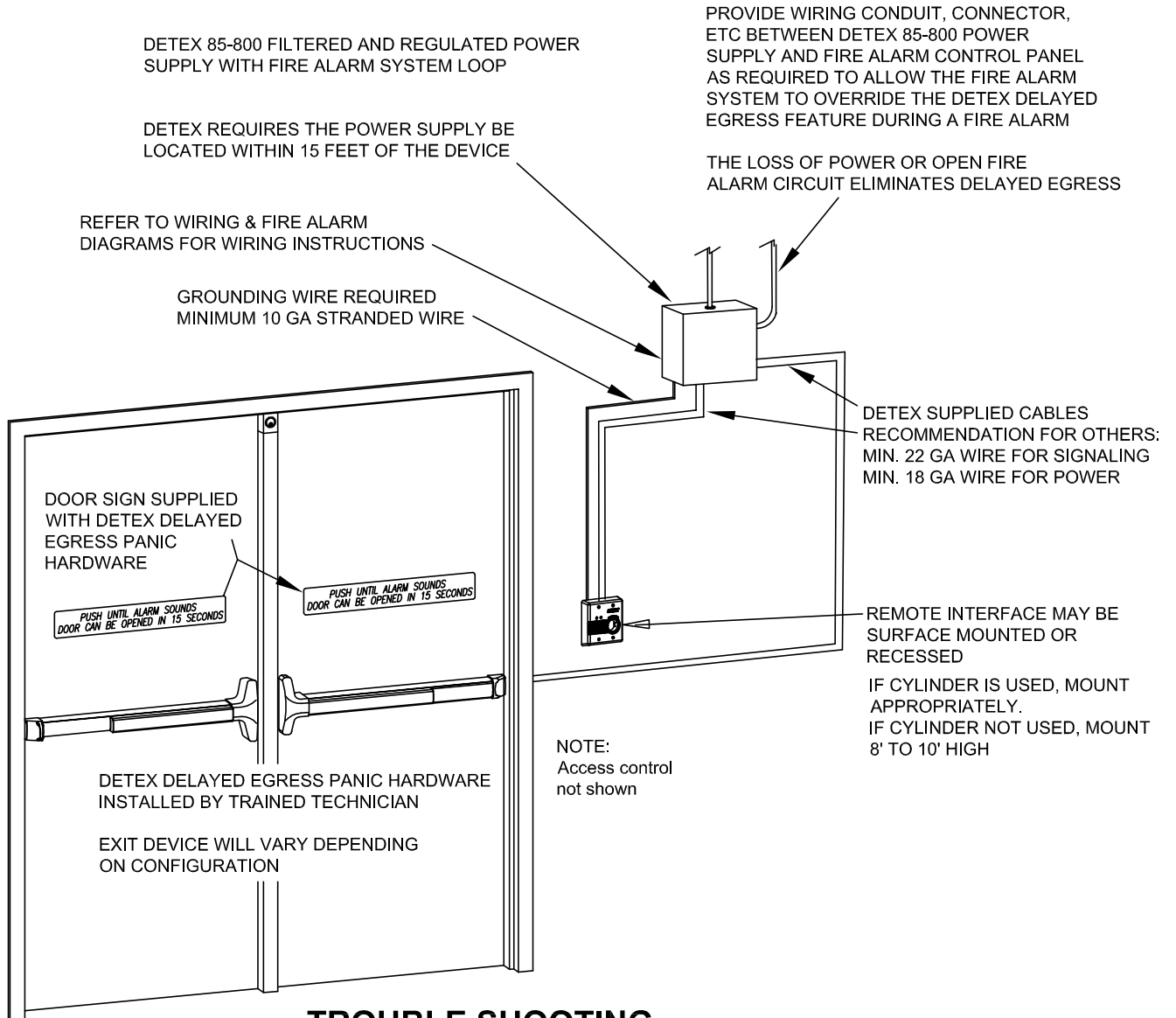
When pushpad is depressed for less than 1 second, alarm will emit a single pulse but will not start delay function.

NORMAL OPERATION

TABLE 3

| LED COLOR | | SIREN SOUNDS | FUNCTION |
|---------------------|---------------------|--------------|--|
| RED | GREEN | | |
| OFF | ON | THREE CHIRPS | Indicates the unit is in process of arming. The siren will chirp three times to indicate the unit is armed and green LED will turn off |
| SLOW BLINKING | OFF | SLOW PULSE | Pushpad is depressed, delay to open started |
| FAST BLINKING | OFF | FAST PULSE | Delay to open expired, door unlocked |
| ON | OFF | ON | Delay to open expired, door has been opened |
| SHORT BLINK (3 SEC) | OFF | OFF | Unit is armed. |
| OFF | SHORT BLINK (3 SEC) | OFF | Unit is disarmed. |

RISER DIAGRAMS AND POWER TRANSFER OPTIONS



TROUBLE SHOOTING

| Problem | Probable cause |
|--|---|
| No exit delay, alarm does not pulse. | No power to/from power supply; no fire loop connection. |
| No green light when key is turned CCW. | Check connections on cables. |
| No exit delay, alarm pulses. | Magnet wires not connected to circuit board. |
| Latch fails to retract | Increase door hold release R13 (item 9) |
| Device motor fails to complete cycle | 1. Increase door hold release R13 (item 9). 2. Check eye bolt adjustment. (See delay device instructions) |
| Delay egress does not arm | On RIU device, if using a dummy cylinder, S2 must be set to "OFF" |

For further assistance, contact Detex Technical Support at 1-800-729-3839