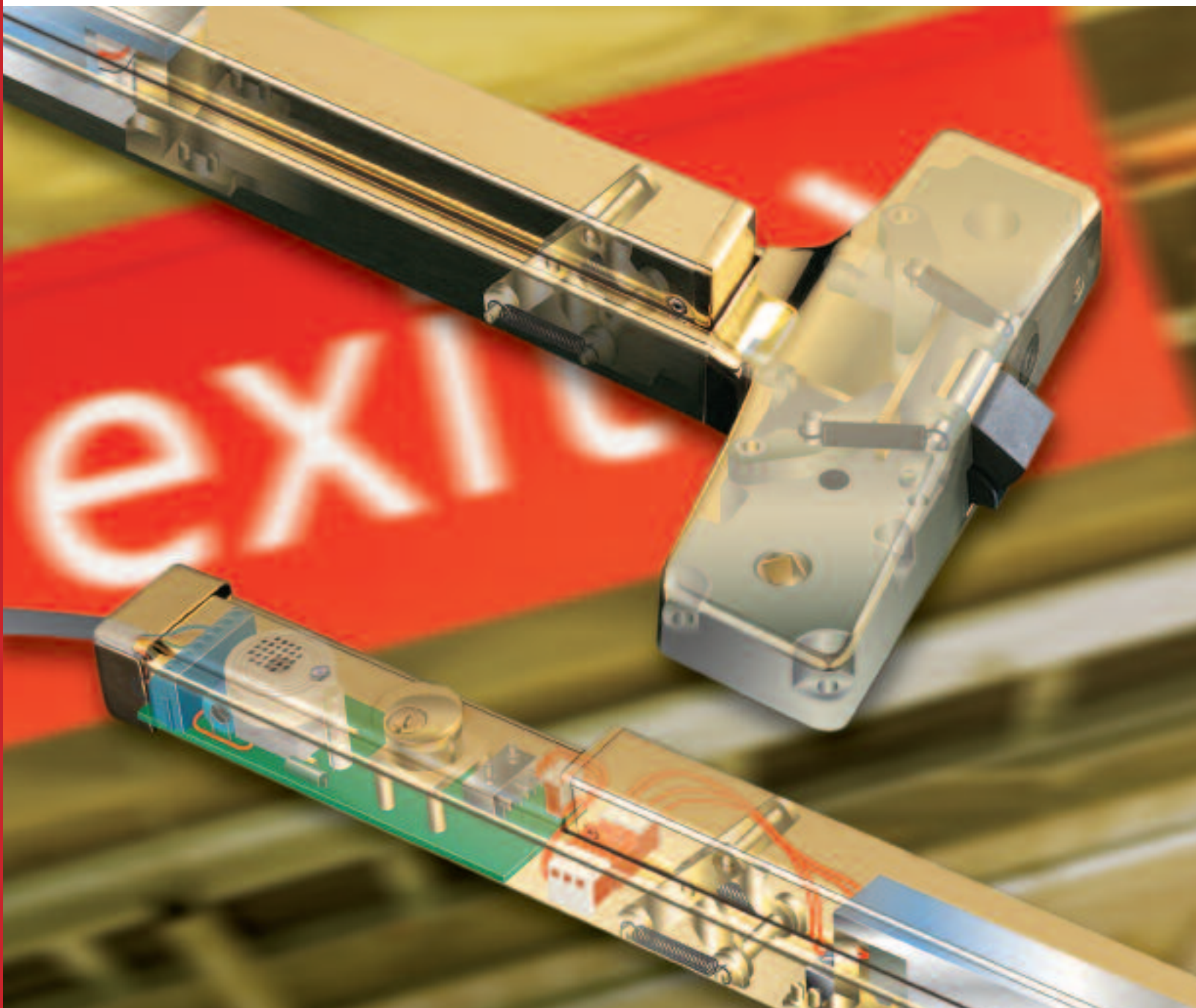


# FALCON

Falcon  
Monarch  
Dor-O-Matic

## *Monarch Electrified Series*



# THE FALCON DIFFERENCE

S A F E T Y , S E C U R I T Y A N D U N C O M P R O M I S I N G V A L U E

**At Falcon, we know that every product you sell not only has to meet local building codes, but also your expectations for performance and quality. We take your expectations seriously, and that's why we build our door hardware to deliver durability, convenience and unmatched value. After all, we've built our reputation on the same standards that you have – providing quality products at a reasonable price delivered on time. It's the way we do business and it's what makes Falcon door hardware a powerful choice no matter what your project.**



## MONARCH ELECTRIFIED SERIES



When your application requires the security of an electrified exit device, the Monarch Electrified Series combines the most advanced technology with simple, easy operation and guaranteed reliability. Our Electrified Series devices integrate seamlessly with keypad and card reader systems to provide total security and access control, and can be delivered in just 10 to 15 days. And since they're backed by one of the best names in the business you can be sure you're getting the utmost value and reliability.

### FEATURES

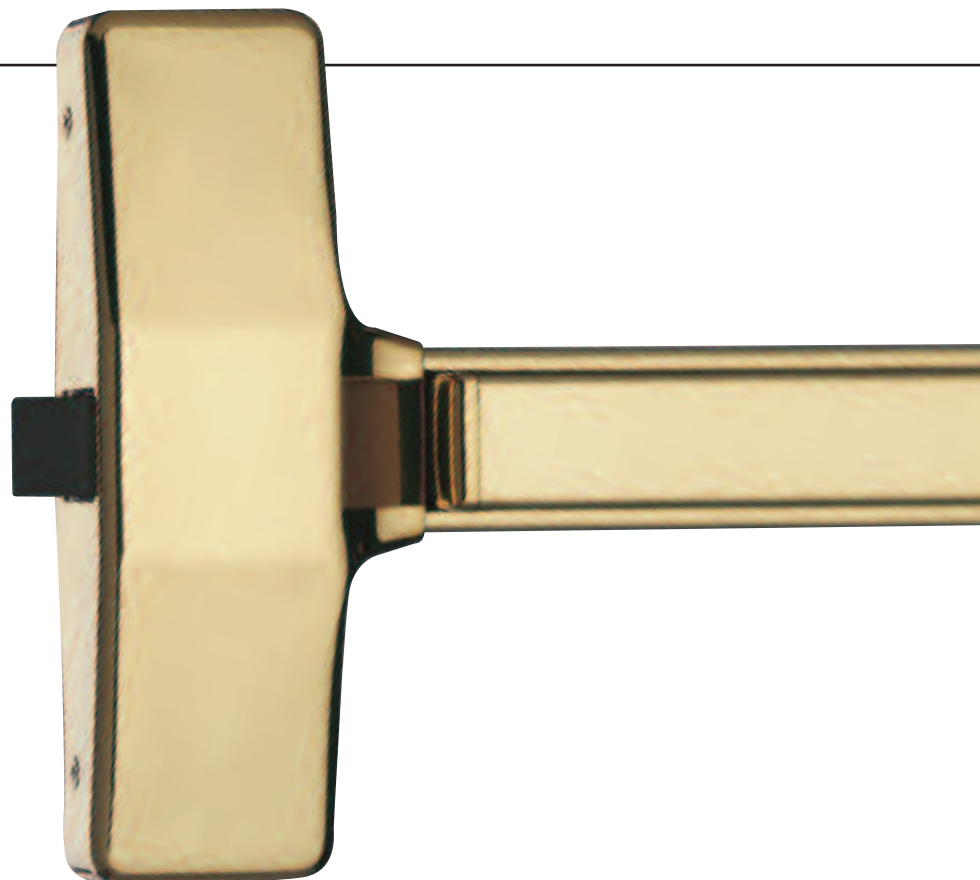
**ANSI Grade 1 security**

**All electrical features are UL approved for fire and panic applications**

**Electrified Series devices can be integrated into an ADA-compliant system**

**All electrified features are built by hand and tested in our electronics lab**

**Hand-polished finishes for exceptional good looks**



# CONTENTS

## Electric Dogging (ED) Page 5

Applications: churches, auditoriums, theaters, courtrooms, and anywhere that needs dogging with an electronic control.

- Provides quiet, interruption-free operation.
- Use on any pushbar (17, 18 or 19) series to hold latches retracted for push-pull operation.
- Can be added to existing devices.
- Works with fire-rated doors (when tied into fire alarm panel).

## Electric Latch Retraction (ELR) Pages 6-7

Applications: schools, hospitals, office complexes, theater, churches, shopping centers, airports, security complexes, detention facilities.

- Can be activated to retract latched doors.
- Makes doors push-pull during business hours or performances.
- Use with automatic doors for ADA compliance.
- Works with fire-rated doors (when tied into fire alarm panel).

## Delayed Egress (DX) Pages 8-9

Applications: schools, assisted living facilities, airports, hospitals, stores, courtrooms, detention facilities.

- DX unit, when armed, will deny exit to unauthorized personnel/residents/visitors for 15 seconds (30 second delay is available with the proper written authorization from the local authority).
- Works with fire-rated doors (when tied into fire alarm panel).

## Electric Lock and Unlock (FSA/FSE) Pages 10-11

Applications: schools, office complexes, small stores, hospitals, churches, assisted living facilities.

- Works as an “electric key” with a card reader or key pad.
- Use for front entrances to facilities as well as inside door control.
- Commonly used in conjunction with DX feature for access from exterior.
- Requires a knob, lever, or thumbpiece trim.

## Exit Alarm (EA/HWEA) Pages 12-13

Applications: restaurants, hotels, hospitals, schools, grocery or department stores, store/stock rooms, warehouses.

- Local alarms that sound when door is used for exit.
- Use anywhere you would use a pushbar (17, 18 or 19) series device.
- Controls customer traffic to a main area, yet allows for additional emergency exits.

## Device Monitoring Features Page 14

Applications: anywhere an exit device would need monitors to indicate use, alarms or status.

- Communicates the status of the door hardware.
- Monitors latch conditions.
- Signals automatic door operators to open.
- Use with a magnetic lock so exit is permitted upon activation of a remote device.

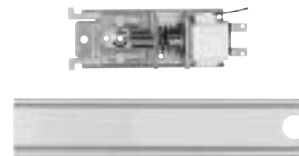
### Note:

All electric devices (except monitors) must use respective Falcon power supply for warranty to apply.

# ELECTRIC DOGGING FEATURE

## Electric Dogging Feature (ED) - for all 17, 18 and 19 Series devices.

Our Patented (Electric Dogging) ED provides quiet, interruption-free operation. This feature can be used on any pushbar (17, 18 or 19) series to hold latches retracted for push-pull operation and can be added to existing devices. Electric dogging is ideal for a variety of applications such as churches, auditoriums, theaters, courtrooms, and anywhere that needs dogging with an electronic control for quiet or uninterrupted operation.



ED Retrofit Kit

### Minimum door width required for standard devices

DEVICE	3'	4'
17-R	2' 11"	3' 5"
17-V	2' 10 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>4</sub> "
17-C	2' 11 <sup>3</sup> / <sub>4</sub> "	3' 4 <sup>3</sup> / <sub>4</sub> "
18-R	2' 10 <sup>1</sup> / <sub>2</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "
18-V	2' 10 <sup>1</sup> / <sub>2</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "
18-C	2' 11 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>2</sub> "
18-M	2' 11 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>2</sub> "
18-TPL	2' 11 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>2</sub> "
19-R	2' 9 <sup>1</sup> / <sub>4</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "
19-V	2' 9 <sup>1</sup> / <sub>4</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "

### Specifications

- Required power supply LUT-2 (24 VDC).
  - Required supply voltage LUT-2 (115 VAC/60Hz/1 Amp).
  - Power transfer hinge required 2-wire minimum rated 1/2 Amp.
- \* Power supply must be purchased for warranty to apply.**

### UL Listed

- Panic and fire rated exit devices.
- Retrofit available.

### Applications

- Quiet operation at dogged position.
- Theater, Library, Courtroom, Auditorium, Church.
- Retro-Fit available.
  - Includes: - Electric Dogging unit (shown above)
  - Channel cover
  - Mounting screw
  - Slide plate post assembly
  - Installation instructions
- Key-Override (KOR) available.
- Cannot be used with EA, HWEA or DX.
- ED feature used with fire-rated devices must be tied into fire alarm panel.

## Electric Latch Retraction (ELR) - for all 17 and 18 Series devices.

The Electric Latch Retraction (ELR) feature provides control of latch retraction by guard or security system, allowing free entrance from outside or trim side of door. The ELR system can be activated to hold the latch open momentarily or for extended periods of time. The ELR feature can be interfaced with automatic doors, card readers, automatic fire alarm systems, etc. The ELR application requires the use of the RDS-2 power supply.



### Wire Chart

LENGTH OF WIRE RUN (FT.)	24VDC 4 AMPS
0-100	14 AWG
101-200	12 AWG
201-300	10 AWG
301-400	8 AWG

### Specifications

- Solenoid rated for continuous-duty operation with RDS-2 (required power supply).
- Current inrush provided by RDS-2 of 24V DC 4 Amps for one second duration, 5V DC 1 Amp continuous.
- Supply voltage required to RDS-2 - 115V/60HZ/5 Amps.
- Solid state circuitry, microprocessor based.
- RDS-2 power supply (required):
  - On-board D.I.P. switches for variable relatch delay.
  - On-board L.E.D. diagnostics.
- Power transfer hinge or electric power transfer required (4 wires rated at 1 Amp).
- Electric Latch Retraction can be used in conjunction with EA (Exit Alarm), FSA/FSE (Fail Safe/Fail Secure), ED (Electric Dogging) and Security Monitoring (DM, LM, AE, SM, LK) features; ELR feature is available on all 17 and 18 Series standard device specifications.
- Auto-reset fuse.

### Special Application Specifications

- Recommended for automatic door operations openings. Use SM feature to activate automatic operator eliminating the need for relays and timing issues.



### Required Power Supply- RDS-2\*

The RDS-2, when energized by closing a dry contact switch, will activate the first ELR device and one second later will activate the second ELR device. For each RDS-2, two ELR devices can be controlled by one switch. To be able to control each independently, an RDS-2 would have to be ordered for each ELR feature. The ELR feature will not work properly without the RDS-2 power supply. To order, specify "RDS-2".

### Note:

1. Each RDS-2 comes in an 8" x 8" x 4" NEMA rated box.
2. RDS-2 weight is 9 lbs. 6 oz.
3. For hook-up, see schematic on opposite page.
4. ELR devices will not work properly and will not be warranted without purchase of RDS-2 power supply.

### How to Order

To order ELR feature add "ELR" prefix to device designation. (Example: ELR-18-R-EO)

### Note:

1. Closing normally open dry contact to the RDS-2 power supply will retract latch(s). Opening normally open switch returns latch(s) to locked position.
2. For special applications, consult factory.

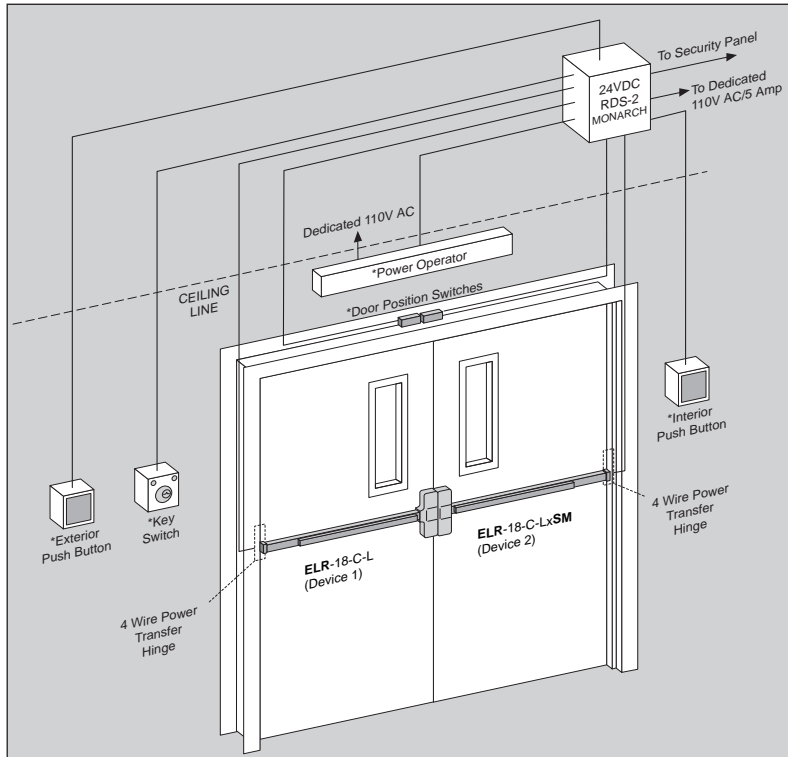
*\*Power supply must be purchased for warranty to apply.*

# APPLICATION AND WIRING

## Electric Latch Retraction (ELR)

Electric Latch Retraction-Double Doors x Key Switch

EXAMPLE: ADA Compliant Entrance



### Operation:

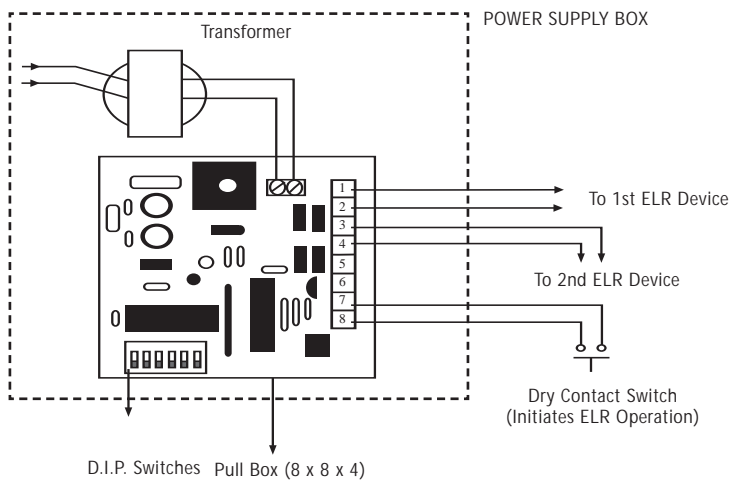
- Push button or card reader/keypad use from interior or exterior allows latch retraction and entry from either door.
- Retraction of the solenoid on device with integral SM momentary dry contact monitor switch initiates power operator.
- Exterior card reader or keypad may be turned on/off by maintained contact key switch.

\*Supplied by Schlage.

Features shown: ELR Electric Latch Retraction  
SM Solenoid Monitor Feature

### RDS-2 Schematic

Incoming Power  
110V AC  
60Hz  
5 AMPS



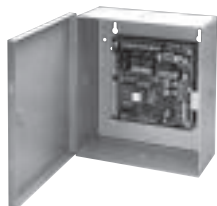
# DELAYED EGRESS SYSTEM

## Delayed Egress (DX) - for all 18 Series rim, mortise or concealed devices

The DX feature provides system control for limited egress and high security areas which require Accident Hazard or Fire Exit Hardware. The DX system is manufactured and tested to exceed ANSI A156.3 (2000) and A156.24 (1992) Grade 1 standards, and meets all requirements for NFPA 101, Special Locking Arrangement.

### Internal Device Lock

When the **DX** system is armed, the internal device lock will remain secure against attempted override pressure and severe impacts. The **DX** latchbolt can be retracted upon completion of the alarm cycle with depression of the touchpad.



### Delayed Egress Features:

- **Fire Alarm Contacts**  
Fire alarm input disables the delay function and the device provides normal egress operation.
- **Key Switch Operation**  
Arm, disarm, reset and bypass the DX system by the mortise cylinder on the device.
- **LED Device Status Indicator**  
Color coded lamps indicate arm, disarm, bypass and alarm status.
- **External Device Control Contacts**  
Optional wiring configuration will allow manual remote Arm, Disarm and Reset (consult factory for wiring diagrams).
- **Remote Monitoring**  
Remote monitoring of latch position (LM) and lock or unlocked status of trim (LK) are optional features.
- **Internal Alarm Horn**  
Depression of the DX system touchpad initiates a local, internal device alarm of 100 db when armed.
- **Power Transfer Hinge/Electrical Power Transfer**  
Requires UL approved 8-wire electric hinge for standard DX application. Adding additional features (i.e. FSA/FSE, AE, DM, etc.) requires additional wires.
- **Trim Selection**  
All standard device trims and functions are available, including NL and BE/LK functions, thumbpiece and lever lock/unlock and will function normally even when the delayed egress feature is armed. All DX system devices are also available with optional electric locking trim Fail Safe (FSA) or Fail Secure (FSE). Use of standard locking trim or electric locking trim (for access control) will allow authorized entrance. LUT-2 required for FSA/FSE option.
- **Remote Alarm Contacts**  
The remote alarm contacts close after the 3-second nuisance initiates the irreversible alarm cycle.



### Operation:

The DX system is a totally self-contained delayed exit system which, when placed in the armed state, will deny exit to unauthorized personnel for 15 seconds (30-second delay is available with proper written authorization from the local authority having jurisdiction). Depression of the touchpad for longer than three seconds will initiate an irreversible local audible and visual alarm sequence. Pressing the touchpad by accident or for less than three seconds will sound the device horn without initiating the alarm sequence (acting as a nuisance alarm). Remote monitoring is available to alert security if they are not in the immediate area. The person depressing the touchpad is detained and security personnel are alerted for quick response and interception of the offender. Consult factory for special timing requirement (other than above).

### Power Supplies\*

The DX system is controlled and operated with solid state micro-processor boards, internal to the device and power supply. The DEX power supply can operate up to two devices by adding additional (DXM) modules. DXM delayed egress device modules may be plugged into the motherboard inside the DEX power supply control box. The delayed egress function of DX devices will not operate without a **DEX** power supply.

### How to Order

To order a delayed egress device system add "DX" prefix to device designation. List power supply suffix with respective quantity of modules as a separate line item. (Example: For two individual egress doors, 2 each-DX-18-R-L Quantum x RHR, 1 each-DEX-2).

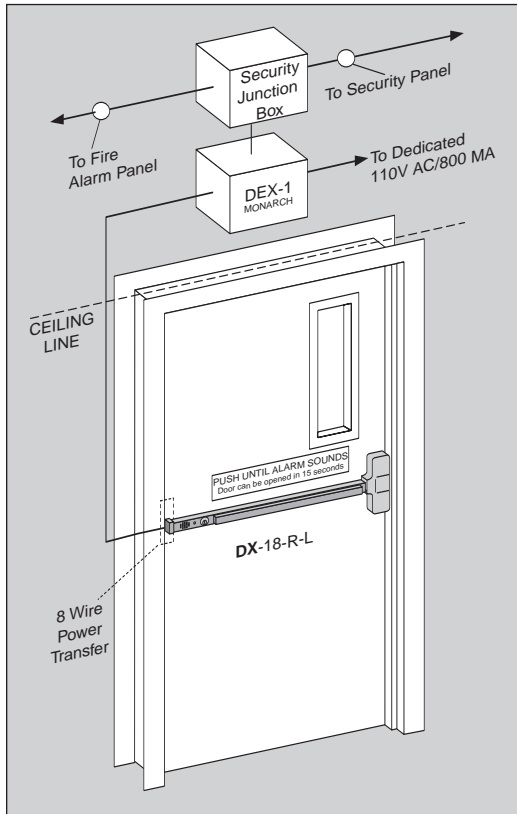
*\*Power supply must be purchased for warranty to apply.*



# APPLICATION AND WIRING

## Delayed Egress (DX)

Delayed Egress Application  
Single Door x Monitored Exit



### Operation:

- Depression of touchpad for more than three seconds initiates irreversible alarm and 15-second delay for egress.
- Fail Safe application. Fire alarm initiation places device in "free egress" mode.
- Hard wired internal local alarm will sound upon egress when armed by key on device.

Features shown: DX Delayed Egress

### Note:

Access control from trim side can be achieved by use of FSA/FSE feature (requires 2 additional wires on power transfer hinge and LUT-2 power supply).

### Wire Chart

LENGTH OF WIRE RUN (FT.)	24VDC 4 AMPS
0-50	18 AWG
51-75	16 AWG
76-150	14 AWG
151-200	12 AWG

# ELECTRIC LOCK/UNLOCK TRIM

## Electric Lock/Unlock Trim (FSA/FSE) - for all 17, 18 and XX Series devices.

The **FSA/FSE** (electric lock/unlock) feature allows the controlling of trim while still maintaining free egress at all times. The lock/unlock command can be controlled by a security system, fire alarm system, key switch, card reader, push button or touchpad. **FSA** (Fail Safe—unlocks when power is interrupted) can be used in areas requiring doors to be unlocked due to fire, power failure or emergency situations. (Examples: stairwells, hospitals, fire exits, etc.) **FSE** (Fail Secure—locks when power is interrupted) can be used in areas requiring doors to be locked for security reasons and only unlocked when energized by authorized personnel. (Examples: banks, inner-office, money counting rooms, etc.) With either feature, authorized personnel can gain access utilizing key by overriding or bypassing electric locking function.



### Wire Chart

LENGTH OF WIRE RUN (FT.)	24VDC 0.4 AMPS
0-500	18 AWG
501-700	16 AWG

### Specifications

- Solenoid rated for continuous duty at 24V DC 0.4 Amps.
- UL listed devices.
- Device channel is used as conduit on 17 and 18 Series devices. (XX Series devices require conduit through door).
- Power transfer hinge 2-wire minimum rated 1/2 Amp.

### How to Order

To order FSA/FSE feature add FSA or FSE suffix to device designation. (Example: 18-R-L-FSA)

### Note:

1. FSA/FSE can be used on all devices except Concealed Vertical and Three Point Latch.
2. For special applications consult factory.
3. The FSA/FSE feature can be used in conjunction with ELR (Electric Latch Retraction), EA (Exit Alarm), HWEA (Hard Wire Exit Alarm), Security Monitoring (DM, LM, AE, SM, LK), DX (Delayed Egress) and ED (Electric Dogging).

### Required Power Supply- LUT-2\*

- LUT-2 is a power supply unit for FSA/FSE features requiring 115V/60HZ/5 Amp service and control wiring to device.
- LUT-2 will operate up to 2 devices either simultaneously with one switch, or independently with two switches. 24V DC 1 Amp output from LUT-2.
- To order LUT-2 power supply, specify "LUT- 2" for 1 to 2 device controls.

\* Power supply must be purchased for warranty to apply.

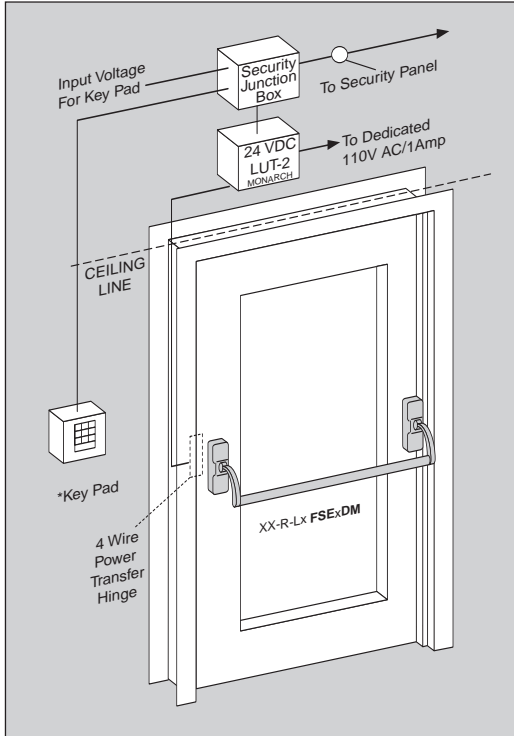
### Note:

1. LUT-2 weight 4 lbs.
2. LUT-2 comes in a 6" x 6" x 4" NEMA rated box.

# APPLICATION AND WIRING

## Electric Lock/Unlock Trim (FSA/FSE)

### Electric Lock/Unlock Trim Single Door x Access Control

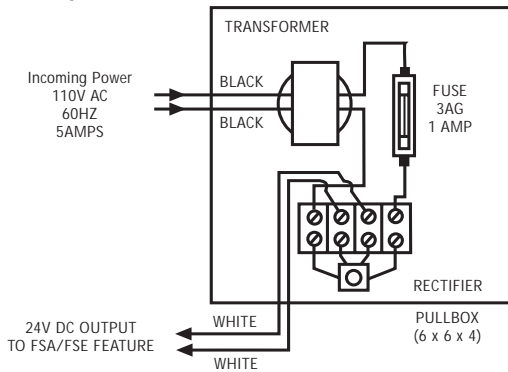


#### Operation:

- Keypad use from exterior allows entry from exterior by unlocking device trim for duration set by reader/controller.
- Fail Secure (FSE) application. Loss of power maintains trim in locked position. Egress from interior is available at all times.
- Exterior override access by key in exterior trim, key removable only when locked.
- Security monitoring optional items shown are: Device Monitoring (DM) (crossbar depression and latch movement).

*\*Supplied by Schlage.*

### LUT-2 Schematic DC Output



# EXIT ALARM

## Exit Alarm (EA/HWEA) - for all 17, 18 and 19 Series devices.

The Exit Alarm/Hardwire (EA/HWEA) feature provides a battery powered exit alarm to allow for a simple and effective means of monitoring the use of exits while still maintaining means of egress (for code requirements). When the touchbar is depressed, the alarm will sound continuously, indicating that the exit has been violated. The exit alarm can only be reset by way of a standard 1½ mortise cylinder with standard "A" (5/16" wide x 3/4" long) cam. The design of the unit will allow the single 9V battery to last for at least six months (on standby mode).

### Minimum door width required for standard devices

DEVICE	3'	4'
17-R	2' 11"	3' 5"
17-V	2' 10 <sup>5</sup> / <sub>16</sub> "	3' 5 <sup>1</sup> / <sub>4</sub> "
17-C	2' 11 <sup>3</sup> / <sub>4</sub> "	3' 4 <sup>3</sup> / <sub>4</sub> "
18-R	2' 10 <sup>1</sup> / <sub>2</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "
18-V	2' 10 <sup>1</sup> / <sub>2</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "
18-C	2' 11 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>2</sub> "
18-M	2' 11 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>2</sub> "
18-TPL	2' 11 <sup>1</sup> / <sub>2</sub> "	3' 5 <sup>1</sup> / <sub>2</sub> "
19-R	2' 9 <sup>1</sup> / <sub>4</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "
19-V	2' 9 <sup>1</sup> / <sub>4</sub> "	3' 4 <sup>1</sup> / <sub>2</sub> "

### Specifications

- All solid state circuitry.
- Powered by one 9V alkaline battery (supplied).
- LED indicator showing armed status of alarm.
- 10 second delay (during arming) permitting egress.
- Outside key entry without activating alarm (will not work when set up as DM option to activate EA).
- Works with rim, mortise, concealed, vertical rod and three point latch devices.\*
- EAK retrofit kit available for your existing devices.\*\*
- Alarm sounds continuously at 90 db level for approximately 10 minutes prior to automatic reset. Low decibel beeping will continue at intervals until manual reset (HWEA only).
- Low battery power indication.
- UL listed.

\* For applications on vertical rod or T.P.L. devices, specify DM (Device Monitor); specify DL (deadlocking) on rim devices.

\*\* Not recommended as a retrofit kit for your existing surface vertical, T.P.L. and nondeadlocking rim devices.

The EA feature can be used in conjunction with ELR (Electric Latch Retraction), FSA/FSE (Fail Safe/Fail Secure) and Security Monitoring (DM, LM, AE) features.

### How to Order

To order EA feature add "EA" prefix to device designation. (Example: EA-18-R-EO)

To order EAK (Exit Alarm Kit) feature order "EAK" plus device length (3' or 4'), type of device (17, 18 or 19 Series) and the finish of your existing device.

(Example: EAK-4', 17 Series, US 10 or EAK-4', 19 Series, US32D) (For retrofit application)

### Note:

1. Both EA (Exit Alarm) and EAK (Retrofit Kit) supplied with self-adhesive warning label. (See photo on page 13)
2. For special applications, consult factory.

### Hard Wire Option - HWEA (Hard Wired Exit Alarm)

The HWEA feature allows for the exit alarm to be hooked up to 24V DC service instead of the use of a 9V battery.

- Power transfer hinge-2 wire minimum rated 1/2 Amp. To order add "HWEA" in place of "EA" as above.

(Example: HWEA-18-R-EO)

### Required Power Supply (For HWEA)\*

Specify LUT-2 for use as a 24V power supply.

\* Power supply must be purchased for warranty to apply.

### Notes:

1. LUT-2 weight 4 lbs.
2. LUT-2 comes in a 6" x 6" x 4" NEMA rated box.

# EXIT ALARM

## Exit Alarm (EA/HWEA)

### Device with Exit Alarm (EA/HWEA)



EA-18-R-EO  
Exit Alarm Device



EA/HWEA Sticker



HWEAK  
Hard Wire Exit Alarm Kit



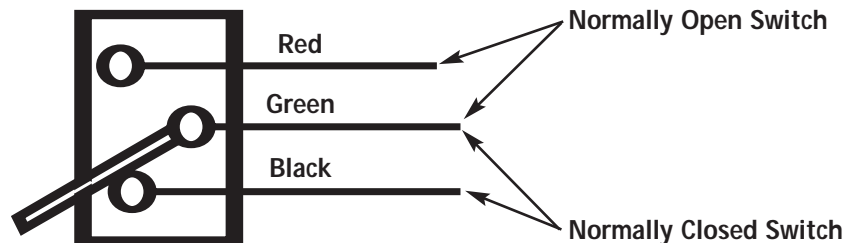
EAK  
Exit Alarm Kit

## Device Monitoring - for all 17, 18, 19 and XX Series devices

All of the monitoring features available from Falcon provide total flexibility and will interface with any security system. All monitoring switches are dry contact type and are contained within the device, allowing for tamper-resistant operation. Security monitoring features allow monitoring of devices, latches, authorized egress and locking levers. A key override option is available. All of the security monitoring features (except SM) can be used in any combination with any other Falcon feature. Consult factory for special applications.

Monitoring Switch Schematic

**Normally Open** – makes circuit when device is activated.  
**Normally Closed** – breaks circuit when device is activated.



### DM, LM, AE, LK, SM Monitoring

- The DM (Device Monitor) feature monitors full latch projection. If the latchbolt is retracted by use of device, or someone tampers with the latchbolt, the switch is activated sending a signal to controlling areas. In devices with the deadlock feature, the deadlatch status is monitored.
- The LM (Latch Monitor) feature monitors full latchbolt retraction. When the latchbolt is fully retracted a signal is sent indicating door (or device) opened status.
- The AE (Authorized Egress) feature monitors the depression of the pushbar or crossbar. Activation of the switch indicates use of a door or that the door is in the dogged condition. This feature is especially useful when used to activate or shunt magnetic locking systems.
- The LK (Locking Monitor) feature monitors the position of the locking mechanism of the trim, indicating locked status. When used with the DM feature, a complete security indication of outside and inside lock status is achieved.
- The SM (Solenoid Monitor) feature for ELR application on the device monitors the movement of the device solenoid. This monitor switch is recommended for initiation of power operators on rim, surface vertical, concealed vertical and mortise devices. It functions as a dry contact momentary action switch.

### How to Order

To order any individual or combination of monitor feature(s) add the respective prefix(s) to device designation. (Example: ELR-AE-SM-DM-18-V-L-DANE)

### Key Override Option (KOR)

The KOR feature allows authorized personnel to override monitoring features on a door by use of a keyed cylinder (1<sup>1</sup>/<sub>8</sub> mortise cylinder with "A" (5/16" wide x 3/4" long) standard cam required—not supplied).

Activating KOR feature allows any feature to be disabled for day time use or when desired by key holder. This is a maintained contact switch. KOR is especially useful for turning on or off magnetic locking systems and electric dogging control (at the door).

This feature is not available with EA/HWEA feature, cylinder/standard dogging or XX Series devices.

To order KOR feature add KOR prefix to device designation. (Example: KOR-DM-17-R-TP)

**Note:** Use of these features may require a power transfer hinge (supplied by others) or additional wires in the power transfer hinge needed for application when combined with other electrified features.





Ingersoll Rand's Security Technologies Sector is a leading global provider of products and services that make environments safe, secure and productive. The Sector's market-leading products include electronic and biometric access control systems; time and attendance and personnel scheduling systems; mechanical locks and portable security, door closers and exit devices, steel doors and frames, architectural hardware and technologies and services for global security markets.

[www.falcon.ingersollrand.com](http://www.falcon.ingersollrand.com)