Technical Manual

Model 941-PKG ADA Door Control

Includes 941-M Control Module
& 941-R Relay Interface

AES Security Products
CORPORATION
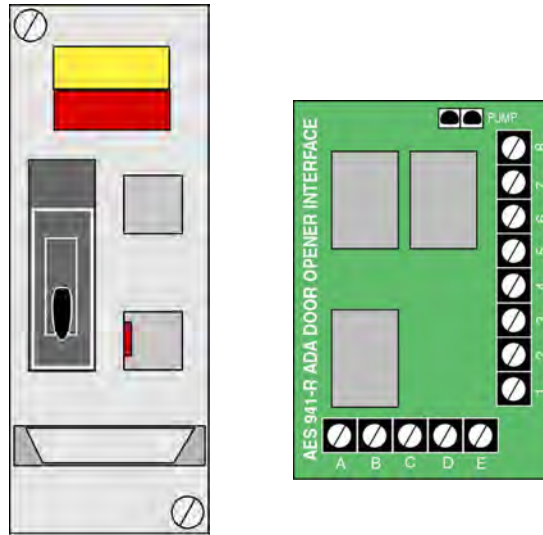
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Model 941-PKG Door Control with ADA Interface Kit

Contents of Kit:

[ ]   1   Model #941-M ADA Door Control Module

[ ]   1   Model #941-R Relay Interface for Door Closer,
                 Includes 1 - Interconnect "Y" Cable Assembly for Closer Valve Override

[ ]   1   Manual and Typical Wiring Diagrams

Ordering Information

The AES #941-PKG is a "package" which includes one #941-M Control Module (fits in the AES 900 Control Rack), and one #941-R Interface to integrate with the door opener. The #941-M module and #941-R interface are also sold separately.

For Systems with One (1) Guard Post / Control Point:
• Order One (1) AES #941-PKG ADA Door Control Kit

For Systems with Two (2) Guard Posts / Control Points:
• Order One (1) AES # 941-PKG ADA Door Control Kit
• *Plus* Order One (1) AES #941-M Control Module

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AES 941 ADA Door Control Package

i   Safety Considerations

1. Installation of the AES 941 ADA Door Control should only be carried out by a qualified electrical technician.

2. Switch off incoming electrical power before connecting any component.

3. Ensure that the unit is solidly connected to a verifiable earth ground.

4. Ensure that the whole electrical installation is carried out in accordance with the National Electrical Code or the Electrical Regulations of the installation location whichever is the most stringent.

5. High voltage from pump unit may be present in the 941-R relay interface device. Be sure to power down the door control power AND the pump unit power before servicing.

ii   Environmental Considerations

1. The AES 941 Door Control Components must not be installed in locations subject to water, moisture saturated air, explosive atmospheres, dust-laden atmosphere, excessive heat or heavy vibration. The components should be installed in a controlled climate area.

2. All elements of the system must be installed within the secured area.

iii Specifications

AES 941-M Door Control Module

Dimensions:	5.125" H x 1.75" W x 3.5" D (approx)
Mounting:	Fits into standard (narrow) slot of AES 900 Door Control Rack
Operative Voltage:	24VDC, provided by AES 726, 727 or 780 Series Power Supply
Switches:	• Access Push Button Switch, releases strike, momentary
	• Magnetic Lock Toggle Switch, 3 position
	- Up = Override Emergency Lock Down
	- Center = Locks Magnetic Lock, overrides ADA pump
	- Down = Releases Magnetic Lock
	• ADA Access Push Button Switch: momentary
	- releases strike and triggers door opener
	- timer opens latch first, and holds latch while door opens
	• ADA Day/Night Mode Switch: push-on, push-off
	- activates ADA Access Push Button
Indicators:	• On Access Switch:
	- Red Lamp: Emergency Lock Status, On = Lock Engaged
	- Yellow Lamp: Door Status, On = Door Open
	• On Day/Night Mode Switch:
	- Red LED: On = Day Mode
Terminals:	Molex Connector, plugs into mating 900 rack connector

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AES 941-R Relay Interface:

Case Size, Type	8 x 8 x 4"D (approx), NEMA 1
	Includes knockouts and mounting holes
Relay Card Size:	Relay Card, 4.75"W x 3"D x 3"H (approx)
Power:	24VDC Control Voltage
Inputs/Outputs:	• Door Opener Pump Cut Out, Molex connector
	• Terminal Strip, 1 to 8
	- Trigger to Door Opener, terminals 7+8
	ADA Door Ingress/Egress Wall Buttons: Wire the handicap-accessible button(s) to the appropriate terminals:
	- Option A, terminals 5+6, N.O. Switch activates latch and door opener;
	- timer opens latch first, then triggers pump
	- add'l option: Holds latch 2-3 seconds while door opens (jumper selected)
	- Option B, terminals 3+4, N.O. switch activates pump only
	- Option C, terminals 1+2, N.O. switch activates pump only if latch is released by 941M
	• Terminal Strip, A to E, Control Link to 900 system: 941-M;
Terminals:	• Barrier Blocks
	• Molex Connector for 110/220VAC pump cut out
	• "Y" Cable Assembly with Mating Molex Connectors

Product Description:

The AES 941 Door Control Package is a single, flexible solution that integrates "ADA" automatic door openers into the existing AES 900 Door Control System. The package consists of one 941-M Control Module and one 941-R Door Controller Interface. The parts work in tandem to provide an easy-to-integrate and fast-to-install system.

• The 941-M Door Control Module is very similar to the widely used 940 Door Control Module. It fits the same footprint, allowing for backward and forward compatibility. The 941 provides identical switches, indicators and user operation so that re-training is minimized. The added functions are co-located on the control module and are simple to operate. The classic functions include control of the strike lock, magnetic lock, and emergency override. Additionally, depending on options selected, a guard can also operate the ADA automatic door pump remotely. The guard also can control day / night mode operation of the automatic door closer.

• The 941-R Relay Module interfaces with the door opener. The 941-R is located at or near the door for easy wiring. It also provides inputs for ADA door opener switches, and depending on the terminals used, can full or limited control for egress and ingress by visitors. The 941-R includes it's own case to stay isolated from the door opener, providing a clear dividing line between security and facility functions.
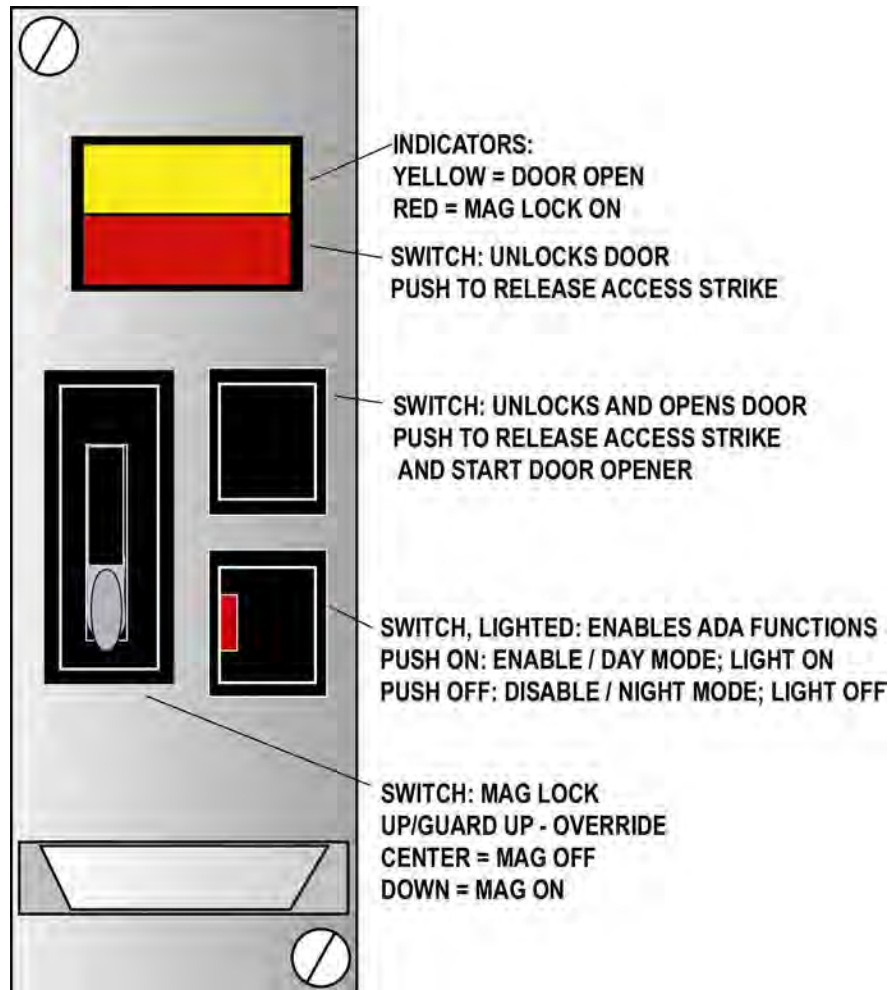
Key Benefits

• Single solution for ADA door.

• Saves space at guard post, using a single slot on AES 900 Rack.

• Day / Night mode selection enables / disables door opener.

• Built-in safety keeps pump off when magnetic lock is activated.

• Flexibility to allow installer / field technicians to adapt to site and security requirements.

• Interfaces with existing door control architecture.

• Saves time and wiring, with a connection point at the door for easy access.

• Relay module provides pump wiring, plus ingress and egress switch connections.

• Relay interface includes 8x8" electrical box for quick mounting.

• Multiple options for ingress, egress

  o Guard release strike and open door

  o In/Egress release strike and open door

  o In/Egress open door when guard has released strike

  o In/Egress open door (e.g. when latch has been dogged)

• Selectable delay option holds latch, allowing time for a slow opener to move the door

Theory of Operation:

1. At 900 rack terminal strip, when 941-M is in Day Mode, a low is placed on output terminal 10 to provide the common leg to the 941-R via terminal B.

2. From the AES 726 Power Supply Unit "PSU" terminal strip for the magnetic lock, terminal 5 provides a high to the 941-R interface via terminal D.

3. From the PSU terminal strip for the strike lock, terminal 4 provides a high to the 941-R interface via terminal E.

4. The 941-R is only active if terminal B is low and D is high.

5. The door opener valve solenoid is interrupted with cable harness located on the 941-R Molex connector marked "valve/pump". When the inputs from either B or D are removed the valve circuit is open and the valve will not activate, or will lose power and stop the open sequence.

6. At the 941-R an Ingress or Egress that requires the door strike to release as well as the pump to operate would be connected to the 941-R terminals 5 and 6. Applying a short to this input would send a high to the door strike power supply via 941-R terminal A. This in turn releases the strike and the 941-R interface also supplies a short from 941-R terminals 7 and 8 to the door opener trigger input (LCN terminals 8 and 10) causing the pump to turn on.

7. An egress or ingress that does not require the strike to release (e.g. when door latch is dogged) would be connected to 941-R terminals 3 and 4. A short from this device causes a short from 941-R terminals 7 and 8 to the door opener trigger input (LCN terminals 8 and 10) causing the pump to turn on.

8. The egress or egress button that requires the strike to be released (e.g. guard releases strike, entrant pushes door opener switch) would be connected to LCN Interface terminals 1 and 2. A short from this device causes a short from 941-R terminals 7 and 8 to the door opener trigger input (LCN terminals 8 and 10) causing the pump to turn on.

9. At the 941, when an ADA open is selected, then a high will be placed on the 900-rack terminal 11 which would connect to the 941-R terminal C. The 941-R would then cause the its terminal A to go high and release the door strike and terminals 7 and 8 to close turning on the pump.

10. An output from terminal A on the 941-R precedes the closure on terminals 7 and 8 to allow the strike to release before the pump is turned on.

11. A jumper selected at J4 enables an off delay. When selected (jumper on), the timer holds the strike for approximately 3 seconds by holding a high to the door strike power supply via 941-R terminal A

Wiring Diagram, Installation

Operation

INDICATORS:
YELLOW = DOOR OPEN
RED = MAG LOCK ON

SWITCH: UNLOCKS DOOR
PUSH TO RELEASE ACCESS STRIKE

SWITCH: UNLOCKS AND OPENS DOOR
PUSH TO RELEASE ACCESS STRIKE
 AND START DOOR OPENER

SWITCH, LIGHTED: ENABLES ADA FUNCTIONS
PUSH ON: ENABLE / DAY MODE; LIGHT ON
PUSH OFF: DISABLE / NIGHT MODE; LIGHT OFF

SWITCH: MAG LOCK
UP/GUARD UP - OVERRIDE
CENTER = MAG OFF
DOWN = MAG ON

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