

ES4600 INSTALLATION/CONFIGURATION INSTRUCTIONS

ES460 CONVERSION TABLE

ES460	ES4600
Red & Black	TS1-11&12
Violet Pair	TS1-7&8
Green Pair	TS2-16&21
w/Jumper across	TS2-18&19
White Pair	TS3-1&2

TAMPER DISABLE (Disables Tamper Switch)
ON Disable
OFF Enable

DOOR SUPERVISION (See Reverse for more detail)
ON Door Contact w/ Supervision
OFF Non-Supervised Closed-Loop Door Contact

VOLTAGE SENSE (Function select for TB1-3&4 Voltage Sense*)
ON Fail Safe (Normally Energized / Mag Lock)
OFF Fail Secure (Normally De-energized/Door Strike)
 *NOTE: If the Voltage Sense Input is not used, leave Jumper OFF.

SHUNT CONTACT (N/O-N/C select for TB1-1&2 Dry Contact Shunt*)
ON N/O Input
OFF N/C Input
 *NOTE: If TB1-Dry Contact Shunt is not used, leave Jumper ON.

SHUNT RECYCLE (Allows a Shunt Input to reset Silent Time Timer during Door Prop Warning Alarm)
ON Enabled
OFF Disabled
 (See Reverse for more detail)

JUMPER SETTINGS

Bold (ON/OFF) = Factory Default

Verify each jumper's configuration, even if that function is not used. "Voltage Sense" and "Intrusion Detect Enable" settings are often misplaced in applications without access control devices.

INTRUSION DETECT ENABLE (Enable detection of a Forced Door*)
ON Enabled
OFF Disabled
 *NOTE: If used to only detect a Propped Door, leave Jumper OFF.

RESERVED (Factory Diagnostic Use only.)
OFF

SHUNT DELAY TIMER (Valid User Reset Timeout)
 SHUNT DELAY is the reset timeout after a valid input, **PRIOR TO OPENING THE DOOR.** (Green LED duration)
 Set jumpers at, or greater than, "Lock Time."
 See "SILENT TIME" for setting the access time allowed **AFTER** the door is opened by a valid user.

Jumpers S-0 & S-1		S-0	S-1	
OFF	OFF	OFF	OFF	0 Seconds
ON	OFF	ON	OFF	5 Seconds
OFF	ON	OFF	ON	10 Seconds
ON	ON	ON	ON	20 Seconds

EXTENDED SILENT TIME (See "Silent Time Select" Table for details)
ON Enables Extended Silent Time Delay (up to 90 Minutes)
OFF Normal Silent Time Delay (up to 2.5 Minutes)

ES4600 Accessory Pack

- Includes:**
- 2 Keys
 - TS1, TS2, & TS3 connectors
 - "B" connector (ESD Ground)
 - Face Plate Screws

TS-2 RELAY OUTPUTS

DOOR CONTACT STATUS Pins 22 (C), 23 (N/O), 24 (N/C)
 • This output follows the status of the Door Contact Input on TS1.
 • This may be used for remote monitoring equipment requiring a N/O or N/C Dry Contact Input (Form C).

DOOR PROP ALARM STATUS

- Pins 19 (C), 20 (N/O), 21 (N/C)
 • This output changes state when the ES4600 goes into Alarm mode due to a door held open for a time exceeding that set on Silent Time and Alarm Delay combined, or when Power is lost.
 • This may be used for remote monitoring equipment requiring a N/O or N/C Dry Contact Input (Form C).

INTRUSION/TAMPER ALARM STATUS

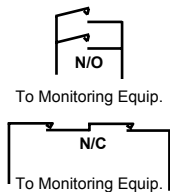
- Pins 16 (C), 17 (N/O), 18 (N/C)
 • This output changes state when the ES4600 goes into Alarm mode due to a Forced door, Tamper or Door Supervision violation, or Power loss.
 • This may be used for remote monitoring equipment requiring a N/O or N/C Dry Contact Input (Form C).

BYPASS/KEY SWITCH STATUS

- Pins 13 (C), 14 (N/O), 15 (N/C)
 • This output changes state when the Key Switch, or Remote Bypass Input on TS1 change state. (N/O closes and N/C opens)
 • This may be used for remote monitoring equipment requiring a N/O or N/C Dry Contact Input (Form C).

ADDITIONAL OUTPUT INFORMATION

- Each of the Output functions offers the availability of monitoring a Normally Open or a Normally Closed Dry contact.
- Each contact's state will change to follow the status of the monitored function.
- To combine multiple outputs, connect N/O contacts in parallel, or N/C contacts in series. See diagrams at right. The use of any/all Outputs is optional.
- DSI's ES600 (4/8/12) Zone Annunciator series, and Custom Annunciator Panels, offer a turn-key solution for remote monitoring. (such as Security, Nursing, or Management stations, etc.)
- If Power is removed from the ES4600, each contact in it's normal state (powered), will change state. Example: Door Status will appear as if the door has been opened; Alarm and Bypass contacts will appear as if an alarm or bypass condition exists.



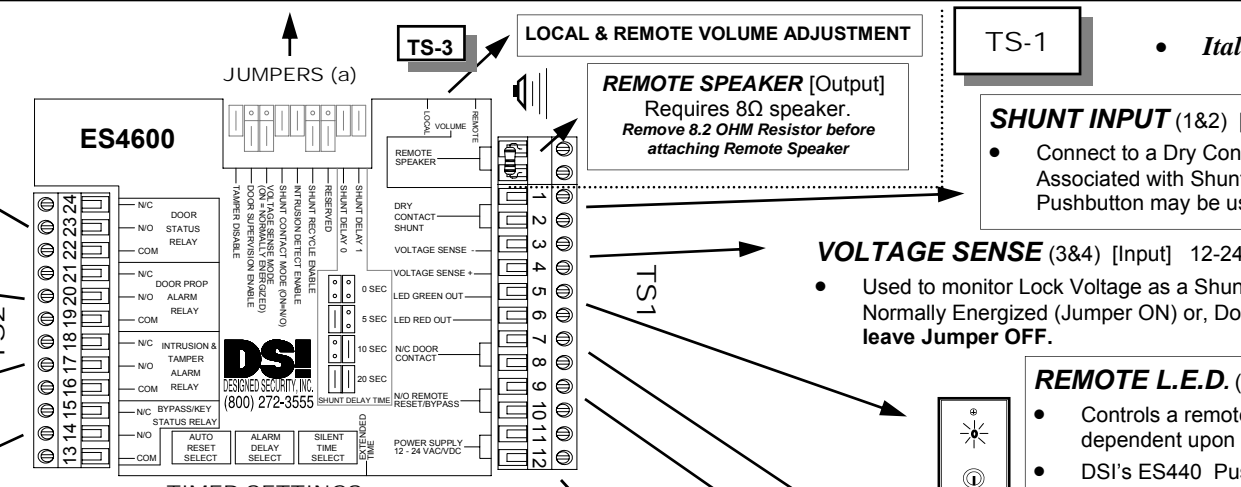
TIMER SETTINGS

AUTO RESET
 This sets the amount of time the Alarm message will continue to play after the Door has been closed. See Table on reverse for more complete information.

ALARM DELAY
 This sets the amount of time the Alarm message will continue to play prior to sounding the Door Prop Warning Alarm. Set this to a reasonable amount of time for the users to complete passage. EXTENDED SILENT TIME Jumper is associated with this setting. See Table on reverse for more complete information.

SILENT TIME
 This sets the amount of time the Door Prop Warning message will play prior to playing the Door Prop Warning Alarm. Set this to a reasonable amount of time for the users to complete passage. EXTENDED SILENT TIME Jumper is associated with this setting. See Table on reverse for more complete information.

POWER (11&12) [Input]
 Connect to 12 TO 24 VAC/DC @ 250mA Power Supply. Not polarity sensitive.



• *Italicized* = Optional • Underlined = Required

SHUNT INPUT (1&2) [Input]
 • Connect to a Dry Contact input from REX, Motion Sensor, or Access Control system. Associated with Shunt Contact Jumper, to select N/O or N/C input. DSI's ES440 Pushbutton may be used as a REX device, with a faceplate painted to match the ES4600.

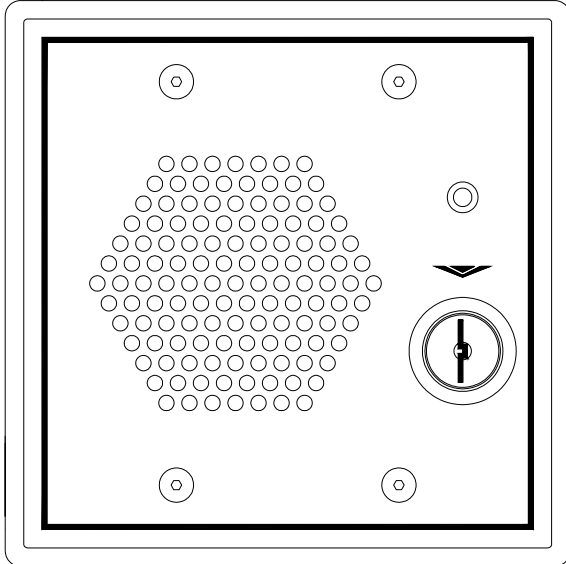
VOLTAGE SENSE (3&4) [Input] 12-24 VAC/DC
 • Used to monitor Lock Voltage as a Shunt Input. (See Voltage Sense Mode Jumper.) Select Mag Lock/ Normally Energized (Jumper ON) or, Door Strike/Normally De-Energized (Jumper Off). **If not used, leave Jumper OFF.**

REMOTE L.E.D. (5&6) [Output]
 • Controls a remotely mounted Bi-Color LED. These contacts reverse polarity, dependent upon device status. Output follows Front Panel LED.
 • DSI's ES440 Pushbutton or ES450 Key Switch, with the Bi-Color LED, may be used with this output, and the Bypass Input, opposite a door, or in any remote location (Guard Station, etc.) to control and annunciate the Bypass Status of the ES4600.
 • This pair of contacts provide a DC output which reverses polarity when the Front Panel LED changes state.

DOOR (7&8) [Input]
 • Connect to Dry Contact at door which is a closed loop when the door is closed. This Input is monitored by the 4600 to initiate timer, alarm, and reset functions.
 • If the Door Supervision Jumper is ON, refer to detail on reverse for placement of 1K Ohm Resistors.
 • If Supervision is not required, remove the jumper.

BYPASS (9&10) [Input]
 • Remote Reset/Bypass Input. This duplicates the Key Switch at a remote location. A N/O Dry Contact closure activates this function.
 • It is often used to provide remote control at a guard station, or at the opposite side of a doorway from the ES4600.
 • DSI's ES440 Pushbuttons and ES450 series Key Switches (with Bi-Color LED) are well suited for this application, and come painted to match.

FOLLOW THE STEP BY STEP CONFIGURATION
FOR EASY INSTALLATION



ES4600-K1

DESCRIPTION

The ES4600 may be integrated with Access Control systems, or applied as a stand-alone solution for propped or forced doors, and plays a factory-installed Voice messages as local annunciation of violations.

Inputs include the ability to monitor Lock Voltage (12-24 VAC/DC) and a Dry Contact (N/O or N/C) as a Shunt Input, a Remote Bypass/Reset/Key Switch via a N/O Dry Contact, and a Closed-Loop Door Contact.

Outputs include Door Contact Status, Door Prop Alarm Status, Intrusion/Tamper Alarm Status, and Bypass/Key Switch Status. Each Output offers a Common, a N/O and a N/C Dry Contact to connect to remote monitoring equipment.

In addition, an LED output can be used to power a remote Bi-Color LED which follows the Front Panel LED status. LED is Red when armed, and Green when access is granted. (ES450 Series Key Switch w/ Bi-Color LED is suggested for Remote LED applications)

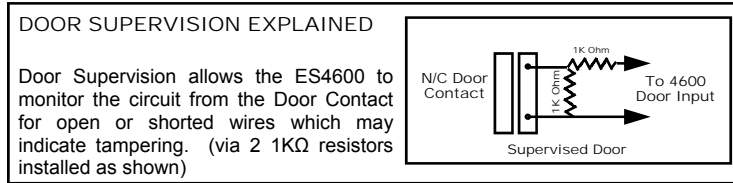
The ES4600 can easily be configured in the field to meet the needs of most door management applications by moving Jumpers and setting Timing functions.

STEP BY STEP

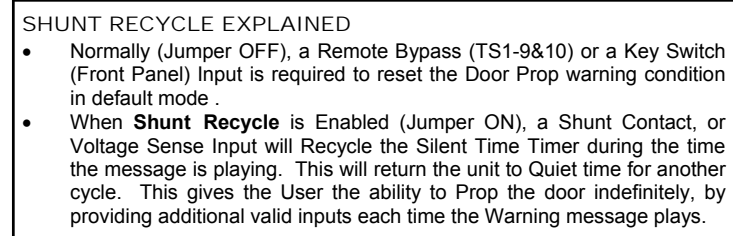
Locate and identify **TS1, TS2, TS3, Jumpers, Timing Switches, LED, Tamper and Key Switches.**

Jumpers: ON= short 2 pins; OFF= one pin only.
Default jumper setting is in bold.

- Is **TAMPER SWITCH** required?
 - A) If not, Jumper remains **ON**.
 - B) If so, place Jumper OFF to enable switch.
- Is **DOOR SUPERVISION** required?
 - A) If so, place Jumper on and place resistors at door switch as shown in diagram (below right).
 - B) If not, leave Jumper **OFF** and use a N/C Dry Contact for a Door Switch.



- Will **VOLTAGE SENSE** be used to monitor Lock Power as a valid access input on TS1 (3&4)?
 - A) If not, Jumper must be **OFF**.
 - B) If so, will the lock be Normally Energized (Jumper **ON**); or, Normally De-Energized (Jumper **OFF**)?
- Will **SHUNT INPUT** be used to provide a Dry Contact input for each valid access to TS1 (1&2)?
 - A) If not, Jumper must be **ON**
 - B) If so, Jumper is **ON** for N/O; OFF for N/C input.
- Is **INTRUSION DETECTION** required?
 - A) If so, Jumper must be **ON**
 - B) If Door Prop monitoring only, Jumper is OFF and LED will always be Green.
- Is **SHUNT RECYCLE** required?
 - A) If so, Jumper is **ON**
 - B) If not, Jumper is **OFF**



- The **SHUNT DELAY TIMER** setting determines the time the LED will be Green after an input on TS1 (1&2; 2&3; 9&10 or Key Switch). This timer works only if Intrusion Detection is enabled. If TS1 (7&8)Door input is not opened within this time, the unit will reset. See table on opposite page for settings duration detail.

STEP BY STEP (continued)

SEE TIMER SETTINGS TABLE, BELOW RIGHT

- **SILENT TIME SELECT** begins after the door is opened by a valid user and has two ranges selected with the **EXTENDED TIME Jumper**;
 - A) 0 seconds to 2.5 minutes (Jumper **OFF**)
 - B) 3 minutes to 90 minutes (Jumper **ON**)
 - C) After selecting appropriate range, turn dial to **SET #** that matches the Silent Time desired for your application.
- **ALARM DELAY SELECT** begins after the expiration of the Silent Time, and a warning message plays. (Std.- "Please close the door")
 - A) Turn dial to **SET #** that matches the duration you want this message to repeat before the unit triggers Door Prop output relay and Alarm message plays. (Std.- "Security violation, Close the door")
- **AUTO RESET TIME SELECT** begins when Alarm Delay Select time has expired AND Door Contact input (TS1-7&8) has not closed. This is the minimum amount of time the "Security violation, Close the door" message will continue to play.
 - A) Turn the dial to **SET #** that matches the duration appropriate for your application
 - B) 0 seconds to 5 minutes, or Manual reset

TIP! Unused Features must be set appropriately for your application.

ELECTRICAL SPECIFICATIONS				
	VOLTS	AMPS	N/O	N/C
Power	12-24 VAC/DC	250mA	N/A	
Voltage Sense	12-24 VAC/DC	15mA		
Shunt Input	Dry Contact		Jumper Selectable	
Bypass Input	Dry Contact		√	
Door Input	Dry Contact			√
Output Relays	Dry Contact	1 Amp@ 30 VDC	√	√
Aux. Speaker	3 Watts @ 8 Ohms			

MECHANICAL SPECIFICATIONS	
•	The ES4600 -K1 mounts flush in a 3.5" deep, 2-Gang electrical box.
•	ES4600-K3 and -K4 (RIM hardware) requires a 3.5" deep, 3-Gang electrical box.

STEP BY STEP (continued)

OPTIONS

- Connect **BYPASS TS1** (9&10) input, to N/O contact to Bypass or Reset the unit remotely.
- Connect **REMOTE LED** to TS1 (5&6). Connection detail on opposite page. (Bi-color, two lead LED)
- Connect **OUTPUT RELAYS** on TS2 to Monitoring Equipment, see connection detail on opposite page.
- Connect **REMOTE SPEAKER** on TS3 to a remote 8 Ohm speaker. Adjust using Remote Volume control.

TIMER SETTINGS TABLE				
For Shunt Delay Timer setting table, see Jumper Settings, on reverse.				
SIDE VIEW				
SET	SILENT TIME SELECT (Extended Silent Time Jumper)		ALARM DELAY TIME SELECT	AUTO RESET TIME SELECT
	NORMAL Jumper OFF	EXTENDED Jumper ON		
0	0 Sec	3 Min	0 Sec	0 Sec
1	3 Sec	3.5 Min	3 Sec	3 Sec
2	5 Sec	4 Min	5 Sec	5 Sec
3	7 Sec	4.5 Min	7 Sec	7 Sec
4	10 Sec	5 Min	10 Sec	10 Sec
5	12 Sec	6 Min	12 Sec	12 Sec
6	15 Sec	7 Min	15 Sec	15 Sec
7	20 Sec	8 Min	20 Sec	20 Sec
8	25 Sec	9 Min	30 Sec	30 Sec
9	30 Sec	10 Min	45 Sec	45 Sec
A	35 Sec	20 Min	1 Min	1 Min
B	45 Sec	30 Min	2 Min	2 Min
C	1 Min	40 Min	3 Min	3 Min
D	1.5 Min	50 Min	4 Min	4 Min
E	2 Min	60 Min	5 Min	5 Min
F	2.5 Min	90 Min	INFINITE	MANUAL