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Dimensions

EL25 Units



Caution! A Static Discharge can Damage Circuit Boards



EL2000 Units



Unlocking EL2000

- 1. Apply pressure to the right-side of the unit.
- 2. While maintaining pressure, turn key clockwise
- 3. Open cover







Locking EL2000

- 1. Turn key counter clockwise to lock position
- 2. Close cover
- 3. Apply pressure to left-side until you hear a "click" sound
- 4. Apply pressure to right-side of unit until you hear a "click" sound



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Wire Connections to the Unit



14-Pin to Main Board

Input Board Connections

to Main Board

- 1. Door 1 Exit Request and Door Status
- 2. Door 2 Exit Request and Door Status
- **3. Door 3** Exit Request and Door Status
- 4. Door 4 Exit Request and Door Status
- 5. Postal Lock Input
- 6. AutoCall Input
- 7. Power 12 VAC Input

Output Board Connections

- 8. Resident Tip/Ring
- 9. Telco Tip/Ring
- 10. Relay 4, NO, NC, COM
- 11. Relay 3, NO, NC, COM
- 12. Relay 2, NO, NC, COM
- 12. Rolay 1, NO, NO, CON
- 13. Relay 1, NO, NC, COM

NOTE: All relays are factory set to "Strike" and "10 sec."

DO NOT overload the removable terminal block connectors. One wire per hole.



Wire Specs and Run Distances

Use this chart to pull wires in preparation of your installation:

Description of Wire Run	Wire Specification	Maximum Distance	Page
Grounding the Chassis	12 AWG Copper	12 feet	8
Residence and Telco <i>Phone Lines</i>	2 Twisted Pairs 18-24 AWG Shielded	5000 feet*	9-14
Door Strike	2-Conductor 18-22 AWG Shielded		15
Magnetic Lock	2-Conductor 18-22 AWG Shielded		15
Dry Contact Closure (Most <i>Gate Operators</i>)	2-Conductor 18-24 AWG Shielded		16
Exit Request (REX) / Auxiliary Open Devices	2-Conductor 18-24 AWG Shielded		16
AutoCall	2-Conductor 18-24 AWG Shielded		17
Door Status Sensor	2-Conductor 18-24 AWG Shielded		17
Barium Ferrite and Wiegand Readers	5-Conductor 18-24 AWG Shielded	500 feet	18
Proximity Readers	5-Conductor 22 AWG Shielded	500 feet	18
Radio Frequency Module (RF)	RG-6 Coaxial 75 ohm	100 feet	18
Postal Lock	2-Conductor 18-24 AWG Shielded		19
CCTV Camera (Optional)	Single Conductor RG-59u Coaxial	1000 feet (Monitor with a .25 volt p-p composite signal sensitivity)	19

NOTE: Use metal conduit - run wires in metal conduit instead of PVC pipe. Wires run in PVC conduit may experience interference. Metal conduits also add extra protection against lightning strikes.

Never run **Telco Wires** and **High Voltage wires** in the **same** conduit. The high voltage may interfere with the Telco Wires, possibly causing the system to malfunction.

* Total distance from Telco to residence regardless of number of units in chain.

Power Wire Specs and Run Distances

Distance	12 VAC Power (Included)	12 VDC Power (Not Provided)
Distance	2-Conductor Shielded	2-Conductor Shielded
Under 30 Feet	14 AWG	14 AWG
30 - 75 Feet	14 AWG	14 AWG
75 - 250 Feet	14 AWG	N/A

Always provide power from a dedicated source. Plug provided transformer into an outlet wired to its own 10 AMP minimum circuit breaker. This will prevent two problems:

• Other equipment cannot introduce spikes, noise, surges or dips into the power circuit that will affect the system.

• The system's operation will not be affected if any other equipment develops a short circuit across the power line.

CAUTION: Not responsible for conflicts between the information listed in the above table and the requirements of your local building codes. The information is for suggested use only. Check your local codes before installation.



Grounding the Units

Ensure that the system is grounded properly. The units contain a number of static sensitive components that can be *damaged* by static discharge.



Wiring 1 Unit to Telco Line

The bypass board allows the unit to be disconnected without interrupting normal telephone operation. **NOTE:** Installation where fiber optic phone lines are present may require additional modifications from your telephone provider. Contact your provider for more information.

- When the unit is *in use*, the bypass switch must be set to the *operate* position.
- When the unit is *disconnected*, the bypass switch must be set to the *bypass* position.



Wiring 1 Unit to Telco Line

Wiring Multiple Units to Telco Line

Up to 7 **units** can share the same phone line. The bypass boards allow the units to be disconnected without interrupting normal telephone operation.

NOTE: Installation where fiber optic phone lines are present may require additional modifications from your telephone provider. Contact your provider for more information.

- When the units are *in use*, the bypass switches must be set to the *operate* position.
- When the units are *disconnected*, the bypass switches must be set to the *bypass* position.



Wiring with No Telco Line

The unit can be a stand alone system that allows communication between the unit and a resident's phones.

Single Unit



Wiring with No Telco Line

Wiring to Dedicated Telco Line

NOTE: Installation where fiber optic phone lines are present may require additional modifications from your telephone provider. Contact your provider for more information.





Wiring to an Internal Phone System

The units can be wired to any *Analog Trunk* in an internal home phone system.

NOTE: Installation where fiber optic phone lines are present may require additional modifications from your telephone provider. Contact your provider for more information.



ng to an Internal Phone System

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Connection To An NPBI System

Single Unit



Multiple Units (Up to 7)



Connection To A NPBI System

Wiring a Door Strike Lock



Wiring a Maglock



Wiring a Door Strike Lock/Maglock

Wiring a Gate Operator



NOTE: Refer to your gate operators owner's manual for proper relay strike time.

Wiring a Key Switch/PIR/REX

Any auxiliary opening device such as a key switch or PIR (Passive Infrared Device), or an exit request button (REX) that provides normally open *contact closure* can be hooked up to the Door Input terminals.



Wiring a Door Sensing Device

The units can monitor the position of up to *four doors/gates* and may react to a change in their status with one of the relays (not set as a control relay). For example, if a door is pried open or is held open after its relay deactivates, the unit will record the breach in its transactions and can perform the following actions:

- Energize a relay to activate an alarm device such as a siren, light or CCTV camera.
- Main use is to terminate strike time early.



NOTE: Door sensing device should provide contact closure when door is closed.

Wiring the AutoCall Feature

Using the AutoCall feature, the unit will automatically call the main residence phone when a driveway sensor is **activated** (any device that provides a contact closure). For example, when a visitor drives over a **loop sensor** that is connected to the AutoCall feature, the unit will call the main residence phone automatically so the visitor can speak to the resident **without** pressing the call button on the unit.



Wiring a Radio Frequency Module

An optional *radio frequency module* and a remote antenna can be installed if *the residents will access a* controlled area with a transmitter. Refer to instructions supplied with the optional RF Module for more information.

NOTE: The remote can control 1-4 doors.



RF Module(s) will fit in positions J400 (Device 1) and/or J407 (Device 3) (4 Mounting Screws per Board are Required)

Wiegand Card Reader/Keypad

Wiegand card readers and keypads can be connected to either of *2 optional Wiegand modules* that can be placed in the unit. Each Wiegand module supports two card readers/keypads. Some Wiegand card reader/keypads have a sixth blue wire. DO NOT connect this blue wire to the unit. Insulate this wire from the unit to prevent a short (Refer to instructions supplied with your Wiegand device for more information).



Wiring a Postal Lock Switch - EL25 Models Only

The **Post Office requires** installation of a postal lock **if postal carriers do not have access to a controlled area.** Contact the local post office and arrange for them to install the postal lock while you are on site. The postal lock requires a switch to activate one of the four relays (Configurable with programming number **69**, in the Keypad Programming Manual).



NOTE: In the EL2000 models, the postal lock switch is pre-wired.

Wiring an Internal Camera [CCTV]

An *Optional* CCTV (Close Circuit Television) camera can be installed *inside* the unit. Refer to instructions supplied with the camera kit for more information.



Wiring Power to the Unit

The 110 VAC outlet must be *dedicated* to the unit *ONLY*. This outlet should be wired back to its *own* 10 Amp minimum circuit breaker. This will prevent two problems:

- Other equipment cannot introduce spikes, noise, surges or dips into the power circuit.
- The system's operation will not be affected if any other equipment develops a short circuit across the power line.

Connect the transformer into a 110 VAC outlet *after all* connections have been made. *Any other type of outlet will cause damage to the system.*







			<u> </u>	<u> </u>		
No.	Туре	Board Label	Used o EL25	on Model EL2000	Name	Description
0	LED	D300	X	Х	PWR LED	Indicates Unit is receiving power
0	Connector	J405	Х	х	20-Pin Connector to IO Input Board	Connector to IO Input Board. The IO Input Board contains all REX inputs, DSC inputs and Postal input, Auto Sensor input and Power. Provides power
3	Connector	J500		Х	LCD PWR	to LCD Display.
4	Connector	J406	X	х	EL25=LED BOTTOM KEYPAD EL2000=LED keypad	For the EL25 provides power to bottom lighted LEDs for the main keypad. On the EL2000 this is the top lighted LEDs for main keypad.
6	Connector	J201	Х	Х	MIC	Microphone connector
0	Connector	J403	Х	х	14-Pin Connector to Output Board	Connector to the Output Board. The Output Board contains the Resident, Telco and dry contact Relays.
0	Connector	J401	Х	Х	KEYPAD	Connector for the main keypad
0	LED	D2	X	Х	Local Mode	Unit supplying Central Office Power to Resident
9	LED	D102	X	Х	RES DAA OFF HOOK	Resident side of circuit is off hook
0	LED	D153	Х	Х	TELCO DAA OFF HOOK	Telco side of circuit is off hook
0	Connector	J301	X	Х	Direct Connect (Serial Port)	Used for direct connect and handheld programming and Real Time Monitoring.
Ð	Connector	J404	X	Х	LED Power Supply	
ß	Connector	J407	X	х	Module Device (3,4)	Connect a module (Wiegand or RF) device here. The device address becomes 3 (RF or Wiegand-J1) or 4 (Wiegand-J2)
C	Connector	J400	X	Х	Module Device (1,2)	Connect a module (Wiegand or RF) device here. The device address becomes 1 (RF or Wiegand-J1) or 2 (Wiegand-J2)
Ð	Connector	J300		Х	LCD Data	Data wires for LCD Display
Œ	Connector	BT300	X	Х	Battery	Battery used to back-up the Unit's real time clock.
Ð	Switch	SW300	X	х	OV/UV Reset	Switch to turn off OV/UV LEDs. This button will turn off the OV/UV LEDs momentarily. If a poor power condition still exists then the OV or UV LEDs may turn on again.
œ	LED	D513	X	х	Over-Voltage (OV)	Over-Voltage LED. Turns on when the Unit detects an over voltage of 16.5 VAC or 22.3 VDC at power block J1. Measure the voltage at power block J1 to confirm.
Û	LED	D514	х	х	Under-Voltage (UV)	Under-Voltage LED. Turns on when the Unit detects an under voltage of 9.5 VAC or 10.2 VDC at power block J1. Measure the voltage at power block J1 to confirm.
20	Connector	J402	Х		LED TOP KEYPAD	For the EL25, provides power to the top lighted LEDs for main keypad.
4	Connector	J200	Х	Х	Main Speaker	Main Speaker
2	Switch	SW500	Х	Х	Soft Reboot	Reboots firmware without removing power.



Troubleshooting

Wiring

- Check for correct length and AWG of wires. See page 7.
- Check that wires are correctly inserted into the terminal blocks (not loose, no two sharing the same position).
- Check board markings for correct terminal block placements.
- Make sure high voltage and Telco Wires do not share the same conduit.
- Use metal conduit, not PVC.

No Power To Unit

- Check power at source. Power must come from a dedicated 110VAC outlet.
- The transformer's outlet should be wired to its own circuit breaker.
- Check "SYS PWR" LED indicators. If "UV" or "OV" are lit, press "PWR MON RST" button. If either of those two LEDs are still lit, check transformer and outlet.

Door Strikes/Maglocks/Gate Operator not working

- Check power source. Strikes, Maglocks and Gate Operator must be powered independent from unit.
- Connect and test different Strike or Maglock. Make sure Strike or Maglock is not defective.
- Door Strike: Pin connections "NO" and "COM" at Relay terminal.
- Maglock: Pin connections "NC" and "COM" at Relay terminal.
- Gate Operator: Pin connections "NO" and "COM" at Relay terminal.

Postal Lock or AutoCall device not working

• Short "IN" and "COM" pin connections to verify functionality. If wiring is correct and device still does not work, contact technical support.

Card Reader not communicating with Unit

- Make sure Wiegand is configured to a door (program step 60).
- Check Wiegand reader module connections.
- Connect and test a functioning reader. Make sure reader is not defective.
- Did you add the card(s) to the database while in programming mode?
- Check card format compatibility. The unit is only compatible with 26 and 30-Bit.
- Review the transactions using Versa XS, if applicable, and check whether card failed.

Phone not functioning with the Unit

- Did you wire the Bypass Board correctly? See page 10.
- Is Bypass Board switch set to "OPERATE"?
- Using an alarm system? If so, see page 9.
- Using an alarm system on multiple unit configuration? If so, see pages 9 and 10.

Aux Open/Exit Request device not working

- Did you assign a relay to the REX? See the unit's programming manual.
- Check connections at Door # terminal(s). Wires to "COM" and "EXT REQ #" connection.

Transmitter not working

- Did you use the correct coaxial cable? See page 7.
- Is the remote antenna installed correctly? Is it **outside** of the unit's enclosure?
- Did you add the transmitter(s) to the database while in programming mode?
- Only Passport or Homelink transmitters can be used.

Froubleshooting



Repair Parts

Installation and Service Information is Available

EL25 Parts



When ordering repair parts, please supply the following information: *Description and Model Number*

	Part Description	Model Number		Part Description	Model Number
0	Silver Cover	93D341	0	Assembly, LED, Focus	2B721
	Nickel Cover	93D341-1	Ð	Assembly, Mic Cable, EL25	2B692
	Mist Gray Cover	93D341-2	₿	Gasket, Key Pad	84C87
0	Lens Black, Camera	108B81	0	Assembly Keypad 16 Button	180D236
6	Lens Clear, Camera	108B81-1	Ð	Assembly EL25 Main Board	2B735
4	Actuator, Call Button, Silver	101A159	Ð	Assembly PCB Output Board Focus	2B737
	Actuator, Call Button, Nickel	101A159-1	Ð	Assembly PCB Input Board Focus	2B736
	Actuator, Call Button, Mist Gray	101A159-2	₿	Assembly, Mounting Back, Silver EL25	2C607
6	E-Ring, Call Button	158A94	1	Assembly, Mounting Back, Nickel EL25	2C607-1
6	Spring, Call Button	177A166		Assembly, Mounting Back, Mist Gray EL25	2C607-2
0	Gasket, Back	84B81-1	1	Assembly, 20-Pin Cable, EL25 Focus	2B705
8	Assembly Lock EL25 Focus	2B809	2	Assembly, 14-Pin Cable, EL25 Focus	2B704
9	Кеу	41B12	1	Assembly, Call Button Board	2B731
0	Assembly, Speaker EL25	2B639	Ø	Direct Connect Cable	2B747

Repair Parts



When ordering repair parts, please supply the following information: *Description and Model Number*

	Part Description	Model Number		Part Description	Model Number
0	Assembly Display and Display Board	41B989	₿	Interconnect Board	41B997
0	Display Cables Kit	41B990	0	Assembly, Lock and Key EL2000	41B999
0	Assembly, PCB Output Board	2B737	Ð	Replacement Key	41B12
4	Assembly, PCB Input Board	2B736	Ð	Assembly, Keypad 16 Button	180D236
6	Assembly EL Main Board	2B735	Ð	Gasket, Keypad	84C87
6	Assembly, 20-Pin Input Board Cable	2B705	₿	Assembly, Mike Cable EL Series	2B692
0	Assembly, 14-Pin Output Board Cable	2B704	Ð	Assembly, Entry LED Board	41B998
8	EL2000 Housing Assembly (Black)	41B991	20	Assembly, Keypad Light Board	41B773-1
	EL2000 Housing Assembly (Gray)	41B992	Ø	Lens Black, Camera	108B881
	EL2000 Housing Assembly (Nickel)	41B993		Lens Clear, Camera	108B81-1
9	Door Interconnect Cables Kit	41B994	2	Gasket and Display Window (Clear)	41B1000
0	Assembly, Speaker EL Series	2B639		Gasket and Display Window (Black)	41B1001
0	Assembly, Call Button Board EL2000	41B995	3	Faceplate Assembly Black (No Window)	41B1002
Ð	Postal Lock Switch EL2000	41B996		Faceplate Assembly Gray (No Window)	41B1003
				Faceplate Assembly Nickel (No Window)	41B1004

Repair Parts



Your System Diagram



	ernal Access Control Device(s) connected to optional board(s)
Device O (Defa	ult Internal Keypad)
	n on Main Board RF Module
Device 1	Wiegand
Device 2 _	Wiegand
J407 Positio	n on Main Board
Device 3	RF Module Wiegand
Device 4	Wiegand
	Relay Connections (Output Board)
Relav 1	nglay Connections (output board)
Relay 2	
Relay 3	
Relay 4	
	Door Connections (Input Board)
	Door 1 Door Sensor Door 2 Door Sensor
	Connection and/or Connection and/or Exit Device
	Door 3 Door Sensor Door 4 Door Sensor
	Connection and/or Connection Exit Device
Posta	AutoCall Yes CCTV Yes
Lock	\square No $\int Device \square$ No $\int Camera \square$ No
	Dealer / Installer

Accessories





FCC and DOC Requirements

FCC Requirements

The units comply with Part 68 of the FCC Rules. The label affixed to this equipment contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company. They will tell you what the maximum REN is for your calling area.

The following jacks must be ordered from the telephone company in order to interconnect this equipment with the public communication network: None.

If your unit causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify you in advance. If advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your Telephone Company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do you will be notified, in advance, to give you an opportunity to maintain uninterrupted telephone service.

Connections to party lines are subject to state tariffs. Contact your local telephone company if you plan to use this equipment on party lines.

This equipment cannot be used on public coin service lines provided by the telephone company.

DOC Requirements

Notice: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with single line individual service may be extended by means of a certified connector assemble (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe unit, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The **Load Number (LN)** assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop, which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The Load Number for EL Series Units is 3.



