"The Door Switch" System Cable Requirements

Transformer

- Plug the transformer into a 24-hour, 120VAC, 60Hz, 10A minimum receptacle on a dedicated circuit.
- Mount the control panel within close proximity to the transformer.
- Run 16AWG, 2-conductor cable from the transformer to the control panel.

Earth Ground Connection

- Run a 16AWG wire, no farther than 30 feet, from a good earth ground (metal cold water pipe) to the designated earth ground terminal of the control panel.

Deluxe Keypad

- 4-conductor cable run for data in/out and auxiliary 12VDC power.
- Do not run deluxe keypad wires within 6" of AC power, telephone, or intercom wiring. If this spacing cannot be achieved, unshielded cable run in conduit or shielded cable should be used.
- The maximum individual wire run length from the control panel to a keypad must not exceed the lengths listed in the table.
- If more than one keypad is wired to one run, then the lengths listed in the table must be divided by the number of keypads on the run.
- The maximum combined wire run lengths from the control panels to the panel linking modules (if multiple control panels are linked together) and all keypads, regardless of the wire gauge, must not exceed 2000 feet when unshielded cable is used (1000 feet if unshielded cable is run in conduit, or if shielded cable is used).
- The maximum wire run length is half of what is listed in the table if unshielded cable is run in conduit, or if shielded cable is used.

Deluxe Keypad Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	450 feet
20AWG	700 feet
18AWG	1100 feet
16AWG	1750 feet

Polling Loop Devices

- Polling loop devices include polling loop extenders, short circuit isolators, switch interface modules, and strobe relay modules.
- 2-conductor twisted pair cable run for data and power.
- Do not run polling loop wires within 6” of AC power, telephone, or intercom wiring. The polling loop is carrying data between the control panel and the devices. Interference on this loop can cause an interruption of this communication. The pooling loop can also cause outgoing interference on the intercom or phone lines. If this spacing cannot be achieved, unshielded cable run in conduit or shielded cable should be used.
- No more than 64mA may be drawn on any individual wire run.
- The wire run between the control panel and polling loop extenders, switch modules, or strobe modules is called an input loop. The wire run between a polling loop extender and switch modules or strobe modules is called an extension loop.
- The maximum individual wire run lengths from the control panel to a polling loop device must not exceed the lengths listed in the table.
- The maximum wire run length of one input loop and one extension loop combined, regardless of the wire gauge, must not exceed 4000 feet when unshielded cable is used (2000 feet if unshielded cable is run in conduit, or if shielded cable is used).
- The maximum wire run length of all input loops combined and one extension loop, regardless of the wire gauge, must not exceed 6400 feet when unshielded cable is used (3200 feet if unshielded cable is run in conduit, or if shielded cable is used).
- The maximum wire run length is half of what is listed in the table if unshielded cable is run in conduit, or if shielded cable is used.

Polling Loop Devices Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	650 feet
20AWG	950 feet
18AWG	1500 feet
16AWG	2400 feet

Polling Loop Extender

- It is recommended to locate the polling loop extender in close proximity to the control panel.
- 2-conductor cable run for 12VDC power.
- The maximum wire run length from the auxiliary power source to each polling loop extender must not exceed the lengths listed in the table.

Polling Loop Extender Auxiliary Power Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	100 feet
20AWG	150 feet
18AWG	225 feet
16AWG	375 feet

Short Circuit Isolator

- It is recommended to install at least one short circuit isolator on every polling loop wire run.

Strobe Relay Module

- 2-conductor cable run for 12VDC power to the strobe light. The cable runs from the auxiliary power source to the strobe relay module to the strobe light.
- 18AWG wire is recommended for this wire run.

Switch Interface Module

- 2-conductor cable run for monitoring the state of the door switch. The cable runs from the switch interface module to the power transfer hinge.
- 18AWG wire is recommended for this wire run.

Keyswitch

- 2-conductor cable run for resetting of the system after an alarm state. The cable runs from the control panel to the keyswitch.
- 18AWG wire is recommended for this wire run.

Audible Alarm

- 2-conductor cable run for 12VDC power to the audible alarm. The cable runs from the control panel or supervised notification module to the audible alarm.
- 1700mA is supplied from the control panel's alarm notification bus and 1200mA is supplied from each of the supervised notification module's alarm notification buses to power audible alarms.
- The maximum wire run length from the control panel to each audible alarm must not exceed the lengths listed in the table.

Audible Alarm Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	450 feet
20AWG	700 feet
18AWG	1100 feet
16AWG	1750 feet

Supervised Notification Module

- It is recommended to locate the supervised notification module in close proximity to the control panel.
- 4-conductor cable run for data in/out and auxiliary 12VDC power.
- Do not run supervised notification module wires within 6" of AC power, telephone, or intercom wiring. If this spacing cannot be achieved, unshielded cable run in conduit or shielded cable should be used.
- The maximum wire run length from the control panel to each supervised notification module must not exceed the lengths listed in the table.
- The maximum wire run length is half of what is listed in the table if unshielded cable is run in conduit, or if shielded cable is used.

Supervised Notification Module Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	125 feet
20AWG	200 feet
18AWG	300 feet
16AWG	500 feet

Serial Interface Module

- 9-conductor cable (provided with the serial interface module). The cable runs from the control panel to the serial interface module.
- 2-conductor cable run for 12VDC power to the serial interface module. The cable runs from the auxiliary power source to the serial interface module.
- These may be temporary connections used only during the programming of the system.
- 18AWG wire is recommended for the 2-conductor cable wire run.

Panel Linking Module

- It is recommended to locate the panel linking modules in close proximity to the control panels.
- 4-conductor cable run for data in/out and auxiliary 12VDC power.
- Do not run panel linking module wires within 6" of AC power, telephone, or intercom wiring. If this spacing cannot be achieved, unshielded cable run in conduit or shielded cable should be used.
- The maximum individual wire run length from the control panel to a panel linking module must not exceed the lengths listed in the table.
- The maximum combined wire run lengths from the control panels to the panel linking modules and all keypads, regardless of the wire gauge, must not exceed 2000 feet when unshielded cable is used (1000 feet if unshielded cable is run in conduit, or if shielded cable is used).
- The maximum wire run length is half of what is listed in the table if unshielded cable is run in conduit, or if shielded cable is used.

Panel Linking Module (4-Conductor) Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	450 feet
20AWG	700 feet
18AWG	1100 feet
16AWG	1750 feet

- 3-conductor twisted cable run between each panel linking module.
- The maximum wire run length from a panel linking module to a panel linking module must not exceed the lengths listed in the table.
- The maximum wire run length is half of what is listed in the table if unshielded cable is run in conduit, or if shielded cable is used.

Panel Linking Module (3-Conductor) Wire Run Length/Gauge Table	
Wire Gauge	**Maximum Length**
22AWG	1500 feet
20AWG	2500 feet
18AWG	3000 feet
16AWG	4000 feet