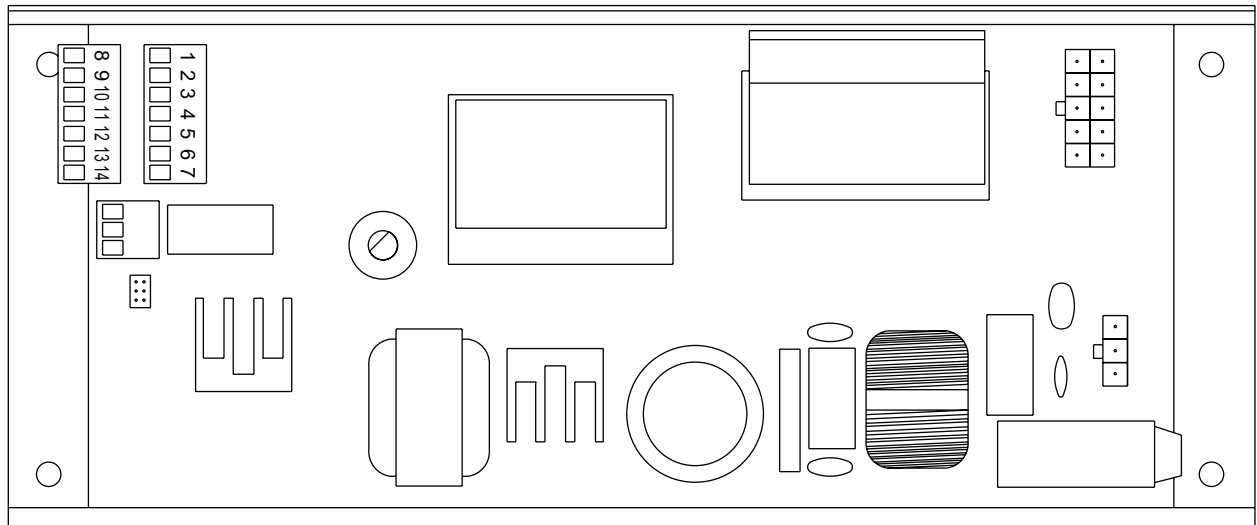




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## Wiring and Programming Manual

### \*\* with Opus Control\*\*



DN 1336

### **WARNING**

- Turn OFF all power to the Automatic Door if a Safety System is not working.
- Instruct the Owner to keep all power turned OFF until corrective action can be achieved by a NABCO trained technician. Failure to follow these practices may result in serious consequences.
- NEVER leave a Door operating without all Safety detection systems operational.

Part #C-00169  
Rev. 6/13/16

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## WARNING LABELS

Warning labels are universal and used to alert an individual of potential harm to one's self or to others. The following warning labels are listed in a hierarchy order that defines the most potential danger first, and the least potential danger last. Please refer to this page in the event that a warning label is displayed within this manual and further definition needs to be explained.

**DANGER**

Indicates potentially dangerous situations. Danger is used when there is a hazardous situation where there is a *high* probability of severe injury or death. It should not be considered for property damage unless personal injury risk is present.

**WARNING**

Indicates a hazardous situation which has *some* probability of severe injury. It should not be considered for property damage unless personal injury risk is present.

**CAUTION**

Indicates a hazardous situation which *may result in a minor injury*. Caution should not be used when there is a possibility of serious injury. Caution should not be considered for property damage accidents unless a personal injury risk is present.

**Attention:** A situation where material could be damaged or the function impaired.

**Notice:** Indicates a statement of company policy as the message relates to the personal safety or protection of property. Notice should not be used when there is a hazardous situation or personal risk.

*Note:* Indicates important information that provides further instruction.

## GENERAL SAFETY RECOMMENDATIONS

**WARNING**

Read, study and understand general safety recommendations, warning labels, installation and operating instructions contained in, or referenced in this manual before operating. If you do not understand the instruction, ask a qualified technician. Failure to do so may result in bodily injury, or property damage and will nullify all warranties.

**DANGER**

Disconnect all power to the junction box prior to making any electrical connections. Failure to do so may result in serious personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.

Notice: Wiring must meet all local, state, federal or other governing agency codes.

**CAUTION**

All electrical troubleshooting or service must be performed by trained, qualified electrical technicians and comply with all applicable governing agency codes.

**DANGER**

Do not place finger or uninsulated tools inside the electrical controller. Touching wires or other parts inside the enclosure may cause electrical shock, serious injury or death.

**CAUTION**

The Ground wire from the Opus Control 120 VAC Harness, and the Incoming 120 VAC Ground wire must be connected to the Ground screw located within the Swing door Header.

**CAUTION**

Do Not touch other parts of the Opus Control board with a screwdriver or anything else metal. Damage to electrical circuitry may occur.

**CAUTION**

If the door appears broken or does not seem to work correctly, it should be immediately removed from service until repairs can be carried out or a qualified service technician is contacted for corrective action.

*Note: All Adjustments must be made with a small screwdriver. Do Not use a pencil.*

*Note: Final installation must conform to current versions of ANSI 156.19 for Low Energy Swingers or ANSI 156.10 for Full Automatic Swingers.*

*Note: Study and understand both ANSI Standard Codes A156.10 and A156.19.*

*Note: Do Not take shortcuts.*

## CHAPTER 1: Scope

### Section 1a. To the Installer

The purpose of this manual is to familiarize the installer with the proper installation and operation of this system. It is essential that this equipment be properly installed and operational before the door is used by the public. It is the installer's responsibility to inspect the operation of the entrance system to be sure it complies with any applicable standards. In the United States, ANSI Standard 156.10 (Used to cover Full Energy doors) and ANSI Standard 156.19 (Used to cover Low Energy doors) apply. Other local standards or codes may apply. Use them in addition to the ANSI standards.

The owner should determine the door is operating properly and should immediately call for service if there is any malfunction. All installation changes and adjustments must be made by qualified, NABCO trained technicians.

If after troubleshooting a problem, a satisfactory solution cannot be achieved, please call Nabco Entrances at 1-877-622-2694 between 8 am – 4:30 pm Central time for additional assistance.

### Section 1b. Objective

The Opus Control is designed to be installed within the Header of:

- ▶ New or Existing Swing Door systems.
- ▶ New or Existing Fold Door systems
- ▶ Existing Slide Door systems to replace Magnum Controls, Analog Controls, and U-01 to U-19 Controls. Sold as a Retrofit Kit only. Retrofit kits can be purchased by contacting Customer Service at 1-888-679-3319.

This manual offers step by step instructions.

## CHAPTER 2: GETTING STARTED

### **WARNING**

**All wiring must conform to standard wiring practices and be in accordance with national and local electrical codes.**

*Note: It is recommended for the Installer to use an Electrical Conduit to house all incoming 120 VAC wires.*

### Section 2a: Features

Feature	Description			
LCD Display	<ul style="list-style-type: none"> <li>▶ Door Status Indicator</li> <li>▶ Error messaging and Codes</li> <li>▶ Programming Indicator</li> </ul>			
Replaces all U-Series	<ul style="list-style-type: none"> <li>▶ Except the U30 Control.</li> <li>▶ Works with current U-Series Rocker Switches.</li> </ul>			
Replaces all Magnum Controls	Magnum 1 - 4A			
Replaces the Analog Control	Requires (2) Opus Controls for Simultaneous Pairs.			
Simultaneous Pair Synchronization	Pairs are synchronized to ease adjustability and to operate smoothly.			
Works with Encoder Motors	<ul style="list-style-type: none"> <li>▶ Adjusts Backcheck and Latchcheck positions.</li> <li>▶ Integrated Back Check Lockout for swing side door mounted Sensors.</li> </ul>			
Works with Non-Encoder Motors	Non-Encoder Motors with Latch Check and Back Check Switches only.			
Replaces the Handy Terminal	Programming is accomplished with an On Board Rotary Switch.			
Astragal Function	Opens and/or Closes (1) Door Panel slightly ahead of an opposite Door Panel.			
Independent Dual	(2) Independent Doors operated by a (2) Operator Assemblies.			
Low Energy	Utilizes a Knowing Act to open a Door.			
Full Energy	Utilize Sensor(s) to open a Door.			
Digital Parameter Settings	Used for Repeatability.			
Onboard Programming	No Terminal required.			
Door Mounted Sensor Lockout	<ul style="list-style-type: none"> <li>▶ Low Energy Swing Doors only.</li> <li>▶ No additional modules required to lockout sensor activation from the approach side of door.</li> </ul>			
On Board Electric Lock Relay	No need for an additional Sequencer.			
Push & Go or Power Assist Function	Used for all Swing Door Units.			
Programmable Relay Output	Used with Electric Locks or other Exterior Signalling.			
Two Transistor Outputs	With programmable functionality used for Air Curtains or other Devices.			
CANBus Cable	<ul style="list-style-type: none"> <li>▶ For Simultaneous Swing Door Units.</li> <li>▶ Only need to adjust the Master Opus control.</li> <li>▶ The CANBus cable it used to sequence the Slave Opus Control.</li> </ul>			
Safety Recycle Feature: Open Cycle	Stops and reverses direction of the door during Opening Cycles.			
Safety Recycle Feature: Close Cycle	<ul style="list-style-type: none"> <li>▶ Used with Encoder Motors only.</li> <li>▶ Stops and reverses direction of the door during Closing Cycles.</li> </ul>			
Programmable Power Close	Feature can be turned OFF or ON with an optional Switch.			
Hold Close	Applies pressure to keep Door closed			
Recycle	<table> <tr> <td>▶ Opening</td><td rowspan="2">With all motors, the Door Panel will reverse if an obstacle is detected.</td></tr> <tr> <td>▶ Closing</td></tr> </table>	▶ Opening	With all motors, the Door Panel will reverse if an obstacle is detected.	▶ Closing
▶ Opening	With all motors, the Door Panel will reverse if an obstacle is detected.			
▶ Closing				

## Section 2b: General Specifications

Specification	Description
Temperature Range	-13 degrees to 140 degrees Fahrenheit
Motor Type	DC Brush Motor
	DC Brush Motor (with Encoder installed on Gear Box)
Motor Voltage	115V
Motor Power Rating	Long Frame (710 only): 55 W
	Short Frame: 70 W
Power Close	Built-in
Motor works with Encoder Motors	In lieu of Microswitches
Motor works with Microswitches	In lieu of Encoder Motors
Back Check Angle Adjustment	<ul style="list-style-type: none"> <li>▶ 5 to 35 degrees from Full Open position</li> <li>▶ Used with Encoder Motor only.</li> </ul>
Latch Check Angle Adjustment	<ul style="list-style-type: none"> <li>▶ 10 to 40 degrees from Full Closed position</li> <li>▶ Used with Encoder Motor only.</li> </ul>
Door Movement Angle	30 degrees to 180 degrees
Built In Sequencer	Can activate: <ul style="list-style-type: none"> <li>▶ Electric Locks</li> <li>▶ Electric Strikes</li> <li>▶ Electric Latch Retracted Panic Devices</li> </ul>

**Table 2-1** Modules

Module	Part Number	Function	Power Source	Current Consumption	
CP/RX Radio Control Receiver	24-11467	RF Signal Transmission	12 to 24 AC or DC	50mA	(ea.unit) at 12VDC
Multi Module	V-00144	Programmable Relay	12 to 24 AC or DC	40mA	

**Table 2-2** Input / Output Specifications

Input	Description
Number of Signal Inputs	<ul style="list-style-type: none"> <li>▶ 1 x Activation</li> <li>▶ 2 x Door Mode</li> <li>▶ 2 x Safety</li> <li>▶ 1 x Sequential</li> <li>▶ 1 x Kill Signal</li> <li>▶ 2 x Programmable</li> </ul>
Output	Description
Number of Outputs	<ul style="list-style-type: none"> <li>▶ 1 x Electric Lock Form C Relay</li> <li>▶ 1 x Programmable Transistor Outputs</li> </ul>



## Section 2c: Electrical Specifications

*Note: All Wiring Diagrams included within this manual, reflect typical primary and secondary circuits that might be commonly used. On site wiring may be different from that shown.*

*Note: NABCO factory utilizes Underwriters Laboratories (UL) recognized component wire, terminals and connector housings to manufacture Opus Automatic Door systems.*

**Table 2-3** Wiring

Item	Description	Current Consumption
Power Input	110VAC - 130 VAC, AC 50-60 Hz	3A (NABCO recommends min. 5A service)
Power for accessories	12VDC	750mA
Output Rating	Transistor Output	100mA @ 12VDC
Relay Output Rating	Mechanical Relay Output	3A at 110VAC
F1 Fuse	120VAC Power Circuit of Control	-
Available Wire Size for Incoming Power	14 AWG	-

**Table 2-4** Sensors

Sensor	Part Number	Function	Power Source	Current Consumption
Acuvision	V-00202	Infrared	12 to 24 AC or DC	80mA
Acuwave	14-11980-10	Infrared	12 to 24 AC or DC	80mA
Acusensor 3	A-00684	Infrared	12 to 24 VAC or VDC	250mA
Optex i-one	V-00055	Infrared	12 to 24 VAC or 12 to 30 VDC	130mA

(ea.unit) at 12VDC

## Section 2d: Output Power Guidelines

### 2.d.a: Full Energy Doors

- ▶ Utilize Sensor(s) to open a Swing door.  
Sensors activate the Control by detecting motion of pedestrians (or moving objects) coming into range.
- ▶ Must be compliant with ANSI Standard Code 156.10 to reduce chance of injury to pedestrians and wheeled traffic.

### 2.d.b: Low Energy Doors

- ▶ Utilize a Knowing Act to open a Door.  
A conscious effort that is carried out in many different ways, including (but not limited to): manually opening a Door; pressing various types of Push Plates; turning a Key switch; utilizing a keypad or card reader, etc.
- ▶ Must be compliant with the ANSI Standard Code 156.19 to reduce chance of injury to pedestrians and wheeled traffic.

*TOTAL* current draw from the Opus Control must not exceed 0.7A when providing power to:

- ▶ Sensors
- ▶ Modules
- ▶ Accessories
- ▶ Auxiliary Equipment

If *TOTAL* current draw exceeds 0.7A the installer must utilize an auxiliary power supply such as the NABCO Transformer 24 VAC, P/N A-01185.

**CAUTION**

**The Opus Control must Not be used to output power to:**

- ▶ **Magnetic Locks**
- ▶ **Electric Strikes**

To determine if an auxiliary power supply must be used, add the total current draw of all devices. Please refer to the formula shown below:

Example: A Gyro Tech Automatic Door is to be fitted with the following devices:

$$\begin{aligned} 2 \times \text{Acusensor 3 @ 110 mA} &= 200 \text{ mA} \\ 1 \times \text{Cp/RX Radio Control Receiver @ 50 mA} &= \underline{50 \text{ mA}} \\ \text{Total} &= 250 \text{ mA} \end{aligned}$$

250mA does not exceed total current draw.

An Auxiliary Power Supply does not need to be used.

## Section 2e: Associated Manuals Part Number

- ▶ Opus Wiring and Programming Quick Setup Parts Guide; P/N C-00139
- ▶ Opus Control Retrofit Kit Installation Manual; P/N C-00185

## CHAPTER 3: 120 VAC General Wiring

### **DANGER**

Shut the installation site, branch Circuit Breaker OFF. Failure to do so may result in serious personal or fatal injury. When uncertain whether power supply is disconnected, always verify using a voltmeter.

### **WARNING**

All high voltage electrical connections must be made by licensed electricians according to National and Local electrical codes/regulations.

### **CAUTION**

Permanent wiring shall be employed as required by local codes.

### **CAUTION**

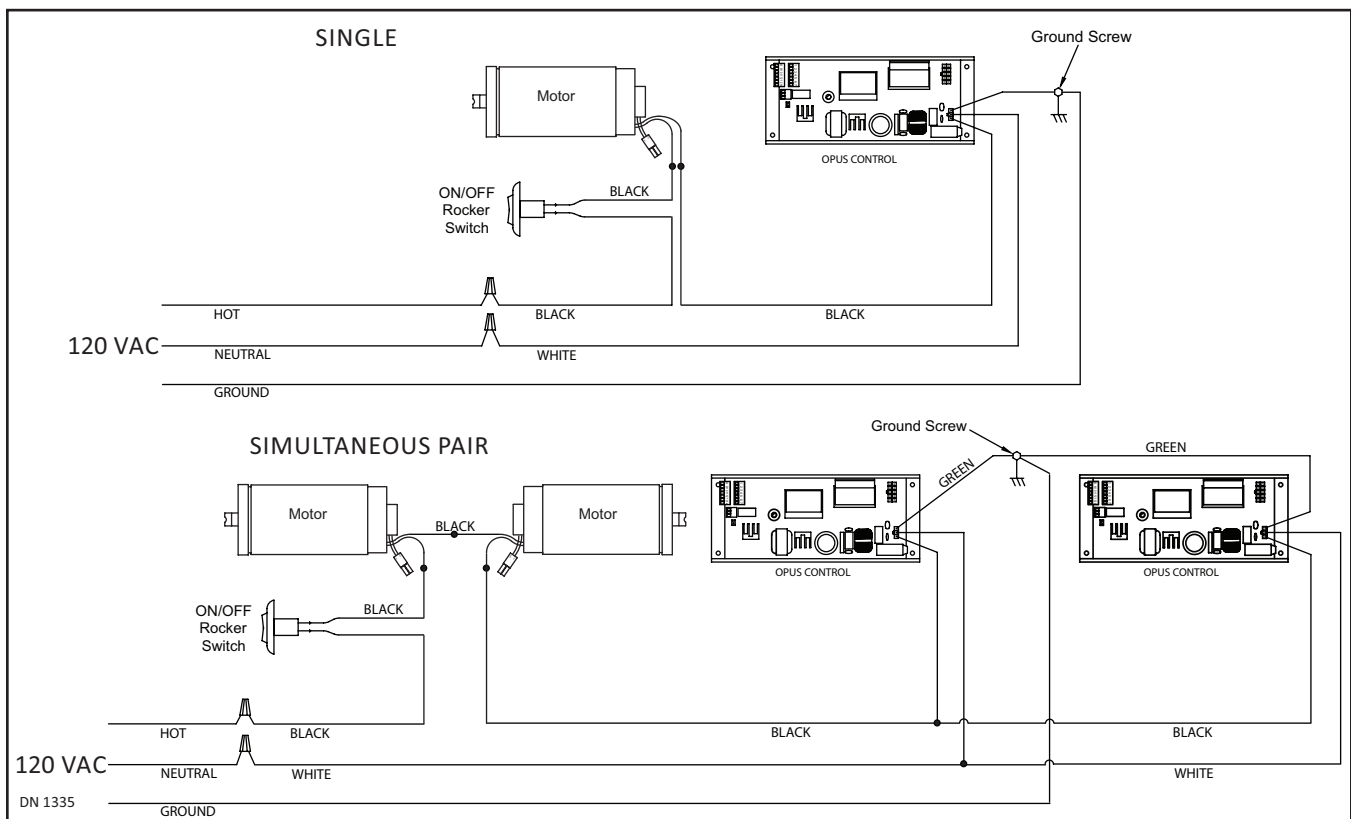
Keep all Incoming 120 VAC wiring separate from low voltage wiring within Header. 120 VAC Power wires must be routed (separate from other wiring) located near the top of inside Header.

### **CAUTION**

Ensure that the Grounding of the Electric Power Supply is installed/connected in a proper way (especially the PE Cable from the Building Side).

**Attention:** Insert all Incoming 120 VAC Power wires into the pre drilled Electric Service Access Hole located at the left or right side of Header End Cap.

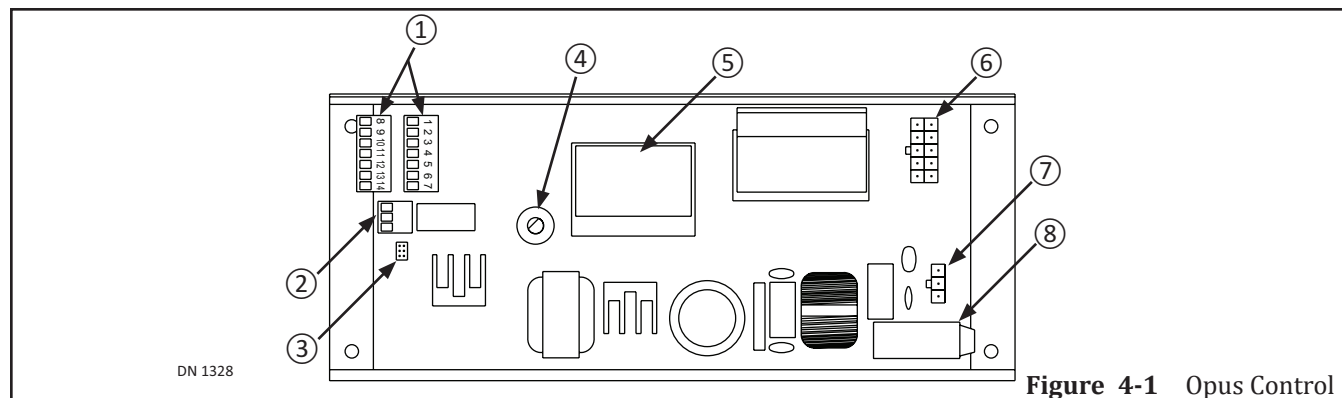
**Note:** *It is recommended for the Installer to house all Incoming 120 VAC wires within an Electrical Conduit.*



## CHAPTER 4: The Opus Control

The Opus Control is used to power and control operating characteristics of the door. This is done through the use of Harnesses connected to Terminals located on the Control Board, plus wiring that is connected to other components within the Header.

**Note:** When the LCD Screen is ON and displays settings, the Hold Close feature is disabled. When the LCD screen is OFF, and does not display settings, the Hold Close feature is enabled.



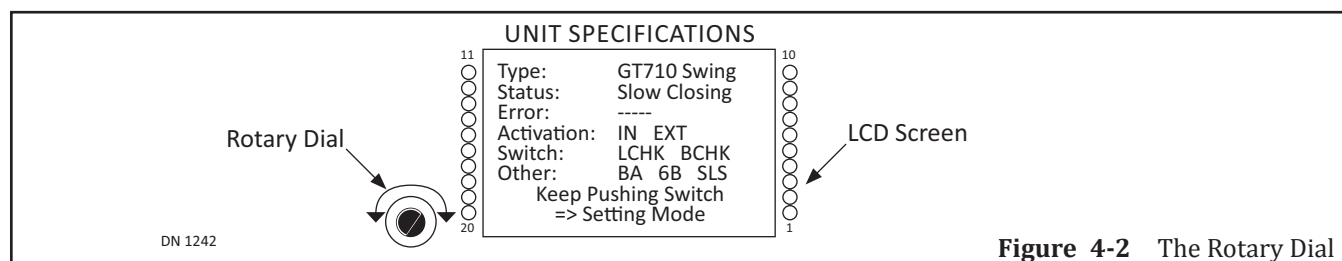
**Figure 4-1** Opus Control

1	CN3	I/O Terminal Strip	5	-	LCD Screen
2	CN5	Output Terminal Strip	6	CN2	Motor Connector
3	CN4	CANBus Communication	7	CN1	Power Connector
4	-	Rotary Dial	8	-	Fuse, MC

### Section 4a. The Rotary Dial

The Rotary Dial is located at the bottom, left side of the LCD Display and is utilized to scroll through LCD screens by:

- ▶ Turning the Rotary Dial:
    - Clockwise: To scroll forward through screens and programming options.
    - Counterclockwise: To scroll backward through screens and programming options.
  - ▶ Pressing down on the Rotary Dial:
    - Gains access to a different screen on another Level.
    - Unlock/locks screen Titles and selected Options.
    - Selects current option.
1. Scroll through screens by turning the Rotary Dial or pressing down on the Rotary Dial.
  2. To go back to the beginning, press and hold down for (2) seconds on the Rotary Dial. Release the Rotary Dial once the Level One screen is displayed.



**Figure 4-2** The Rotary Dial

## Section 4b. LCD Screen Transition

(4) LCD Screens are categorized within the following Hierarchy Levels:

- Level One: Specification    ► Level Two: Access    ► Level Three: Category    ► Level Four: Parameter

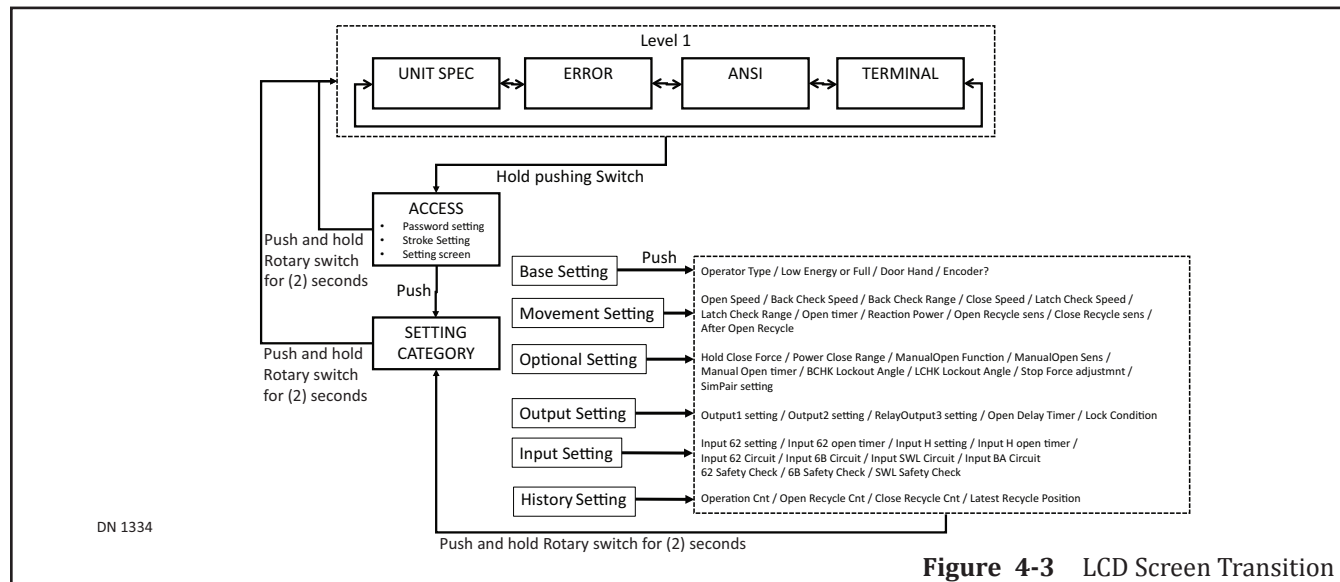


Figure 4-3 LCD Screen Transition

## Section 4c. Level One: Specification Screens

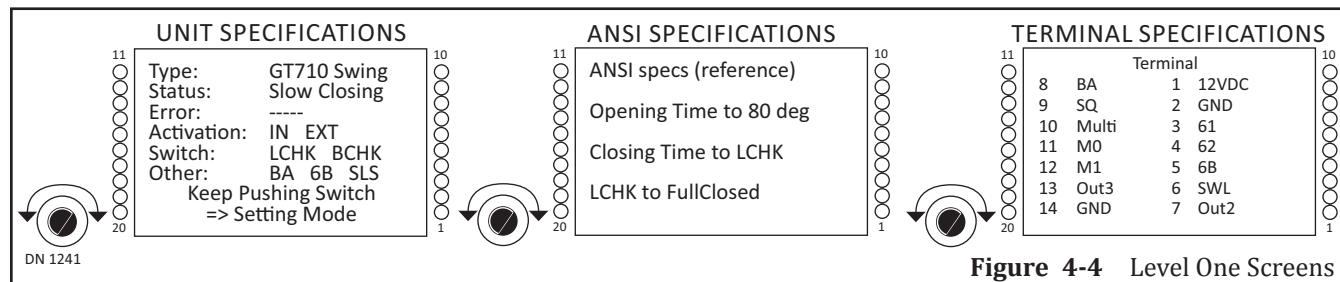


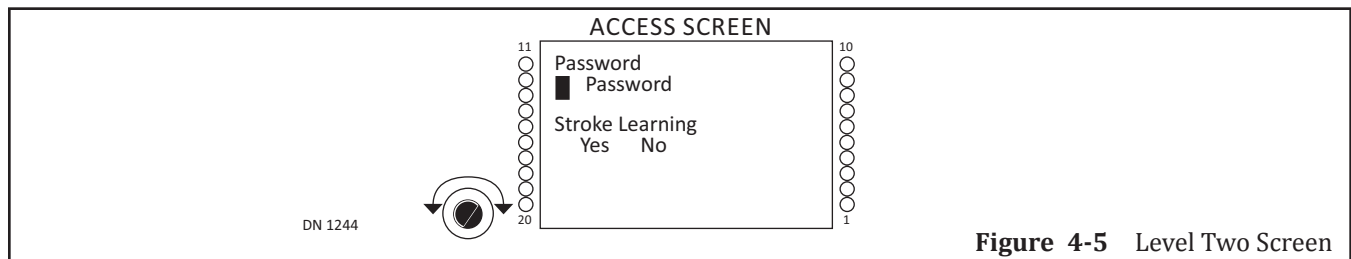
Figure 4-4 Level One Screens

When Power is turned ON for the first time, the Door does not move. Instead, an LCD screen will illuminate to display a Level One: Unit Specification screen (Default screen). There are (3) Level One screens:

- Unit Specifications: Displays the type of door and current status of the unit. The type of door (swing, slide or folding) can be changed within the Base Settings Category (Level 3 and Level 4). Please refer to Subsection 6.1 The screen above shows the Opus control installed on a GT710.
- ANSI Specifications: Displays the actual time of opening and closing of the door to help determine ANSI compliance.(Applies to swing doors only).
- Terminal Specifications: Displays the current status of all of the Input/Output lines of the terminal strip.

Level One screens are used to inform the User all specifications that have already been programmed into the Opus Control. If a specification needs to be changed, the User must reprogram the Opus Control within the Level Three screen, or Level Four screen.

## Section 4d. Level Two: Access Screen



**Figure 4-5** Level Two Screen

### 4.d.a Password

The Default password is (0045) and has been programmed into all Opus Controls. To prevent tampering of the Opus Control, the password cannot be changed.

1. Briefly press down on the Rotary Dial. Turn the Rotary dial until the first number (0) is displayed. Repeat until the Default password (0045) has been entered.
  - a. Level Three screen will display.

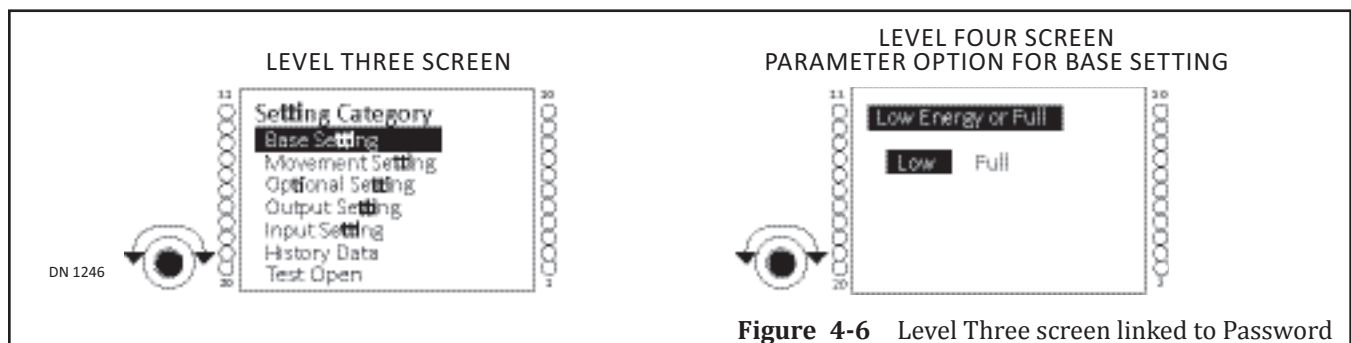
### 4.d.b Stroke Learning

- ▶ Activates the Door to teach the Opus Control the Full Open and Full Closed positions.
  - ▶ Measures from Full Closed to Full Open points to determine where Check Points should happen.
  - ▶ Determines if an existing Operator Type is correct.
  - ▶ Determines if Handing is correct.
1. Briefly press down on the Rotary Dial to select:
    - ▶ Yes
      - Opus will start the Stroke Learning Cycle
      - The door will Close slowly → Open Slowly → Close Again
    - ▶ No
      - If the Operator and Door Handing settings are correct, Opus will not have to Learn Stroke. Opus automatically determines the Stroke during a normal door cycle.
      - If the Operator Type or Door Hand are the wrong setting, the following messages after the Stroke Learning Cycle will display: "Wrong Motor! Restroke"; or "Wrong Hand! Restroke". If this event occurs, enter the proper settings within the Base Setting Category screens.

## Section 4e. Level Three: Category Screen

### 4.e.a Within Password

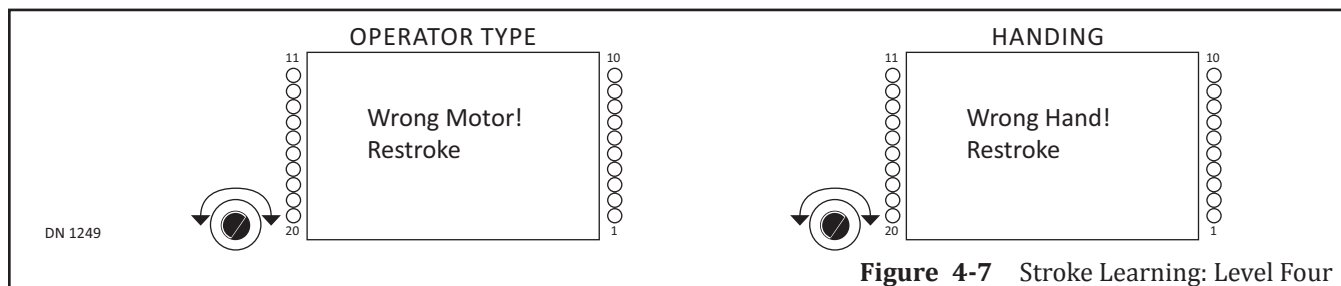
Level Three Setting Category displays Parameter options for Level Four.



**Figure 4-6** Level Three screen linked to Password

#### 4.e.b Within Stroke (only if Yes was selected)

Level Three Setting Category will display Error messages if the Door has been programmed incorrectly.

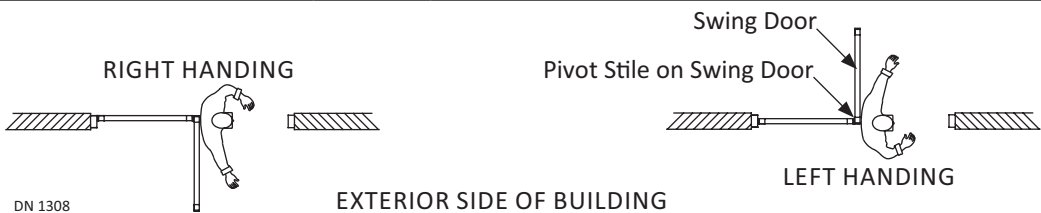
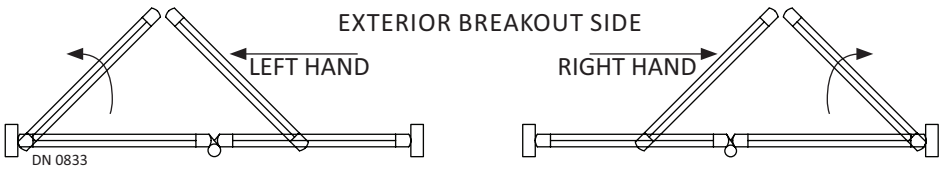



#### 4.e.c Level Four: Parameter Setting Screens

Parameter Options are utilized to select appropriate Parameter Settings. Parameter Options are available after entering a Password.

## CHAPTER 5: Programming the Opus Control

### Section 5a. Base Settings

Base Settings			
Parameter	Range	Default	Action
Operator Type	<ul style="list-style-type: none"> <li>GT-300/400/500 Swing</li> <li>GT-1175 Slide</li> <li>GT-710 Swing</li> </ul>	GT-710 Swing	<ul style="list-style-type: none"> <li>Select Operator Type</li> <li>Select GT300/400/500 Swing, if installing a GT-1400 Fold Door</li> </ul>
Low Energy or Full	<ul style="list-style-type: none"> <li>Low Energy</li> <li>Full Energy</li> </ul>	Low	Select type of operator application
Swing Door Handing	<ul style="list-style-type: none"> <li>Left</li> <li>Right</li> </ul>	Right	From the Exterior Side of Building, determine which Handing to enter: Right or Left
			
Fold Door Handing	<ul style="list-style-type: none"> <li>Left</li> <li>Right</li> </ul>	Right	From the Exterior Side of Building, determine which Handing to enter: Right or Left
			
Slide Door Handing	<ul style="list-style-type: none"> <li>Left</li> <li>Right</li> </ul>	Right	From the Exterior Side of Building, determine which Handing to enter: Right or Left
			
Encoder	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Select YES if Encoder is installed with Motor.</li> <li>Select NO if Encoder is not installed with Motor.</li> </ul>

### Section 5b. Movement Settings

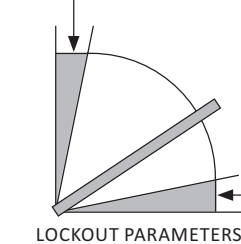
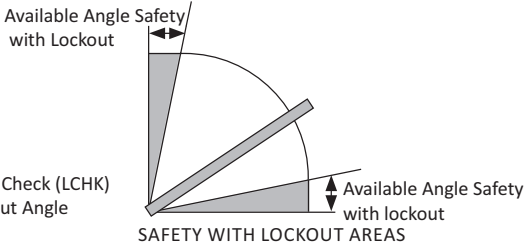
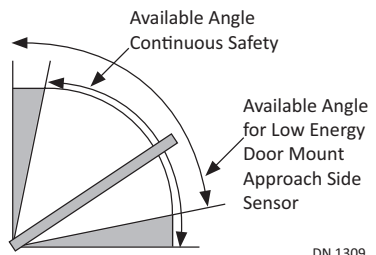
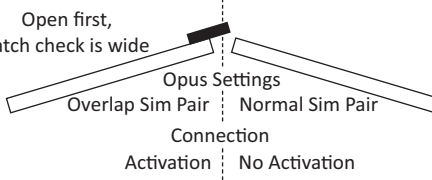
Movement Settings			
Parameter	Range	Default	Description
Open Speed	0 - 7	3	The higher the number the faster the Door opens
Back Check Speed	0 - 7	3	Sets door speed during Back Check
Back Check Range	0 - 7	3	<ul style="list-style-type: none"> <li>Swing Door: 2-1/2° to 35° of Fully Open</li> <li>Slide Door: 1" to 13-3/4" of Fully Open</li> </ul>
Close Speed	0 - 7	3	The higher the number the faster the Door closes
Latch Check Speed	0 - 7	3	Sets door speed during latch check
Latch Check Range	0 - 7	3	<ul style="list-style-type: none"> <li>Swing Door: 10° to 45° of Fully Closed</li> <li>Slide Door: 1" to 13-3/4" of Fully Closed</li> </ul>



Movement Settings			
Parameter	Range	Default	Description
Open Timer	0-10, 12, 15, 20, 25, 30	2	Amount of Hold Open time after deactivation in seconds
Reaction Power	0 - 7	3	Determines how fast the door reacts to a reactivation when closing
Open Recycle Sens	0 - 7	3	Determines how hard the door will push against an obstruction during opening
Close Recycle Sens	0 - 7	3	Determines how hard the door will push against an obstruction during closing
After Open Recycle	Slow Open Stop	Slow Open	Determines what happens after a recycle during Opening Recycle
Close Recycle Reopen	Yes	Yes	Determines what happens after a recycle during Closing Cycle
	No		

## Section 5c. Optional Settings

Optional Settings				
Parameter	Range	Default	Description	
Hold Close Force	0 - 3	0	0	OFF
			3	Strongest Hold Close force
Power Close Range	<ul style="list-style-type: none"> <li>▶ No Power Close</li> <li>▶ Whole Close Cycle</li> <li>▶ Latch Check Only</li> <li>▶ Latch and Back</li> </ul>	No Power Close	Closing assisted by Motor to fight wind or stack pressure	
Manual Open Function	No Action	No Action	Does nothing	
	Push and Go		P & G	Enables push and go
	Stop and Close		S & C	Door pauses at open angle then closes
	Open Assist		<ul style="list-style-type: none"> <li>▶ Assisted Power from motor when door is pushed</li> <li>▶ Depends on how strong door is pushed</li> <li>▶ Power always within range "Open recycle sensitivity" setting</li> <li>▶ Door will stop during the event that the door is not pushed</li> </ul>	
Manual Open Sensitivity	0 - 3	1	Angle/force to activate Push and Go	
Manual Open Timer	<ul style="list-style-type: none"> <li>▶ 0-10, 12, 15, 20, 25, 30</li> <li>▶ Same as Open Timer</li> </ul>	4	Hold Open time for Manual Opening	
Stop Force Adjustment	0 - 7	3	Determines how the door reacts to a continuous safety signal: Slow Open, Stop, or Slow Close	
BCHK Lockout Angle	0 - 9 A	0	<ul style="list-style-type: none"> <li>▶ Sensor lockout angle at Back Check</li> <li>▶ Range is from 0° to 30° from Fully Open</li> <li>▶ Used for Swing or Fold Door Units only</li> </ul>	
			0	Narrow
			A	Wide
LCHK Lockout Angle	0 - 9 A	0	<ul style="list-style-type: none"> <li>▶ Sensor lockout angle at Latch Check</li> <li>▶ Range is from 0° to 30° from Fully Close</li> <li>▶ Used for Swing or Fold Door Units only</li> </ul>	
			0	Narrow
			A	Wide

Optional Settings			
Parameter	Range	Default	Description
<div><div><p>Back Check (BCHK) Lockout Angle</p><p>LOCKOUT PARAMETERS</p></div><div><p>Available Angle Safety with Lockout</p><p>SAFETY WITH LOCKOUT AREAS</p></div><div><p>Available Angle Continuous Safety</p><p>Available Angle for Low Energy Door Mount Approach Side Sensor</p><p>DN 1309</p></div></div>			
SimPair Setting	Single Door	Single Door	Select type of Door
	Normal Sim Pair		<ul style="list-style-type: none"><li>▶ If selected; before returning to last screen, option to copy settings to other Control is given</li></ul>
	Overlap Sim Pair		<ul style="list-style-type: none"><li>▶ Overlap Sim Pair is for an Astragal Application.</li><li>▶ Opus Control connected to door that must open first:<ol style="list-style-type: none"><li>1. Have activation signals connected to it</li><li>2. Be set to “Overlap Sim Pair”</li></ol></li><li>▶ The delayed control will be set to “Normal Sim Pair”</li><li>▶ Latch Check range is wider than normal setting.</li><li>▶ If selected; before returning to last screen, option to copy settings to the other Control, is given</li></ul>
<div><div><p>Open first, Latch check is wide</p><p>Opus Settings</p><p>Overlap Sim Pair   Normal Sim Pair</p><p>Connection</p><p>Activation   No Activation</p><p>DN 1558</p></div></div>			

## Section 5d. Output Settings (Retrofit Kits only)

Output Settings				
Parameter	Terminal	Range	Default	Description
Output1	Terminal 7	▶ — —	Full Open	▶ Relay doesn't change state
Output 2	Terminal 13	▶ Fully Closed Position	Full Closed	▶ Relay changes when fully closed
Output 3	Electric Lock Terminals	▶ Closing Status	— —	▶ Relay changes when door is closing
		▶ Opening Status		▶ Relay changes when door is opening
		▶ Full Opened Position		▶ Relay changes when fully open
		▶ Error State Output		▶ Relay changes when error detected
		▶ Recycle happened		▶ Relay changes when recycle occurs
		▶ Electric Strike Lock		▶ Set for electric strike functionality
		▶ Electric Magnetic Lock		▶ Set for Mag lock functionality
		▶ Airlock		▶ Set for Airlock functionality
		▶ Breakout Pass through		▶ Relay changes when breakout occurs
		▶ Door Sequencing		▶ Provision for door sequencing
		▶ Sensor Monitoring (N.O.)		▶ Normally open contacts for monitoring
		▶ Sensor Monitoring (N.C.)		▶ Normally closed contacts for monitoring
		▶ BEA Bodyguard Output		▶ For BEA Bodyguard

Output Settings				
Parameter	Terminal	Range	Default	Description
Open Delay Timer	N/A	<ul style="list-style-type: none"> <li>▶ 0.1 - 0.9 sec</li> <li>▶ After Unlock Input</li> </ul>	0.3	<ul style="list-style-type: none"> <li>▶ Delay time after activation to allow lock to unlock before the door starts moving.</li> <li>▶ Only functional if Electric Lock is selected</li> </ul>
Lock Condition	N/A	<ul style="list-style-type: none"> <li>▶ Every Fully Closed</li> <li>▶ One way/Night Only</li> </ul>	Every Fully Closed	Determines when the electric lock engages

## Section 5e. Input Settings

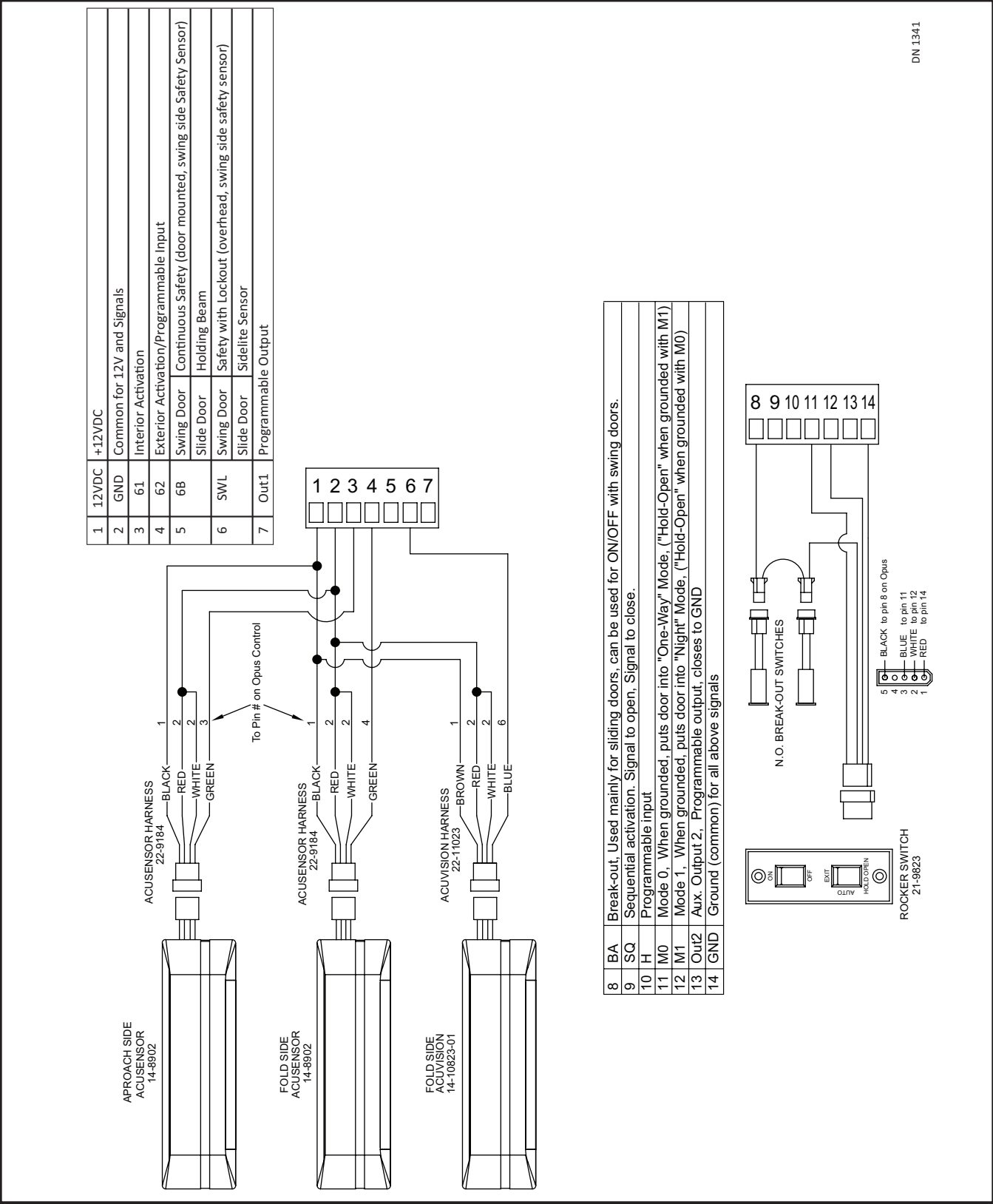
Input Settings				
Parameter	Terminal	Range	Default	Description
Input 62	Terminal 4	<ul style="list-style-type: none"> <li>▶ — —</li> <li>▶ All Activation Mode</li> <li>▶ Interior Activation</li> <li>▶ Exterior Activation</li> <li>▶ Beam Sensor</li> <li>▶ LE Approach Sensor</li> <li>▶ Unlock Input</li> <li>▶ Spring Close Only</li> <li>▶ Sequential Input</li> <li>▶ Open Slow</li> <li>▶ Safety with Lockout</li> <li>▶ Continuous Safety</li> <li>▶ Reduced Opening</li> <li>▶ Emergency Close</li> <li>▶ Hold Open Mode</li> </ul>	Exterior Activation	<ul style="list-style-type: none"> <li>▶ No input</li> <li>▶ Activates in all modes but OFF</li> <li>▶ Activation on interior for One Way mode</li> <li>▶ Activation on exterior</li> <li>▶ Beam input</li> <li>▶ LE door mounted sensor</li> <li>▶ Receives unlocked signal from elec Lock</li> <li>▶ Turns off power close and hold close</li> <li>▶ Takes on activation to open then another to close the door</li> <li>▶ Causes slow opening of the door</li> <li>▶ Swing side header mounted sensor input</li> <li>▶ Swing side door mounted sensor input</li> <li>▶ Causes unit to change to reduced open</li> <li>▶ Forces the door to slowly close and lock</li> <li>▶ Causes the door to hold open forever</li> </ul>
Input H Open Timer	N/A	<ul style="list-style-type: none"> <li>▶ 0-10, 12, 15, 20, 25,</li> <li>▶ Same as Open Timer</li> </ul>	Same as Open Timer	Hold open time for Input H
Input 62 Open Timer	N/A	<ul style="list-style-type: none"> <li>▶ 0-10, 12, 15, 20, 25,</li> <li>▶ Same as Open Timer</li> </ul>	Same as Open Timer	Hold open time for Input 62
Input SWL Circuit	N/A	<ul style="list-style-type: none"> <li>▶ Normally Open</li> <li>▶ Normally Close</li> </ul>	Normally Open	Circuit logic for Input SWL
Input BA Circuit	N/A	<ul style="list-style-type: none"> <li>▶ Normally Open</li> <li>▶ Normally Close</li> </ul>	Normally Open	Circuit logic for Input BA
Input 61 Circuit	N/A	<ul style="list-style-type: none"> <li>▶ Normally Open</li> <li>▶ Normally Close</li> </ul>	Normally Open	Circuit logic for Input 61
Input 62 Circuit	N/A	<ul style="list-style-type: none"> <li>▶ Normally Open</li> <li>▶ Normally Close</li> </ul>	Normally Open	Circuit logic for Input 62
6B Stop Closing	N/A	<ul style="list-style-type: none"> <li>▶ Yes</li> <li>▶ No</li> </ul>	No	Determines door movement stop or close, when 6B is ON at latch check during closing cycle.
After 6B Open?	N/A	<ul style="list-style-type: none"> <li>▶ Yes</li> <li>▶ No</li> </ul>	Yes	Determines door movement open or close, after 6B
61 Monitoring	N/A	<ul style="list-style-type: none"> <li>▶ Active</li> <li>▶ Not Active</li> </ul>	Not Active	Sensor monitoring function *

Input Settings				
Parameter	Terminal	Range	Default	Description
62 Monitoring	N/A	▶ Active ▶ Not Active	Not Active	Sensor monitoring function *
6B Monitoring	N/A	▶ Active ▶ Not Active	Not Active	Sensor monitoring function *
SWL Monitoring	N/A	▶ Active ▶ Not Active	Not Active	Sensor monitoring function *
* If Safety Check is enabled for any input then the sensor MUST be connected to Output 1 or 2. Output 1 or 2 must then be programmed to "Sensor Health Check". If an error occurs, the door will hold open until the error clears or the power is cycled.				

## Section 5f. History Settings

History Settings	
Parameter	Description
Operation Cnt	▶ Indicates number of Door open cycles. ▶ Updated every 100 door cycles.
Open Recycle Cnt	Indicates number of times the Door reversed direction during Opening cycle after sensing: ▶ An object was struck. ▶ The amount of friction that surpassed the recycle sensitivity setting.
Close Recycle Cnt	Indicates number of times the Door reversed direction during Closing cycle after sensing: ▶ An object was struck. ▶ The amount of friction that surpassed the Recycle Sensitivity Setting.
Latest Recycle Position	▶ Indicates the last recycle position during opening and closing. ▶ For swing doors it displays the approximate angle from closed at recycle. For slide doors it displays the position in inches from closed.

CHAPTER 6: Fold Door Wiring Diagram (Accessories)



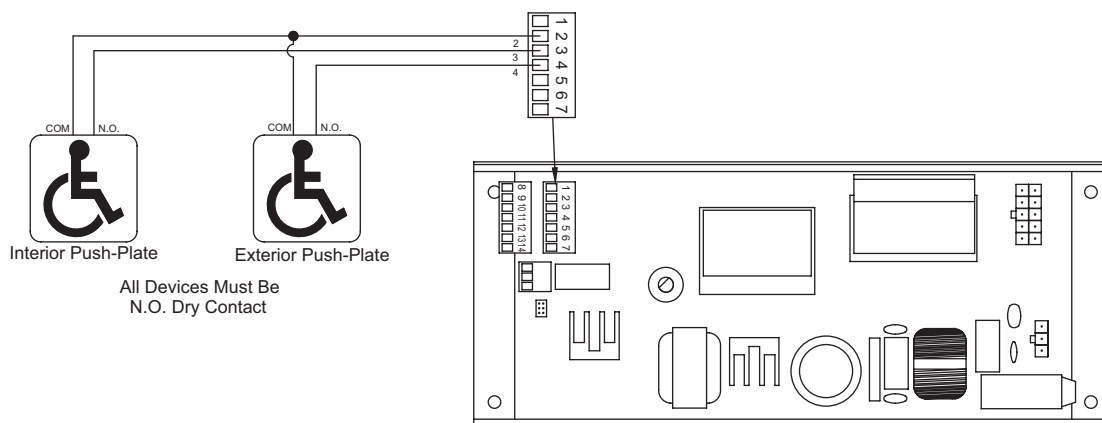
Fold Door Wiring Diagram (Accessories)

## CHAPTER 7: Swing Door Wiring Diagram (Accessories)

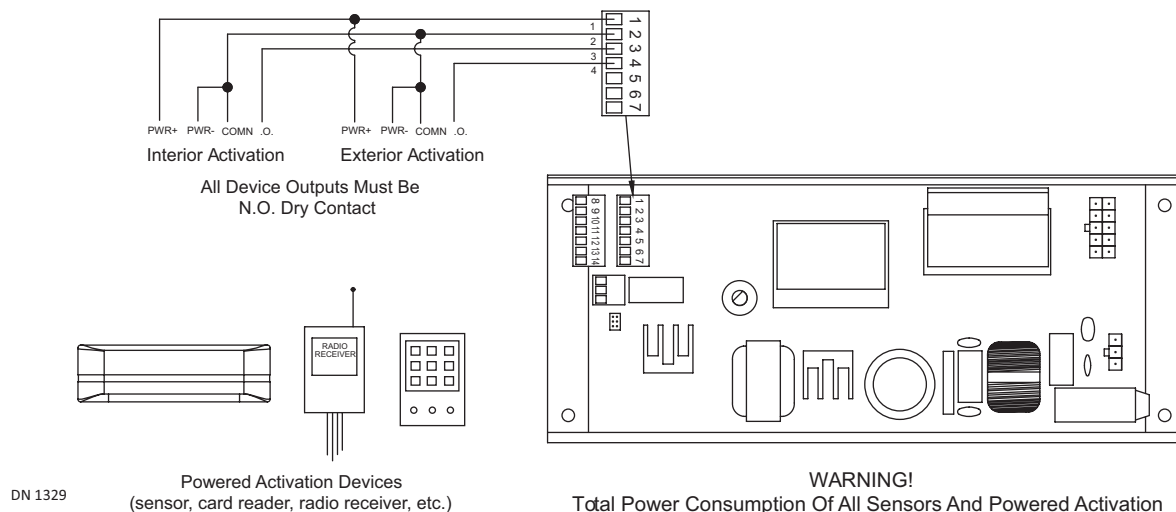
### Section 7a. Activation

1	12VDC	+12VDC
2	GND	Common for 12V and Signals
3	61	Interior Activation
4	62	Exterior Activation/Programmable Input
5	6B	Swing Door Continuous Safety (door mounted, swing side Safety Sensor)
		Slide Door Holding Beam
6	SWL	Swing Door Safety with Lockout (overhead, swing side safety sensor)
		Slide Door Sidelite Sensor
7	Out1	Programmable Output
If not using ON/OFF/HOLD OPEN Rocker Switch: Change "Input BA Circuit" to "Normally Open"		

#### Non-Powered Activation Devices



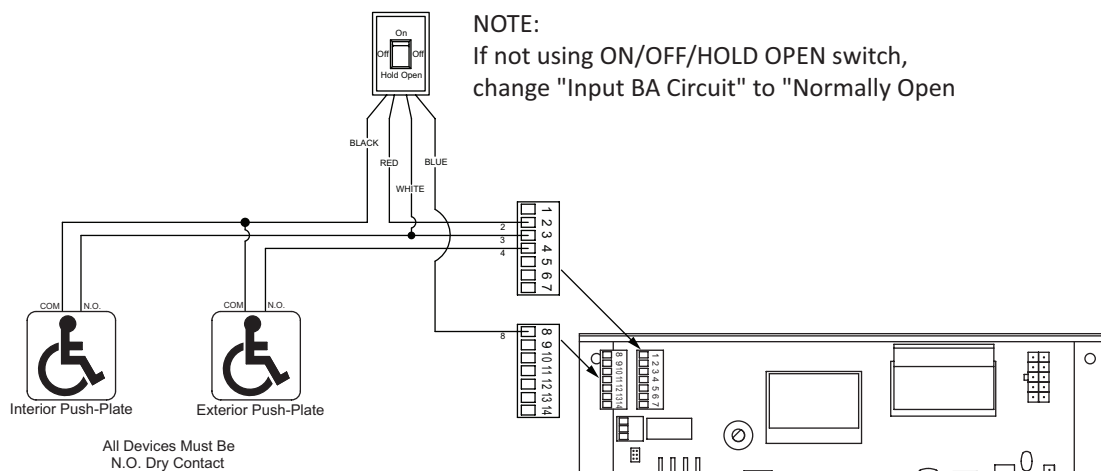
#### Powered Activation Devices



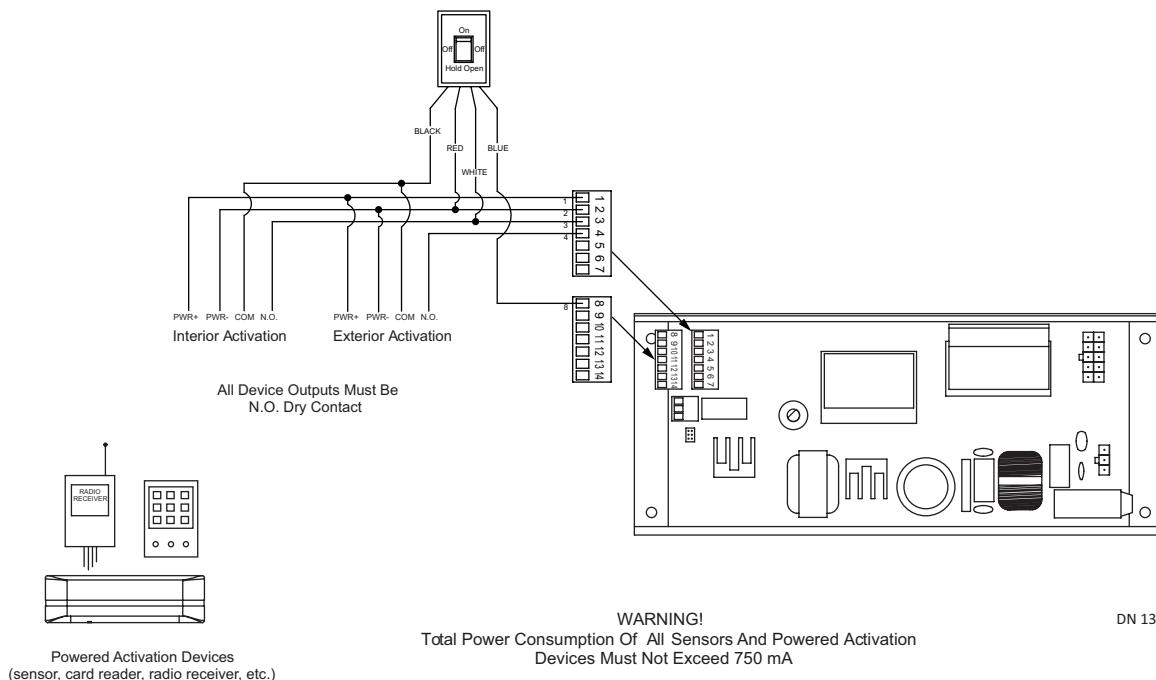
## Section 7b. Activation using ON/OFF/Hold-Open Switch

1	12VDC	+12VDC	
2	GND	Common for 12V and Signals	
3	61	Interior Activation	
4	62	Exterior Activation/Programmable Input	
5	6B	Swing Door	Continuous Safety (door mounted, swing side Safety Sensor)
		Slide Door	Holding Beam
6	SWL	Swing Door	Safety with Lockout (overhead, swing side safety sensor)
		Slide Door	Sidelite Sensor
7	Out1	Programmable Output	

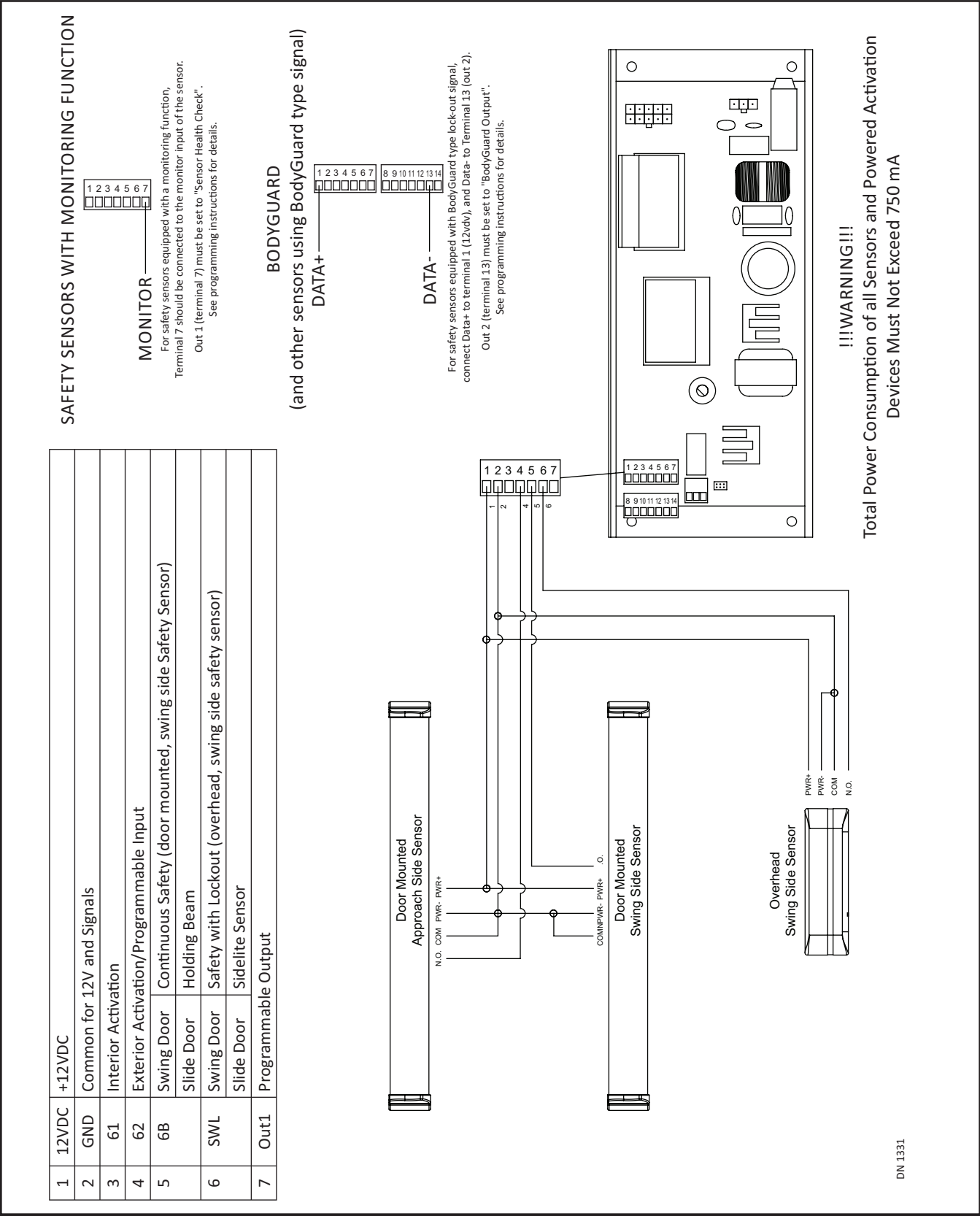
### Non-Powered Activation Devices



### Powered Activation Devices

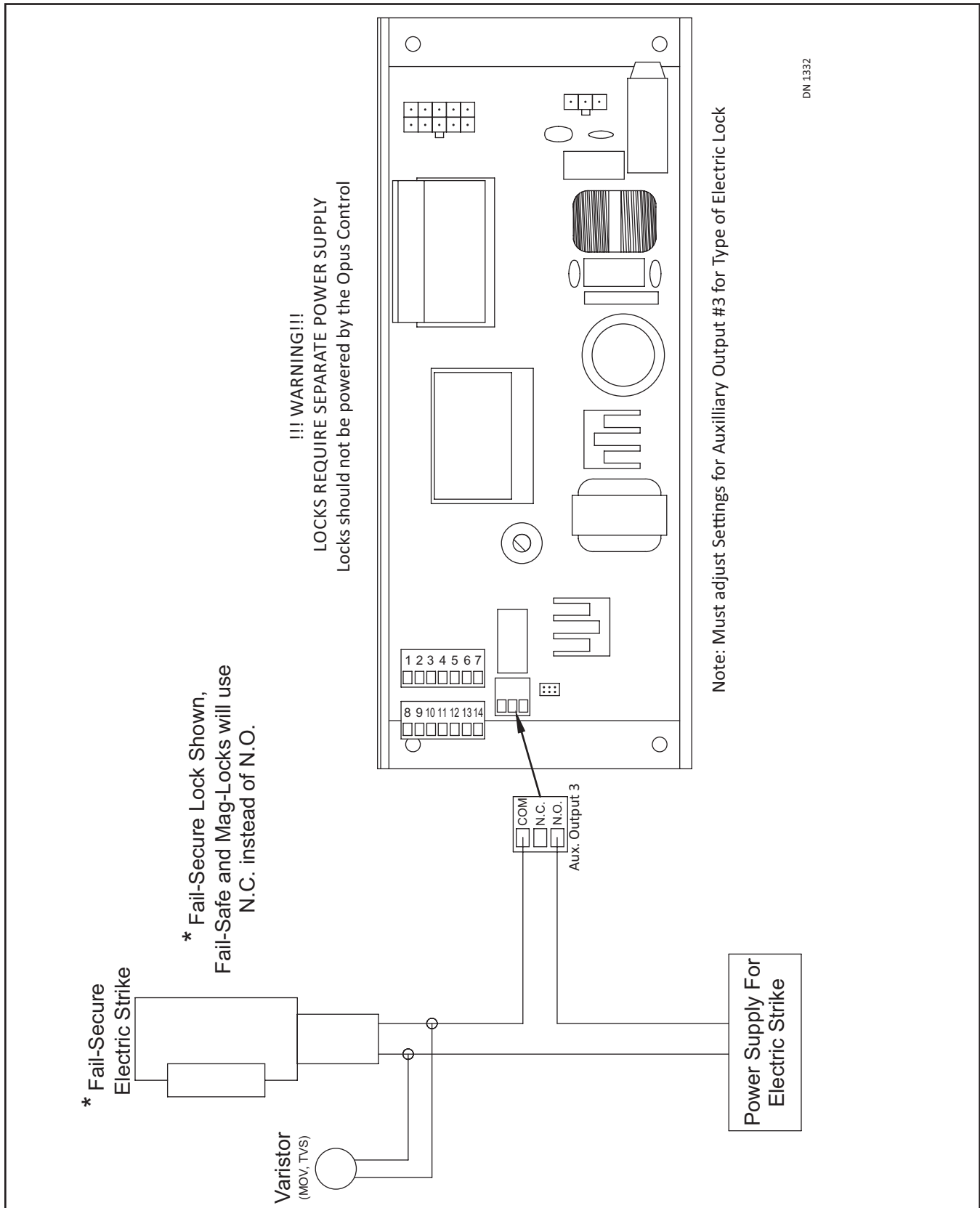


Section 7c. Safety

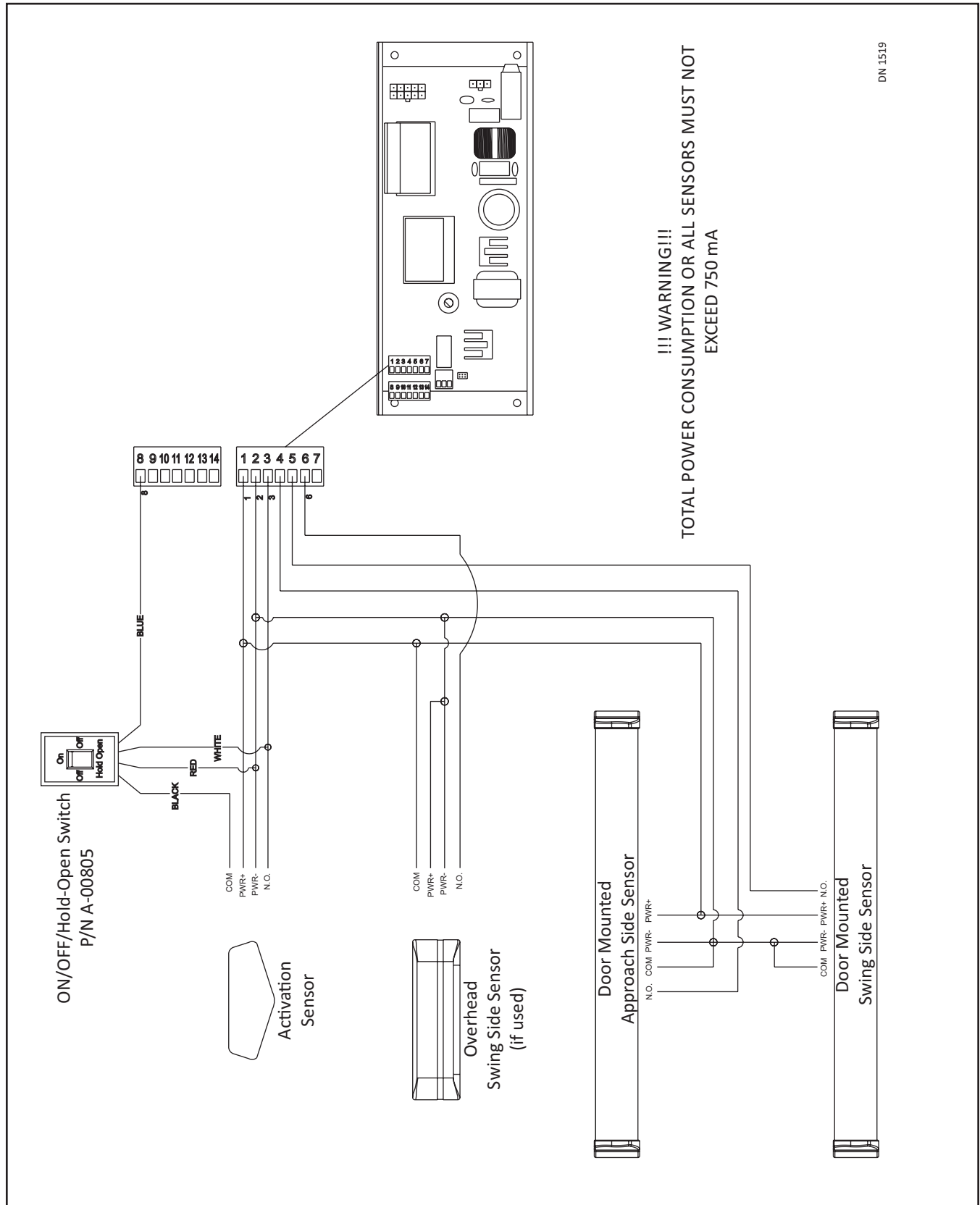




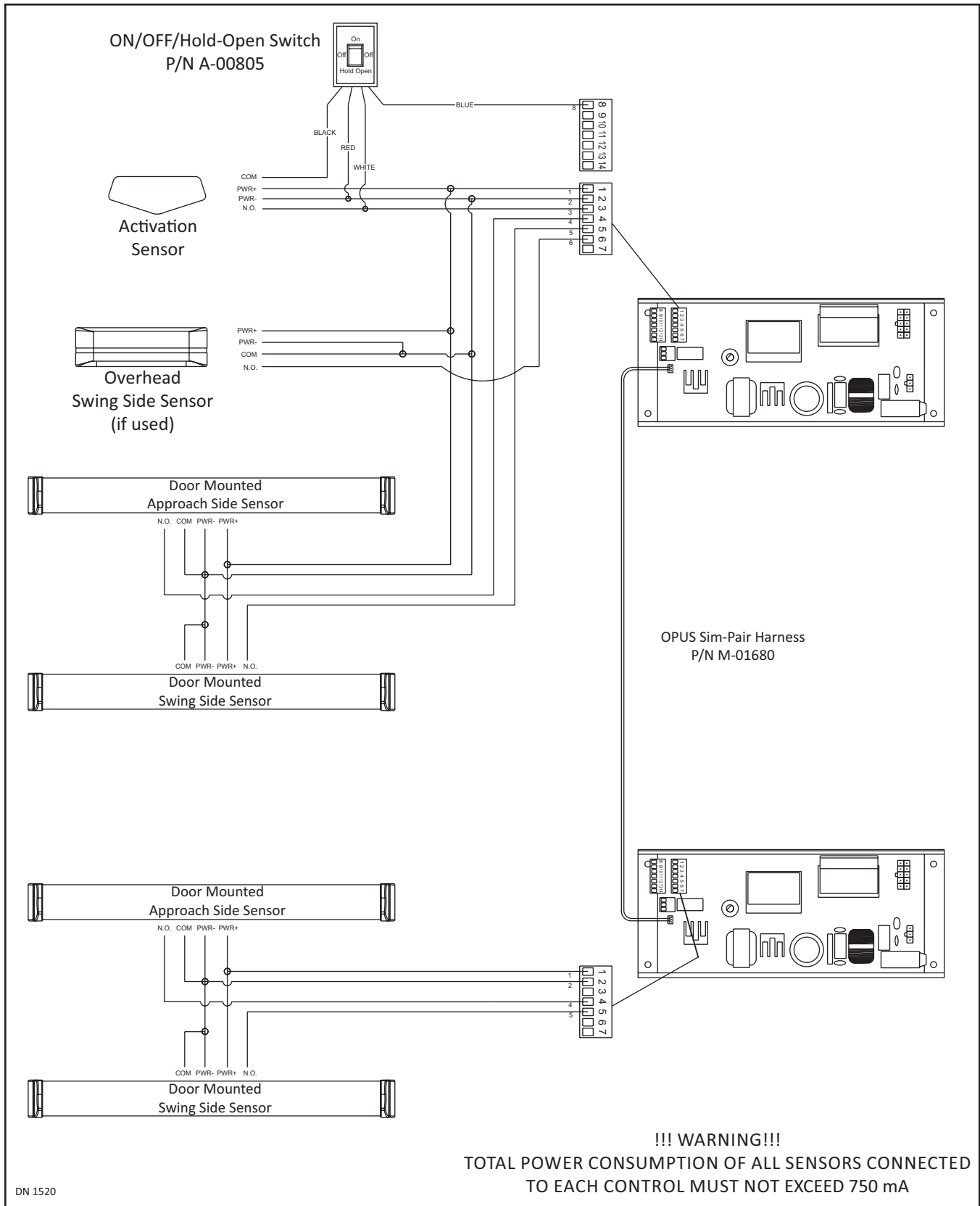
## Section 7d. Lock



## Section 7e. Standard Wiring for Single Full-Automatic



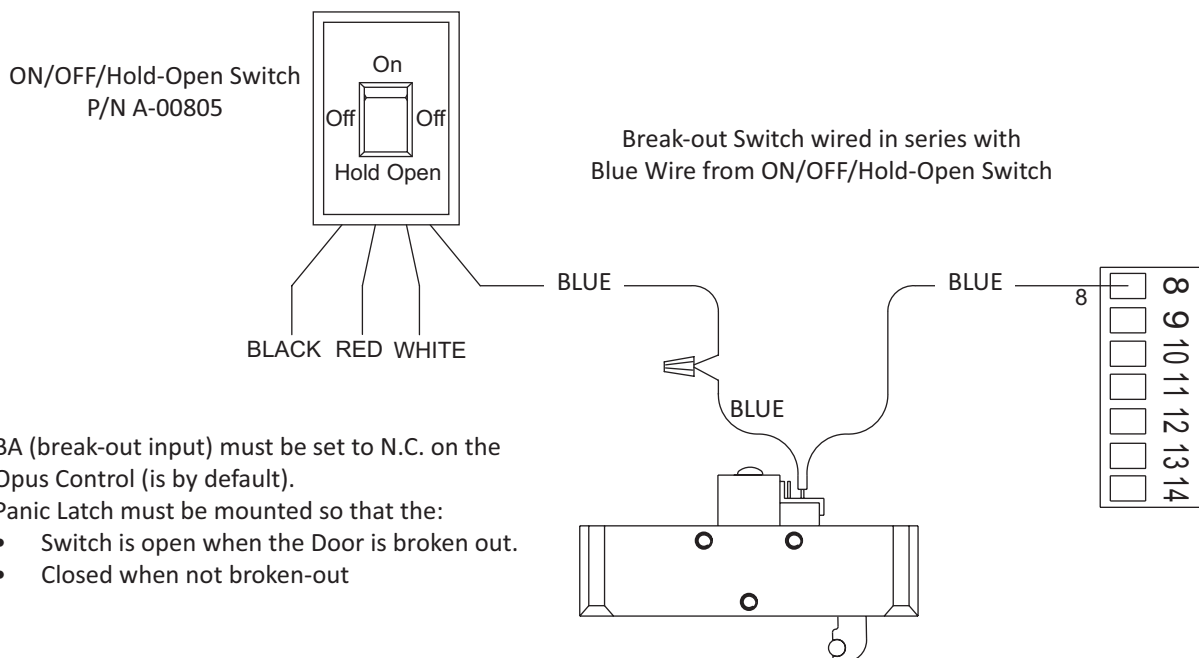
## Section 7f. Standard Wiring for Simultaneous Pair Full-Automatic



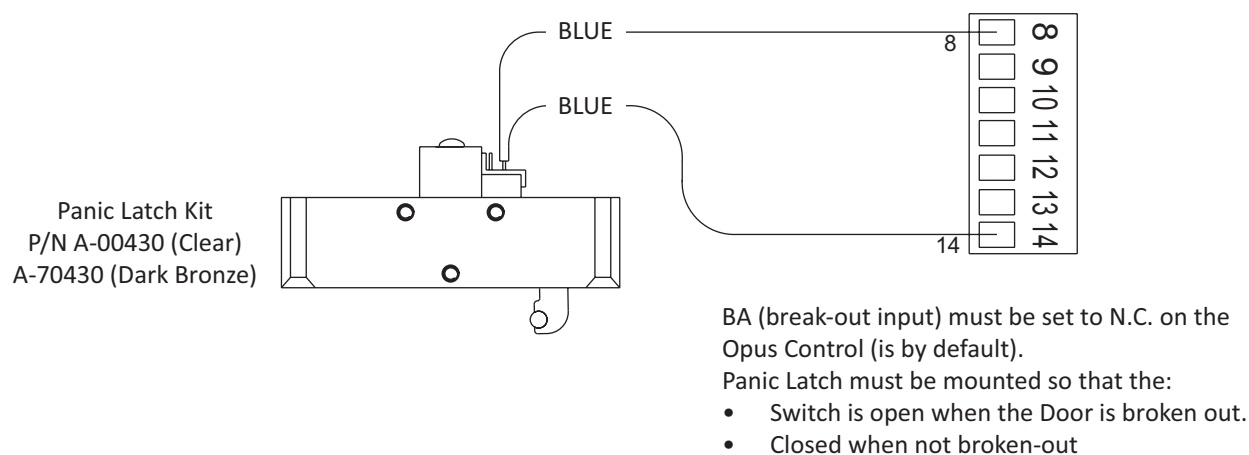
DN 1520

## Section 7g. Connecting a Break-Out Switch

### BREAK-OUT **WITH** ON/OFF/HOLD-OPEN SWITCH



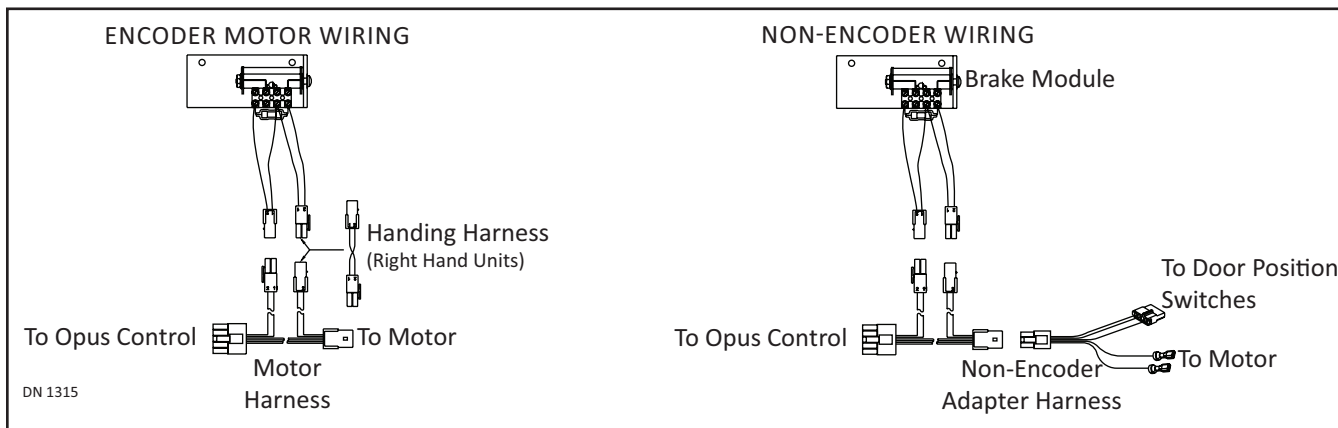
### BREAK-OUT **WITHOUT** ON/OFF/HOLD-OPEN SWITCH



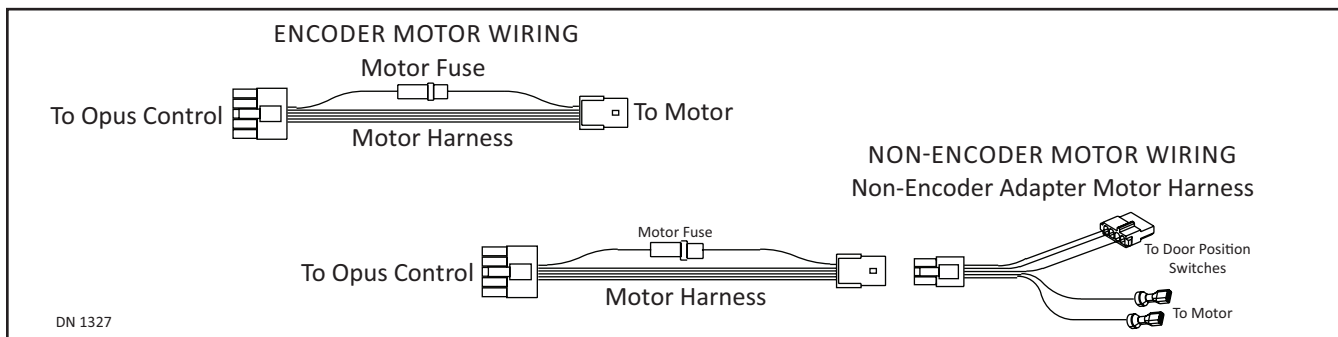
DN 1521

## Section 7h. Motor Wiring

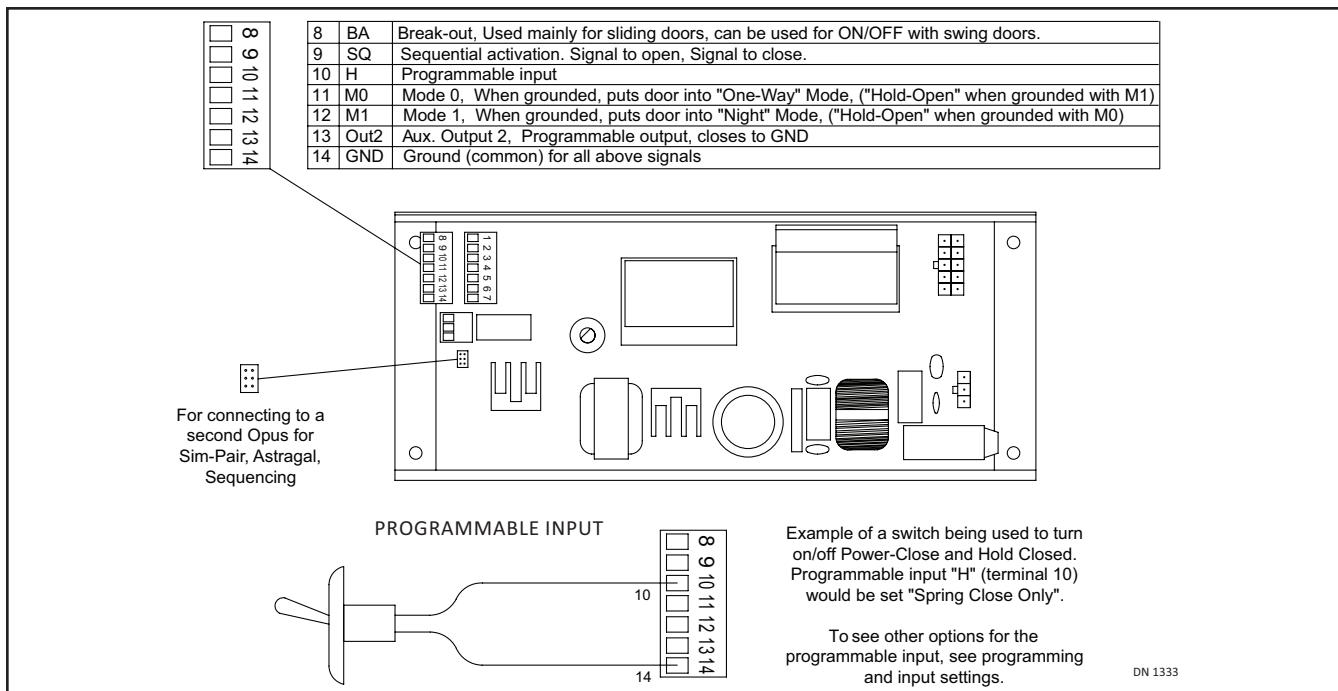
### 7.f.a GT300/400/500/600 (Single)



### 7.f.b GT300/400/500/600 (Simultaneous Pair)



## Section 7i. Other



## CHAPTER 8: Troubleshooting

If the Opus detects an error, the LCD backlight will start flashing and display an Error message within the Error Screen or before the Level Two Screen.

**Table 1:** Error Message

Error Msg	Description	Resolution
Recycle Warning	Recycle was detected more than (5) times while opening or closing cycle continuously.	<ul style="list-style-type: none"> <li>▶ Check Door resistance and Door Path for resistance to movement. <ul style="list-style-type: none"> <li>• It may be necessary to adjust the Recycle Sensitivity.</li> </ul> </li> </ul>
MPU Error	Microprocessor detects errors within the Internal or External Circuits.	<ul style="list-style-type: none"> <li>▶ This could be a random error. <ul style="list-style-type: none"> <li>• If the Error occurs repeatedly, please replace the Opus Control.</li> </ul> </li> </ul>
Drive Circuit Error	If the Drive Circuit detects an unusual state, the Opus will stop door movement. Possible causes are: <ul style="list-style-type: none"> <li>▶ Over current at motor</li> <li>▶ Abnormal voltage at Motor Circuit</li> <li>▶ Abnormal value from Motor Current detection.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Check the Motor connection. <ul style="list-style-type: none"> <li>• Opus Control may not be connected to the motor.</li> <li>• Motor wire may be shorted.</li> </ul> </li> <li>▶ If Motor connection is normal; the cause could be electrical noise.</li> <li>▶ If this error doesn't occur repeatedly then it's most likely not an issue.</li> </ul>
Communication Error	<ul style="list-style-type: none"> <li>▶ CAN-bus Communication Error</li> <li>▶ Can happen in Simultaneous Pair applications.</li> </ul>	Check the CAN-bus Cable between the two Opus Controls.
61 Sensor Error	<ul style="list-style-type: none"> <li>▶ The Sensor must support active monitoring.</li> <li>▶ This error could occur when the sensors are setup for Health Check through: <ul style="list-style-type: none"> <li>• Output 1,2 or 3</li> <li>• Input 61, 62, 6B</li> </ul> </li> <li>▶ SWL is set for Safety Check and the sensor doesn't respond to the safety check signal.</li> </ul>	Turn the power off and then on to see if the error clears. If not then check the wiring from the sensor to the Output terminal. Possibly replace the sensor.
62 Sensor Error		
6B Sensor Error		
SWL Sensor Error		

**Notice:** If after troubleshooting a problem, and a satisfactory solution cannot be achieved, please call Nabco Entrances at 1-877-622-2694 between 8 am – 4:30pm Central time for additional assistance.

**DO NOT** leave any problem unresolved. If the door cannot be repaired immediately, turn off the door and leave it inoperable until repairs can be made. Advise the owner NOT to operate the door in the automatic mode until repairs are effected. NEVER leave a door operating without all safety detection systems operational.