



Opus Control Wiring and Programming Installation Manual

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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.

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CHAPTER 1: SAFETY

SECTION 1.1: 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.

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.

SECTION 1.2: General Safety Recommendations

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.

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.

WARNING

Read, study and understand the 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.

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

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

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.

Notice: This manual, the owner's manual and all other associated manuals must be given to and retained by the purchasing facility or end user.

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

CHAPTER 2: SCOPE

SECTION 2.1: 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.

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 2.2: Objective

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

- ▶ New Swing and Folding Doors.
- ▶ Existing swing and folding doors using Analog, Magnum, or U01-U19 controls (works with encoders or microswitches).
- ▶ Existing sliding doors using U01-U19 controls. Retrofit kits can be purchased by contacting Customer Service at 1-888-679-3319.

This manual offers step by step instructions. Do Not take shortcuts.

CHAPTER 3: FEATURES

Specification	Description
Power Close	Built-in
Back Check Angle Adjustment	▶ 5 to 35 degrees from Full Open position ▶ Used with Encoder Motor only.
Latch Check Angle Adjustment	▶ 10 to 40 degrees from Full Closed position ▶ Used with Encoder Motor only.
Built In Sequencer	Can activate: <ul style="list-style-type: none"> ▶ Electric Strikes ▶ Electric Latch Retracted Panic Devices

CHAPTER 4: SPECIFICATIONS

SECTION 4.1 General Specifications

Specification	Description
Temperature Range	-13 degrees to 140 degrees Fahrenheit
Motor Type	DC Brush Motor with Encoder, 115V
Number of Signal Inputs	<ul style="list-style-type: none"> ▶ 1 x Activation ▶ 2 x Door Mode ▶ 2 x Safety ▶ 1 x Sequential ▶ 1 x Breakout (stop) ▶ 2 x Programmable
Number of Outputs	<ul style="list-style-type: none"> ▶ 1 x Electric Lock Form C Relay ▶ 2 x Programmable Transistor Outputs

SECTION 4.2 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 all Automatic Door systems.

Table 1 Wiring

Item	Description
Power Input	100VAC - 130 VAC, AC 50-60 Hz; 3A (NABCO recommends min. 5A service)
Power for accessories	12VDC; 750mA

Item	Description
Output Rating	Transistor Output; 100mA @ 12VDC
Relay Output Rating	Mechanical Relay Output; 3A at 110VAC
F1 Fuse	120VAC Power Circuit of Control

Table 2 Power Draw Common Accessories

Sensor	Part Number	Current Consumption	
Acuvision	V-00202	80mA	(ea.unit) at 12VDC
Optex Reaction	V-00173	125mA	
Acusensor M	A-01306	150mA	
Optex i-one	V-00055	130mA	
Radio Control Receiver	24-11467	50mA	
CX33 Logic Relay	V-00734	320mA	

SECTION 4.3 Output Power Guidelines

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 below:

Example: An Automatic Door System is to be fitted with the following devices:

$$\begin{aligned}
 2 \times \text{Acusensor M @ } 150 \text{ mA} &= 300 \text{ mA} \\
 1 \times \text{Cp/RX Radio Control Receiver @ } 50 \text{ mA} &= \underline{50 \text{ mA}} \\
 \text{Total} &= 350 \text{ mA}
 \end{aligned}$$

350mA does not exceed total current draw.

An Auxiliary Power Supply does not need to be used.

CHAPTER 5: 120 VAC GENERAL WIRING

WARNING

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

Electrical circuit to Nabco operator must not be not shared with other equipment such as lighting, cash registers, or any device that might cause electrical interference on the circuit.

CAUTION

Keep sufficient spacing between high-voltage and low-voltage wiring. 120 VAC Power wires must be routed (separate from other wiring) located near the top of inside Header.

CAUTION

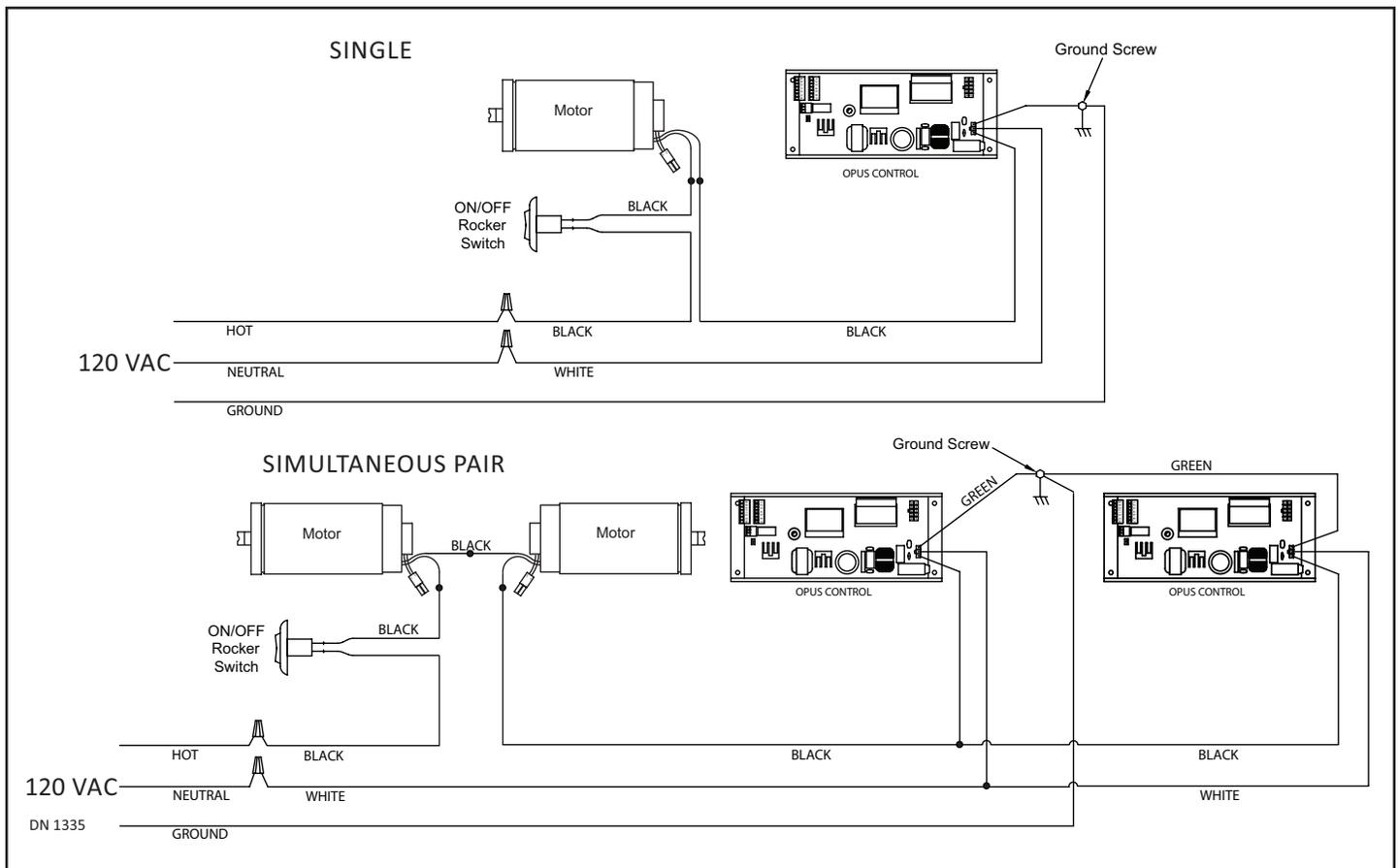
Ensure that incoming electrical ground is properly secured to the grounding screw or grounding wire, whichever is provided.

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.

Attention: Electrical circuit to Nabco operator must not be shared with other equipment such as lighting, cash registers, or any device that might cause electrical interference on the circuit.

Attention: Any non-factory low voltage wiring added inside the Header must be Type CL2 wire or the equivalent in accordance with Article 725 of the NEC.

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



CHAPTER 6: THE OPUS CONTROL

The Opus Control is used to power and control operating characteristics of the door with the use of harnesses and wiring.

Note: When the LCD Screen is LIT, the Hold Close feature is disabled. When the LCD screen is OFF, the Hold Close feature is enabled.

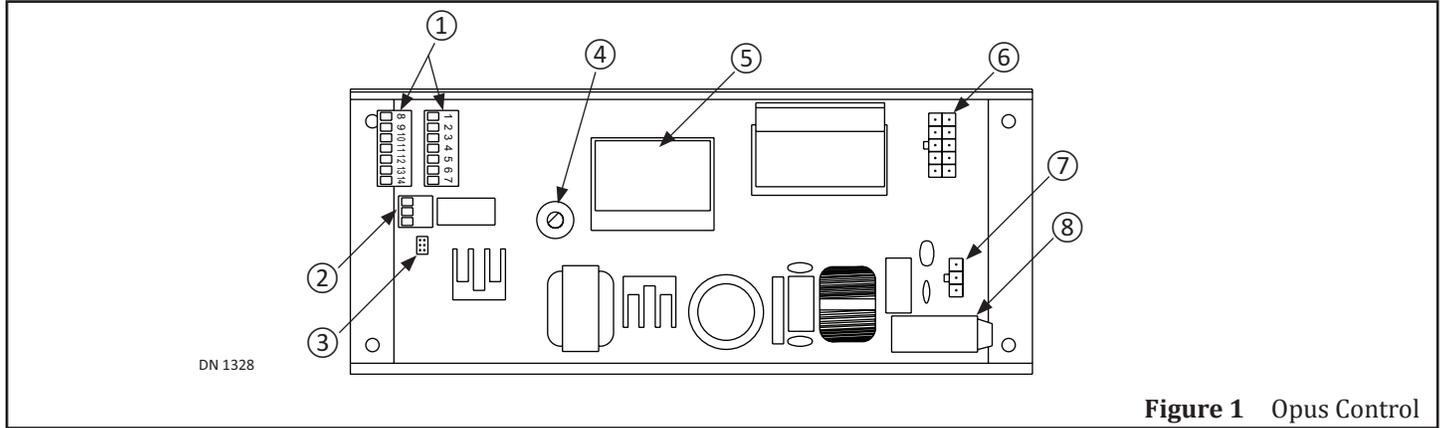


Figure 1 Opus Control

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

CHAPTER 7: THE ROTARY DIAL

- ▶ Push down on the Rotary Dial:
 - Long push (2) seconds to gain access to LCD Category Screens.
 - Short push under (2) seconds to access Sub-level screens, and to selected/unselect menu items.
 - Long push (2) seconds to go back to Level Two or Level One screens.
- ▶ Turn the Rotary Dial (2) clicks to advance through each menu item:
 - Clockwise: To scroll forward through screens and programming options.
 - Counterclockwise: To scroll backward through screens and programming options.

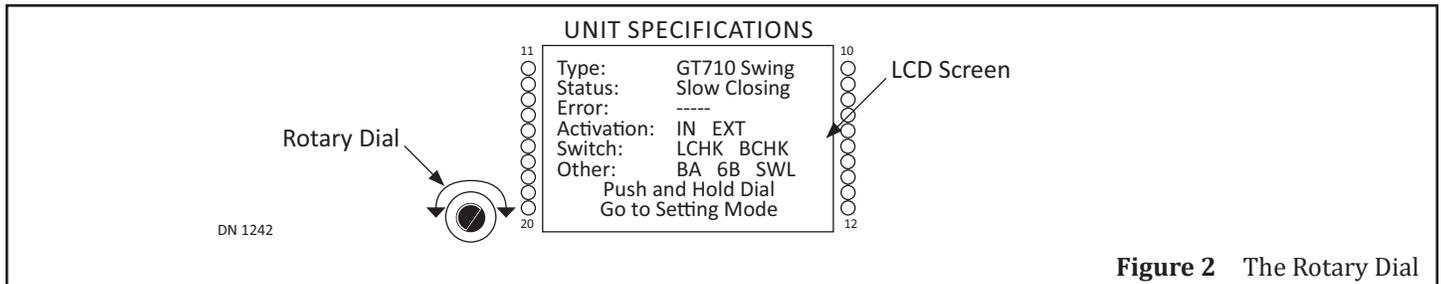


Figure 2 The Rotary Dial

CHAPTER 8: LCD CATEGORY SCREENS

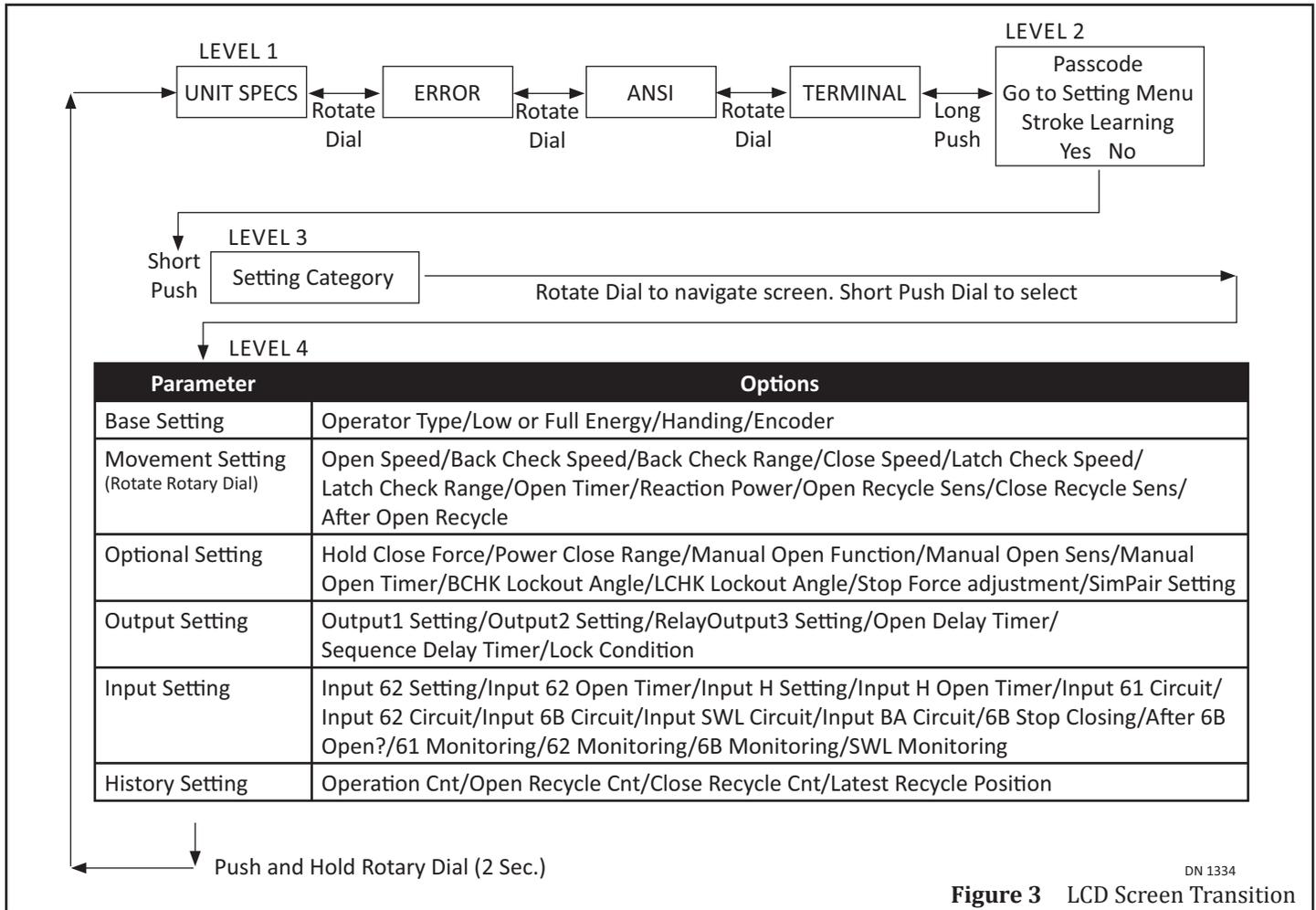


Figure 3 LCD Screen Transition

SECTION 8.1: Level One: Specification Screens

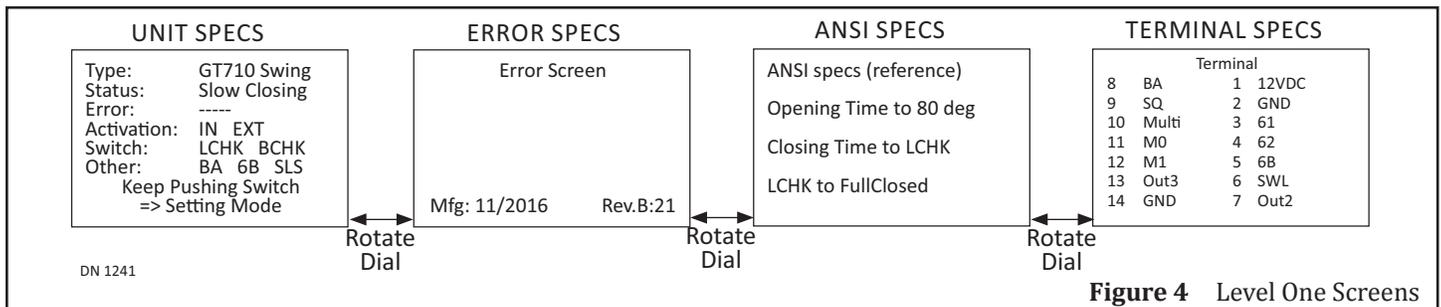


Figure 4 Level One Screens

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.

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 (4) 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 Table 5 The screen above shows the Opus control installed on a GT710.

▶ Error Specifications:

- This screen will only display an Error Code in the event there is an Error. Otherwise this screen stays blank.

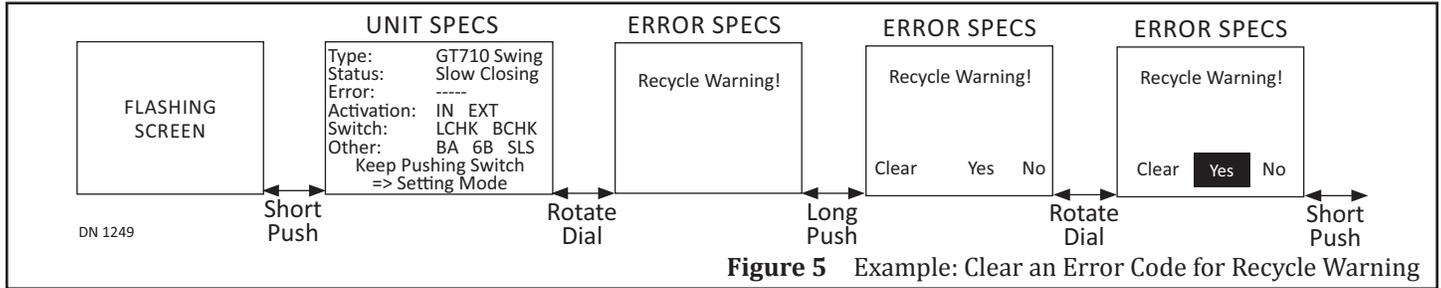


Figure 5 Example: Clear an Error Code for Recycle Warning

▶ 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.

SECTION 8.2: Level Two: Access Screen

Note: The "Activate Passcode" option is only displayed in the event "0045" had not already been entered.

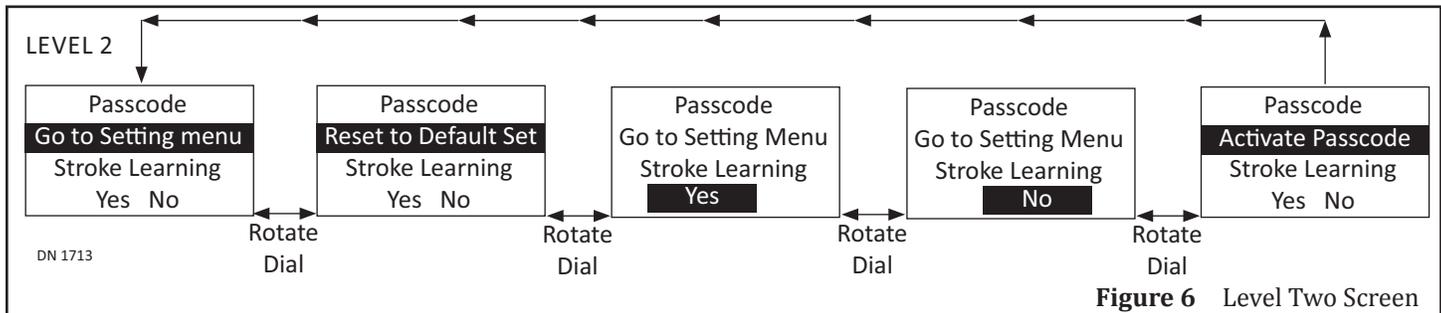


Figure 6 Level Two Screen

Attention: To prevent tampering, a Universal Passcode (0045) has been programmed into all Opus Controls. This Passcode cannot be changed, but can be turned OFF and ON.

Attention: Do Not activate Passcode (0045) until programming of the Opus Control is complete. Failure to do so, will force the User to enter (0045) each time a change is made.

8.2.1 Enter Passcode

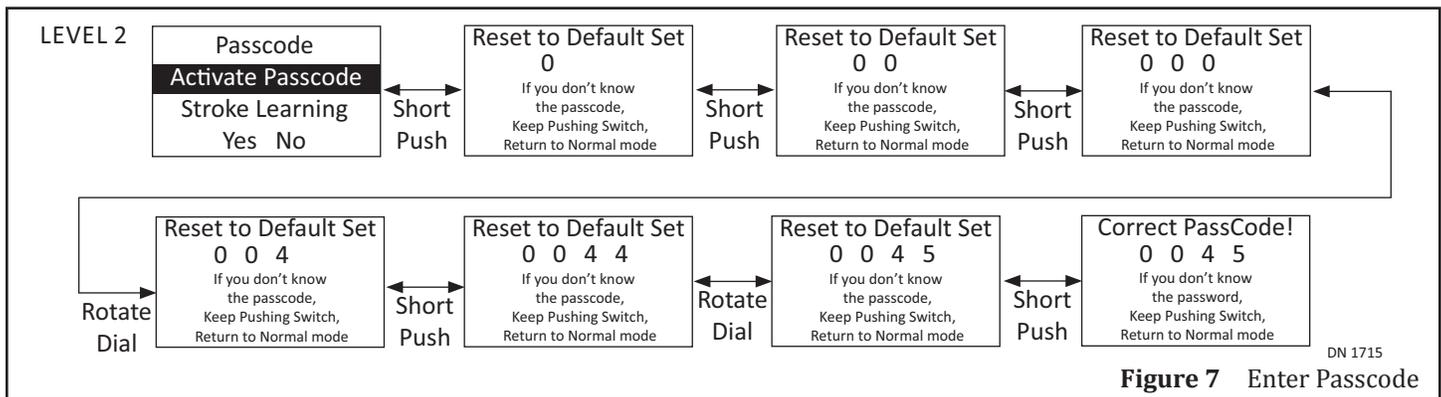
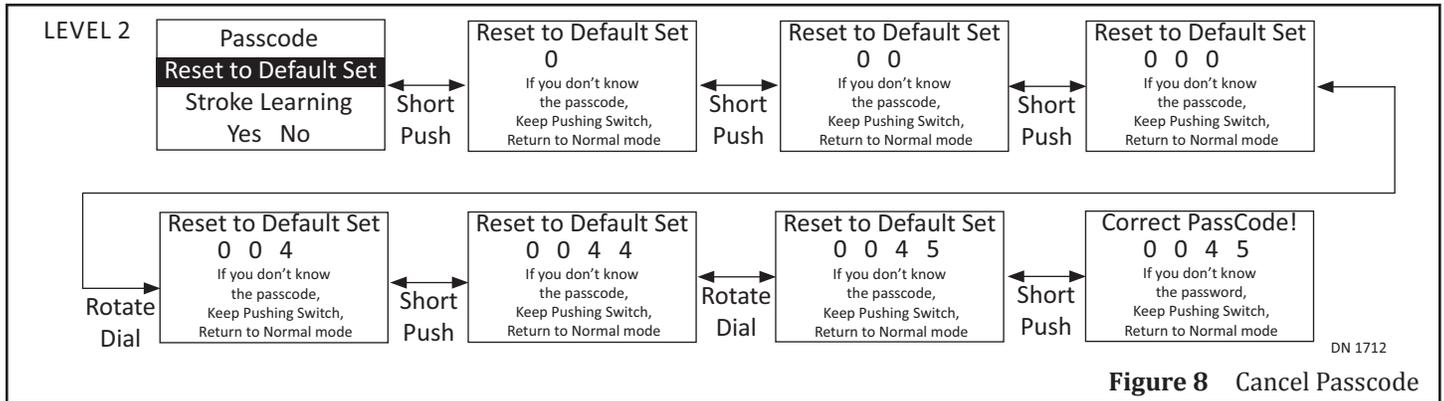


Figure 7 Enter Passcode

8.2.2 Cancel Passcode or Reset to Default

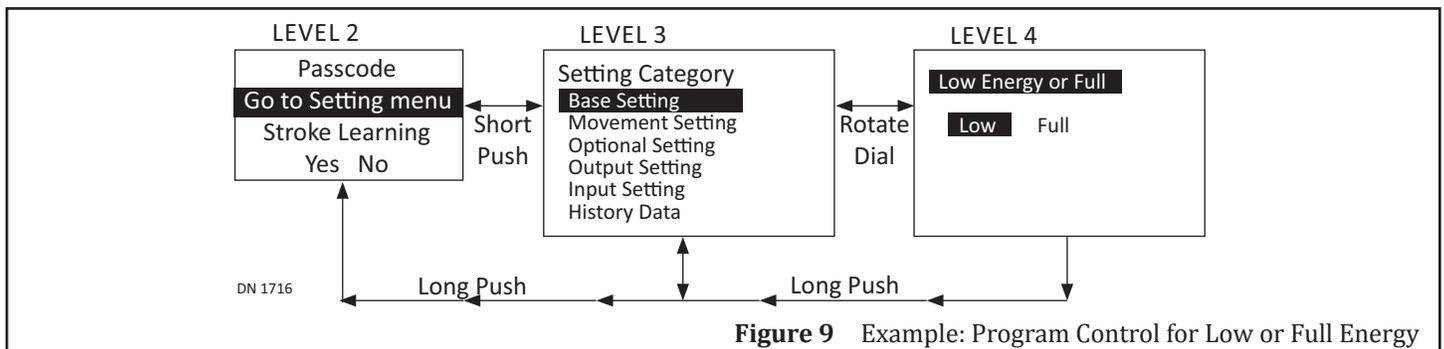


8.2.3 Stroke Learning

Stroke Learning is used to measure from Fully Closed to Fully Open points in effort to determine where Check Points should happen. Stroke Learning is also used to determine if an existing Operator Type is correct, and/or to determine if Handing is correct.

1. Briefly press down on the Rotary Dial to select:
 - ▶ Yes
 - Opus will start the Stroke Learning Cycle
 - The Control will check to see if the Door is fully closed → 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 Door Hand are the wrong setting, the following messages after the Stroke Learning Cycle will display: “Wrong Hand! Restroke”. If this event occurs, enter the proper settings within the Base Setting Category screens.

SECTION 8.3: Level Three and Four: Setting Category and Menu Items



CHAPTER 9: PROGRAMMING MENUS

SECTION 9.1: Base Settings

Base Setting			
Setting Category	Menu Item	Default	Action
Operator Type	<ul style="list-style-type: none"> ▶ GT-300/400/500 Swing ▶ GT-1175 Slide ▶ GT-710 Swing 	GT-710 Swing	<ul style="list-style-type: none"> ▶ Select Operator Type ▶ If installing a GT-1400 Fold Door, select GT300/400/500 Swing
Low or Full Energy (For Swing Doors)	<ul style="list-style-type: none"> ▶ Low ▶ Full 	Low	<ul style="list-style-type: none"> ▶ Low Energy operation ▶ Full Energy operation
Door Hand (for Swing Doors)	<ul style="list-style-type: none"> ▶ Left ▶ Right 	Left	From the Exterior Side of Building, determine which Handing to enter: Left or Right
Door Hand (for Fold Doors)	<ul style="list-style-type: none"> ▶ Left ▶ Right 	Left	From the Exterior Side of Building, determine which Handing to enter: Left or Right
Door Hand (for Slide Doors)	<ul style="list-style-type: none"> ▶ Left ▶ Right 	Left	From the Exterior Side of Building, determine which Handing to enter: Left or Right
Encoder (For Swing Doors)	<ul style="list-style-type: none"> ▶ Yes ▶ No 	Yes	<ul style="list-style-type: none"> ▶ Select No if Microswitches and Cams are utilized
Reduced Stroke (for Slide Doors)	<ul style="list-style-type: none"> ▶ Yes ▶ No 	No	<ul style="list-style-type: none"> ▶ To reduce opening, manually move door and push YES

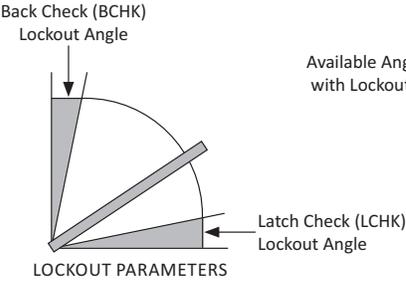
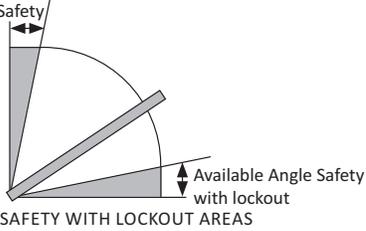
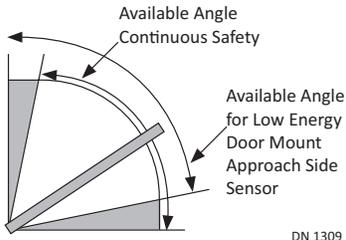
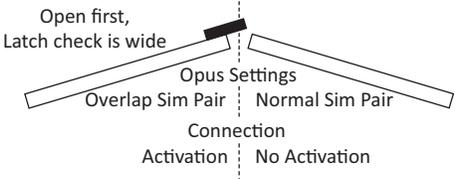
SECTION 9.2: Movement Settings

Movement Setting			
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"> ▶ Swing Door: 2-1/2° to 35° of Fully Open ▶ Slide Door: 1" to 13-3/4" of Fully Open
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"> ▶ Swing Door: 10° to 45° of Fully Closed ▶ Slide Door: 1" to 13-3/4" of Fully Closed

Movement Setting			
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	<ul style="list-style-type: none"> ▶ Determines how hard the door will push against an obstruction during closing. ▶ Close Recycle is disabled when “No Power Close” and Close Recycle Sensitivity “7” is selected.
After Open Recycle	Slow Open, Stop	Slow Open	Determines what happens after a recycle during Opening cycle.
Close Recycle Reopen	Yes	Yes	Determines what happens after a recycle while closing cycle.
	No		

SECTION 9.3: Optional Settings

Optional Setting				
Parameter	Range	Default	Description	
Hold Close Force	0 - 3	0	0	OFF
			3	Strongest Hold Close force
Power Close Range	No Power Close	No Power Close	Closing assisted by Motor to fight wind or stack pressure	
	Whole Close Cycle			
	Latch Check Only			
	Latch and Back			
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"> ▶ Assisted Power from motor when door is pushed ▶ Assisted Power depends on how strong door is pushed ▶ Power is always within “Open recycle sensitivity” range ▶ Door will stop during the event that the door is not pushed 	
Manual Open Sensitivity	0 - 3	1	Angle/force to activate Push and Go	
Manual Open Timer	0-10, 12, 15, 20, 25, 30 Same as Open Timer	4	Hold Open time for Manual Opening	
BCHK Lockout Angle	0 - 9 A	0	<ul style="list-style-type: none"> ▶ Sensor lockout angle at Back Check ▶ Range is from 0° to 30° from Fully Open ▶ Used for Swing or Fold Door Units only 	
			0	Narrow
			A	Wide
LCHK Lockout Angle	0 - 9 A	0	<ul style="list-style-type: none"> ▶ Sensor lockout angle at Latch Check ▶ Range is from 0° to 30° from Fully Close ▶ Used for Swing or Fold Door Units only 	
			0	Narrow
			A	Wide

Optional Setting			
Parameter	Range	Default	Description
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>LOCKOUT PARAMETERS</p> </div> <div style="text-align: center;">  <p>SAFETY WITH LOCKOUT AREAS</p> </div> <div style="text-align: center;">  <p>DN 1309</p> </div> </div>			
Stop Force Adjustment	0 - 7	3	Determines how the door reacts to a continuous safety signal: Slow Open, Stop, or Slow Close
Anti-Slam Open?	Yes No	No	Choose Yes if the door slams open
Sim Pair Setting	Single Door	Single Door	Select type of Door
	Normal Sim Pair		If selected; before returning to last screen, option to copy settings to other Control is given.
	Double Egress		The Activation signal (only) is shared between doors. All other signals are independent.
	Overlap Sim Pair		<ul style="list-style-type: none"> ▶ Overlap Sim Pair is for an Astragal Application. ▶ Opus Control connected to door that must open first must: <ol style="list-style-type: none"> 1. Have activation signals connected to it 2. Be set to "Overlap Sim Pair" ▶ The delayed control will be set to "Normal Sim Pair" ▶ Latch Check range is wider than normal setting. ▶ If selected; before returning to last screen, the option to copy settings to the other Control is given
 <p>DN 1558</p>			

SECTION 9.4: Output Settings

Parameter	Terminal	Default	Output Setting	
			Range	Description
Output 1	Terminal 7	Full Open	Fully Opened Position	Output doesn't change state
Output 2	Terminal 13	Full Close	Fully Closed Position	Output changes when fully closed
Relay Output 3	Electric Lock Terminals	— —	Closing Status	Output changes when door is closing
			Opening Status	Output changes when door is opening
			Error State Output	Output changes when error detected
			Recycle happened	Output changes when recycle occurs
			Electric Strike Lock	Set for electric strike functionality
			Electric Magnetic Lock	Set for Mag lock functionality
			Air lock	Set for Air lock functionality
			Breakout Pass through	Output 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
			Trmn1 H PassThrough	Passes through a signal from Input H
			Breakout PassThrough	Output changes status when breakout occurs
Bodyguard Output	Outputs data for bodyguard sensors and other sensors that utilize same data			
For Elite N Output	For Elite (N) sensor made by Optex. (Output 1 only)			
Open Delay Timer	N/A	0.4	0.1, 0.4, 1.5 sec After Unlock Input	Delay time after activation to allow lock to unlock before the door starts moving. Only functional if Electric Lock is selected
Sequence Delay Timer	N/A	0	0-10, 12, 15, 20, 25 Same as Open Timer	Amount of Hold Open time after deactivation in seconds
Lock Condition	N/A	Every Fully Closed	Every Fully Closed One way/Night Only	Determines when the electric lock engages

SECTION 9.5: Input Settings

Input Setting				
Parameter	Terminal	Default	Range	Description
Input 62	Terminal 4	Exterior Activation	-- --	No input
			All Mode Activation	Activates in all modes but OFF
			Interior Activation	Activation on interior for One Way mode
			Exterior Activation	Activation on exterior
			Beam Sensor	Beam input
			LE Approach Sensor	LE door mounted sensor
			Unlock Input	Receives unlocked signal from elec Lock
			Spring Close Only	Turns off power close and hold close
			Sequential Input	Takes on activation to open then another to close door
			Open Slow	Causes slow opening of the door
			Safety with Lockout	Swing side header mounted sensor input
			Continuous Safety	Swing side door mounted sensor input
			Reduced Opening	Causes unit to change to reduced open
			Emergency Close	Forces the door to slowly close and lock (if equipped)
		Hold Open Mode	Causes the door to hold open forever	
		Asia Only	AsiaSpec_IntActSwgSd	<ul style="list-style-type: none"> ▶ ANSI does not allow Activation Sensor to be mounted on the Swing side of Door. ▶ If activated, Opus will ignore the Activation Sensor while Door is moving. ▶ This input is for the ASIAN market ONLY.
AsiaSpec_ExtActSwgSd				
Input 62 Open Timer	N/A	Same as Open timer	Same as Open Timer 0 thru 10, 12,15, 20,25 sec	Hold open time for Input 62
Input H Setting	Terminal 10	-- --	-- --	No input
			All Mode Activation	Activates in all modes but OFF
			Interior Activation	Activation on interior for One Way mode
			Exterior Activation	Activation on exterior
			Beam Sensor	Beam input
			LE Approach Sensor	LE door mounted sensor
			Unlock Input	Receives unlocked signal from elec Lock
			Spring Close Only	Turns off power close and hold close
			Sequential Input	Takes on activation to open then another to close door
			Open Slow	Causes slow opening of the door
			Safety with Lockout	Swing side header mounted sensor input
			Continuous Safety	Swing side door mounted sensor input
			Reduced Opening	Causes unit to change to reduced open
			Emergency Close	Forces the door to slowly close and lock (if equipped)
		Hold Open Mode	Causes the door to hold open forever	
		Asia Only	AsiaSpec_IntActSwgSd	<ul style="list-style-type: none"> ▶ ANSI does not allow Activation Sensor to be mounted on the Swing side of Door. ▶ If activated, Opus will ignore the Activation Sensor while Door is moving. ▶ This input is for the ASIAN market ONLY.
AsiaSpec_ExtActSwgSd				

Input Setting				
Parameter	Terminal	Default	Range	Description
Input H Open Timer	N/A	Same as Open Timer	Same as Open Timer, 0 thru 10, 12,15, 20,25 sec	Open Timer Setting for this Terminal only
Input 61 Circuit	N/A	Normally Open	▶ Normally Open ▶ Normally Close	Circuit logic for Input 61
Input 62 Circuit	N/A	Normally Open	▶ Normally Open ▶ Normally Close	Circuit logic for Input 62
Input 6B Circuit	N/A	Normally Open	▶ Normally Open ▶ Normally Close	Circuit logic for Input 6B
Input SWL Circuit	N/A	Normally Open	▶ Normally Open ▶ Normally Close	Circuit logic for Input SWL
Input BA Circuit	N/A	Normally Close	▶ Normally Open ▶ Normally Close	Circuit logic for Input BA
6B Stop Closing	N/A	No	▶ Yes ▶ No	Determines door movement stop or close, when 6B is ON at latch check while closing cycle.
After 6B Open?	N/A	Yes	▶ Yes ▶ No	Determines door movement open or close, after 6B.
61 Monitoring	N/A	Not Active	▶ Active ▶ Not Active	Sensor monitoring function *
62 Monitoring	N/A	Not Active	▶ Active ▶ Not Active	Sensor monitoring function *
6B Monitoring	N/A	Not Active	▶ Active ▶ Not Active	Sensor monitoring function *
SWL Monitoring	N/A	Not Active	▶ Active ▶ Not Active	Sensor monitoring function *
<p>* If Monitoring 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. Monitoring is controlled by the U30 Microprocessor Control for SLIDE doors only.</p>				

SECTION 9.6: History Setting

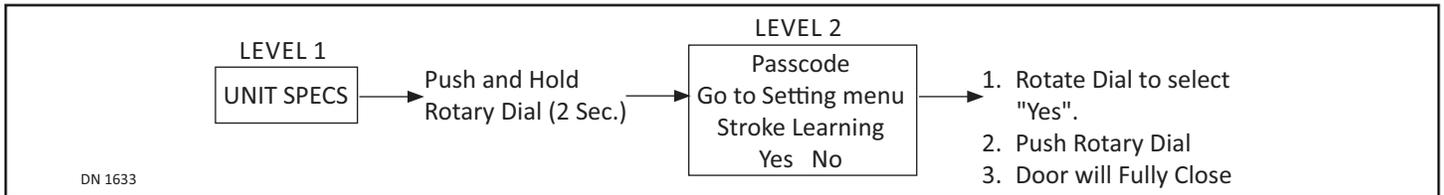
History Data	
Parameter	Description
Operation Cnt	<ul style="list-style-type: none"> ▶ Indicates number of Door open cycles. ▶ Updated every 100 door cycles.
Open Recycle Cnt	Indicates number of times the Door reversed direction during Opening cycle after sensing: <ul style="list-style-type: none"> ▶ 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: <ul style="list-style-type: none"> ▶ An object was struck. ▶ The amount of friction that surpassed the Recycle Sensitivity Setting.
Latest Recycle Position	<ul style="list-style-type: none"> ▶ 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.

SECTION 9.7: Test Open

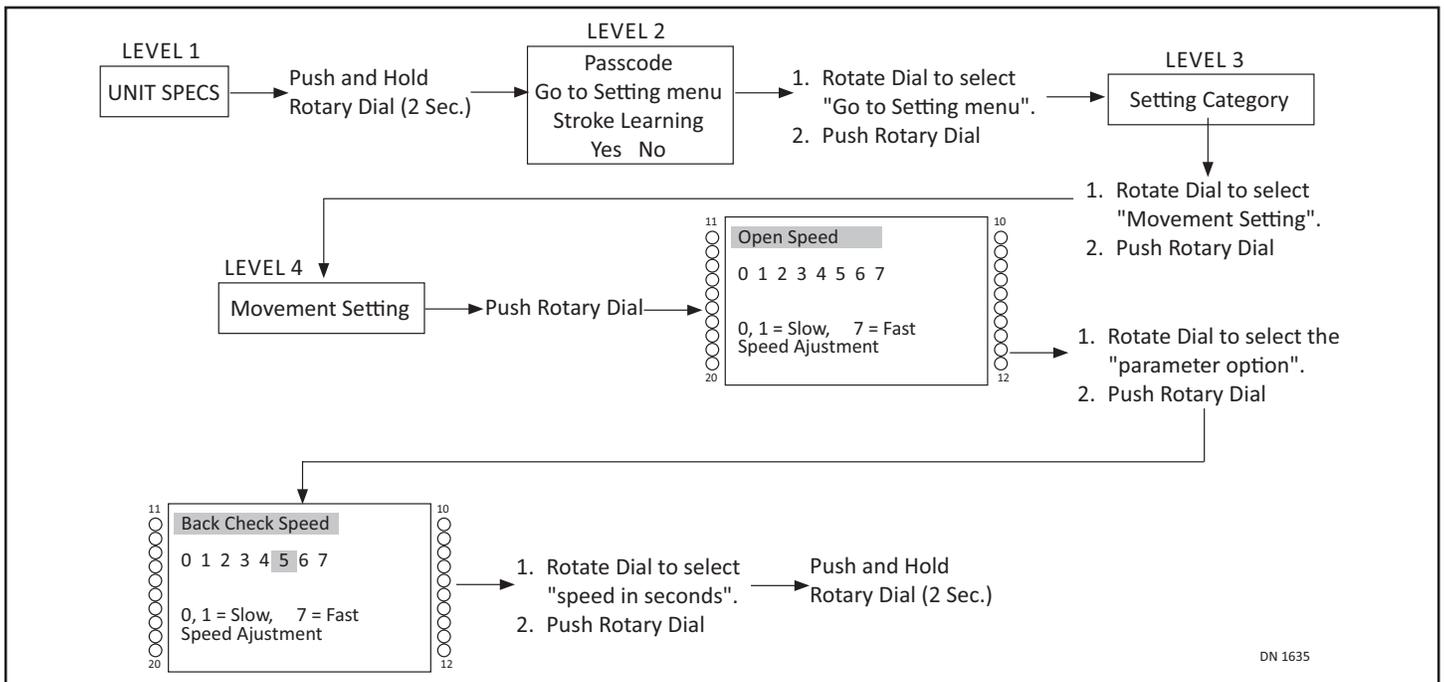
<= Test Open =>
Tests Open/Close door cycle while ignoring Safety Signals.

CHAPTER 10: COMMON PROGRAM ADJUSTMENTS

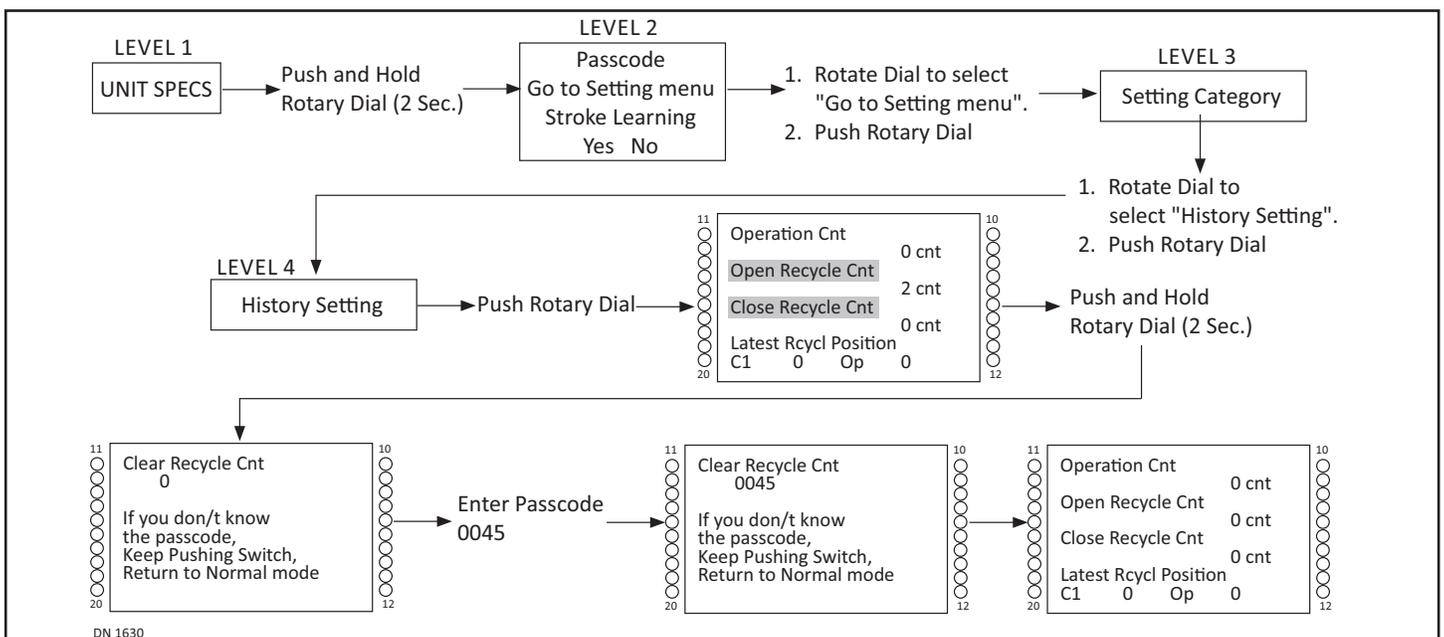
SECTION 10.1: Stroke Learning



SECTION 10.2: Movement Settings

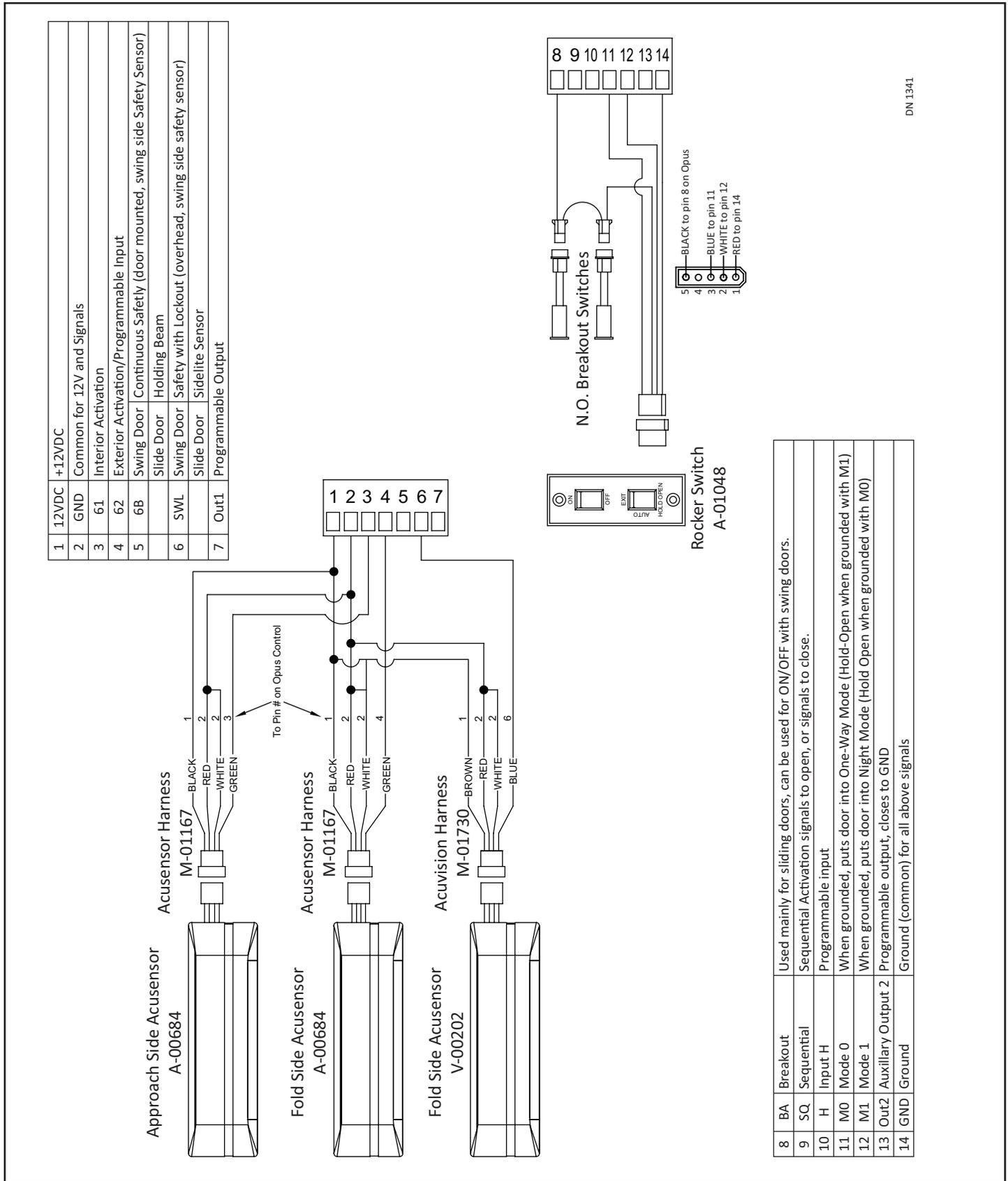


SECTION 10.3: Recycle Count "Reset"



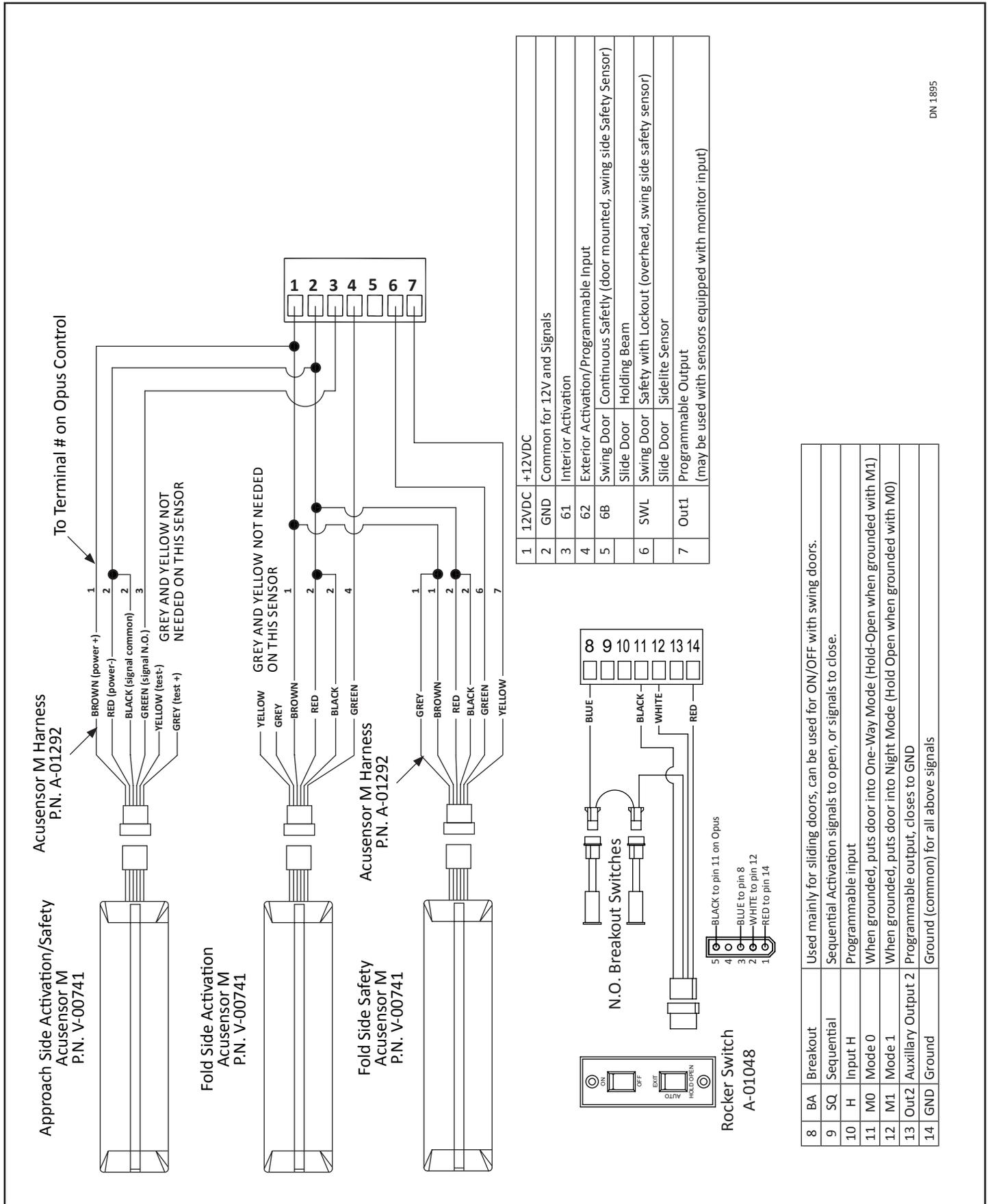
CHAPTER 11: FOLD DOOR WIRING DIAGRAMS

SECTION 11.1: Switches and Sensors



DN 1341

SECTION 11.2: Switches and Sensors with Monitoring

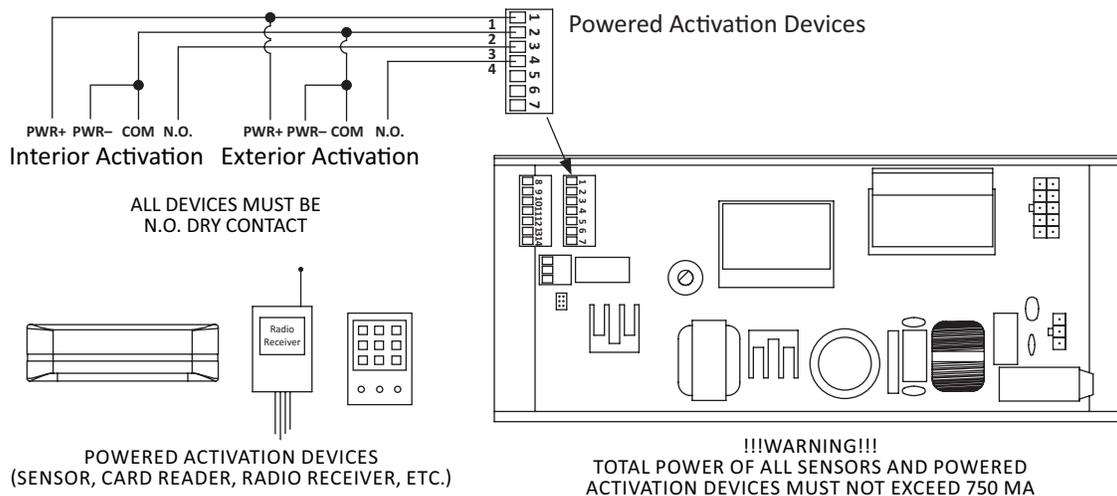
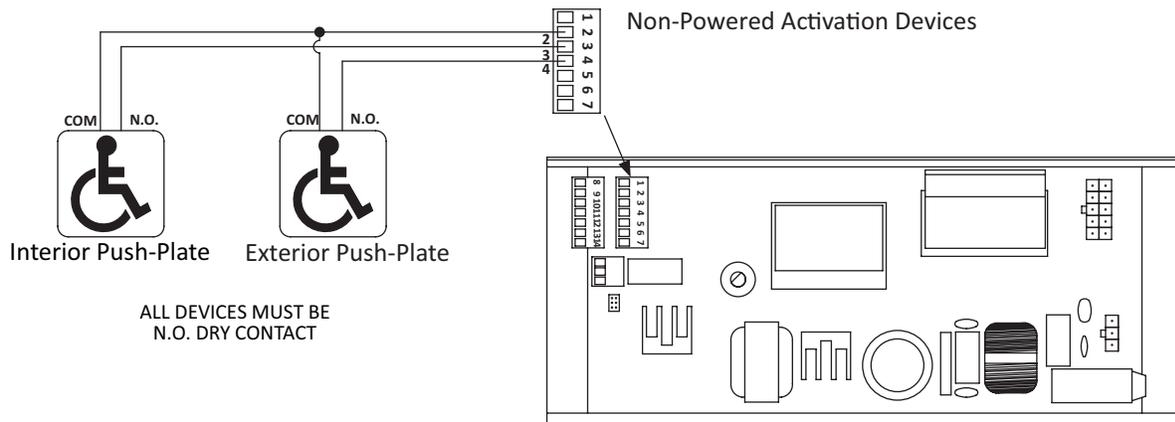


DN 1895

CHAPTER 12: SWING DOOR WIRING DIAGRAMS

SECTION 12.1: Activation

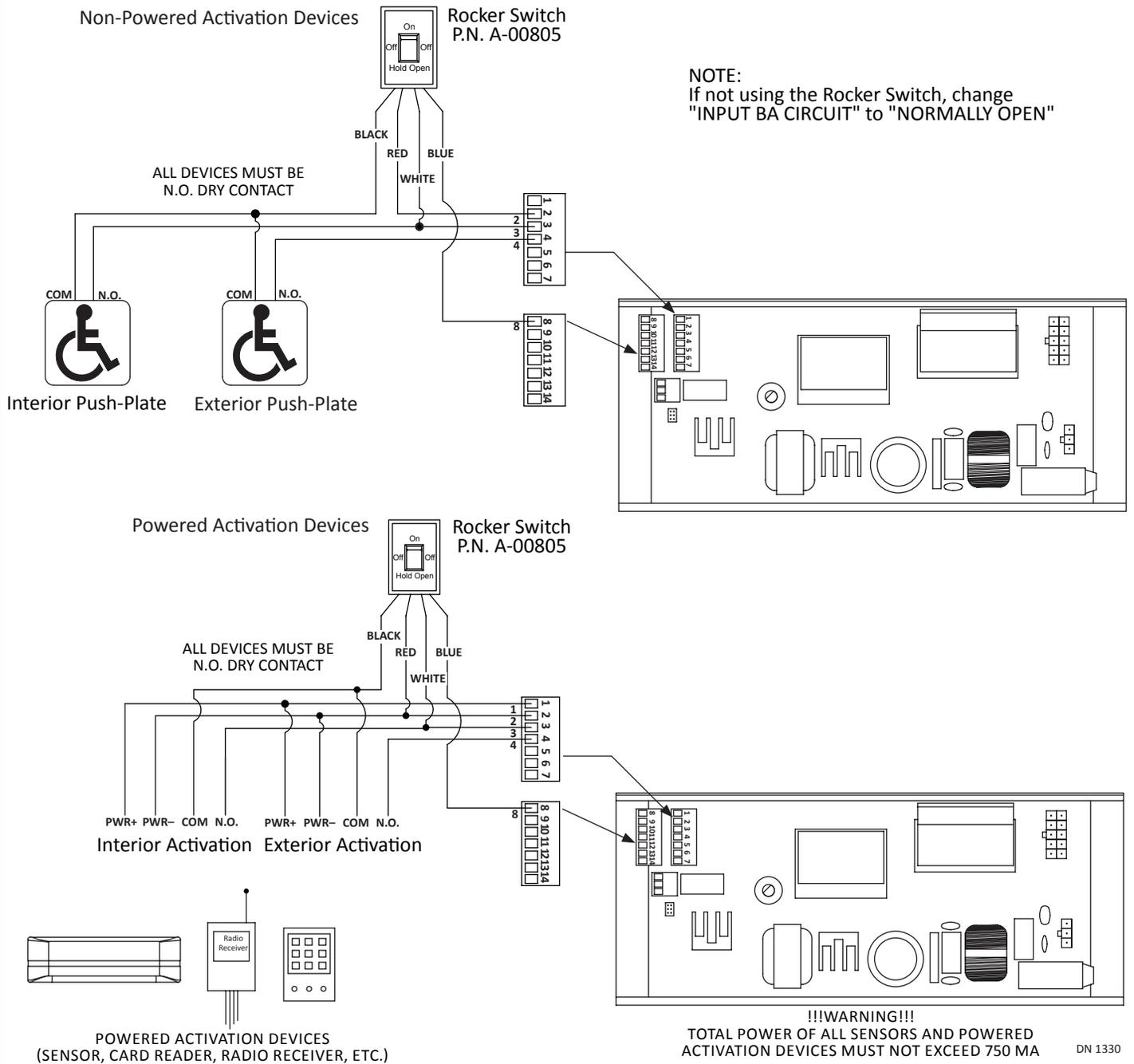
1	12VDC	+12VDC	
2	GND	Common for 12V and Signals	
3	61	Interior Activation	
4	62	Exterior Activation/Programmable Input	
5	6B	Swing Door	Continuous Safety (door mounted, swing side Safety Sensor)
		Slide Door	Holding Beam
6	SWL	Swing Door	Safety with Lockout (overhead, swing side safety sensor)
		Slide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



DN 1329

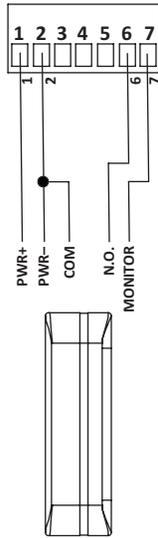
SECTION 12.2: Activation using ON/OFF/Hold-Open Switch

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	



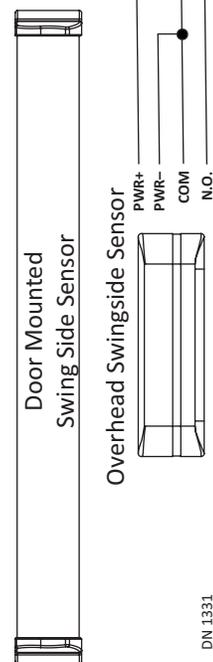
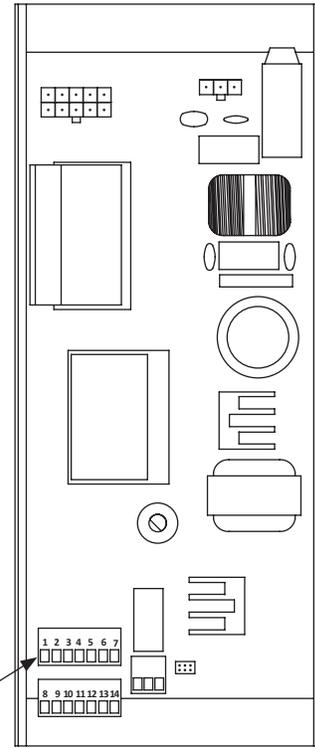
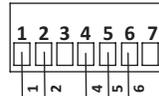
SECTION 12.3: Safety

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



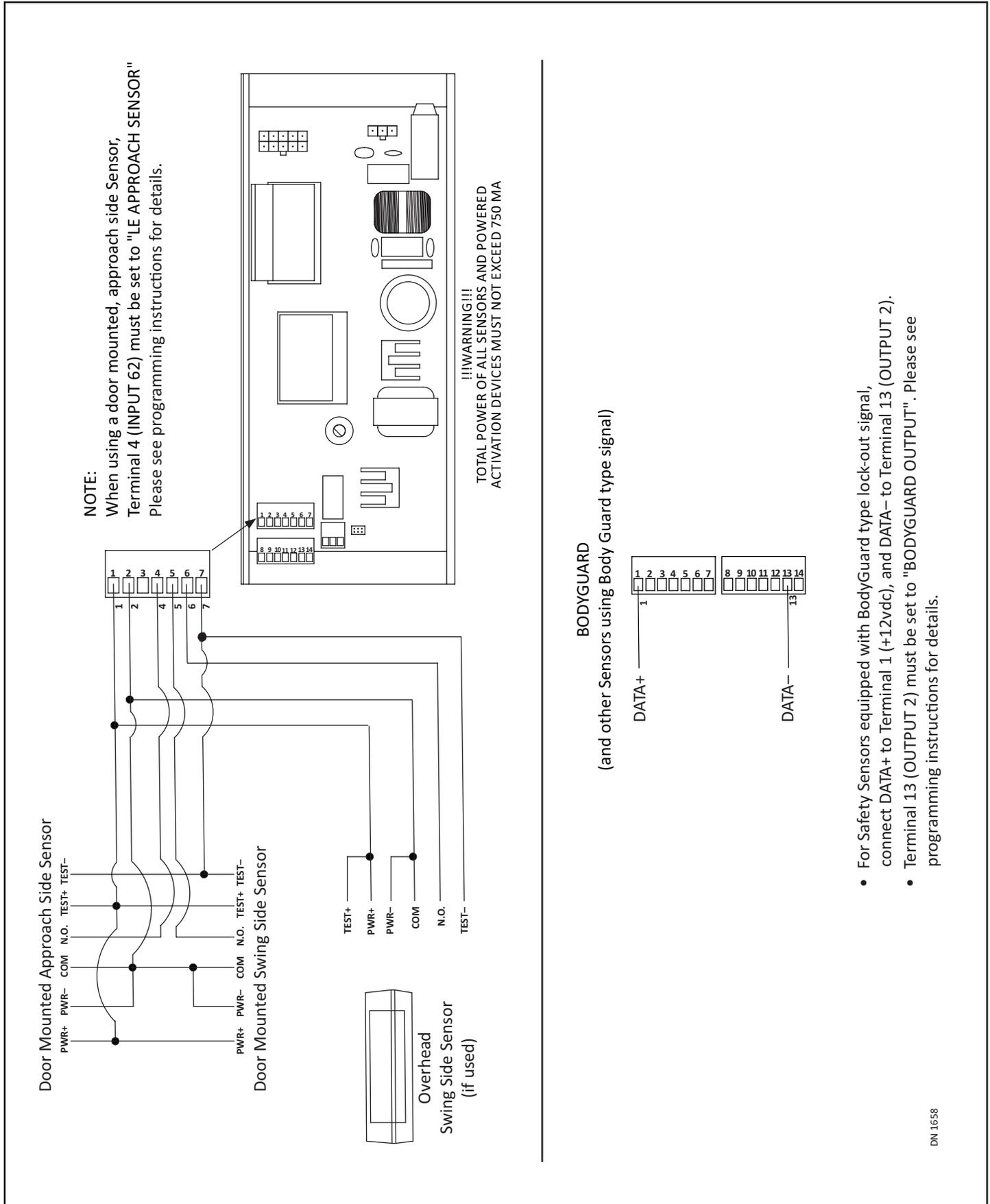
NOTE:

- For Safety Sensors equipped with a monitoring function, TERMINAL 7 should be connected to "MONITOR" Input located on the Sensor.
- TERMINAL 7 (Output 1) must be set to "MONITORING". Please see Programming instructions for details.



DN 1331

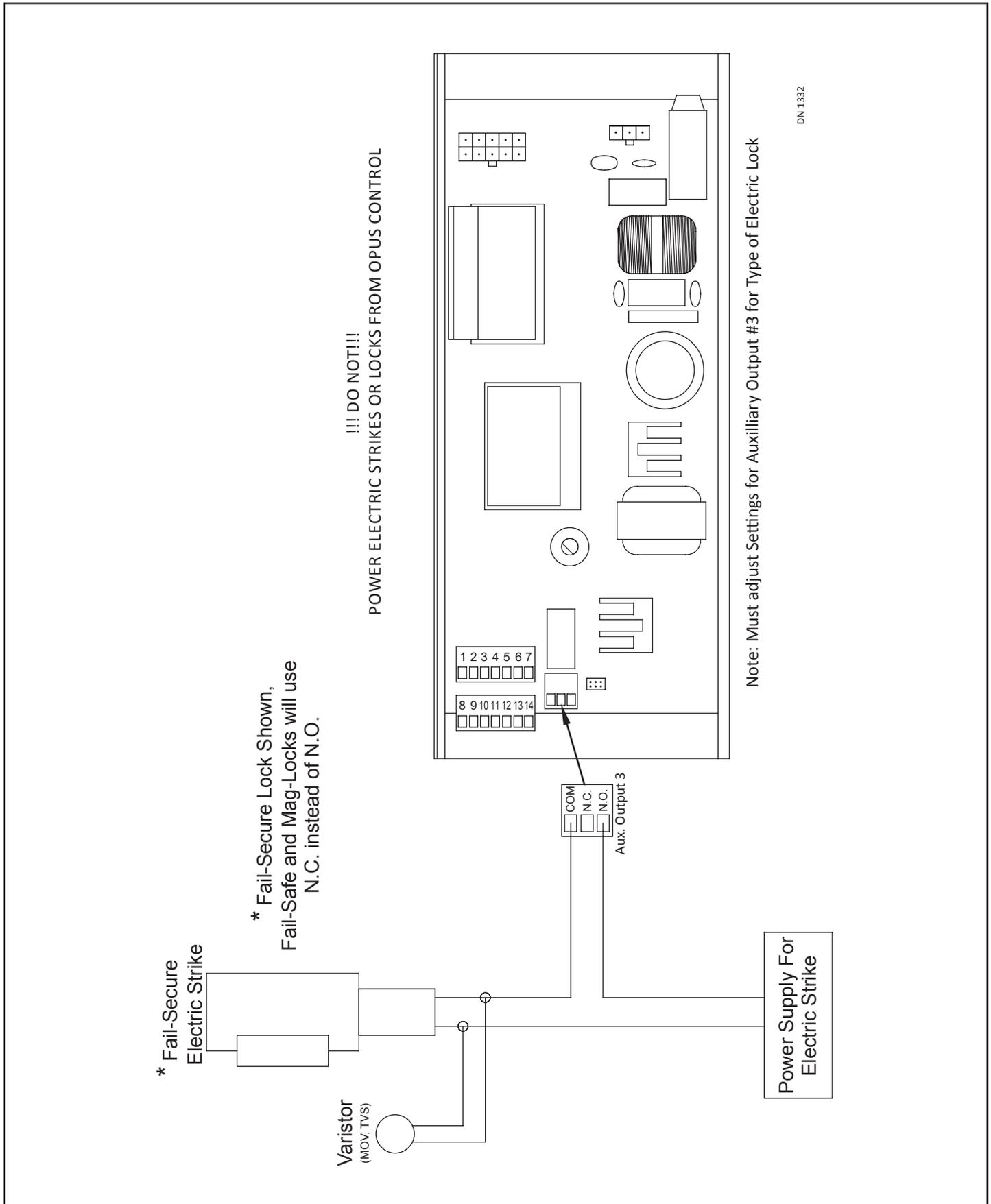
SECTION 12.4: Safety with Monitoring



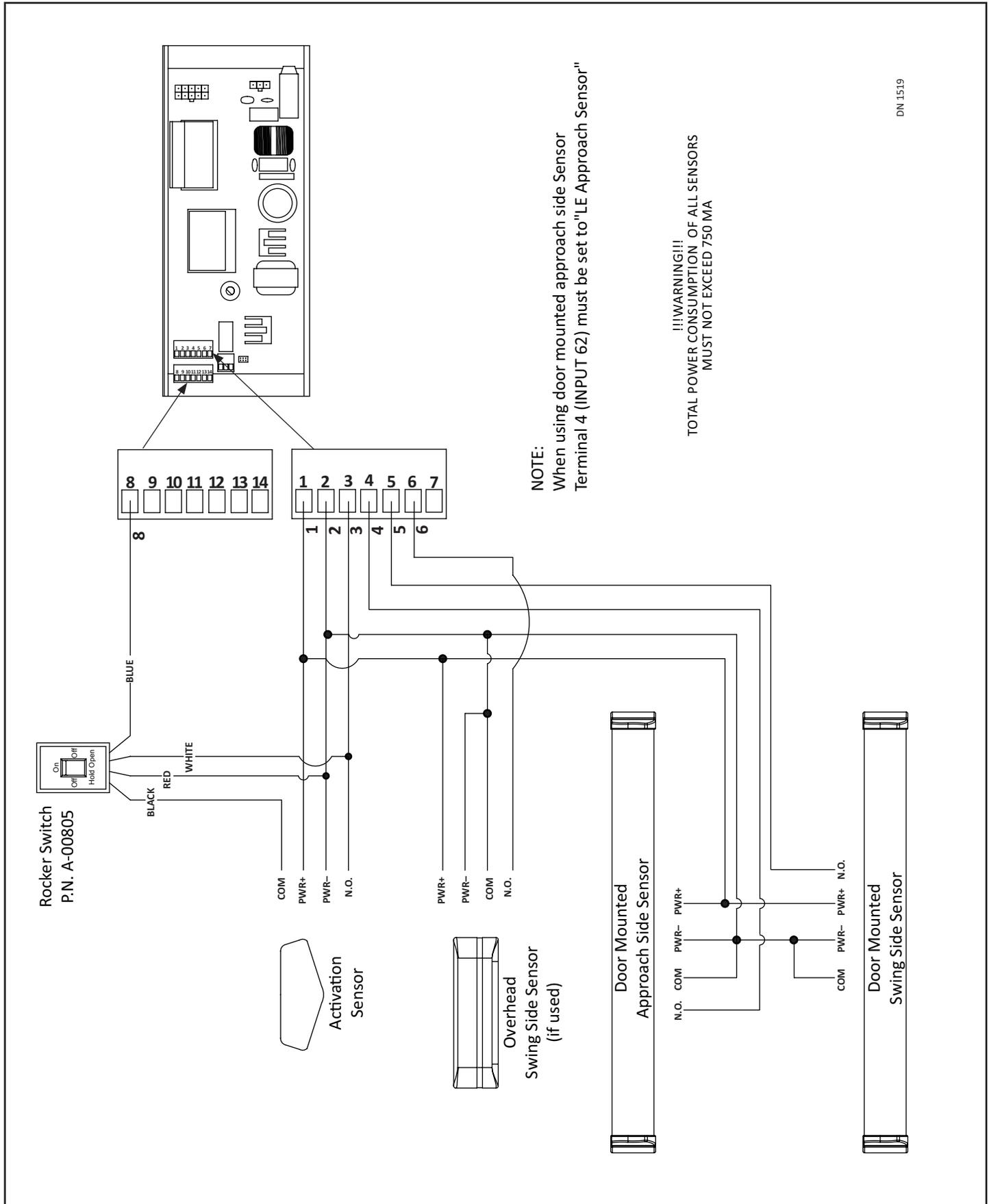
- For Safety Sensors equipped with BodyGuard type lock-out signal, connect DATA+ to Terminal 1 (+12vdc), and DATA- to Terminal 13 (OUTPUT 2).
- Terminal 13 (OUTPUT 2) must be set to "BODYGUARD OUTPUT". Please see programming instructions for details.

DN 1658

SECTION 12.5: Lock



SECTION 12.6: Standard Wiring for Single Full Automatic

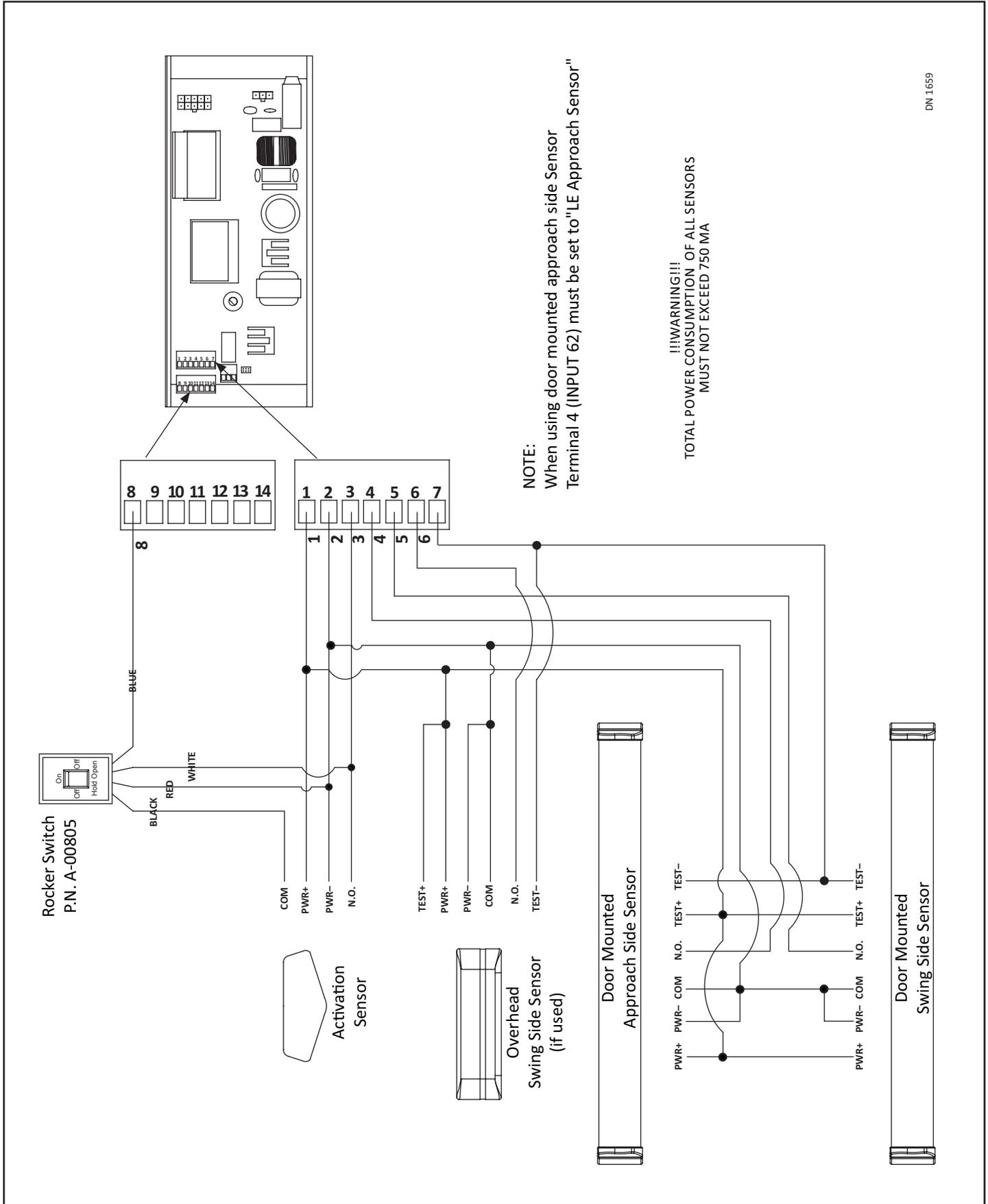


NOTE:
When using door mounted approach side Sensor
Terminal 4 (INPUT 62) must be set to "LE Approach Sensor"

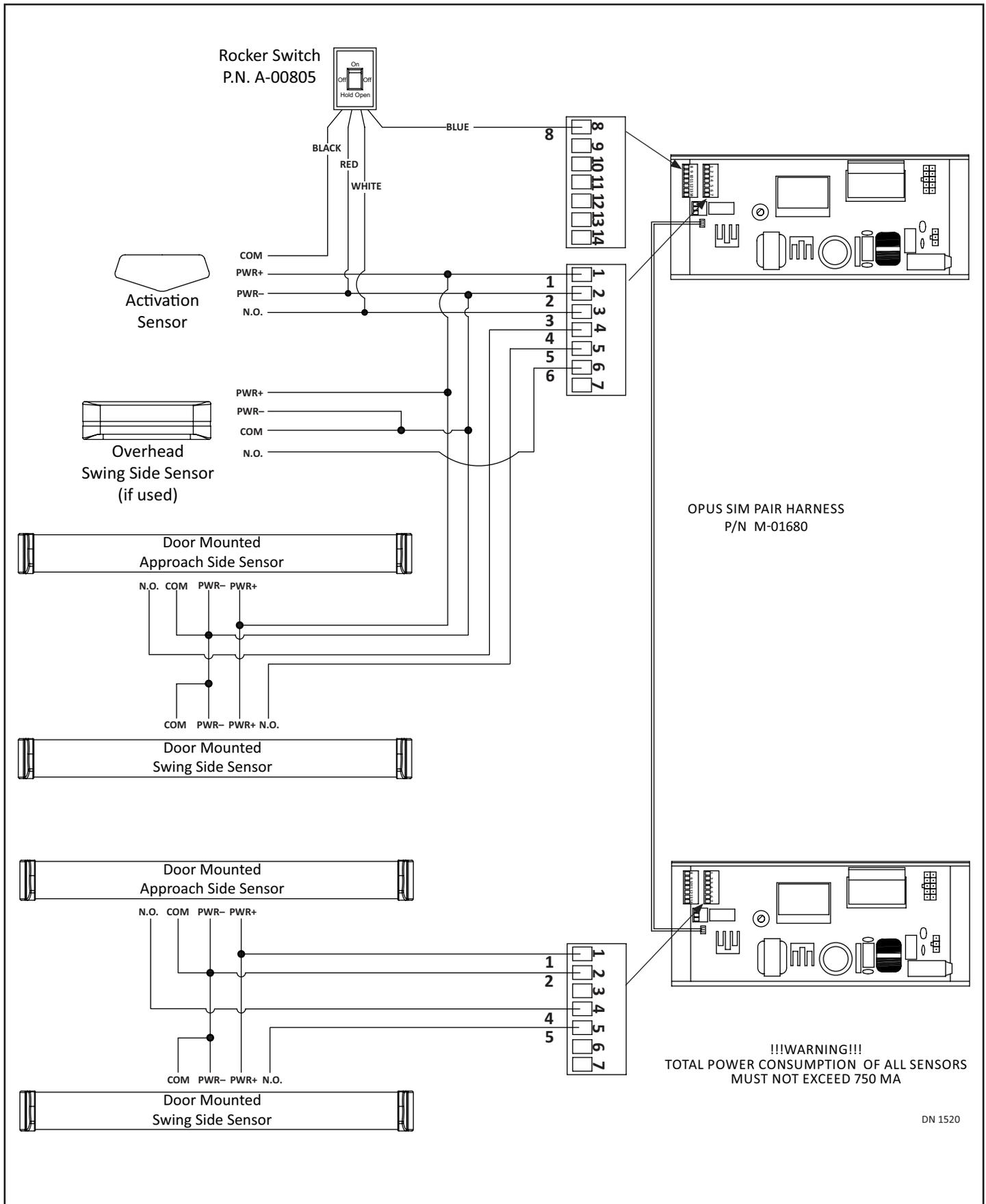
!!!WARNING!!!
TOTAL POWER CONSUMPTION OF ALL SENSORS
MUST NOT EXCEED 750 MA

DN 1519

SECTION 12.7: Single Full Automatic with Monitoring

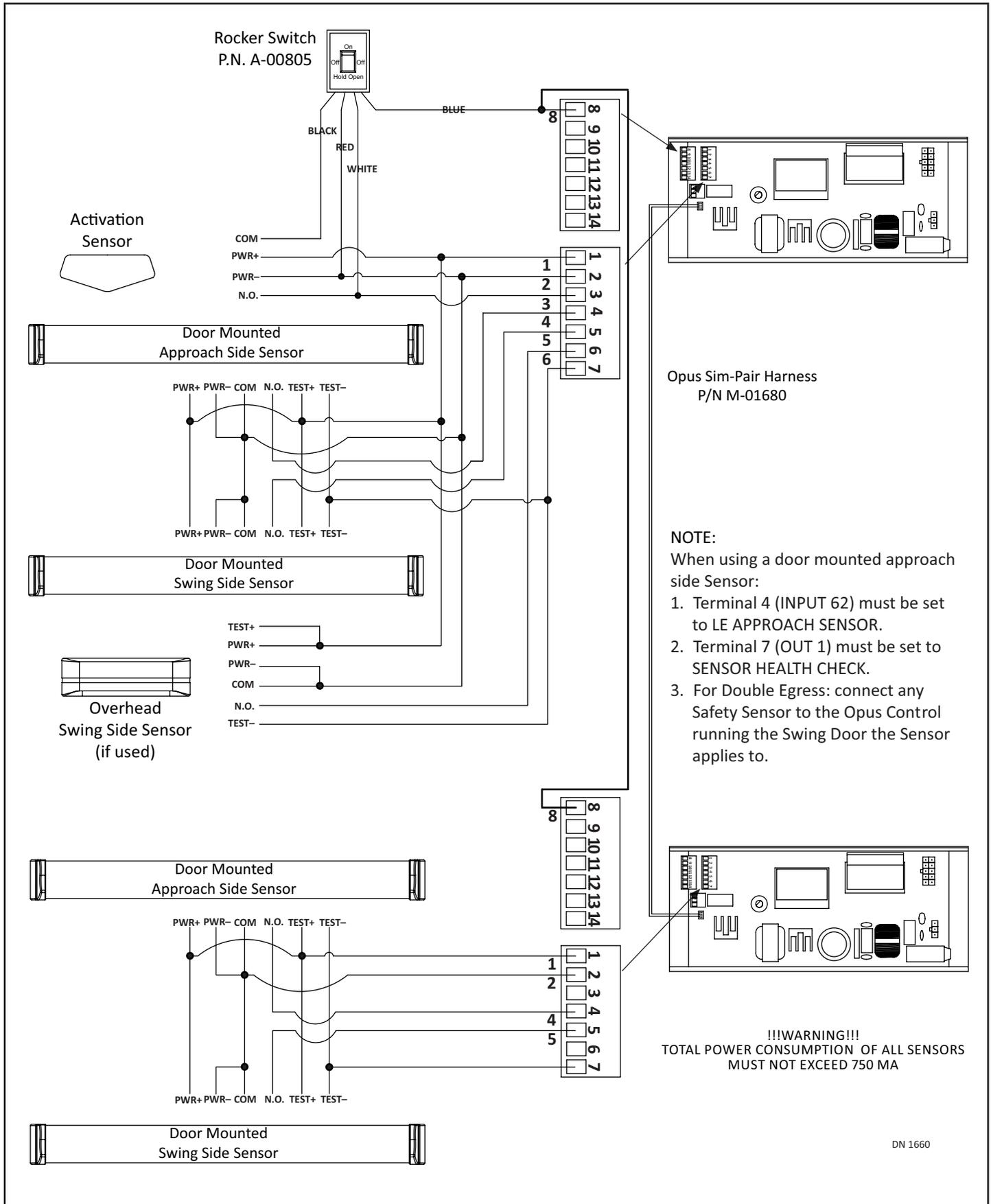


SECTION 12.8: Standard Wiring for Simultaneous Pair Full Automatic



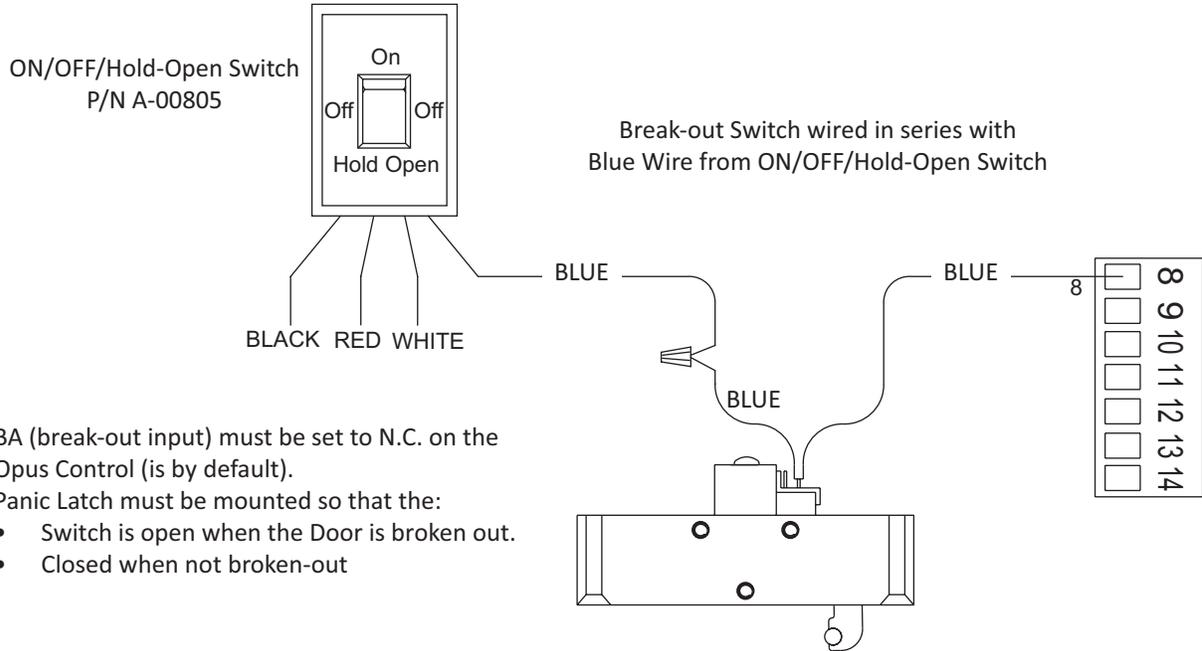
DN 1520

SECTION 12.9: Simultaneous Pair Full Automatic with Monitoring

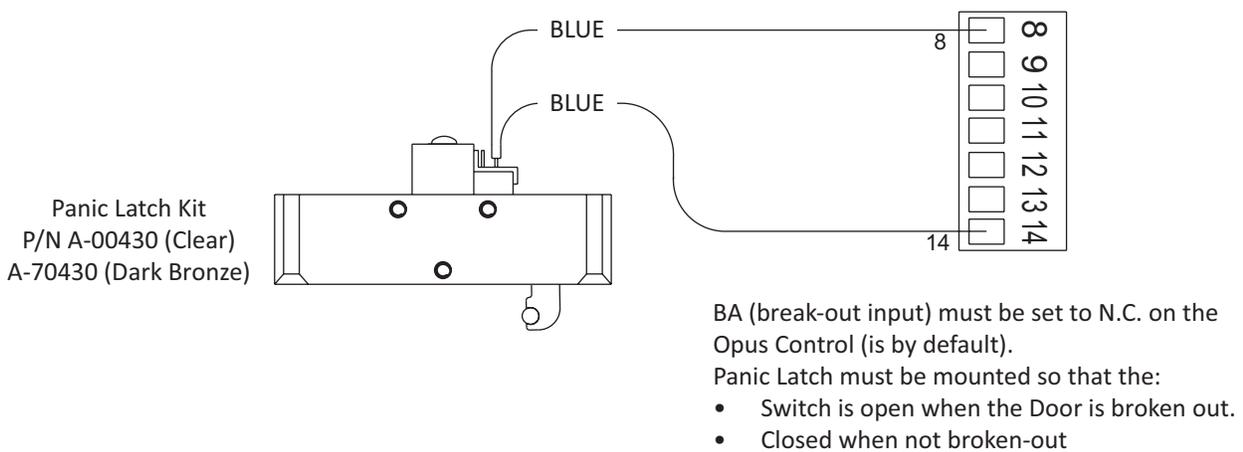


SECTION 12.10: Connecting a Break-Out Switch

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

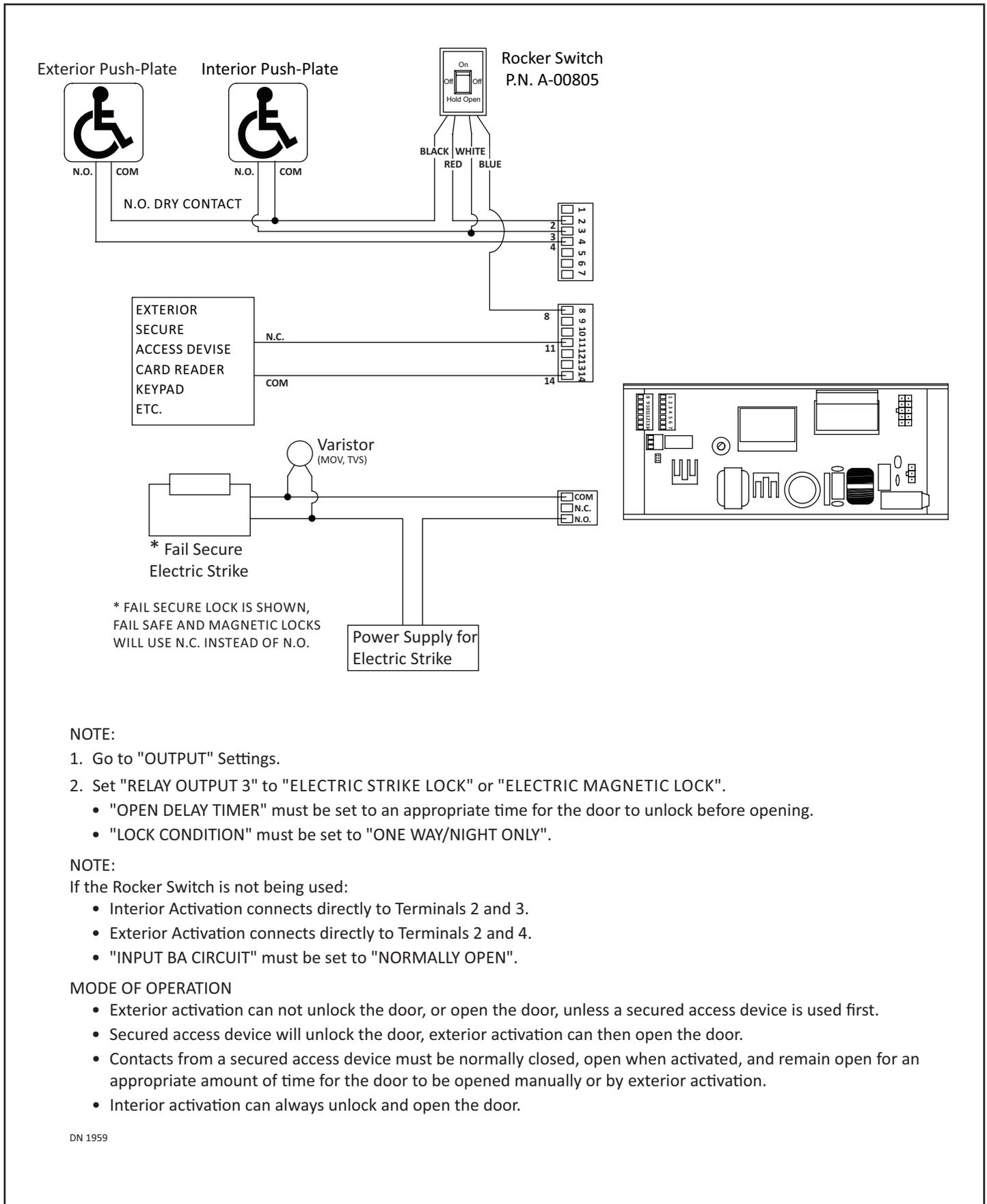


BREAK-OUT WITHOUT ON/OFF/HOLD-OPEN SWITCH



DN 1521

SECTION 12.11: No Security System: One Way / Two Way Operation



NOTE:

1. Go to "OUTPUT" Settings.
2. Set "RELAY OUTPUT 3" to "ELECTRIC STRIKE LOCK" or "ELECTRIC MAGNETIC LOCK".
 - "OPEN DELAY TIMER" must be set to an appropriate time for the door to unlock before opening.
 - "LOCK CONDITION" must be set to "ONE WAY/NIGHT ONLY".

NOTE:

If the Rocker Switch is not being used:

- Interior Activation connects directly to Terminals 2 and 3.
- Exterior Activation connects directly to Terminals 2 and 4.
- "INPUT BA CIRCUIT" must be set to "NORMALLY OPEN".

MODE OF OPERATION

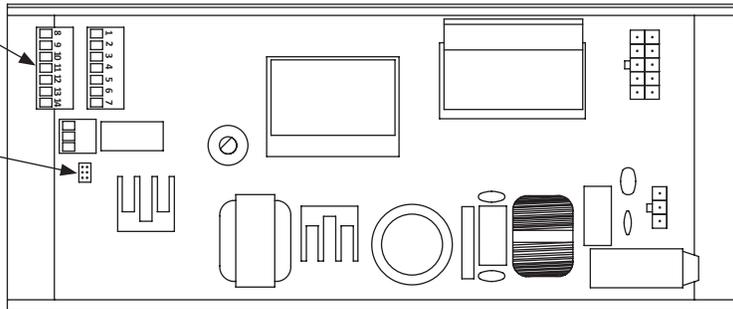
- Exterior activation can not unlock the door, or open the door, unless a secured access device is used first.
- Secured access device will unlock the door, exterior activation can then open the door.
- Contacts from a secured access device must be normally closed, open when activated, and remain open for an appropriate amount of time for the door to be opened manually or by exterior activation.
- Interior activation can always unlock and open the door.

SECTION 12.12: Other

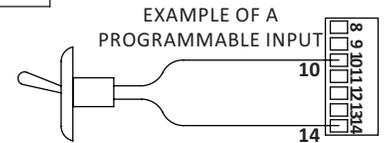
8	BA	Breakout	Used mainly for sliding door, can be used for ON/OFF with Swing Doors.
9	SQ	Sequential Activation	Signal to Open, signal to Close.
10	H	Programmable Input	
11	M0	Mode 0	When grounded, puts door into ONE WAY Mode.
			When grounded with M1, puts door into HOLD OPEN Mode.
12	M1	Mode 1	When grounded, puts door into NIGHT Mode.
			When grounded with M0, puts door into HOLD OPEN Mode
13	Out2	Aux. Output 2	Programmable output, closes to GND
14	GND	Ground	Common for all above signals.



Used to connect to a second OPUS Control for Sim Pair, Astragal, and Sequencing



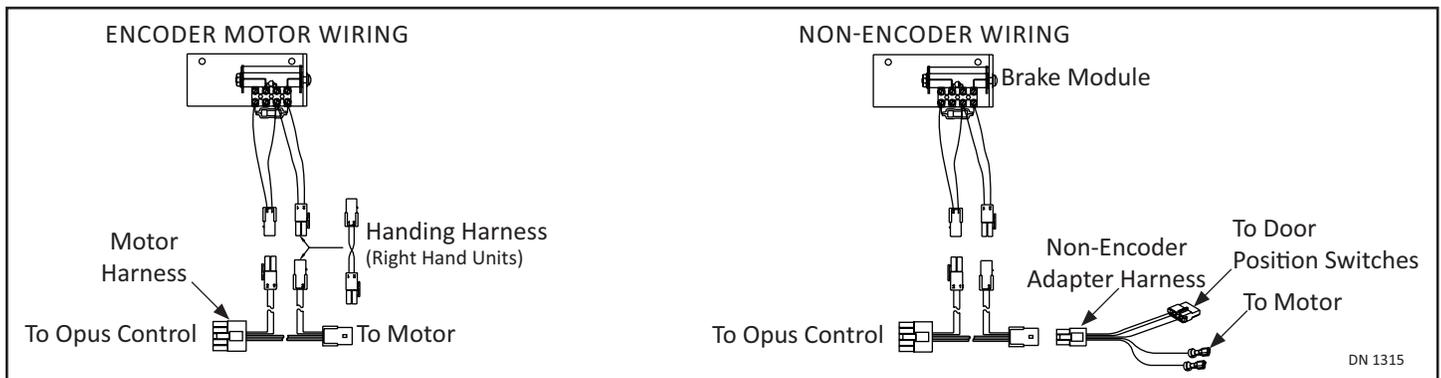
Example: A Switch being used to turn ON/OFF Power Close and Hold Close. Programmable Terminal 10, (Input H) would be set to SPRING CLOSE ONLY.



DN 1333

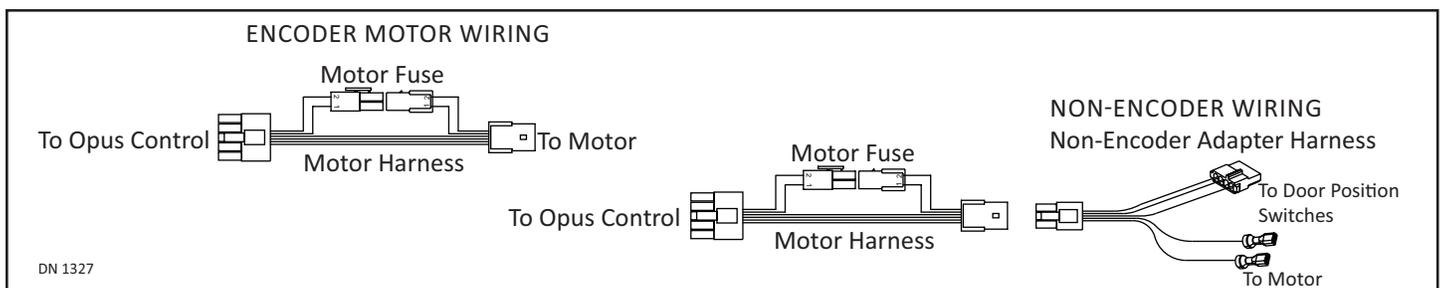
SECTION 12.13: Motor Wiring

12.12.1 GT300/400/500/600/1400



DN 1315

12.12.2 GT710/8710



DN 1327

CHAPTER 13: TROUBLESHOOTING

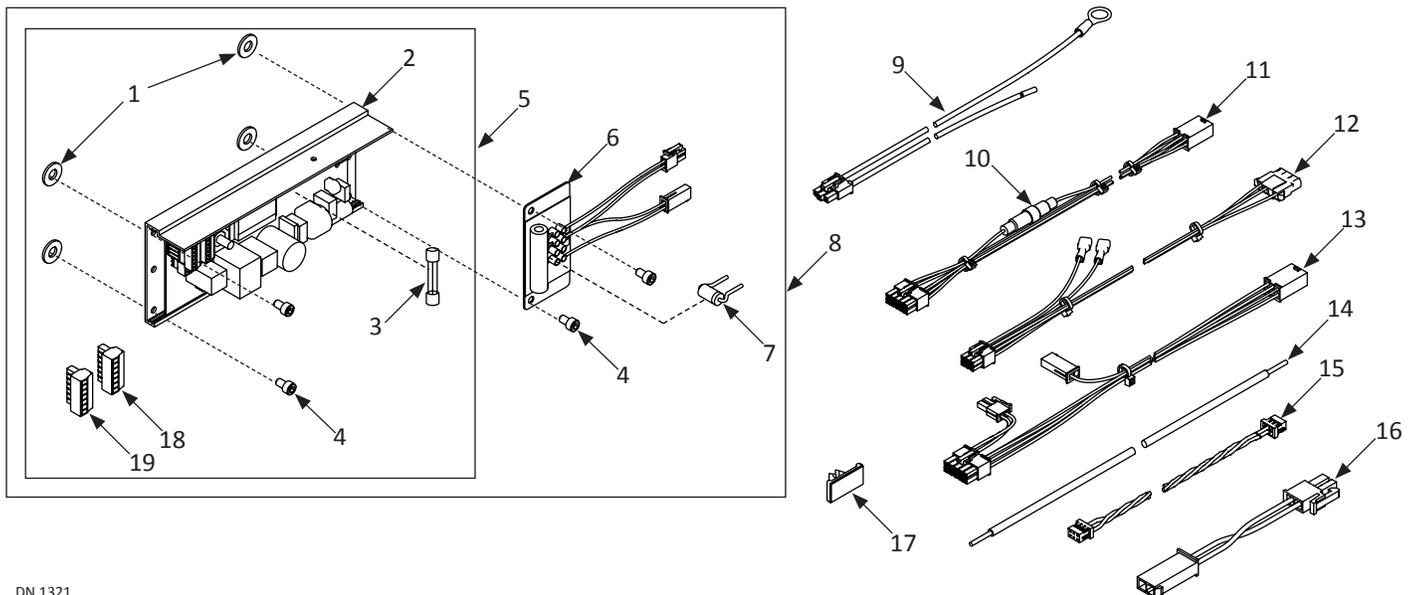
Programming Issues	
Problem	Possible Solution
Hard to manually open door	<ul style="list-style-type: none"> ▶ On outswing only: Check if shoe position and rod length are in accordance with the dimensions in the manual. ▶ Except GT710: Reduce the preload on the operator. The Opus is not dependent on preload since there is no cam and doorposition switches. Maximum preload on GT8500's should be one notch on the operator spline to maintain ANSI 156.19 ▶ Software Revision (up to, and including 18) <ul style="list-style-type: none"> • Re-enter "0" for "hold closed force" under "optional settings". The software on early Opus controls may suggest it's already set to "0", but does not act like it. Entering "0" again will fix it.
After manually opening door, the door stays open	<ul style="list-style-type: none"> ▶ Software Revision (up to, and including 18) "Manual Open Function" is set to "No Action" and "Manual Open Sensitivity" is set to "0". If "No Action" is desired, change "Manual Open Sensitivity" to anything other than "0".
Control does not react to Activation signal	<ul style="list-style-type: none"> ▶ At the main screen, confirm that "IN" or "EXT" highlights when an activation signal is applied. If not, check the wiring or the activation device. ▶ At the main screen, determine if "BA" is highlighted. If a 4-wire on/off/hold-open switch is being used, with a blue wire connected to terminal 8, then "Input BACircuit" (found under "Input Settings") must be set to "Normally Closed". If a 3-wire switch is being used, or no switch is being used (nothing connected to terminal 8), then "Input BA Circuit" should be set to "Normally Open". ▶ At the main screen, if Status shows "Stopped" while the door is closed, and BA is not highlighted, turn off power for at least 4 seconds then turn on again. With the door still closed, status should now show "Fully Closed". ▶ Must navigate back to the main screen (as shown at right) for an activation signal to work.
Sim Pair behaves oddly (Controls may not be communicating correctly)	<ul style="list-style-type: none"> ▶ All Revisions <ul style="list-style-type: none"> • Do a "copy data" from one control to the other. One control should then indicate "Type 1" on the main screen, the other should indicate "Type 2". There is no rule as to which needs to be which, but they must be different than each other.
Closing functions do not work when opened manually	<ul style="list-style-type: none"> ▶ Software Revision (up to 17) <ul style="list-style-type: none"> • Closing functions such as (speed, latch-check, power close), change "manual open function" to something other than "no action". "stop and close" is usually ideal.
Sim Pair using "Stop & Close" but results in a "Push & Go"	<ul style="list-style-type: none"> ▶ Software Revision (up to, and including 20) <ul style="list-style-type: none"> • Remove sim-pair harness, set both controls to "single door", parallel the common terminal and any input being used between both controls.
Door does not always close during Latch Check	<ul style="list-style-type: none"> ▶ Software Revision (up to, and including 19) ▶ Symptom: When the door is used manually it closes every time. However, when the door is activated, once in a while it will stop at latch check and not continue to close. <ul style="list-style-type: none"> • Increase latch check speed or try increasing operator arm preload (if GT710 - increase spring tension on hydraulic closer)
Double Egress pairs are not Synchronizing	<ul style="list-style-type: none"> ▶ Software Revision (up to, and including 20) <ul style="list-style-type: none"> • Remove CANbus cable. Set both Controls as single doors. The activation signal should be paralleled between both Controls. Safety signals should only be attached to their corresponding door's Control. ▶ Software version is 21 <ul style="list-style-type: none"> • Be sure both controls are set to "Double Egress". Safety signals should only be attached to their corresponding door's control. • See also "Sim Pair behaves oddly" located at top of this Table.

Programming Tips	
Tip	Action
To copy settings from one Sim Pair Control to the other Sim Pair Control	<ul style="list-style-type: none"> ▶ Software Revision (up to 19) <ul style="list-style-type: none"> • On the Control being programmed, after other settings are complete, go to “SimPair Setting” under “Optional Settings”. Change to “Single Door” then back to “Normal Sim Pair” (or “Overlap Sim Pair”). Then, when moving back out of the programming, before reaching the main status screen, a prompt will come up to “Copy Settings” “Yes No”. Select “Yes”. ▶ Software Revision (20 and up) <ul style="list-style-type: none"> • The “copy Settings” prompt will always appear when backing out of programming if the control is set to Sim Pair, without the need to select Single first.

Error Messages		
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"> ▶ Check Door resistance and Door Path for resistance to movement. <ul style="list-style-type: none"> • It may be necessary to adjust the Recycle Sensitivity.
MPU	Microprocessor detects errors within the Internal or External Circuits.	<ul style="list-style-type: none"> ▶ This could be a random error. <ul style="list-style-type: none"> • If the Error occurs repeatedly, please replace the Opus Control.
Drive Circuit	If the Drive Circuit detects an unusual state, the Opus will stop door movement. Possible causes are: <ul style="list-style-type: none"> ▶ Abnormal voltage at Motor Circuit ▶ Abnormal current draw from motor. 	<ul style="list-style-type: none"> ▶ Check all connections between the Control and Motor. ▶ Check Motor Fuse ▶ Check motor for open circuit, short circuit, or short to ground. ▶ It is possible electrical noise may cause a false error. If the error does not occur repeatedly then it's most likely not an issue.
Communication	<ul style="list-style-type: none"> ▶ CAN-bus Communication Error ▶ Can happen in Simultaneous Pair applications. 	Check the CAN-bus Cable between the two Opus Controls.
61 Sensor	<ul style="list-style-type: none"> ▶ Incorrect sensor wiring related to that input. ▶ Incorrect settings on sensor and/or control related to sensor monitoring. ▶ Sensor has failed. 	<ul style="list-style-type: none"> ▶ Check sensor wiring. ▶ Check settings on sensor and/or control related to sensor monitoring. ▶ Try a new sensor.
62 Sensor		
6B Sensor		
SWL Sensor		

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.

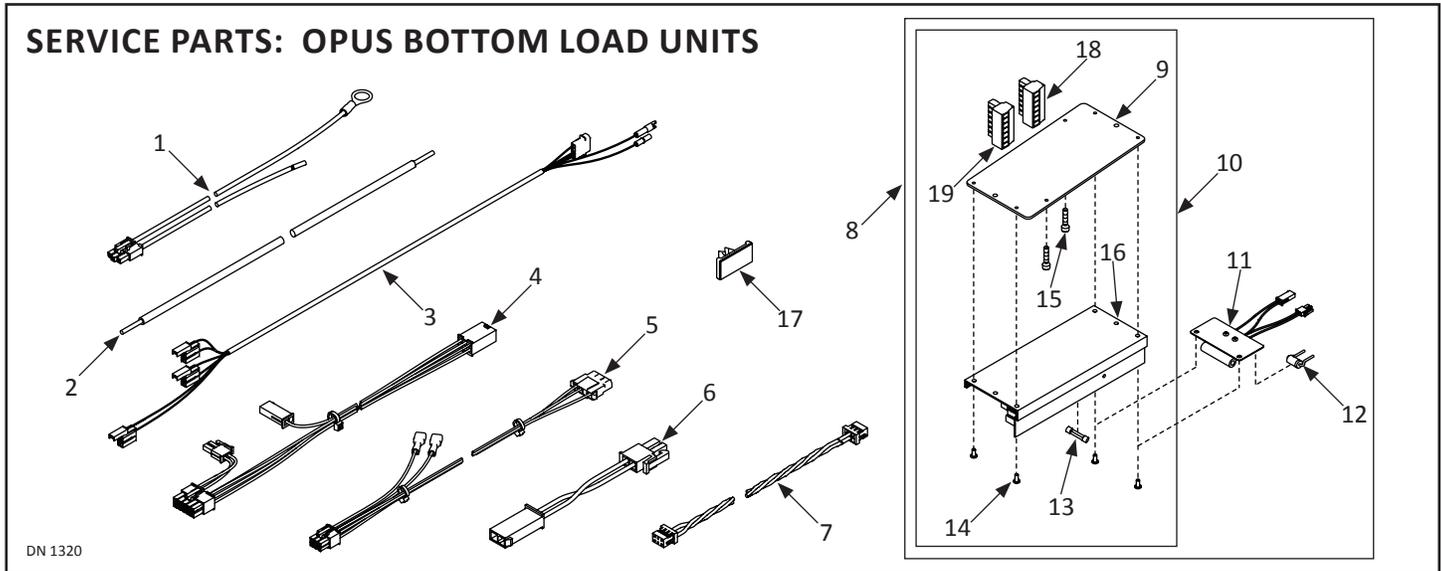
DO NOT leave any problem unresolved. If the door cannot be repaired immediately, turn off the door and leave it inoperable until repairs can be made. Advise the owner **NOT** to operate the door in the automatic mode until repairs are effected. **NEVER** leave a door operating without all safety detection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

SERVICE PARTS: OPUS SIDE LOAD UNITS

DN 1321

Side Load Unit

Item	Part	Finish/Sizes/Notes	Description
1	T-00365		WASHER:5/32IDx3/4ODx.020THK;POLYETHYLE
2	M-01546		"CONTROLLER,OPUS"
3	V-00552	Used on Opus Control	FUSE;5A;GMA;5X20mm
4	T-00335		SHCS:10-24x0.313L.
5	A-01097	Used on GT710/8710 only	CONTROLLER,710,OPUS
6	A-01003	Not used on GT710/8710	"BRAKE MODULE,OPUS"
7	A-00453	Used on Brake Module	FUSE,3AMP,W/HEAT SHRINK
8	A-00888		CONTROLLER;OPUS W-CHASSIS & BRAKE
9	M-01072		HARNESS,POWER,MAGNUM BOARD
10	V-00713	Used on A-01249	FUSE,2 AMP,5X20MM,250V,FAST ACTING
11	A-01249	Used on GT710/8710 only	HARNESS,MOTOR,OPUS,710
12	A-01002	Retrofit Kits only	"HARNESS,ADAPTER,NON-ENCOD,OPUS CONTROL
13	A-01000	GT300/400/500/600 only	"HARNESS,MOTOR,OPUS CONTROL
14	T-00251	Sim Pair Only	WIRE,20 AWG,BLUE
15	M-01680	Sim Pair Only	"HARNESS,OPUS CONTROL,SIM PAIR"
16	A-01001	Not used on GT710/8710	"HARNESS,HANDING,NGT-10"
17	V-00098		SADDLE, WIRE
18	V-00753		TERMINAL BLOCK (1-7)
19	V-00891		TERMINAL BLOCK (8-14)



DN 1320

Bottom Load Unit

Item	Part	Finish/Sizes/Notes	Description
1	M-01072		HARNESS,POWER,MAGNUM BOARD
2	T-00251	Sim Pair Only	WIRE,20 AWG,BLUE
3	M-01162		HARNESS,MICROSWITCH,MAGNUM
4	A-01000	GT300/400/500/600 only	"HARNESS,MOTOR,OPUS CONTROL
5	A-01002	Retrofit Kits Only	"HARNESS,ADAPTER,NON-ENCOD,OPUS CONTROL
6	A-01001	Not used on GT710/8710	"HARNESS,HANDING,NGT-10"
7	M-01680		"HARNESS,OPUS CONTROL,SIM PAIR"
8	A-01098		CONTROLLER,W/ BRAKE,BOTTOM LOAD,OPUS
9	M-01735		PLATE BOTTOM LOAD,OPUS
10	A-01143		CONTROLLER,W/O BRAKE,BOTTOM LOAD,OPUS
11	A-01003	Not used on GT710/8710	"BRAKE MODULE,OPUS"
12	A-00453	Used on Brake Module	FUSE,3AMP,W/HEAT SHRINK
13	V-00552	Used on Opus Control	FUSE;5A;GMA;5X20mm
14	T-00420		"PHMS,8-32x0.375L,PHIL,SWAGEFORM,ZINC"
15	T-00232		SHCS,10-24x0.875L.,ZINC
16	M-01546		"CONTROLLER,OPUS"
17	V-00098		SADDLE, WIRE
18	V-00753		TERMINAL BLOCK (1-7)
19	V-00891		TERMINAL BLOCK (8-14)