



Swing Door and Fold Door Opus Control Wiring and Programming Manual

P/N C-00139 Rev 8-22-24

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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 others of a potential hazard based on the type of label. The following warning labels are listed in a hierarchy order that defines the most hazardous: **DANGER** to the least hazardous **Notice**.

Please refer to this page if a warning label is displayed within this manual and requires further definition.

- DANGER** Indicates an immediate hazard; a hazard capable of producing irreversible damage, injury, or death. It should not be considered for property damage unless personal injury risk is present.
- WARNING** Indicates a potentially hazardous situation which, if not avoided could result in death or serious injury. It should not be considered for property damage unless personal injury risk is present.
- CAUTION** Indicates a potentially hazardous situation; a hazard capable of resulting in severe but not irreversible injury or damage. The CAUTION label should not be used when there is a possibility of death or serious irreversible injury.
- 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. The NOTICE label 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.
- 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 instructions, ask a qualified technician. Failure to do so may result in bodily injury or property damage and will nullify all warranties.
- CAUTION** All electrical troubleshooting or service must be performed by trained, qualified electrical technicians and comply with all applicable governing agency codes.
- 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.

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, Technical Support at 1-877-622-2694, option #3, between 8 am – 4:30 pm Central time for additional assistance. This manual offers step by step instructions. Do Not take shortcuts.

SECTION 2.2: Objective

The Opus Control is designed to be installed within new Swing, Sliding, and Folding Door Units, plus:

- ▶ Existing swing, sliding, and folding doors using Analog, Magnum, or U01-U19 controls (works with encoders or non-encoder microswitches)
- ▶ Existing sliding doors using U30 controls. Contact Customer Service at 1-888-679-3319 to purchase Retrofit kits.

SECTION 2.3: Request a Username/Password to gain access into the “myNABCO” portal

To gain access into the “myNABCO” portal, the User must first have an assigned Username and Password. To request a Username and Password, the following must be done:

1. Open the NABCO Website: “www.nabcoentrances.com”.
2. Enter the “myNABCO” portal → Request Access → Fill out the Request Access Form → Click onto Register
 - a. Username and Password will be emailed back to the requestor.

CHAPTER 3: GETTING STARTED

SECTION 3.1: General Specifications

Specification	Description	
Power Input	100VAC - 130 VAC, AC 50-60 Hz; 3A (<i>NABCO recommends min. 5A service</i>)	
Power for accessories	12VDC; Rev D or before: 750mA Rev F: 900mA	
Motor Type	High voltage, Brush Motor with Encoder, 115V	
Number of Signal Inputs	▶ 1 x Activation ▶ 4 x Programmable ▶ 1 x Safety	▶ 2 x Door Mode ▶ 1 x Breakout (stop)
Number of Outputs	▶ 2 x Programmable Transistor Outputs	▶ 1 x Electric Lock Form C Relay
Output Rating	Transistor Output; 100mA @ 12VDC	
Relay Output Rating	Mechanical Relay Output; 3A at 110VAC	
F1 Fuse	Cooper Bussmann LLC Model S505-5-R, 250Vac, 5.0A	
Temperature Range	-13 degrees to 140 degrees Fahrenheit	
Power Close	Built-in	
Back Check Range Adjustment	▶ 2-1/2 to 35 degrees from Fully Opened position	▶ Used with Encoder Motor only.
Latch Check Range Adjustment	▶ 10 to 45 degrees from Fully Closed position	▶ Used with Encoder Motor only.
Built In Sequencer	Can activate Electric Locks	▶ Electric Strikes ▶ Electric Latch Retracted Panic Devices

3.1.1 Output Power Guidelines

CAUTION The Opus Control Must Not be used to power Magnetic Locks or Electric Locks. A separate power supply must be purchased (if not factory equipped).

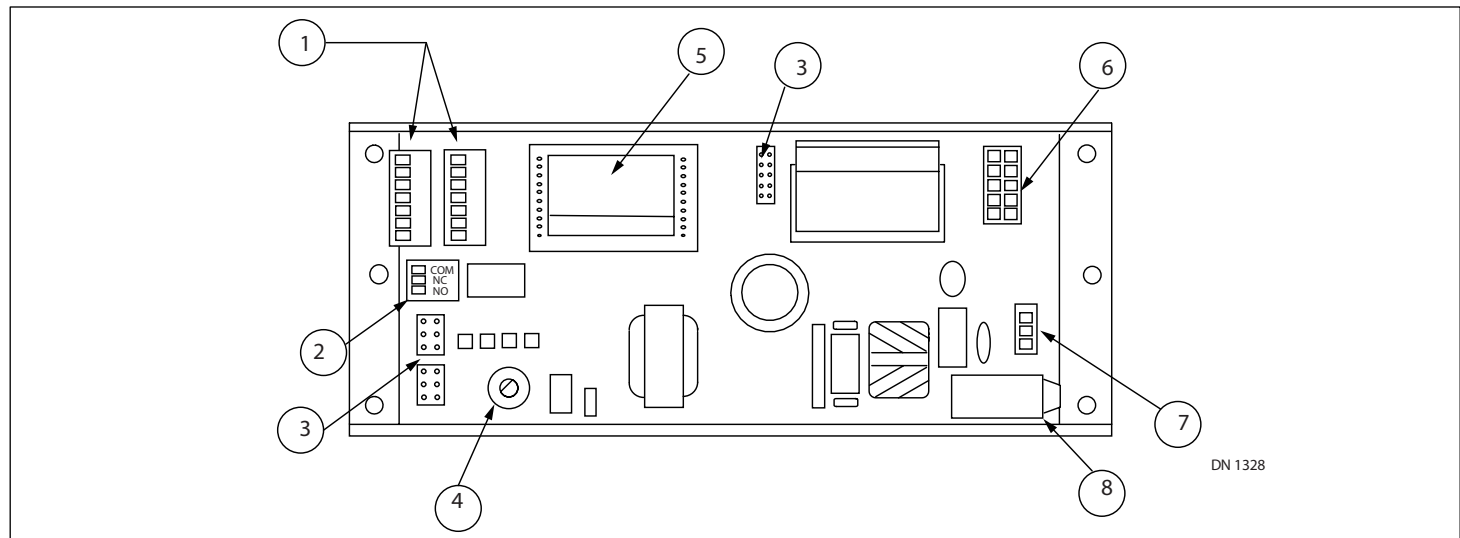
Total current draw from the Opus Control must not exceed limit (750mA) for Rev D or before.

Total current draw from the Opus Control must not exceed limit (900mA) for Rev F.

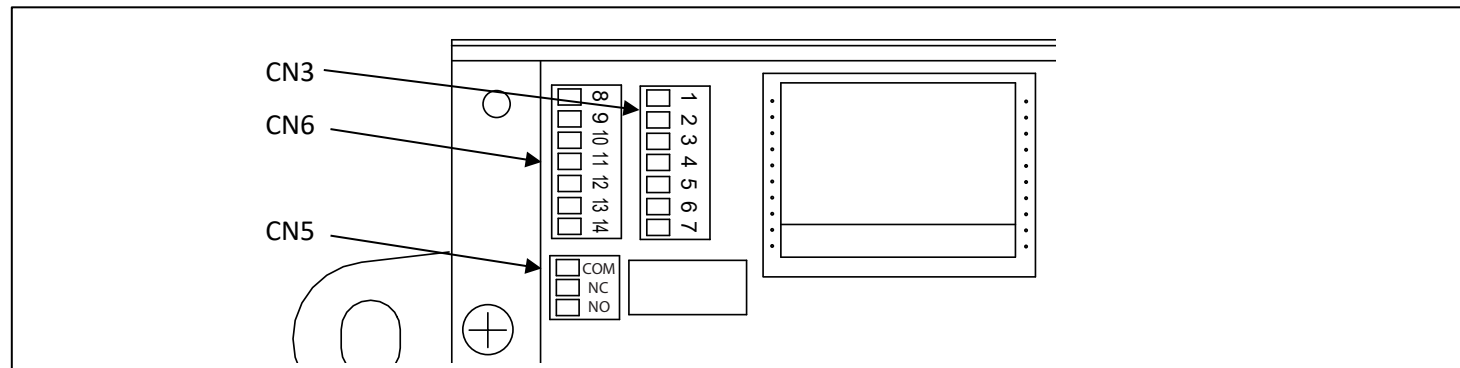
An auxiliary power supply, (e.g. NABCO Transformer 24 VDC Power Supply, P/N V-00022) must be utilized if TOTAL current draw exceeds the limit listed above. Refer to the values table below for calculations.

Sensor	Part Number	Current Consumption	
Optex OA-Edge 1 Low Energy ADA Swingers	V-00224	108mA min. - 291mA max	(ea. unit) at 12VDC
Optex OA-Edge 2 Full Energy Swingers	V-00163	108mA min. - 291mA max	
Optex Reaction 2	V-00173	125mA	
Acusensor M	A-01306	150mA	
Radio Control Receiver	V-00232	50mA	
CX33 Logic Relay	V-00734	320mA	

SECTION 3.2: Overview of The Opus Control



No.	Description	No.	Description
1	I/O Terminal Strips (CN3/CN6)	5	LCD Screen
2	Relay Output Terminal Strip (CN5)	6	Motor Connection (CN2)
3	CAN Bus Communication (CN4)	7	Power Connection (CN1)
4	Rotary Dial	8	Fuse



3.2.1 IO Terminal strips (CN3/CN6)

I/O Terminal Strips					
1	12VDC	+12VDC	8	BA	Breakout
2	GND	Common for 12V and signals	9	SQ*	Sequential activation (signal to open, signal to close) (Programmable)
3	61	Interior Activation	10	H*	No Function (Programmable)
4	62*	Exterior Activation (Programmable)	11	M0	One-way when connected to Common Hold Open when both M0 and M1 connected to Common
5	6B	Continuous Safety		M1	
6	SWL*	Safety With Lockout (Programmable, Rev.27 or later)	12	M1	Night when connected to Common
7	Out1	Fully Opened Position (Programmable) Closes to GND	13	Out 2	Fully Closed Position (Programmable), Closes to GND
			14	GND	Common for all above signals

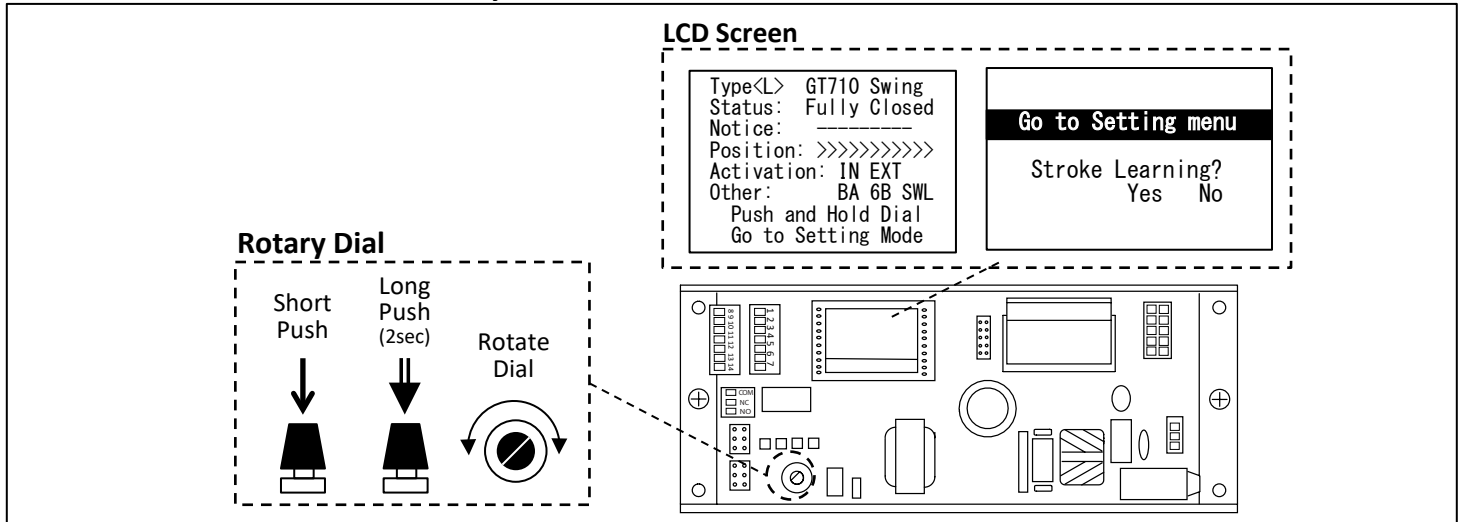
* Parameters on the LCD Screen will differ between Revisions. For details refer to “4.2.1.2”.

3.2.2 Relay Output Terminal Strip (CN5)

Relay Output 3					
COM	Common	N.C.	Normally Closed Contact	N.O.	Normally Open contact for Electrical Lock

CHAPTER 4: HOW TO NAVIGATE THE OPUS

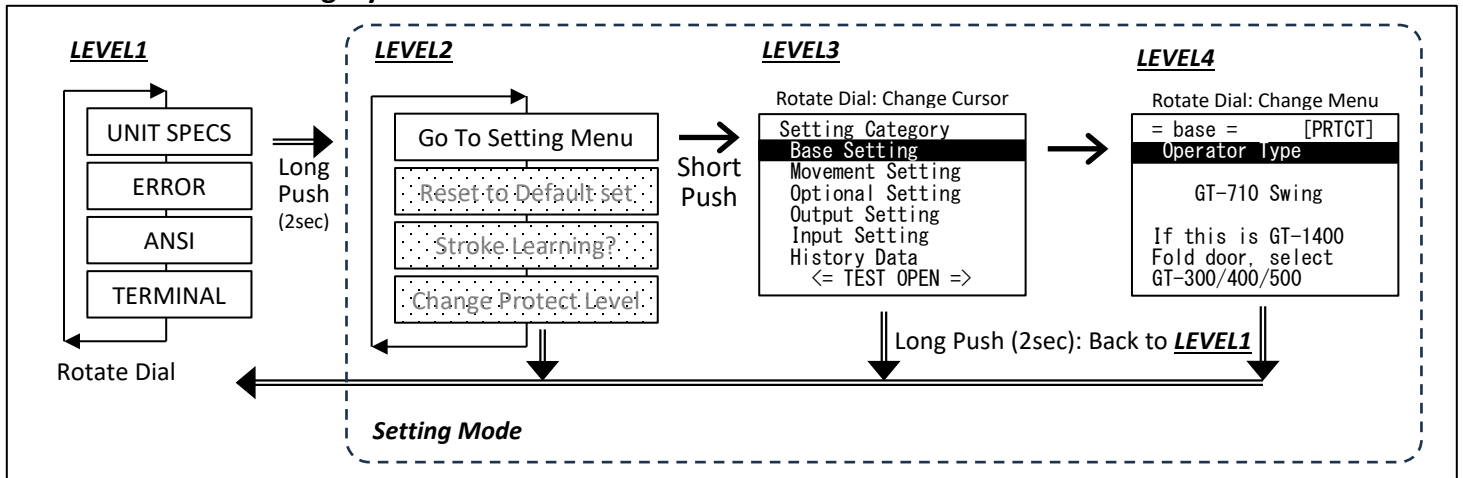
SECTION 4.1: LCD Screen and Rotary Dial



The Opus can be used to check conditions like “Status”, “Door Position”, “Input” and “Error” on the **LCD Screen**. Manipulate the **ROTARY DIAL** as shown below:

Operation	Symbolized by:	Used for
Short Push	→	Go to Next Parameter Select Value
Long Push (Push & hold for 2 seconds)	⇒	Go to Setting Mode Back to Previous Screen
Rotate Dial (Clockwise / Counterclockwise)	↻	Change Value Scroll to the Next page

SECTION 4.2: LCD Category Screens

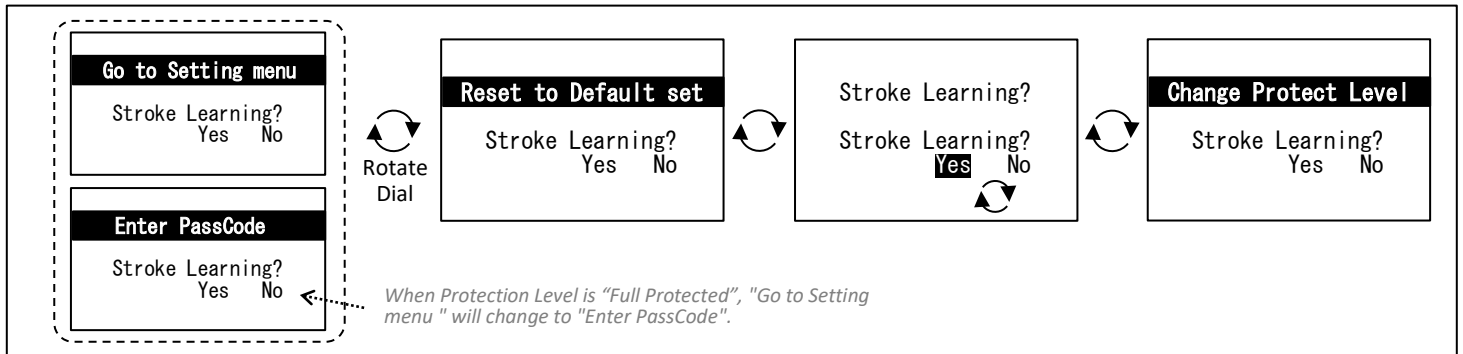


The LCD Screen has four levels.

- ▶ **LEVEL 1** is used for checking the condition of the door.
- ▶ **LEVELS 2 - 4** are the “Setting Mode” and used for Programming.
 - During Setting Mode, the door will be inactive for safety purposes (except during Stroke Learning and Test Open).
 - When Power is turned ON for the first time*, the screen will display LEVEL4 until the settings are updated.
 - After 40 seconds of inactivity on the Rotary Dial, the LCD turns off and Setting Mode is deactivated.

*When Opus is purchased separately as a maintenance part, etc.

4.2.2 LEVEL2: Access Screen



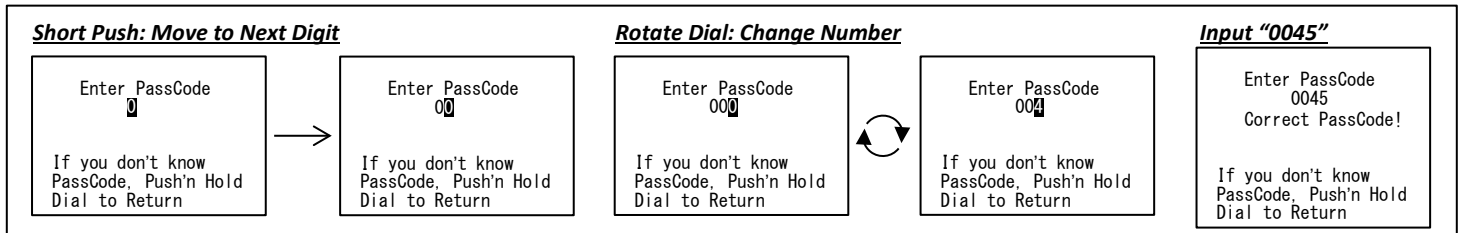
LEVEL2 screens are the highest level of Setting Mode. Selections are changed depending on the Protection Level.

There are (5) selections:

- ▶ **Go to Setting menu** : Move to LEVEL3.
- ▶ **Enter PassCode** : Setting menu is locked out until the Passcode is entered accurately. This selection will be shown when Protect Level is "Full Protected"
NOTE: Same as "Active Passcode" in Rev.28 or earlier.
- ▶ **Reset to Default set** : After the Passcode is entered ("4.2.2.2"), almost all settings will revert to default.
NOTE: "Operator Type", "Door hand", "Encoder", "Flip screen" are not changed.
- ▶ **Stroke Learning** : Choose "Yes"; the door starts closing to measure stroke.
NOTE: For details, Refer to "CHAPTER 5:
- ▶ **Change Protect Level** : Added feature since Rev.29. Change Protect Level prevents users who don't understand the Opus from changing settings. The default is "Partial Protect".
NOTES:
 - This is an added feature since Rev. 29.
 - For details, refer to CHAPTER 8.

4.2.2.1 Enter PassCode

For security and safety purposes, the Opus can require a PassCode. When Opus requests it, enter "0045".



LEVEL 4 Menu Items. By turning the Rotary Dial, you can change a Menu Item or a Setting Value.

Setting Menu Items for OPUS are shown in the table below:

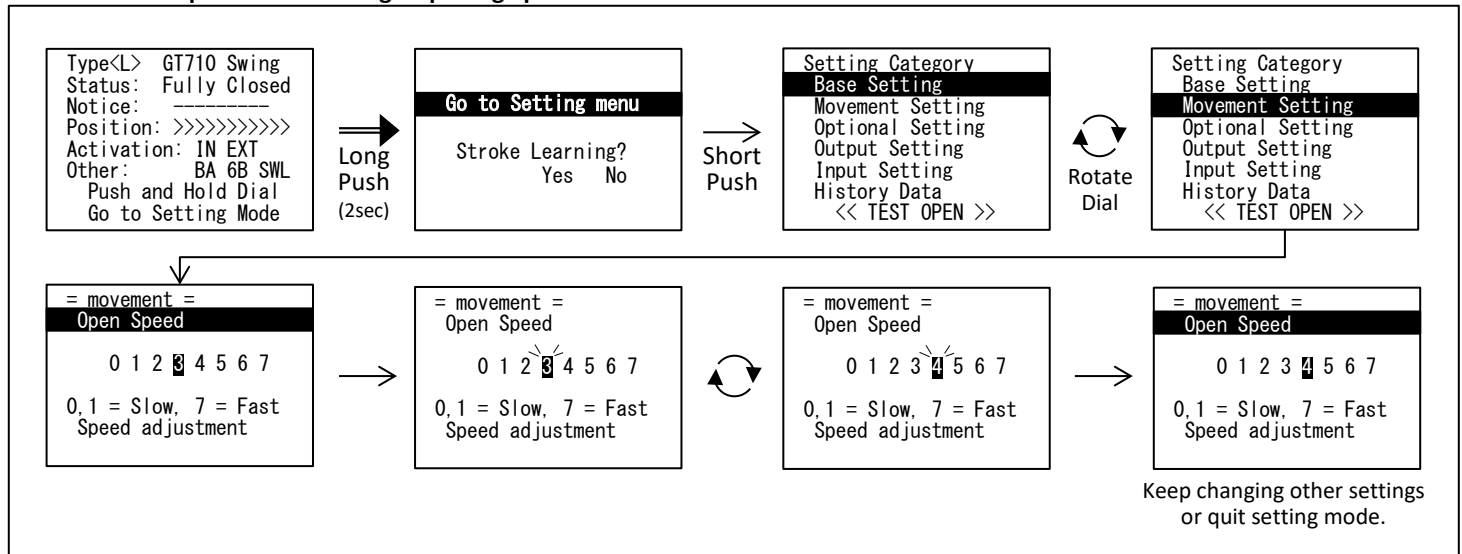
NOTE: If LEVEL 4 shows "PRTCT", then the menu is protected. The correct passcode must be entered before editing.

Setting Menu	Menu Items
Base Setting	Operator Type /Low Energy or Full/Door Hand/Encoder/Reduced Stroke
Movement Setting	Open Speed /Back Check Speed/Back Check Range/Close Speed/Latch Check Speed/Latch Check Range/Open Timer/Reaction Power/Open Recycle Sens./Close Recycle Sens./After Open Recycle/Close Recycle Reopen
Optional Setting	Hold Close Force /Power Close Range/Manual Open Function/Manual Open Sens./Manual Open Timer/BCHK Lockout Angle/LCHK Lockout Angle/Stop Force Adjustment/Stop Relief (Only for NABCO Swing)/Anti-Slam Open/SimPair setting/One-way Secure Flip Screen
Output Setting	Output1-2 setting/Relay Output3 setting/Open Delay Timer/Lock Release Force/Lock Condition/Sequence Delay Timer/Only Act. Sequenced
Input Setting	Input 62 setting /Input 62 open timer/Input SWL setting/Input SWL open timer/Input SQ setting/Input SQ open timer/Input H setting/Input H open timer/Holding Input H Timer/Input 61 circuit/Input 62 circuit/Input 6B circuit/Input SWL circuit/Input BA circuit/6B Stop Closing/After 6B Open/61 Monitoring/62 Monitoring/6B Monitoring/SWL Monitoring
History Data	Operation Cnt. /Open Recycle Cnt./Close Recycle Cnt./Latest Recycle Position

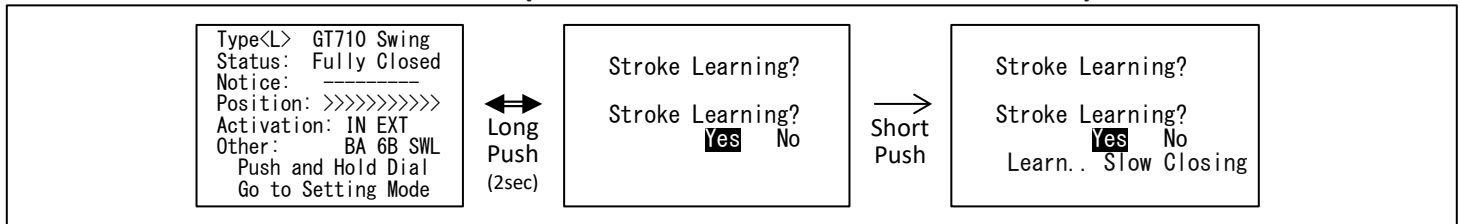
* Gray Marked Menu Items are only for a Slider.

* **Bold Under Lined Menu Items** are the beginning of each category.

4.2.3.1 Example: How to Change Opening Speed



CHAPTER 5: STROKE LEARNING (USED ONLY FOR AN ENCODER UNIT)



CAUTION

No other activation will function during stroke learning.

Please do **NOT** allow people to pass through the door during stroke learning.

CAUTION

After selecting “Stroke learning Yes”, the door will start closing. Be careful not to get your fingers caught in the Arm Assy or pinch points.

Attention: Before Stroke Learning, make sure the door can manually open and close smoothly.

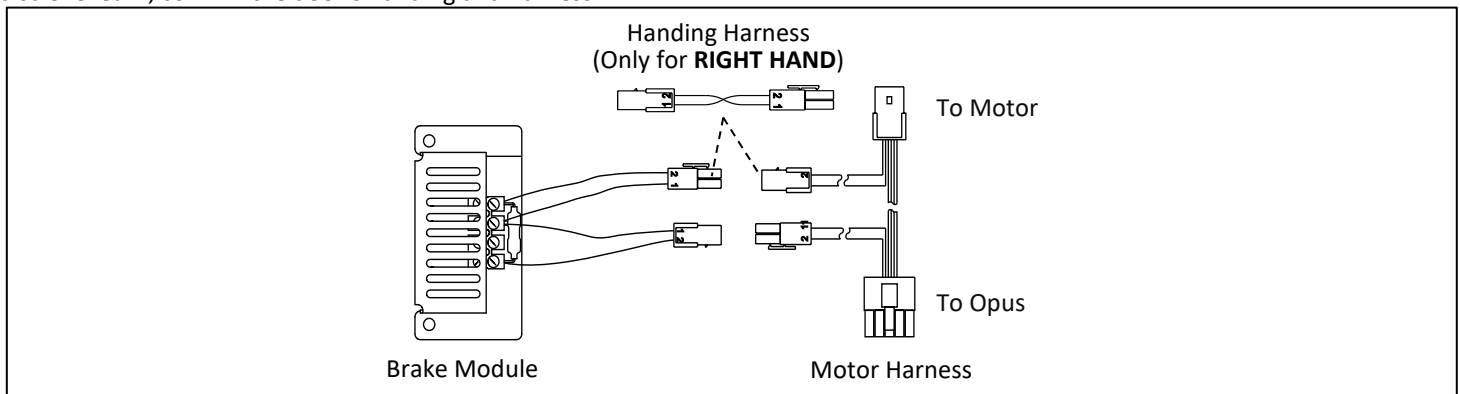
NOTES:

- Stroke Learning’ is counting the number of pulses from the encoder.
- Non-Encoder units do not require Stroke Learning. The Opus controls Non-Encoder doors, based on the “LCHK” & “BCHK” inputs rather than encoder pulses.

NOTE: The Opus updates the “Fully Opened Position” when any swing door stops three times at the same angle.

SECTION 5.1: Checking the Handing Harness (For GT(8)300/400/500)

Only the **RIGHT HAND** of a GT(8)300/400/500 requires a handing harness between the motor and brake module. Before initializing a stroke learn, confirm the door’s handing and harness.



SECTION 5.2: Stroke Learning (YES)

Note: If the door stops during opening, open and close the door manually and check that no objects are caught in it or that the pre-load is not too strong. If there are no problems, lightly push the door opening with your hand during stroke learning. Then, confirm that the door is working after an Activation input.

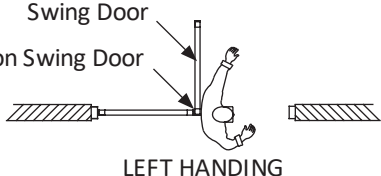
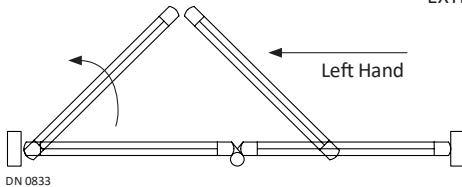
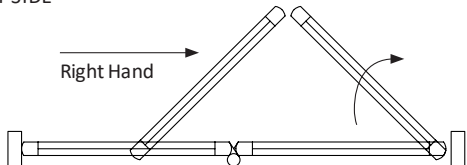
1. Go to the Opus Control. From the Unit Specs Screen, press down on the Rotary Dial until the next Screen is displayed.
2. Turn the Rotary Dial to highlight (YES) under (Stroke Learning).
3. The Opus will check to see if the Door is Fully Closed -> then Slowly Open -> Closed again.
 - ▶ If the Screen displays “Wrong Hand! Restroke”, Stroke learning is not complete.
 - ▶ See Troubleshooting (refer to “CHAPTER 13:”) and perform the stroke learn again.

CHAPTER 6: PROGRAMMING MENUS

NOTES:

- ▶ The symbol "■" means the parameter is protected when the function "Partially Protected" is selected.
- ▶ In OPUS, [PRTCT] will display in the upper right corner in place of the symbol "■".
- ▶ Gray Marked Parameters or values are only for Sliders.

SECTION 6.1: Base Settings

Base Settings			
Parameter	Range	Default	Description
■ Operator Type* ¹	▶ GT-300/400/500 Swing	GT-710 Swing	▶ When using GT-300/400/500, GT-8300/8400/8500 or GT-1400 Fold door also use this.
	▶ GT-1175 RetroU19 Slide		▶ N/A
	▶ GT-1175 Opus Slide		▶ N/A
	▶ 2400 Opus Slide		▶ N/A
	▶ GT-710 Swing		▶ When using GT-710 or GT-8710
	▶ Nabco Swing		▶ When using Nabco Swing (GT-630)
■ Low or Full Energy* ²	▶ Low	Low	▶ Low Energy Operation
	▶ Full		▶ Full Power Operation
■ Door Hand* ² (For Swing Doors)	▶ Left ▶ Right	Right	From the Exterior Side of Building, determine which Handing to enter: Left or Right RIGHT HANDING  DN 1308 LEFT HANDING  DN 1308 EXTERIOR SIDE OF BUILDING
■ Door Hand (For Fold Doors)	▶ Left ▶ Right	Right	From the Exterior Side of Building, determine which Handing to enter: Left or Right Left Hand  DN 0833 Right Hand  DN 0833 EXTERIOR BREAKOUT SIDE
■ Encoder?	▶ Yes ▶ No	Yes	▶ No if an Encoder not used.

*1 Opus changes some settings automatically when you change the Operator Type or do Short Pushes on this Menu.

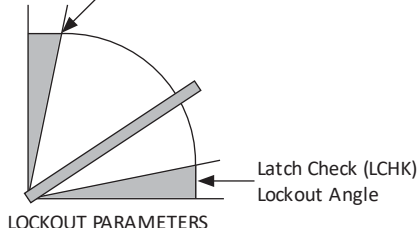
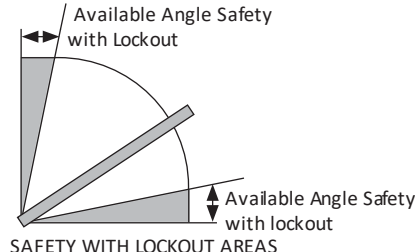
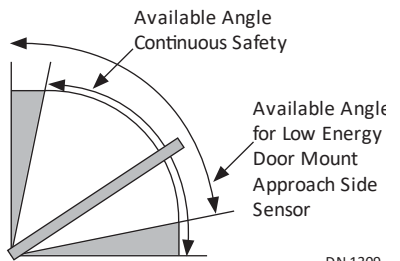
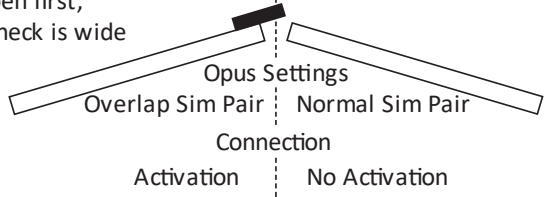
*2 These parameters do not apply to the Nabco Swing.

SECTION 6.2: 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	Swing Door: 2-1/2° to 35° of Fully Opened
■ 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	Swing Door: 10° to 45° of Fully Closed
■ Open Timer	0-10, 12, 15, 20, 25, 30	5	Hold Open time (in seconds) after Door reaches Full Open and activation signal is no longer present.
■ Reaction Power	0 - 7	3	Determines how fast the door reacts to a reactivation when closing.
■ Open Recycle Sens	0 - 7	3	Recycle detection Sensitivity. Determines how much force is exerted during opening or closing cycle. ▶ "0" = most sensitive ▶ "7" = least sensitive
■ Close Recycle Sens			
■ After Open Recycle	▶ Slow Open ▶ Stop	Stop	Determines what happens after a recycle during Opening cycle. ▶ Slow Open = Door stops then slowly opens. ▶ Stop = Door stops then slowly closes.
■ Close Recycle Reopen	▶ Yes ▶ No	Yes	Determines what happens after a recycle while closing cycle. ▶ Yes = Door re-opens ▶ No = Door stops then slowly closes

SECTION 6.3: Optional Settings

Optional Settings			
Parameter	Range	Default	Description
▶ Hold Close Force	0 - 3	0	▶ 0 = OFF, 3 = Strongest Hold Close Force
▶ Power Close Range	▶ No Power Close ▶ Whole Close Cycle ▶ Latch Check Only ▶ Latch and Back	No Power Close	Closing assisted by Motor to fight wind or stack pressure.
■ Manual Open Function	▶ No Action ▶ Push and Go ▶ Stop and Close ▶ Open Assist	No Action	Does nothing (Power close selection will not work when used manually) Door will Open to Fully Opened Position when door is pushed. Door pauses at opened position then closes Motor power assists in manually opening the door. Assist Power depends on how strongly the door is pushed at first.
▶ Manual Open Sens	0 - 3	1	Angle to activate Push and Go (1-3 recommended Do Not use 0)
▶ Manual Open Timer	0-10, 12, 15, 20, 25, 30 Same as Open Timer	3	Hold open time for Manual Open Function.
▶ BCHK Lockout Angle	0-9, A	0	▶ Sensor lockout angle at Back Check. ▶ The range is from 0° to 30° from Fully Opened Position . ▶ Used to disable the detection of a Door Mounted Sensor for the Pull Side near the fully opened position. ○ "0" = Narrow ○ "A" = Wide

Optional Settings			
Parameter	Range	Default	Description
▶ LCHK Lockout Angle	0-9, A	0	▶ Sensor lockout angle at Latch Check. ▶ The range is from 0° to 30° from the Fully Closed Position. ▶ Used to disable the detection of a Door Mounted Sensor for Approach Side near the fully closed position. ○ "0" = Narrow ○ "A" = Wide
Back Check (BCHK) Lockout Angle  LOCKOUT PARAMETERS Available Angle Safety with Lockout  SAFETY WITH LOCKOUT AREAS Available Angle Continuous Safety  Available Angle for Low Energy Door Mount Approach Side Sensor DN 1309			
▶ Stop Force Adjustment	0-7	3	Used to apply motor voltage during the stoppage of the door. 0 = less voltage, 7= most voltage
▶ Stop Relief (Only for Nabco Swing)	▶ Yes ▶ No	No	To reduce the stress for the doorstop, OPUS-tries to stop the door before the door hits the stop. This feature does NOT guarantee the door will STOP; therefore, it is necessary to install a physical door stop.
▶ Anti-Slam Open?	▶ Yes ▶ No	No	Choose Yes if the door is being thrown open due to wind conditions. It increases brake torque near the fully open position.
▶ Sim Pair Setting	▶ Single Door	Single Door	-
	▶ Normal Sim Pair		Two Opus operate each door simultaneously. ▶ (for detail, refer to CHAPTER 6)
	▶ Double Egress		▶ The Activation signal (only) is shared between doors. All other signals are independent.
	▶ Overlap Sim Pair		▶ Overlap Sim Pair is for an Astragal Application. ▶ Opus Control connected to door that must open first: • Have activation signals connected to it. • Be set to "Overlap Sim Pair". ▶ The delayed control will be set to "Normal Sim Pair". ▶ Latch Check range is wider than normal setting.
Open first, Latch check is wide  Opus Settings Overlap Sim Pair Normal Sim Pair Connection Activation No Activation DN 1558			
Oneway Secure	▶ Yes ▶ No	No	Ignore "Interior Activation" when "Exterior Activation" is ON during Oneway mode at Fully Closed Position.
Flip Screen	▶ Yes ▶ No	No	Choose Yes if Opus is installed upside down. LCD will flip upside down.

SECTION 6.4: Output Settings

Output Settings				
Parameter	Terminal	Default	Range	Description
Output 1	Term 7	Fully Opened Position	► — —	► No Output
Output 2	Term 13	Fully Closed Position	► Fully Closed Position	► Output closes when fully closed
Relay Output 3	Relay Output Terminals	— —	► Closing Status	► Output closes when door is closing
			► Opening Status	► Output closes when door is opening
			► Fully Opened Position	► Output closes when door fully opened.
			► Error State Output	► Output closes when error detected
			► Recycle happened	► Output closes when recycle occurs
			► Electric Strike Lock ^{*1}	► Set for electric strike functionality. Output closes just before door opening.
			► Electric Magnetic Lock ^{*1}	► Set for Mag lock functionality. Output closes except fully closed position.
			► Air lock	► Set for Air lock functionality. Output closes when door is not fully closed.
			► Breakout Pass through	► Output closes when breakout occurs
			► TrmnL H PassThrough	► Output closes when Terminal H was closed.
			► Door Sequencing	► Set for door sequencing. After activation, wait for "Sequence Delay Timer" seconds, then Output close.
			► ■ Monitoring Norm. Open ^{*2}	► Normally open Monitoring circuit (high logic)
			► ■ Monitoring Norm. Close ^{*2}	► Normally closed Monitoring circuit (low logic)
			► Bodyguard Output	► Outputs data for bodyguard sensors and other sensors that use the same data to share the Door State.
			► BAorNot-FC Norm.Open	► Output Close when Breakout or Not in Fully Closed Position (N.O.)
			► BAorNot-FC Norm.Close	► Output Open when Breakout or Not in Fully Closed Position (N.C.)
Open Delay Timer	N/A	0.5	0.5, 1.0, 1.5 sec After Unlock Feed Back	Delay time after activation to allow lock to unlock before the door starts moving. Only functional if Electric Lock is selected or Lock Release Force is not 0.
Lock Release Force	N/A	0	0-3	Can change the force to help unlock the electric lock. Only when the lock is locked, the door is pushed toward the closed side before it is activated to open.
Lock Condition	N/A	Every Fully Closed	► Every Fully Closed ► One-way/Night Only	Determines when the electric lock engages.
Sequence Delay Timer	N/A	0	0-10, 12, 15, 20, 25 Same as Open Timer	Delay Time before seconds Door opens when an output is being used for Door Sequencing.
Only Act. Sequenced	N/A	No	► Yes ► No	Change output timing for Door Sequencing. If you choose Yes, Door Sequencing will be on only when activated. (Not output Beam, LE Approach).
*1 To make it easier to unlock an electric lock, the Opus applies closing force preceding door opening. When the Output is related to an electric lock, Hold Close will be 0 as the lock is locked (Rev.28 or later).				
*2 If Monitoring is selected here, then either 61/62/6B/SWL Monitoring must be set to "Active".				

SECTION 6.5: Input Settings

Input Settings				
Parameter	Terminal	Default	Range	Description
Input 62 Setting	Term 4	Ext Activation	▶ — —	▶ No input
Input SWL Setting	Term 6	Safety With Lockout	▶ All Mode Activation	▶ Activates in all modes except OFF (works in one-way and night)
Input SQ Setting (Rev 28 or later)	Term 9	Sequential Input	▶ Interior Activation	▶ Interior Activation (works in both one-way and auto)
			▶ Exterior Activation	▶ Can be shunted in one-way
Input H Setting	Term 10	No Function	▶ Beam Sensor (for Slider)	▶ Threshold sensor. If activated when the door is not fully closed, the door will re-open.
			▶ LE Approach Sensor (for Swinger)	▶ Door mounted Sensor (Approach Side)- If activated then will disable hold close at Fully Closed position, Re-open at Closing* ¹ .
			▶ Unlock Feed Back	▶ When you choose “Open Delay Timer” and “After Unlock Feed Back”, the door will not open until this input is made.
			▶ Disable Power Close (for Swinger)	▶ Turns off power close and hold close
			▶ Sequential Input	▶ Takes one activation to open door, another to close door
			▶ Open Slow	▶ Causes slow opening of the door
			▶ Safety with Lockout (for Swinger)	▶ Swing side header mounted Sensor- if activated, the door will keep closed at Fully Closed and hold open at Fully Opened
			▶ Continuous Safety (for Swinger)	▶ Door mounted Sensor (Pull Side)- if activated, door will not open at Fully Closed, stop and close (or slow open) at Opening, do nothing or stop at Closing* ² .
			▶ Reduced Opening	▶ Change activation to a set reduced point which is measured by “[Base Settings]-[Reduced Stroke]”.
			▶ Emergency Close and Lock	▶ Forces the door to close* ³ and lock (if equipped).
			▶ Hold Open Mode	▶ Holds door in the fully open position
			▶ Reduced Int Act	▶ Reduced Opening & Interior Activation.
			▶ Reduced Ext Act	▶ Reduced Opening & Exterior Activation.
			▶ AsiaSpec_IntActSwgSd	<u>DO NOT USE.</u>
			▶ AsiaSpec_ExtActSwgSd	

*1 Only if the door was Fully Opened automatically (ex. Opened by Activation or Push & Go).

*2 This behavior changes depending on how "6B Stop Closing" and "After 6B Open?" is set.

*3 The door will close slowly if any Activations are present

Input Settings				
Parameter	Terminal	Default	Range	Description
Input 62 Timer	Term 4	Same as Open Timer	0-10, 12, 15, 20, 25 Same as Open Timer	Hold open time for Input 62
Input SWL Timer	Term 6	Same as Open Timer		Hold open time for Input SWL
Input SQ Timer	Term 9	Same as Open Timer		Hold open time for Input SQ
Input H Timer	Term 10	Same as Open Timer		Hold open time for Input H
Holding Input H Timer	Term 10	0 sec	► 0, 0.5, 1, 3, 5, 10, 15, 30 sec.	Hold ON signal for seconds from OFF trigger.
Input 61 Circuit	Term 3	Normally Open	► Normally Open ► Normally Close	Circuit logic for Input 61
Input 62 Circuit	Term 4	Normally Open		Circuit logic for Input 62
Input 6B Circuit	Term 5	Normally Open		Circuit logic for Input 6B
Input SWL Circuit	Term 6	Normally Open		Circuit logic for Input SWL
Input BA Circuit	Term 8	Normally Close		Circuit logic for Input BA
6B Stop Closing	Term 5	No	► Yes ► No	When 6B is ON at latch check, while closing, the cycle determines the door movement: • Stop or Close
After 6B Open?	Term 5	Yes	► Yes ► No	Determines the door movement (open or close) if 6B is ON.
■ 61 Monitoring	Term 3	Not Active	► Active ► Not Active	CAUTION If monitoring is enabled for any input, a sensor must be connected to the input that is capable of monitoring. That sensor's input must then be connected to an Opus Output programmed for monitoring. If this is not done, errors will occur resulting in the door not operating until the problem is fixed.
■ 62 Monitoring	Term 4	Not Active	► Active ► Not Active	
■ 6B Monitoring	Term 5	Not Active	► Active ► Not Active	
■ SWL Monitoring	Term 6	Not Active	► Active ► Not Active	

SECTION 6.6: History Setting

History Data	
Parameter	Description
Operation Cnt	► Indicates the 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: ► A struck object. ► Any amount of friction that surpassed the Open recycle sensitivity setting.
Close Recycle Cnt	Indicates number of times the Door reversed direction during Closing cycle after sensing: ► A struck object. ► Any amount of friction that surpassed the Close 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.

SECTION 6.7: Test Open

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

CHAPTER 7: SIMULTANEOUS PAIR, DOUBLE EGRESS, AND BI-FOLD DOORS

Attention: DO NOT copy data from the Slave Control (Type 1). If data is copied from a Slave Control (Type 1):

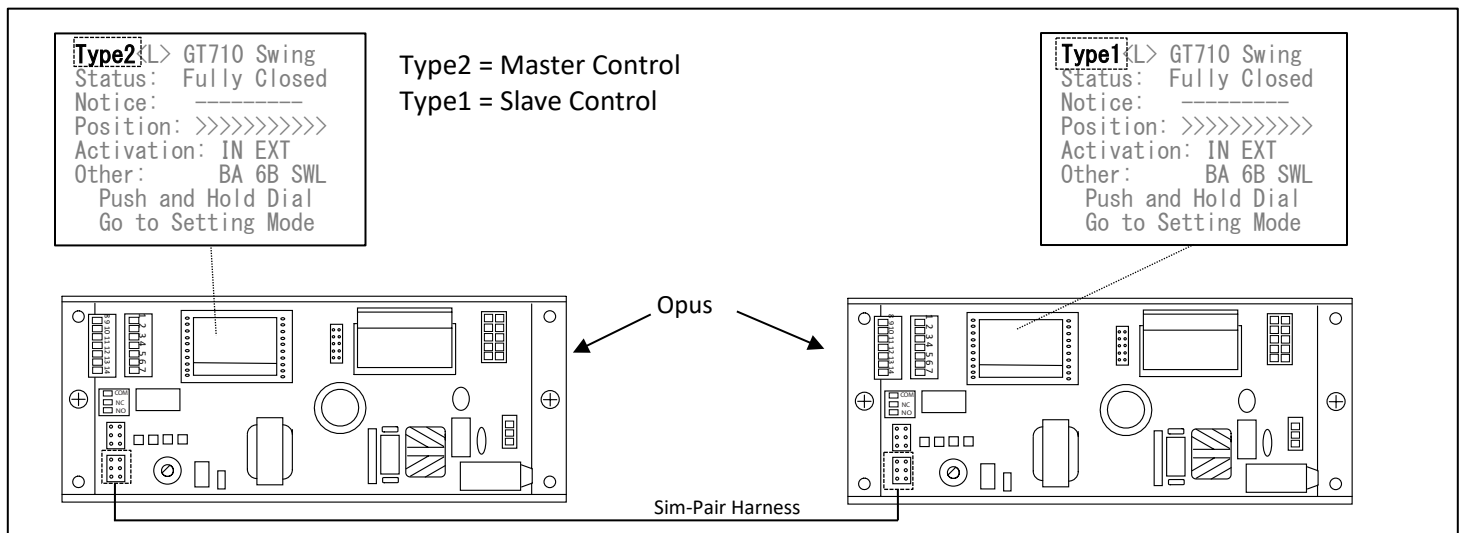
- ▶ The Slave Control (Type 1) will change itself into a Master Control (Type 2).
- ▶ Controls of the same Type cannot communicate between each other.

Attention: Stroke Learning must be performed on each Opus Control.

Attention: ► When programming Opus controls on bi-fold doors using 2 controls, select “NO” on “copy data” screen

- Do this because monitored sensors are only connected to one control (Type 2).
- *Any changes to one control, such as speed or timer, should be entered on the other control manually, not copied.*
- Rev.29 or later: Opus ignores Output and Monitoring settings during “Copy Data”

NOTE: *Opus Controls installed inside Bi-Part Headers are programmed to operate as a pair at the NABCO Factory.*



Within the Status Screen (main screen) located at the top, Opus Controls are labeled Type 1 or Type 2. Type 1 should be considered the Slave Control; Type 2 should be considered the Master Control:

- ▶ All Activation Devices and main harness are connected to the Master Control (Type 2).
- ▶ Programming/Settings that need to apply to both Controls, must be done from the Master Control (Type 2).
- ▶ To ensure programming/settings made to the Master Control (Type 2) are copied to the Type 1 (Slave Control), select YES when prompted to COPY DATA. This is done when backing out of programming.

SECTION 7.1: Sensor with Monitoring

- ▶ It's better to set up the controls and have the doors operating as desired before connecting safety sensors. This way settings that typically need to be copied are already established.
- ▶ When monitored sensor wiring is different between controls, avoid monitoring settings from being copied to the other control. Select “no” to “copy data” when exiting programming.
- ▶ Door mounted safety sensors should be connected to the OPUS control running each door.

NOTES: *OPUS can only operate one door panel.*

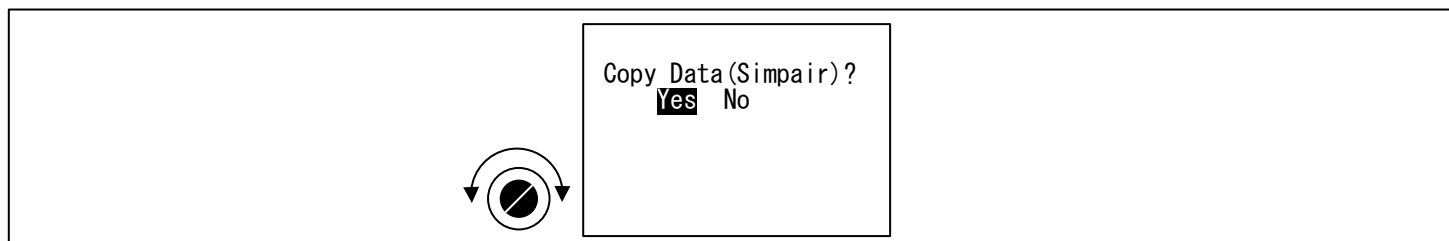
When using sim pairing, there are two door panels.

Therefore two OPUS controls are needed and two door mounted sensors are needed, one for each door.

- ▶ Overhead safety sensors are not ideal on low-energy pairs, or whenever doors are predominantly used manually.
 - When used as a full energy door, monitoring should only be active on the control that the sensor is connected to, preferably the “Type 2” Control.
 - Avoid copying data.

SECTION 7.2: Copy Data from Type 2 (Master Control) to Type 1 (Slave Control)

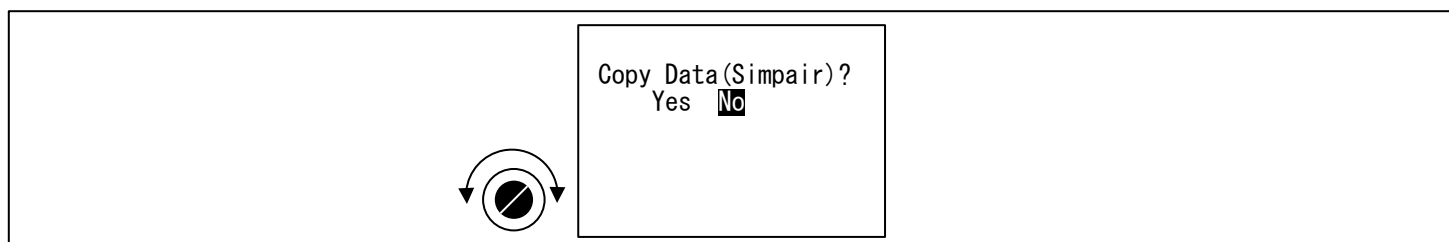
1. Go to the Type 2 (Master Control), push the Rotary Dial in for 2 seconds then release.
2. Press and Release the Rotary Dial then Enter "Go To Setting".
3. Push the Rotary Dial again 2 seconds for (Copy Data (YES or NO)).
4. Upon exiting the Copy Data (Sim Pair) screen will display.
 1. Turn the Rotary Dial to highlight (YES)
NOTE: If Rev. 29 (or later) Opus is the slave of a Sim pair. It will ignore "Operator Type", "Door Hand", "Flip Screen", "Output1/2", "All Monitoring", if copy data is performed by any master Opus.
 2. Briefly press down on the Rotary Dial to select.
 3. Programming/Settings made to the Type 2 Control will automatically copy to the Type 1 Control.

**SECTION 7.3: Customized Programming/Setting for (1) Control Only**

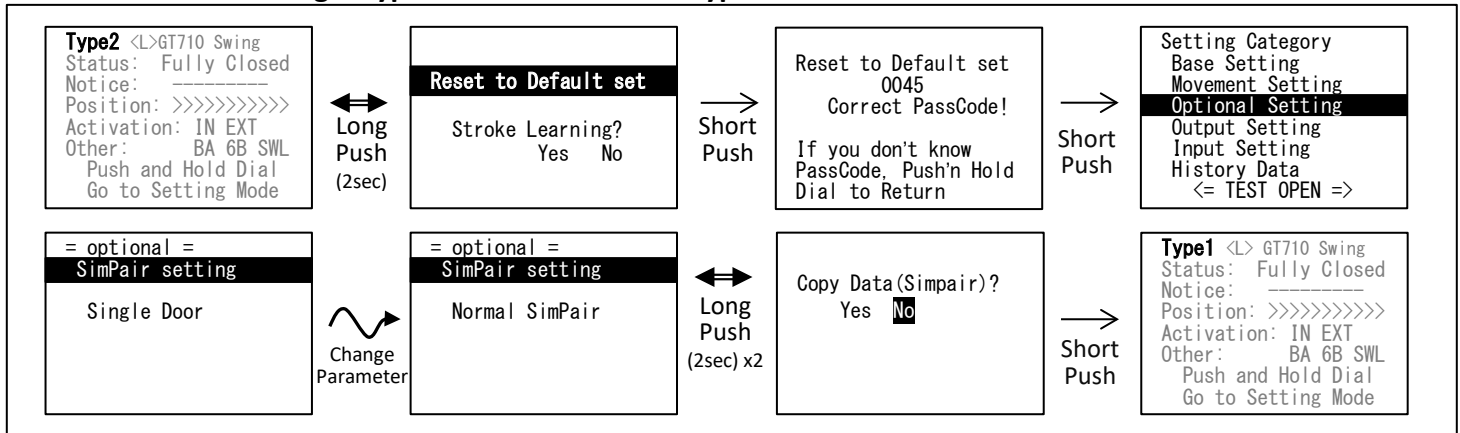
NOTE: Customized Programming/Settings can be done for (1) Control without losing data previously saved for (2) Controls.

Sometimes Programming/Settings need to change for (1) Control only. For example, Door (1) needs to open faster than Door (2).

1. Go to Type 1 (Slave Control) or Type 2 (Master Control).
2. Program any/all new settings.
3. Press and hold the Rotary Dial until the (Copy data) Screen is displayed.
4. Turn the Rotary Dial to select (NO). Customized Programming/Settings will only be saved to (1) Control.



SECTION 7.4: Resetting a Type 2 Control back to a Type 1 Control



NOTES:  This symbol indicates several steps are involved to get to the next screen.
See [4.2.2.1](#) for instructions on entering the PassCode.

There can never be (2) Master Controls, or (2) Slave Controls. There must always be (1) Master Control, and (1) Slave Control.

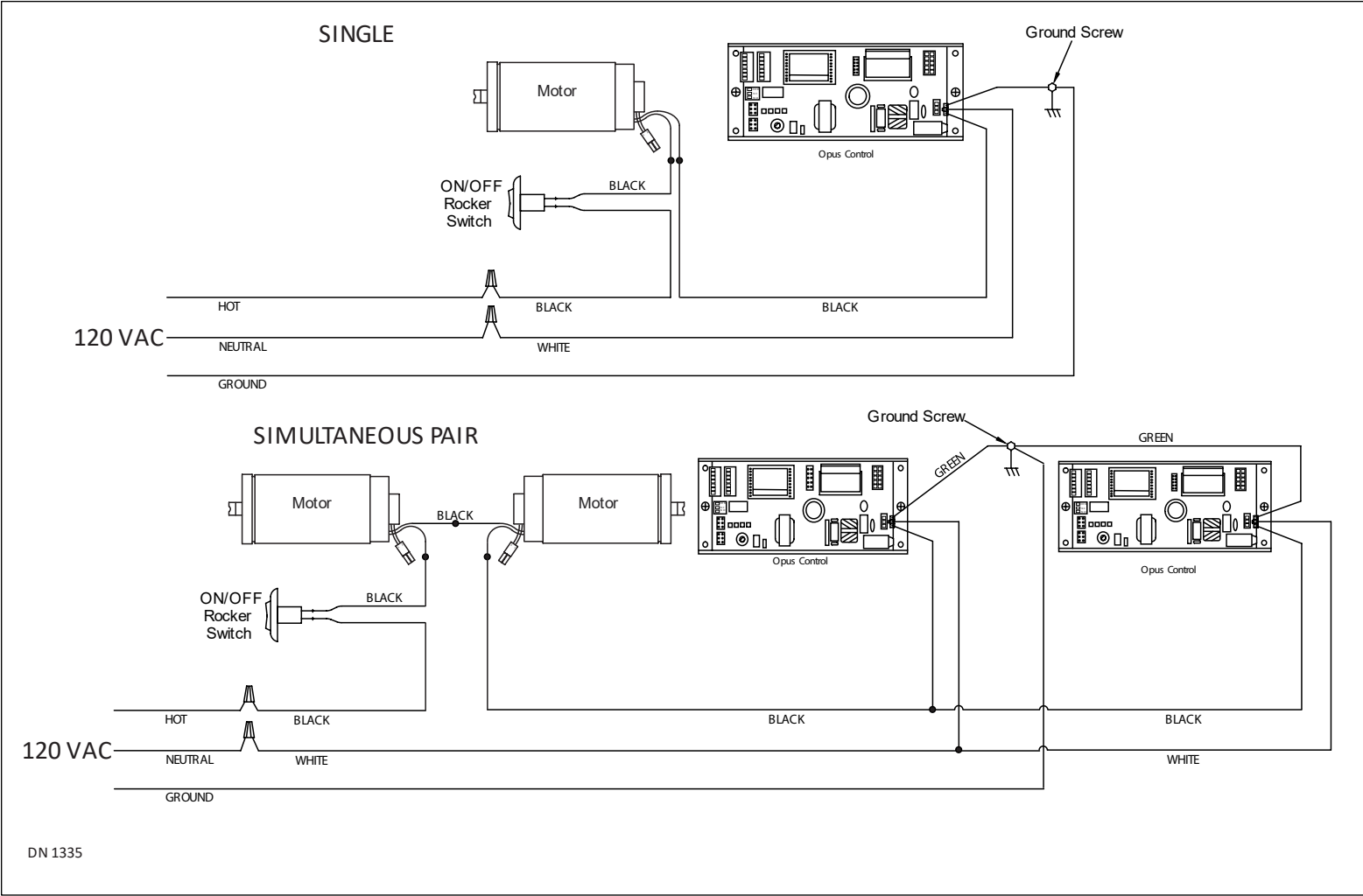
1. Go to the Control without activation devices connected to it. This will be Slave Control (Type 1). Perform a Factory Reset.

NOTE: When resetting to default the control BA is N.C. and sim pair setting is Single door.

1. Press down on the Rotary Dial until the next screen is displayed.
 2. Turn the Rotary Dial clockwise to highlight (Reset to Default Set).
 3. Briefly press down on the Rotary Dial. Enter the passcode: 0045.
 - a. Turn the Rotary Dial clockwise to highlight a preferred number, then briefly press down.
 - b. Repeat until the passcode is complete.
 4. Briefly press down on the Rotary Dial to display the (Setting Category) Screen.
2. Turn the Rotary Dial to highlight (Optional Setting).
 3. Briefly press down on the Rotary Dial.
 4. Turn the Rotary Dial to highlight (Sim pair Setting).
 5. Briefly press down on the Rotary Dial to select.
 6. Turn the Rotary Dial to highlight the desired Paired Setting.
 7. Briefly press down on the Rotary Dial to select.
 8. Press and hold the Rotary Dial until the (Setting Category) screen is displayed.
 9. Press and hold the Rotary Dial until the (Copy Data) Screen is displayed.
 10. Turn the Rotary Dial to select (NO).
 11. Briefly press down on the Rotary Dial. The Type 2 (Master Control) will automatically reset to the Type 1 (Slave Control).

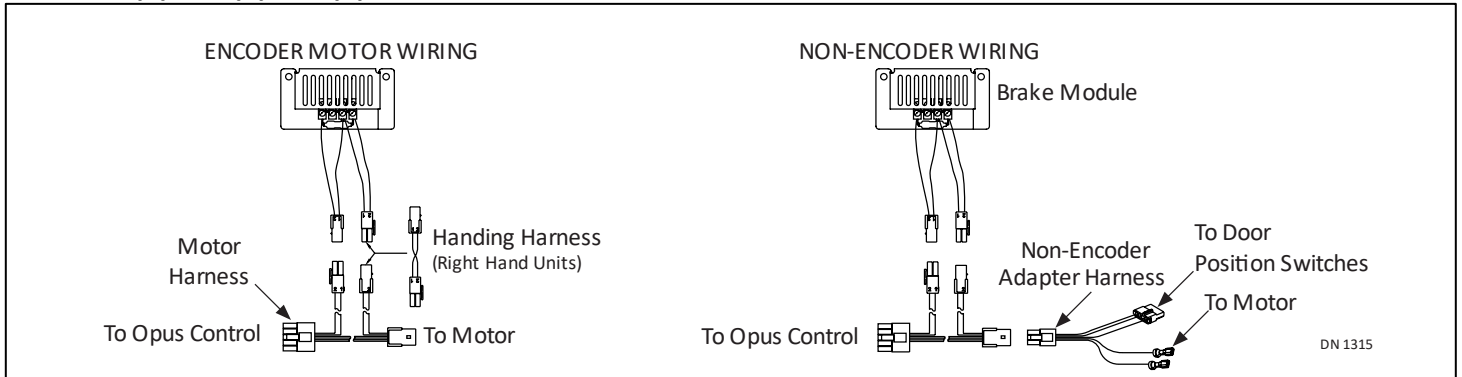
CHAPTER 11: SWING DOOR WIRING DIAGRAMS

SECTION 11.1: 120 VAC General Wiring

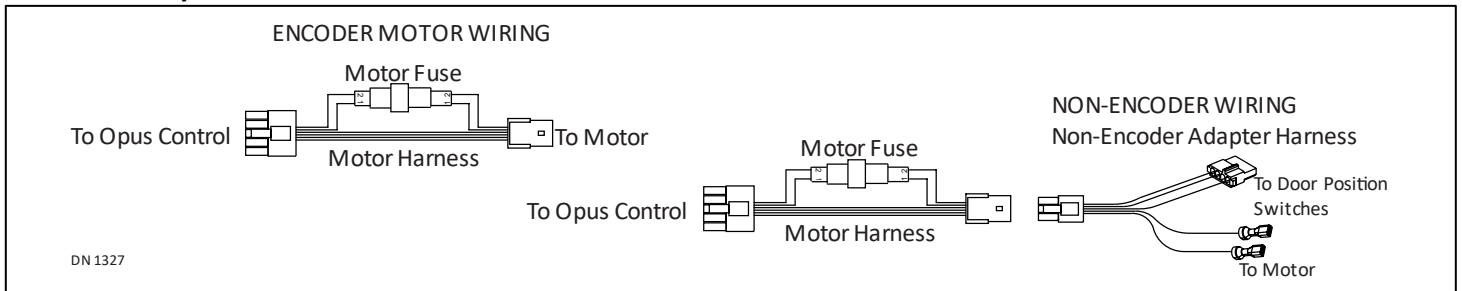


SECTION 11.2: Motor Wiring

11.2.1 GT(8)300/(8)400/(8)500



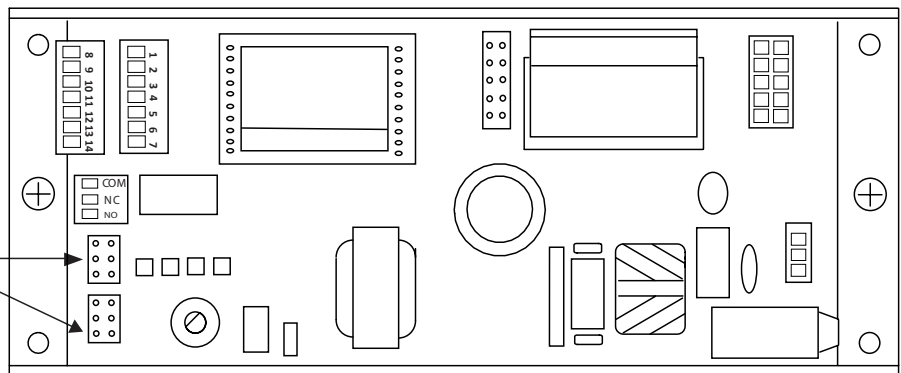
11.2.2 GT710/8710



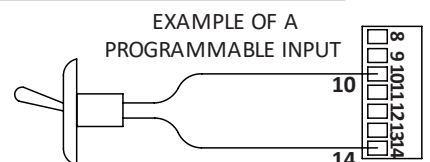
11.2.3 Other

I/O Terminal 8 - 14			
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.

CAN Bus Communication:
Used to connect Sim Pair, Astragal, Sequencing and the NET-HT Cable when programming.

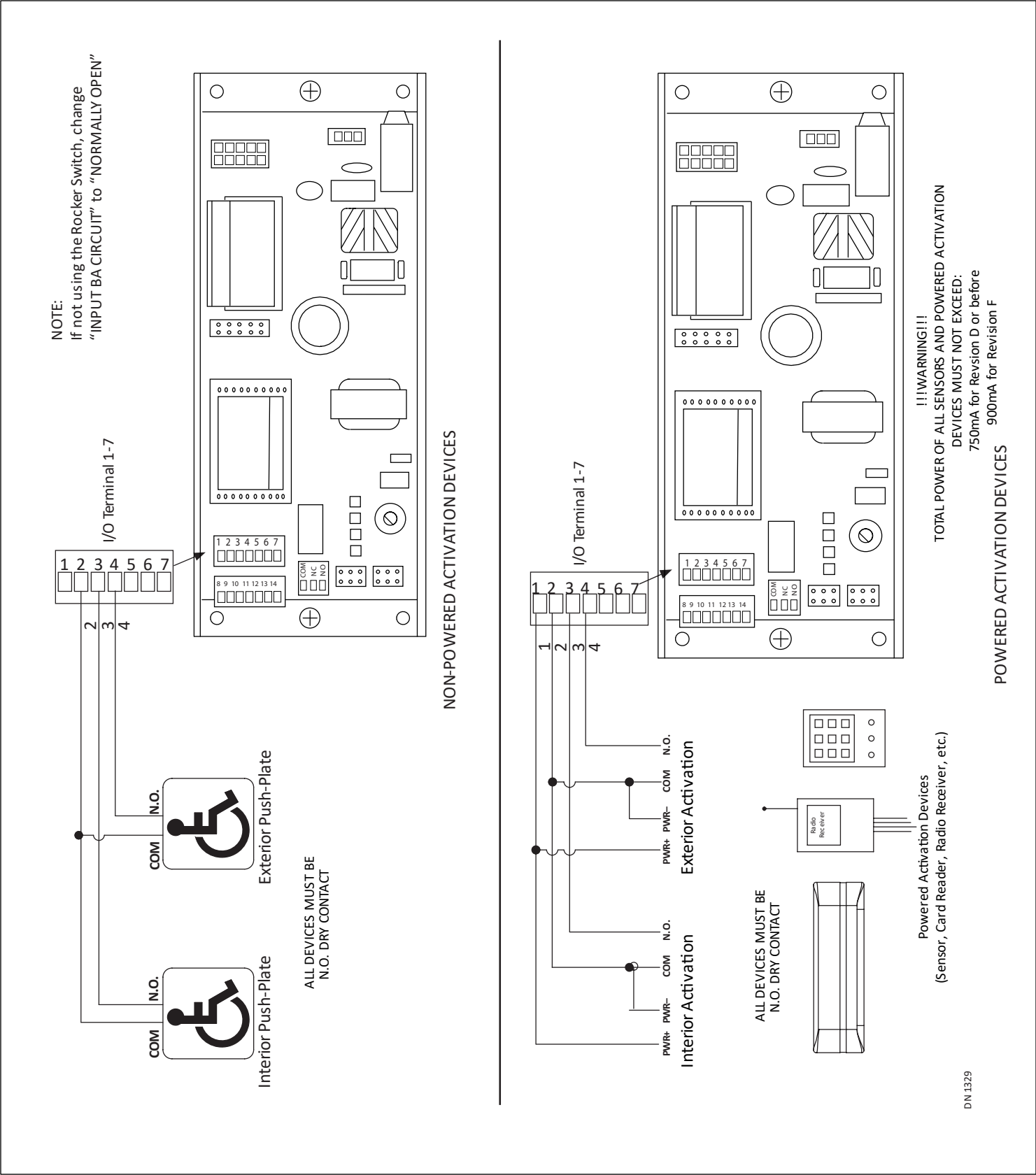


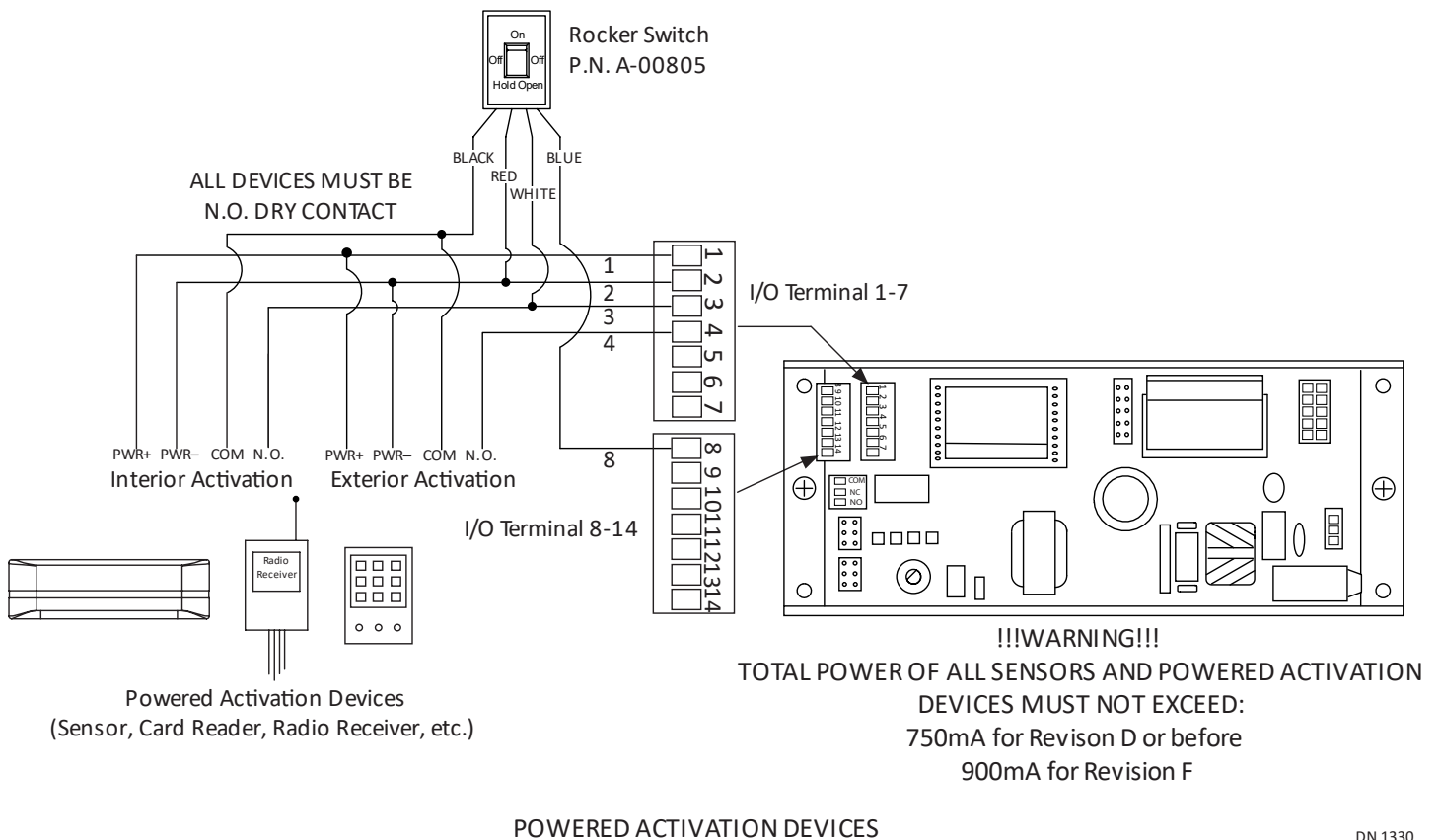
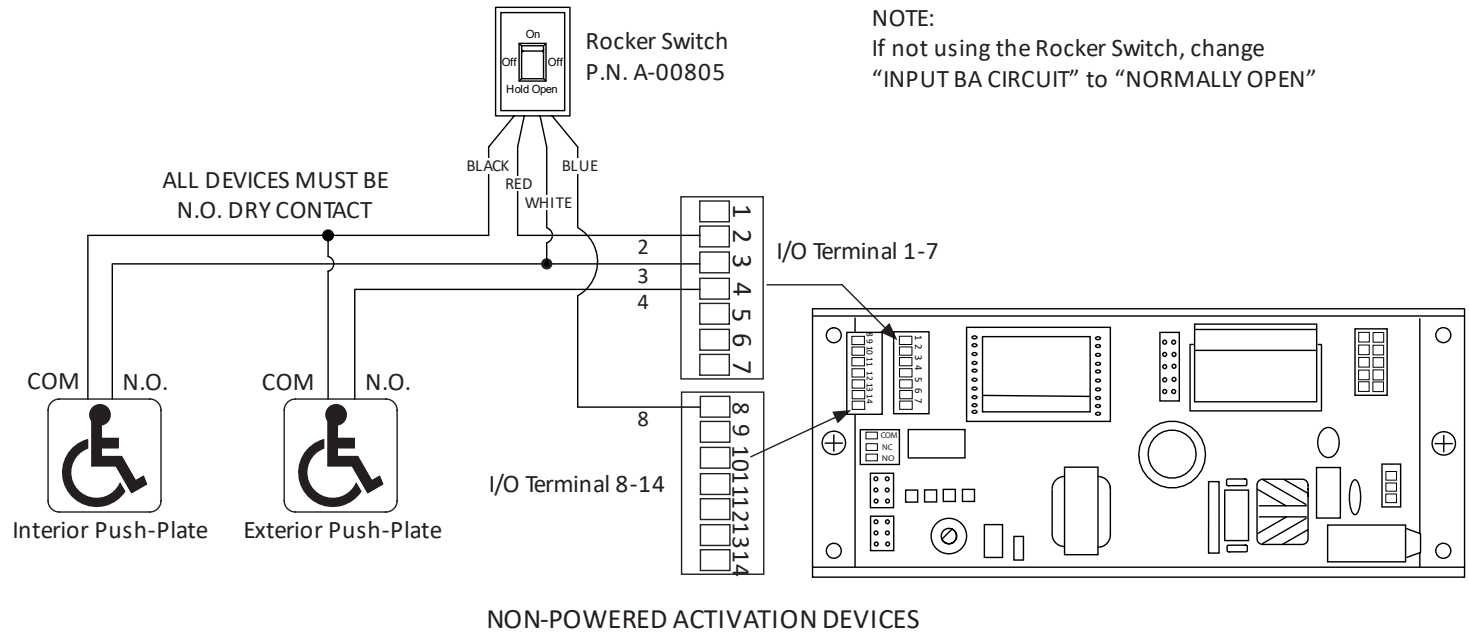
Example: A Switch being used to turn ON/OFF Power Close and Hold Close. Programmable Terminal 10, (Input H) would be set to DISABLE POWER CLOSE



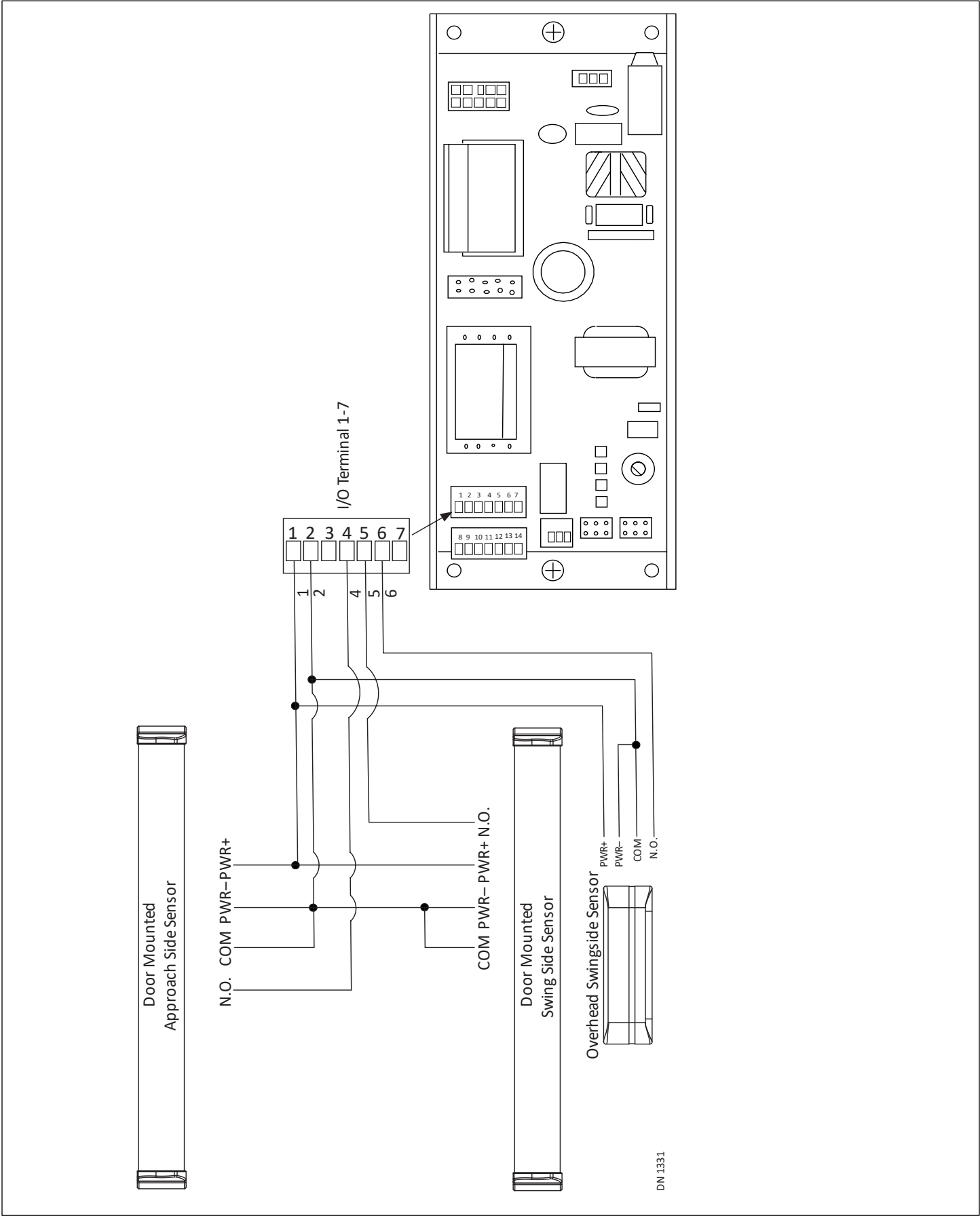
DN 1333

SECTION 11.3: Activation

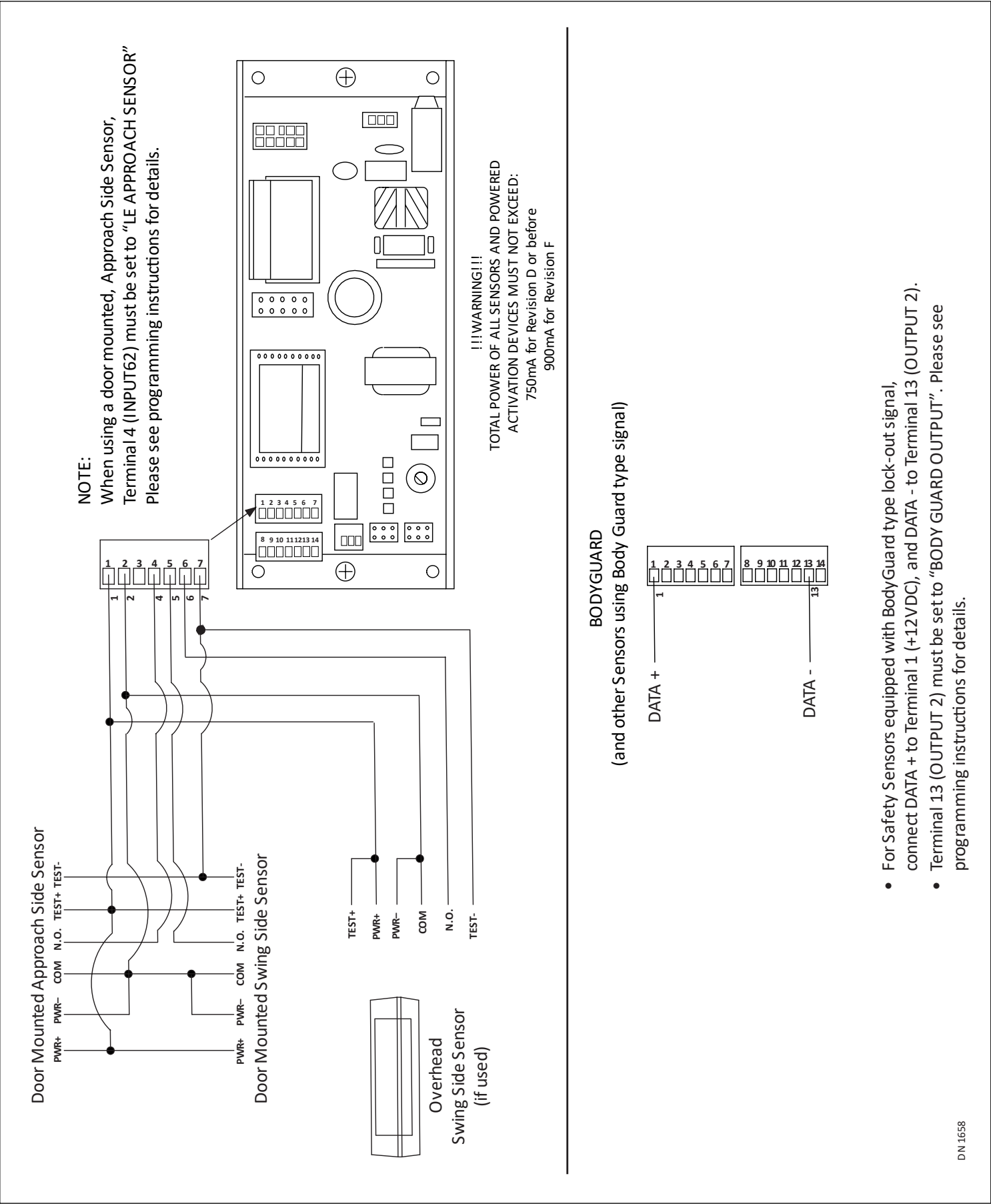


SECTION 11.4: Activation using ON/OFF/Hold-Open Switch

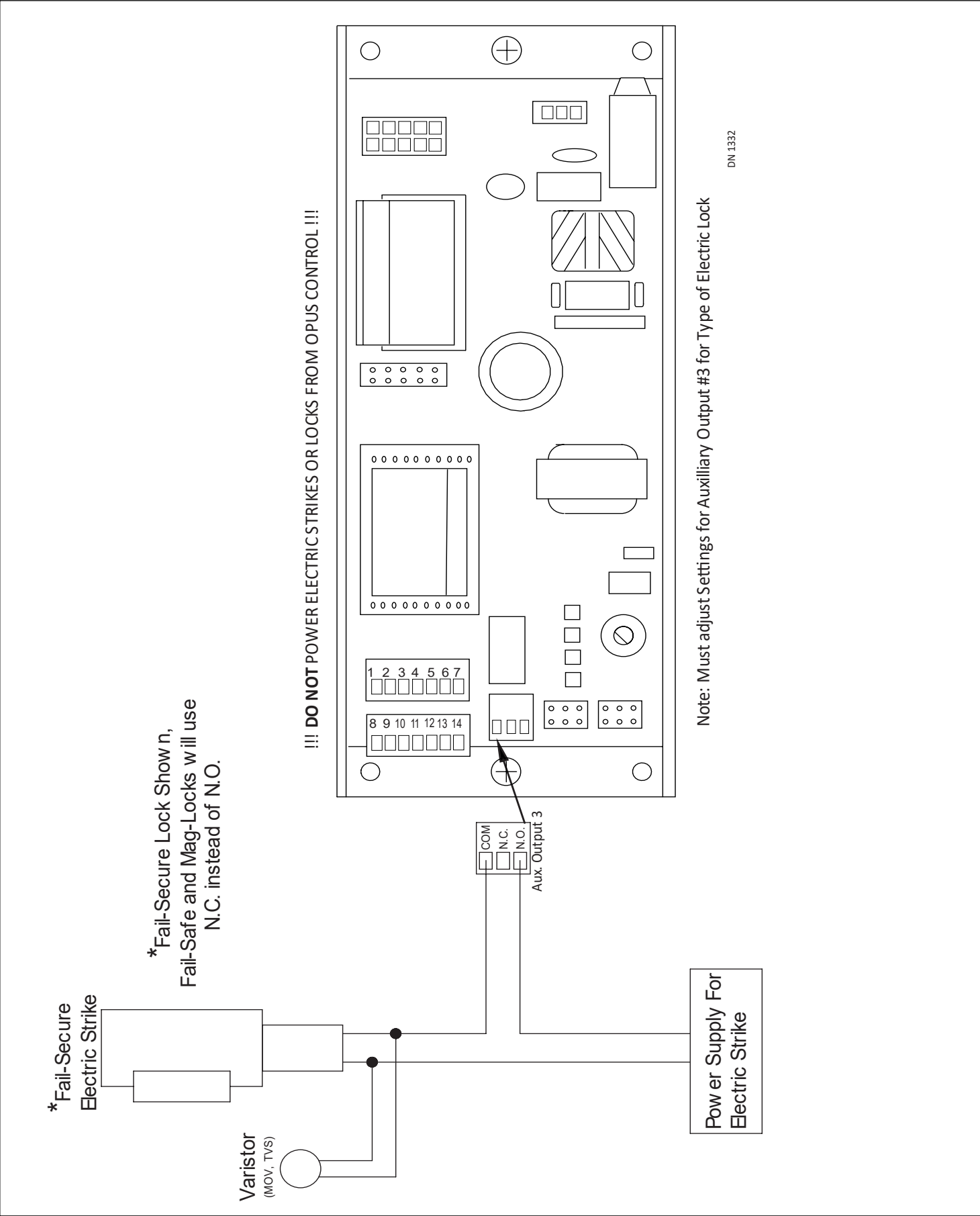
SECTION 11.5 Safety without Monitoring



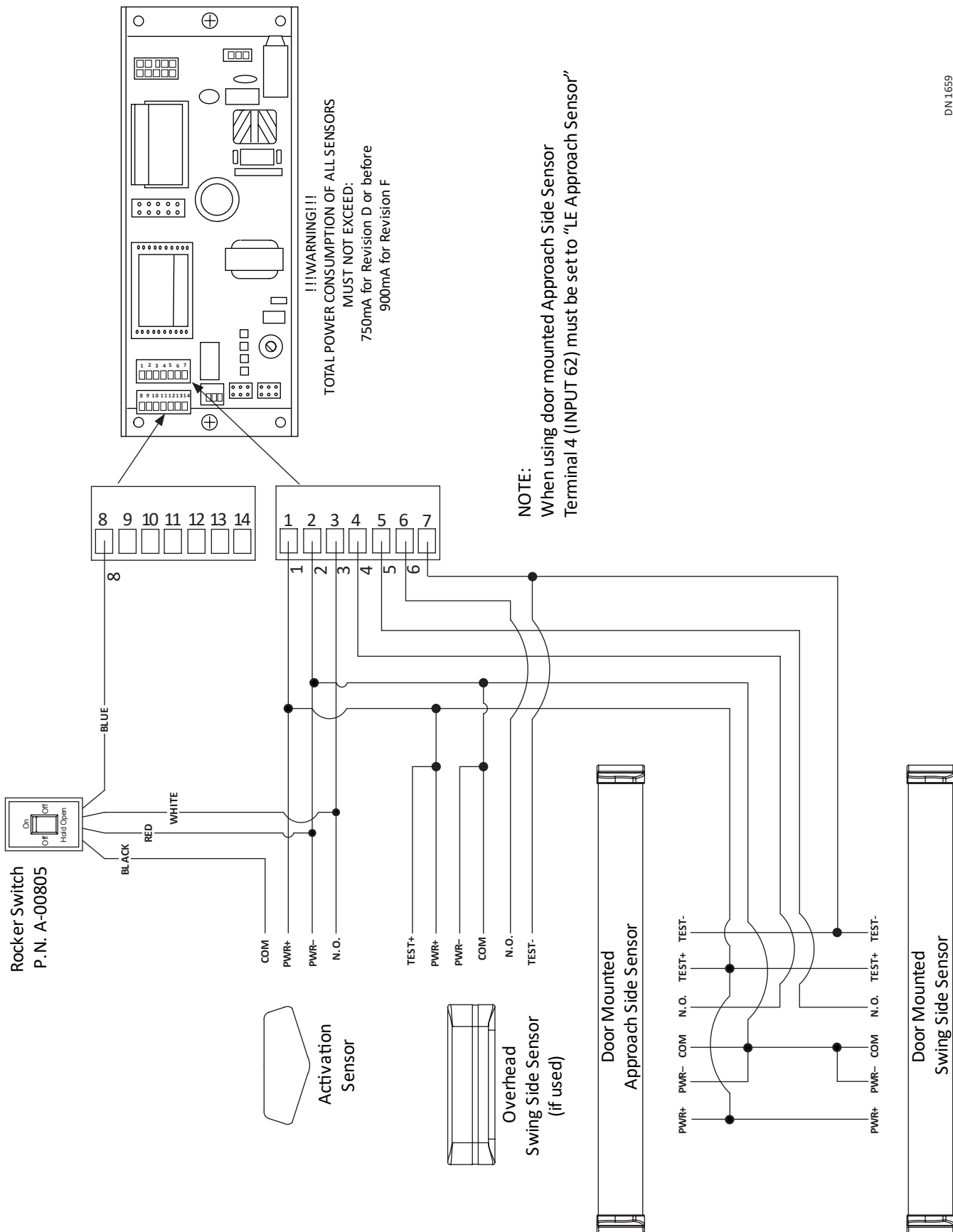
SECTION 11.6: Safety with Monitoring



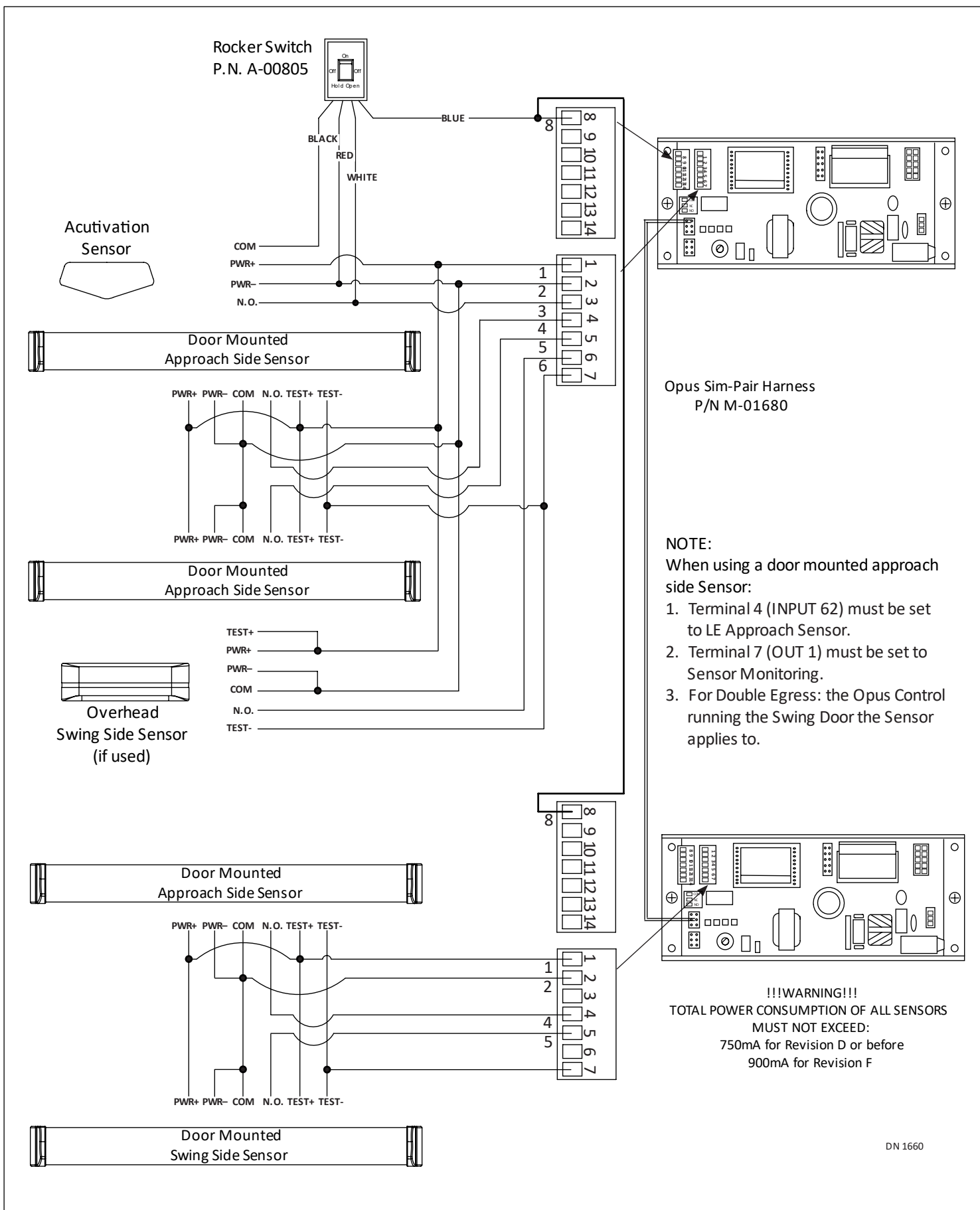
SECTION 11.7: Lock



SECTION 11.8: Single Fully Automatic with Monitoring

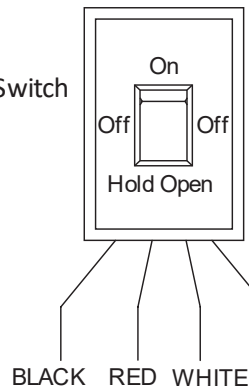


DN1659

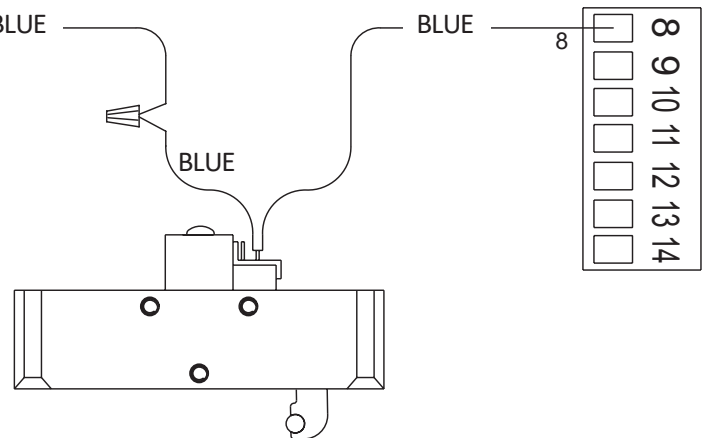
SECTION 11.9: Simultaneous Pair Fully Automatic with Monitoring

SECTION 11.10: Connecting a Breakout Switch**BREAK-OUT WITH ON/OFF/HOLD-OPEN SWITCH**

ON/OFF/Hold-Open Switch
P/N A-00805



Break-out Switch wired in series with
Blue Wire from ON/OFF/Hold-Open Switch



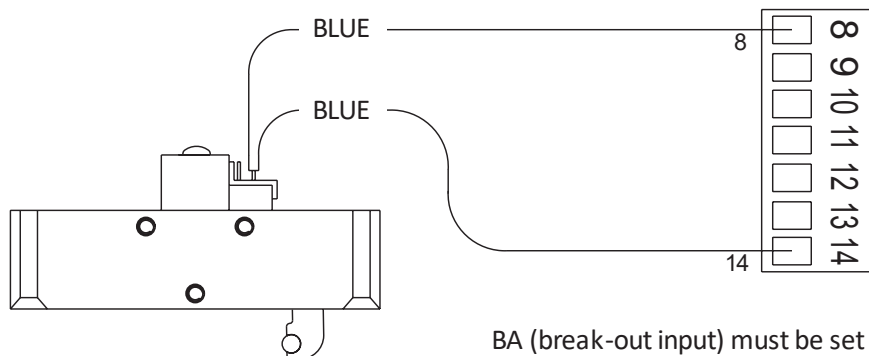
BA (break-out input) must be set to N.C. on the
Opus Control (is by default).

Panic Latch must be mounted so that the:

- Switch is open when the Door is breakout
- Closed when not breakout

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

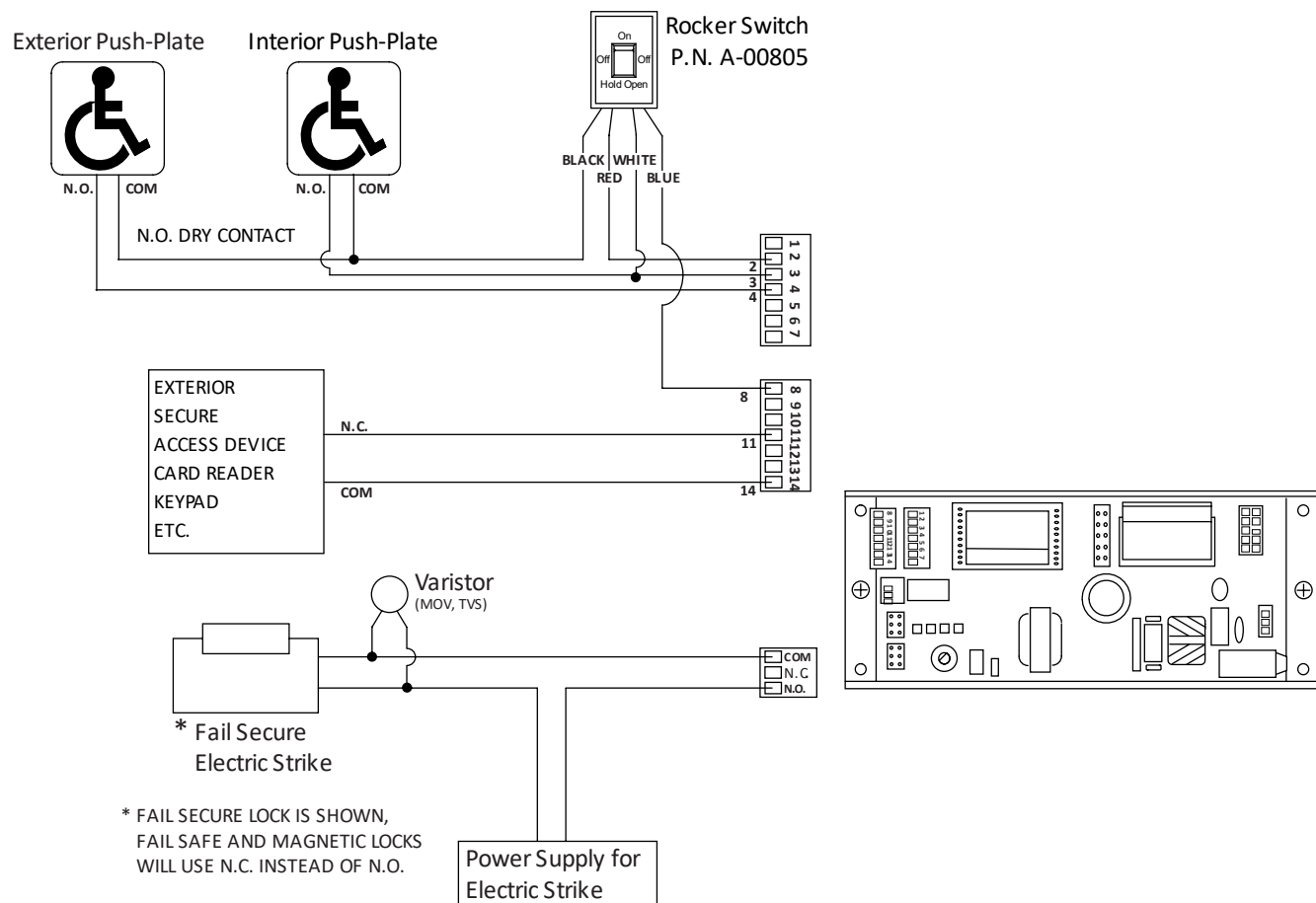
Panic Latch Kit
P/N A-00430 (Clear)
A-70430 (Dark Bronze)



BA (break-out input) must be set to N.C. on the
Opus Control (is by default).

Panic Latch must be mounted so that the:

- Switch is open when the Door is broken-out
- Closed when not broken-out

SECTION 11.11: No Security System: One Way / Two Way Operation**NOTE:**

- Go to "OUTPUT" Settings.
- 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.

CHAPTER 12: FOLD DOOR WIRING DIAGRAM

Attention: DO NOT copy data from the Slave Control (Type 1).

If data is copied from a Slave Control (Type 1):

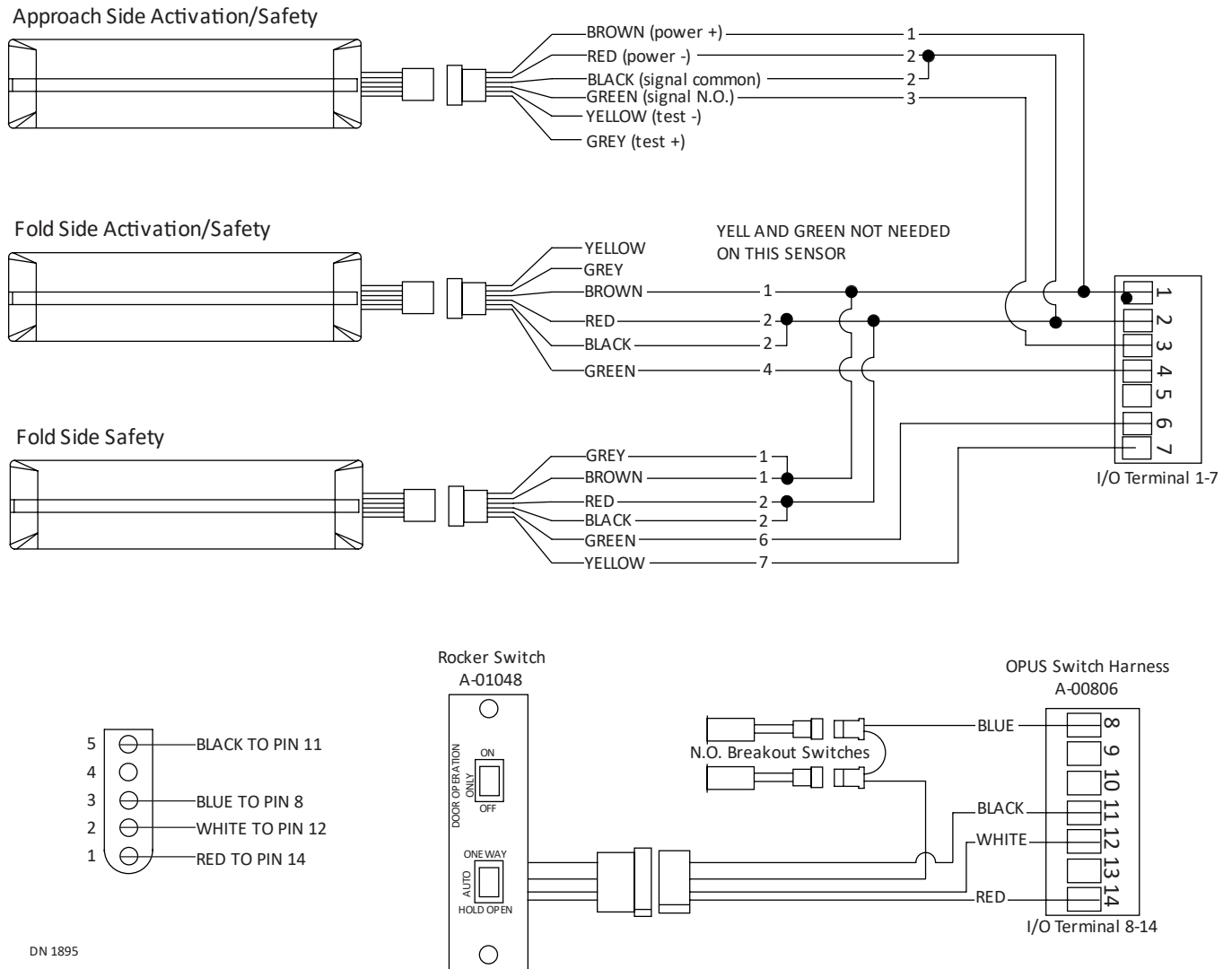
- ▶ The Slave Control (Type 1) will change itself into a Master Control (Type 2).
- ▶ Controls of the same Type cannot communicate between each other.

- Attention:**
- ▶ When programming the Opus control on bi-fold doors using 2 controls, select “NO” on “copy data” screen, since monitored sensors are only connected to one control (Type 2).
 - ▶ Any changes to one control, such as speed or timer, should be entered on the other control manually, not copied.

NOTE: If the Opus control is Revision 29 or later, Opus ignores the Output and Monitoring settings during “Copy Data”.

SECTION 12.1: Switches and Sensors with Monitoring

NOTE: Harness Shown: Acusensor M, A-01292 / Sensor Shown: Acusensor M, V-00741



CHAPTER 13: TROUBLESHOOTING

NOTE: *If after troubleshooting a problem, and a satisfactory solution cannot be achieved, please call Nabco Entrances at 1-877-622-2694 Option #3 between 8 am – 4:30pm Central time for additional assistance.*

CAUTION 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 automatic mode until repairs are performed. NEVER leave a door operating without all safety detection systems operational.

Programming Issues	
Problem	Possible Solution
Hard to manually open door	▶ On outswing: • Check if the shoe position and rod length are in accordance with dimensions shown in the manual. ▶ Except for the GT710: Reduce the preload on the operator. NOTE: <i>The Opus is not dependent on preload since there are no cam and door position switches.</i> ▶ Maximum preload on GT8500's should be one notch on the operator spline to maintain ANSI 156.19. ▶ Software Revision (up to, and including v.18) • Re-enter "0" for "hold closed force" under "optional settings". The software on early Opus controls may suggest it is already set to "0" but does not act like it. Enter "0" again to fix it.
After Stroke learning, LCD displays "Wrong Hand! Restroke"	▶ Opus did not count encoder pulses from motor accurately. Usually this is caused by a wrong setting. Go to the Setting menu and check if "Door Hand" (in Base Settings) is correct. ▶ Only RIGHT HAND GT(8)300/400/500 requires the handing harness. Make sure it is connected between the Break Module and Motor.
After manually opening door, the door stays open	▶ Check the Screen of TERMINAL SPECS to see if any inputs are turned ON. • If any inputs are turned ON, check: wiring, sensor, and setting for Monitoring related to these inputs. ▶ Make sure the Open timer for each input is <u>NOT</u> set for a long time. ▶ Check to see if anything is physically trapped between the floor and the door. ▶ 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". ▶ Software Revision (up to 17): • With 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.
Door does not always close during Latch Check	Increase latch check speed or try increasing operator arm preload. NOTE: <i>If GT710 - increase spring tension on hydraulic closer.</i>
Sim Pair behaves oddly	Controls may not be communicating correctly. Please refer to CHAPTER 6 within this manual.
Control does not react to Activation signal	▶ 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 BA Circuit" (found under "Input Settings") must be set to "Normally Closed". • If no switch is being used (or if nothing connected to terminal 8), then "Input BA Circuit" should be set to "Normally Open".
Double Egress pairs are not Synchronizing	Be sure both controls are set to "Double Egress". NOTE: <i>Safety signals should only be attached to their corresponding door's control. Please refer to CHAPTER 6 within this manual.</i>
Sim Pair using "Stop & Close" but results in a "Push & Go"	▶ Software Revision (up to, and including 20) • Remove sim-pair harness, set both controls to "single door", parallel the common terminal and any input being used between both controls.

Error Messages		
Opus Error Msg	NET-HT Error Msg	Resolution
Drive	Drive-Motor error Drive-A/D error	▶ 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 that electrical noise may cause a false error. If the error does not occur repeatedly then it's most likely not the issue.
Encoder Error	Encoder Error	▶ Check all connections between the Control and Motor. ▶ It is possible electrical noise may cause a false error. If the error does not occur repeatedly then it's most likely not the issue.
MPU	MPU-RAM error	▶ This could be a random error. • If the error occurs repeatedly, please replace the OPUS Control.
	MPU-ROM error	
	MPU-Clock error	
	MPU-Interrupt error	
	MPU-SW reset error	
	MPU-HW WDT error	
	MPU-EEPROM error	
No Motor	Motor disconnection error	▶ Check all connections between the Control and Motor.
Thrm1 Warning	Thermal-on warning	▶ Check all connections between the Control and Motor. ▶ Cool down the motor. Adjust the recycle sensitivity and Open/Close speed.
No Load	No load error	▶ Check operator (gear cracked, belt skipped)
Electrical Lock	Electrical lock error	▶ Check lock settings and wiring. ▶ Ensure lock delay is long enough, and not set to (After Lock Input). ▶ Ensure no programmable inputs are set to "Unlock Input" assuming there is no lock feedback.
Communication	NET communication error	▶ Check the CAN-bus Cable between the two OPUS Controls
	NET connection error	
	NET transmission delay error	
	NET receiving buffer error	
61 Sensor	T3:61 sensor error	▶ Check Sensor wiring. ▶ Check Settings on Sensor and/or Control related to Sensor Monitoring. ▶ Try a new Sensor.
62 Sensor	T4:62 sensor error	
6B Sensor	T5:6B sensor error	
SWL Sensor	T6:SWL sensor error	
NT Sensor	NET Sensor Error	▶ Check Net Connector ▶ Change programming with NET-HT ▶ Try "Reset to Default Set"