Instruction Sheet WPC 2000 Option 1

This document shows you how to install, wire, program, monitor, and troubleshoot WPC 2000 Option 1. Option 1 is compatible with WPC 2000 systems running WPC 2000 version 1.70 and higher and, in the case of WPC 2000 integrated units, SmartPAC 2 version 3.32 and higher. The document is organized in the following sections:

- Introduction (below)
- Installing the Option 1 Board (page 3)
- Wiring Option 1 User Inputs (page 6)
- Changing User Input Stop Type (SmartPAC 2 Only) (page 10)
- Viewing the Status of User Inputs (SmartPAC 2 Only) (page 13)
- *Troubleshooting* (page 15)

Setup sheets and a wiring diagram for Option 1 user inputs appear at the end of the document. If you need additional help on any of the topics covered in this instruction sheet, refer to your WPC 2000 or SmartPAC 2 with WPC 2000 Integration user manual.

Introduction

Option 1 is a "daughter" board you can install on your WPC 2000 Main Processor board to increase the number of user inputs available for connection of auxiliary equipment to WPC 2000. By providing connections for other press-related equipment, user inputs allow you to monitor auxiliary press functions such as lubrication systems, conveyors, etc. and provide additional press protection and operator safety.

Up to 7 non-control-reliable inputs and up to 2 pairs of control-reliable, cross-checked inputs are standard on WPC 2000 units. The Option 1 board enables you to connect up to 20 additional non-control-reliable inputs and up to 4 additional control-reliable, cross-checked input pairs to WPC 2000 (see Table 1, next page).

A DANGER

USER INPUTS 1 THROUGH 7 AND 12 THROUGH 31 NOT SUITABLE FOR SAFETY USE

DO NOT use inputs 1 through 7 and 12 through 31 as part of any personnel protection system. These inputs are not control reliable.

Failure to comply with these instructions will result in death or serious injury.

Option 1 user inputs, like WPC 2000 standard inputs, are programmed to stop the press whenever connected equipment malfunctions. The type of stop (e.g., top stop, emergency stop, etc.) is determined by the setting programmed for the specific input. For WPC 2000 standalone units, input stop types set at the factory cannot be changed; for WPC 2000 systems integrated with SmartPAC 2, default stop-type settings can be changed at the control (see "Changing User Input Stop Type (SmartPAC 2 Only)," page 10).

On WPC 2000 standalone units, ten of the non-control-reliable Option 1 user inputs are set for a stop type of Top-stop, eight are set for E-stop, and two are programmed for E-stop/ Lockout (see Table 1, below). Of the control-reliable, cross-checked input pairs, two are set for E-stop and two for E-stop/Lockout.

On WPC 2000 systems integrated with SmartPAC 2, all inputs are set to E-stop by default. These assignments can be changed as follows. Non-control-reliable user inputs (i.e., inputs12-31) can be set to Top-stop, Top-stop/Lockout (a new setting), E-stop, E-stop/Lockout, or Unused. Control-reliable input pairs 32/33, 34/35, 36/37, and 38/39 can be set to E-stop or E-stop/ Lockout. A setup sheet on which you can document stop type assignments for user inputs on WPC 2000 integrated systems is provided at the end of the document.

The new Top-stop/Lockout setting available on WPC 2000 integrated Option 1 units for inputs 12-31 is also an option for WPC 2000 standard inputs 1-7 on units with SmartPAC 2 firmware version 3.32 or higher.

When any equipment connected via Option 1 user inputs to WPC 2000 issues a stop command by opening a normally closed (N/C) input, WPC 2000 signals the press to perform the stop type programmed for that input and displays the input's fault code on the WPC 2000 or SmartPAC 2 display (see "User Input Faults," page 15 for a list of the fault codes assigned to Option 1 user inputs).

When a stop command is issued for user inputs 21 or 30 or input pairs 36/37 or 38/39 on WPC 2000 standalone units or for any inputs programmed as E-stop/Lockout or Top-stop/Lockout on WPC 2000 integrated systems, the lockout relay also opens, causing "Loc" to appear on the display. The "Loc" message must be cleared (by turning the Stroke Select switch to OFF) before the press can be restarted.

Ten of the non-control-reliable inputs have an input type of NPN, and ten are PNP (see Table 1, below). All of the control-reliable, cross-checked input pairs are PNP.

User Input Number	Input Type	Stop Type *
User input 12	NPN	Top-stop
User input 13	NPN	Top-stop
User input 14	NPN	Top-stop
User input 15	NPN	Top-stop
User input 16	NPN	Top-stop
User input 17	NPN	E-stop
User input 18	NPN	E-stop
User input 19	NPN	E-stop
User input 20	NPN	E-stop
User input 21	NPN	E-stop/Lockout
User input 22	PNP	Top-stop
User input 23	PNP	Top-stop
User input 24	PNP	Top-stop
User input 25	PNP	Top-stop

Table 1. Option 1 User Inputs: Input Type and Stop Type

User Input Number	Input Type	Stop Type *
User input 26	PNP	Top-stop
User input 27	PNP	E-stop
User input 28	PNP	E-stop
User input 29	PNP	E-stop
User input 30	PNP	E-stop/Lockout
User input 31	PNP	E-stop
User input 32 (cross-checked with input 33)	PNP	E-stop
User input 33 (cross-checked with input 32)	PNP	E-stop
User input 34 (cross-checked with input 35)	PNP	E-stop
User input 35 (cross-checked with input 34)	PNP	E-stop
User input 36 (cross-checked with input 37)	PNP	E-stop/Lockout
User input 37 (cross-checked with input 36)	PNP	E-stop/Lockout
User input 38 (cross-checked with input 39)	PNP	E-stop/Lockout
User input 39 (cross-checked with input 38)	PNP	E-stop/Lockout

* In WPC 2000 units integrated with SmartPAC 2, E-stop is the default stop type for all Option 1 user inputs. Default settings can be changed in SmartPAC 2. Option 1 inputs 12-31 can be programmed as Top-stop/ Lockout in addition to E-stop, Top-stop, E-stop/Lockout, and Unused. Input pairs 32/33, 34/35, 36/37, and 38/39 can only be set to E-stop or E-stop/ Lockout.

Installing the Option 1 Board

To install the WPC 2000 Option 1 board (see Figure 1, next page) perform the following steps:

CAUTION

DAMAGE TO BOARD FROM STATIC DISCHARGE

Ground yourself before touching circuit boards or chips by touching a large metal object such as the press. Static electricity can destroy electronic components.

Failure to comply with these instructions could result in property damage.

1. Making sure you are grounded, carefully unpack the Option 1 board and remove it from its anti-static bag.

NOTICE

Be sure to save the shipping box and protective anti-static bag in case you need to return the Option 1 board.

2. Verify that the board has not been damaged during shipment. If damage has occurred, contact Wintriss Tech. Support immediately.



Figure 1. WPC 2000 Option 1 Board Installed on WPC 2000 Main Processor Board

A WARNING

ELECTRIC SHOCK HAZARD

- Ensure that the power source is off before you replace electronic components in a control.
- Disconnect power from the machinery it is connected to before replacing electronic components. This includes disconnecting power to the machine control and motor.
- Ensure that servicing is performed by qualified personnel.

Failure to comply with these instructions could result in death or serious injury.

- 3. Shut off power to WPC 2000.
- 4. Open the WPC 2000 enclosure or console.
- 5. Locate the four ¹/₄-in. hex standoffs in the lower left corner of the WPC 2000 Main Processor board.

NOTICE

If there are six ¼-in. standoffs in the area where the Option 1 board is to be installed, remove the top middle and bottom middle standoffs, using a ¼-in. nut driver. Be sure to remove the screws underneath the standoffs so they don't short out the board.

- 6. Making sure you are grounded, align the holes in the four corners of the Option 1 board with the four standoffs on the WPC 2000 Main Processor board (refer to Figure 1 for correct placement of board), and slowly push the board down until both connectors are seated. Then screw the board down, using the Phillips screws provided.
- 7. If you are ready to connect auxiliary equipment to the Option 1 board, go to "Wiring Option 1 User Inputs" (next page). Otherwise, close the door of the WPC 2000 enclosure or console.

Wiring Option 1 User Inputs

Wiring connections for WPC 2000 Option 1 user inputs are made on terminal blocks TB601 and TB602 on the Option 1 board (see Figure 2, below). Pin numbers are shown in Tables 2 (next page) and 3 (page 7) and in Figure A at the end of this document.



Figure 2. WPC 2000 Option 1 Board: Wiring Connections

Wire from the terminal shown in Table 2 or 3 to your equipment and then back to either +24 VDC or ground. On WPC 2000 standalone systems, if you remove any of the jumpers installed at the factory, make sure to bypass those inputs by connecting them to +24 VDC or ground, as shown in Table 2 or 3. TB601 provides one +24 VDC terminal and one ground terminal for jumper connections. TB602 provides two +24 VDC terminals and two ground terminals.

On WPC 2000 systems integrated with SmartPAC 2, if the factory-installed jumpers are removed, those user inputs must be bypassed either by connecting them to +24 VDC or ground or by setting the stop type to Unused in SmartPAC 2 (see "Changing User Input Stop Type (SmartPAC 2 Only)," page 10).

When you have finished wiring user inputs, check the LEDs for the appropriate pin numbers to make sure that your connections are good (see Figure 3, page 9). On WPC 2000 systems integrated with SmartPAC 2, you can also check whether user inputs are "on" by displaying the appropriate input status screen (see "Viewing the Status of User Inputs (SmartPAC 2 Only)," page 13).

Pin #	User Input	Terminal for Jumper Bypass Connection
Upper	Row	
431	User input 32 + (cross-checked with user input 33)	+24 VDC
432	User input 34 + (cross-checked with user input 35)	+24 VDC
433	User input 12 -	Ground
434	User input 13 -	Ground
435	User input 14 -	Ground
436	User input 15 -	Ground
437	+24 V	
Lower	Row	
448	User input 22 +	+24 VDC
449	User input 23 +	+24 VDC
450	User input 24 +	+24 VDC
451	User input 25 +	+24 VDC
452	User input 36 + (cross-checked with user input 37)	+24 VDC
453	User input 38 + (cross-checked with user input 39)	+24 VDC
454	Ground	

Table 2. WPC 2000 Option 1	Board Wiring Co	nnections: TB601
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Table 3. WPC 2000 Option 1 Board Wiring Connections: TB602

Pin #	User Input	Terminal for Jumper Bypass Connection
Upper I	Row	
438	User input 33 + (cross-checked with user input 32)	+24 VDC
439	User input 35 + (cross-checked with user input 34)	+24 VDC
440	User input 16 -	Ground
441	User input 17 -	Ground
442	User input 18 -	Ground
443	User input 19 -	Ground
444	User input 20 -	Ground
445	User input 21 -	Ground

446	+24 V	
447	+24 V	
Lower	Row	
455	User input 26 +	+24 VDC
456	User input 27 +	+24 VDC
457	User input 28 +	+24 VDC
458	User input 29 +	+24 VDC
459	User input 30 +	+24 VDC
460	User input 31 +	+24 VDC
461	User input 37 + (cross-checked with user input 36)	+24 VDC
462	User input 39 + (cross-checked with user input 38)	+24 VDC
463	Ground	
464	Ground	



Figure 3. WPC 2000 Option 1 Board: LED Map

Changing User Input Stop Type (SmartPAC 2 Only)

WPC 2000 Option 1 user inputs are set to specified stop types at the factory (see Table 1, page 2). Option 1 stop types cannot be changed on WPC 2000 standalone units, but stop type defaults can be modified on systems integrated with SmartPAC 2. User inputs 12-31 can be set to Top-stop, Top-stop/Lockout (a new setting), E-stop, E-stop/Lockout, or Unused. Cross-checked input pairs 32/33, 34/35, 36/37, and 38/39 can be set to E-stop or E-stop/ Lockout.

Top-stop/Lockout is also available as an option for WPC 2000 user inputs 1-7 if you have SmartPAC 2 firmware version 3.32 or higher. The Unused setting can be selected to bypass inputs you are not connecting.

NOTICE

You cannot program control-reliable, cross-checked inputs 32-39 (or inputs 8-11 in WPC 2000) as Top-stop/Lockout or Unused. These safety inputs must be set as either E-stop or E-stop/Lockout.

You can assign names to the auxiliary equipment you are connecting to Option 1 inputs on the same screen on which you set the input stop type. A setup sheet on which you can document equipment name/user input assignments are provided at the end of the document.

To change the stop type for a user input, follow these instructions:

MAIN INITI	ALIZATION MENU]
USE THE CURSOR KEYS TO CHOOSE MENU ITEMS. PRESS THE ENTER KEY TO SELECT. SWITCH TO RUN WHEN DONE.	RESOLVER ZERO POSITION SENSOR INSTALLED OPTIONS PRESS NAME SELECT CAM NAMES AUTO ADVANCE SET GLOBAL CAMS CUSTOM SENSOR NAMES SENSOR ENABLE MODE TONNAGE/WAVEFORM PROCESS MONITOR PRESS CONTROL SECURITY ACCESS SETUP NETWORK DIAGNOSTICS	

Figure 4. SmartPAC 2 Main Initialization Menu with PRESS CONTROL Highlighted

1. On the SmartPAC 2 Main Initialization Menu (see Figure 4, above), move the highlight bar to PRESS CONTROL, using the cursor keys, and press ENTER. The WPC Initialization Menu (see Figure 5, next page) displays with the USER INTERLOCKS item highlighted by default.



Figure 5. WPC Initialization Menu with USER INTERLOCKS Highlighted

2. On the WPC Initialization Menu, press ENTER with USER INTERLOCKS highlighted. The Change User Interlocks screen, shown in Figure 6, below, displays.

CHANGE USER INTERLOCKS	F1
USE THE FUNCTION KEYS	GROUP 1 USER 1 TO 11
TO SELECT THE GROUP OF USER INTERLOCKS THAT YOU WISH TO CHANGE.	GROUP 2 USER 12 TO 23
PRESS THE RESET KEY WHEN DONE.	GROUP 3 USER 24 TO 39
	F5
	F6
	F7
	F8

Figure 6. Change User Interlocks Screen

3. Press the function key (i.e., F2, F3, or F4) corresponding to the group of user inputs (i.e., Group 1, Group 2, or Group 3) within which the user input you wish to update falls. The Press Control Interlock Menu for that user input group displays (see Figure 7, below, which uses the Group 2 screen as an example) with the stop type for the first user input in the group highlighted.





4. Move the highlight bar to the stop type of the user input you want to change, using the cursor keys, then press ENTER until the appropriate stop type setting (e.g., "T LOC," "T STOP," etc.) displays.

NOTICE

Each time you press ENTER, the stop type setting cycles to the next option (i.e., E STOP, T STOP, E LOC, T LOC, or UNUSED). The T STOP, T LOC, and UNUSED options are not available for control-reliable, cross-checked inputs (i.e., inputs 32-39). You may also set the stop type to UNUSED, in which case that user input is bypassed. User inputs can also be bypassed by connecting them to either +24 VDC (PNP inputs) or ground (NPN inputs).

- 5. If you want to assign a name to the auxiliary equipment connected to an Option 1 user input, move the highlight bar to the uncaptioned NAME column (see Figure 7), then up or down to the "UNNAMED" entry for the user input you want to name. Press ENTER to display the Select Stop Name screen, and follow the directions on the screen. Detailed instructions for assigning user input names can be found in the SmartPAC 2 with WPC 2000 Integration User Manual. A setup sheet on which you can document name-input assignments is provided at the end of the instruction sheet.
- 6. When you are finished, press RESET to save your settings. You are returned to the WPC Initialization Menu.

Viewing the Status of User Inputs (SmartPAC 2 Only)

You can view the status of WPC 2000 Option 1 user inputs just as you can view status of user inputs 1-11 in WPC 2000. Viewing input status is a useful diagnostic tool for troubleshooting your Option 1 user inputs and the auxiliary equipment they are connected to.

To view input status, follow these steps:



Figure 8. WPC Initialization Menu with INPUT STATUS Highlighted

1. On the WPC Initialization Menu (see Figure 8, above), move the selection bar to INPUT STATUS, using the cursor keys, and press ENTER. The Display WPC Input Status screen, shown in Figure 9 (next page), displays.



Figure 9. Display WPC Input Status Screen

2. Press the function key (i.e., F4, F5, or F6) corresponding to the group of user inputs (i.e., Group 1, Group 2, or Group 3) within which the user input whose status you want to view falls. The WPC Interlock Input Status screen for that user input group displays (see Figure 10, below, which uses the Group 2 screen as an example).

NAME TERM#	STATUS	
CONVEYOR 433	ON	
BEARING TEMP. 434	ON	
LOAD MONITOR 435	ON WPC INTER-	
LUBE PROBLEM 436	ON LOCK GROUP 2	
HIGH AIR PRES. 440	ON INPUT STATUS	
STOCK BUCKLE 441	ON	
DIE PROTECTION 442	ON	
MISFEED 443	ON	
CHAIN BREAK 444	ON	
USER 21 445	ON	
USER 22 448	ON	
USER 23 449	ON	
		IL J
PRESS THE RESET	KEY WHEN DONE.	
29	· · · · · · · · · · · · · · · · · · ·	•

Figure 10. WPC Interlock Group 2 Input Status Screen

The status of all user inputs (OFF or ON) is shown in the STATUS column. Inputs that are ON are highlighted. OFF inputs are not highlighted. In addition, an OFF input may generate the fault code specific to that input on the WPC 2000 or SmartPAC 2 display. "Unused" inputs show an OFF status but do not generate a fault code display.

Troubleshooting

User Input Faults

Table 4 shows the fault code associated with each Option 1 user input that appears on your WPC 2000 or SmartPAC 2 display when there is a problem with the auxiliary equipment to which that input is connected.

To correct the problem that caused the fault code to display, check the equipment and wiring connected to that user input. When you have corrected the problem, reset WPC 2000. If the problem recurs, contact Wintriss Tech. Support.

Fault Code	User Input	Stop Type *	Pin #	Terminal for jumper connection
120	User 12	Top-stop	433	Ground
121	User 13	Top-stop	434	Ground
122	User 14	Top-stop	435	Ground
123	User 15	Top-stop	436	Ground
124	User 16	Top-stop	440	Ground
125	User 17	E-stop	441	Ground
126	User 18	E-stop	442	Ground
127	User 19	E-stop	443	Ground
128	User 20	E-stop	444	Ground
129	User 21	E-stop/Lockout	445	Ground
130	User 22	Top-stop	448	+24 VDC
131	User 23	Top-stop	449	+24 VDC
132	User 24	Top-stop	450	+24 VDC
133	User 25	Top-stop	451	+24 VDC
134	User 26	Top-stop	455	+24 VDC
135	User 27	E-stop	456	+24 VDC
136	User 28	E-stop	457	+24 VDC
137	User 29	E-stop	458	+24 VDC
138	User 30	E-stop/Lockout	459	+24 VDC
139	User 31	E-stop	460	+24 VDC
140, 144	User 32 paired	E-stop 431		+24 VDC
	with User 33	E-stop	438	+24 VDC

Table 4. WPC 2000 Option 1 Fault Codes

Fault Code	User Input	Stop Type *	Pin #	Terminal for jumper connection
141, 145	User 34 paired	E-stop	432	+24 VDC
	with User 35	E-stop	439	+24 VDC
142, 146	User 36 paired	E-stop/Lockout	452	+24 VDC
	with User 37	E-stop/Lockout	461	+24 VDC
143, 147	User 38 paired	E-stop/Lockout	453	+24 VDC
	with User 39	E-stop/Lockout	462	+24 VDC

* In WPC 2000 units integrated with SmartPAC 2, E-stop is the default stop type for all Option 1 user inputs. Default settings can be changed in SmartPAC 2. Option 1 inputs 12-31 can be programmed as Top-stop/Lockout in addition to E-stop, Top-stop, E-stop/Lockout, and Unused. Input pairs 32/33, 34/35, 36/37, and 38/39 can only be set to E-stop or E-stop/ Lockout.

F148 Fault (SmartPAC 2 Only)

Problem:

If the message "F148 OPTION BOARD NOT CORRECT" appears on your SmartPAC 2 display, it means either that the Option 1 board is not seated properly in the WPC 2000 board or has been removed from the WPC 2000 board.

Remedy:

Make sure that the Option 1 board is seated firmly and that the screws securing it to the WPC 2000 board are tight. If the Option 1 board has been removed, re-initialize WPC 2000 and cycle power to the SmartPAC 2 control.

NOTICE

Removal of the Option 1 board should only be performed after careful consideration of safety implications. If you have wired and programmed cross-checked user inputs on the Option 1 board, removal of the board could render press operation hazardous.

NOTICE

When you re-initialize WPC 2000, all press control parameters (e.g., option switch settings, brake monitor settings, etc.) are reset to their default values. To avoid losing data you have painstakingly entered, copy existing press control parameters to a table so you can replace them when WPC 2000 is re-initialized.

To re-initialize WPC 2000, put the SmartPAC 2 into Initialization mode, then select, in succession, **PRESS CONTROL** on the Main Initialization Menu, **PRESS PARAMETERS** on the WPC Initialization Menu, and, finally, **INITIALIZE PARAMETERS** on the Press Control Parameter Menu.

F160 OPTION BOARD ID ERROR

F160 OPTION BOARD ID ERROR

The installed option board is not supported by the current WPC 2000 firmware version.

Problem:

The current WPC 2000 firmware is too old to recognize the Option Board ID.

Remedy:

Update the WPC 2000 firmware (see your WPC 2000 User Manual).

F163 Option Board Version Error

F163 OPTION BOARD VERSION ERROR

The current Option Board firmware is not supported by the current WPC firmware version

Problem:

The current WPC 2000 firmware is too old to recognize the Option Board firmware.

Remedy:

Update the WPC 2000 firmware (see your WPC 2000 User Manual). Alternatively, changing to an earlier version of the Option 1 firmware may allow the system to work.

WPC 2000 Standalone Option 1 Setup Sheet

User Input	Fault Code	Stop Type	Pin #	Terminal for jumper connection	Name of Auxiliary Equipment
User 12	120	Top-stop	433	Ground	
User 13	121	Top-stop	434	Ground	
User 14	122	Top-stop	435	Ground	
User 15	123	Top-stop	436	Ground	
User 16	124	Top-stop	440	Ground	
User 17	125	E-stop	441	Ground	
User 18	126	E-stop	442	Ground	
User 19	127	E-stop	443	Ground	
User 20	128	E-stop	444	Ground	
User 21	129	E-stop/Lockout	445	Ground	
User 22	130	Top-stop	448	+24 VDC	
User 23	131	Top-stop	449	+24 VDC	
User 24	132	Top-stop	450	+24 VDC	
User 25	133	Top-stop	451	+24 VDC	
User 26	134	Top-stop	455	+24 VDC	
User 27	135	E-stop	456	+24 VDC	
User 28	136	E-stop	457	+24 VDC	
User 29	137	E-stop	458	+24 VDC	
User 30	138	E-stop/Lockout	459	+24 VDC	
User 31	139	E-stop	460	+24 VDC	
User 32 paired	140, 144	E-stop	431	+24 VDC	
with User 33		E-stop	438	+24 VDC	
User 34 paired	141, 145	E-stop	432	+24 VDC	
with User 35		E-stop	439	+24 VDC	
User 36 paired	142, 146	E-stop/Lockout	452	+24 VDC	
with User 37		E-stop/Lockout	461	+24 VDC	
User 38 paired	143, 147	E-stop/Lockout	453	+24 VDC	
with User 39		E-stop/Lockout	462	+24 VDC	

WPC 2000 Integrated Option 1 Setup Sheet

User Input	Fault Code	Stop Type *	Pin #	Terminal for jumper connection	Name of Auxiliary Equipment (see step 5, page 12)
User 12	120		433	Ground	
User 13	121		434	Ground	
User 14	122		435	Ground	
User 15	123		436	Ground	
User 16	124		440	Ground	
User 17	125		441	Ground	
User 18	126		442	Ground	
User 19	127		443	Ground	
User 20	128		444	Ground	
User 21	129		445	Ground	
User 22	130		448	+24 VDC	
User 23	131		449	+24 VDC	
User 24	132		450	+24 VDC	
User 25	133		451	+24 VDC	
User 26	134		455	+24 VDC	
User 27	135		456	+24 VDC	
User 28	136		457	+24 VDC	
User 29	137		458	+24 VDC	
User 30	138		459	+24 VDC	
User 31	139		460	+24 VDC	
User 32 paired	140, 144		431	+24 VDC	
with User 33			438	+24 VDC	
User 34 paired	141, 145		432	+24 VDC	
with User 35			439	+24 VDC	
User 36 paired	142, 146		452	+24 VDC	
with User 37			461	+24 VDC	
User 38 paired	143, 147		453	+24 VDC	
with User 39			462	+24 VDC	

* E-stop is the default stop type for all Option 1 user inputs. In addition to E-stop, Top-stop, E-stop/Lockout, and Unused settings, Option 1 inputs 12-31 can also be programmed as Top-stop/Lockout. Input pairs 32/33, 34/35, 36/37, and 38/39 can only be set to E-stop or E-stop/ Lockout.

