

XL200 Series Standard Closed Loop Inputs & Outputs Version 2.00 & 3.00

Revised 07-20-2009

ALL MODELS Except XL270CL and XL208CL

IO#	Inputs	Outputs
1	Jog Forward Jog Die 1 Fwd	Fast Uncut Length
2	Jog Reverse Jog Die 1 Rev	Slow Stopping
3	Run	Reverse
4	Emergency Stop (E-Stop)	Run
5	Setup Lockout	Item Complete
6	Manual Shear	Drive Enable
7	Manual Punch	Print Flush/Encoder
8	Tail Out (Inverted Sheet Detect)	Print Trigger
9	Press 0 Complete (Shear)	Press 0 Down (Shear)
10	Press 1 Complete Press X Up Comp	Press 1 Down Gag 1
11	Press 2 Complete Press X Up Comp	Press 2 Down Gag 2 Press X Up/Boost
12	Press 3 Complete Press X Up Comp	Press 3 Down Gag 3 Press X Up/Boost
13	Press 4 Complete Press X Up Comp	Press 4 Down Gag 4 Press X Up/Boost
14	Press 5 Complete Press X Up Comp	Press 5 Down Gag 5 Press X Up/Boost
15	Press 6 Complete Press X Up Comp	Press 6 Down Gag 6 Press X Up/Boost
16	Press 7 Complete Press X Up Comp	Press 7 Down Gag 7 Press X Up/Boost
17	Press 8 Complete Press X Up Comp	Press 8 Down Gag 8 Press X Up/Boost
18	Press 9 Complete Press X Up Comp Test Part Jog Die 2 Fwd	Press 9 Down Gag 9 Press X Up/Boost Mister
19	Press 10 Complete Scrap Material Loop Full Jog Die 2 Rev	Press 10 Down Gag 10 Press X Up/Boost Dump Trigger
20	Press 11 Complete Manual Stacker	Press 11 Down Gag 11 Press X Up/Boost Scrap Dump
21	Press 13 Complete Asynchronous Print Detect	Shear Up (CLF Models Only) Continuous Stroke Mode
22	Feed Ready Die Home	Stacker
23	Slow Run Die Home 2	Short Part Scanner Verify
24	Hole Detect	Very Short Part Horn Drive Enable 2

Notes:

1. The maximum number of presses and/or gags allowed for each model is as follows (this includes the shear press):

Models	Max Presses (Including Shear)
XL200HCL	2
XL200CL, XL202CLF, XL202HCLF	2
XL244CL	5
XL244HCL	5
XL206CL, XL206CLF, XL206HCLF	6
XL212CL, XL212CLF, XL212HCLF	12

2. Gag outputs are only available on models **XL202CL, XL206CL, XL212CL**, all “CLF” models, and all “HCLF” models. The number of available gag outputs is equal to the maximum number of presses allowed

for that model **minus** the number of active presses configured by the dip-switch. The Exp. Gag Board option is only available on model **XL212CL**.

3. Each model (except those noted below) will provide Press Down and Press Up outputs for the number of presses configured by the dip-switch. For models **XL200CL** and **XL200HCL**, Press Up outputs begin at output #11. For models **XL202CL**, **XL202CLF**, **XL202HCLF**, **XL206CL**, **XL206CLF**, and **XL206HCLF**, the first Press Up output follows the last Gag output. If no gags are configured, the first Press Up output follows the last Press Down output. No Press Up outputs are provided for models **XL244CL**, **XL244HCL**, **XL212CL**, **XL212CLF**, and **XL212HCLF**.

4. The Hole Detect input is only available on models with an “H” suffix in their name.

5. The “Feed Ready” and “Slow Run” inputs are available only in Feed-to-Stop mode. The “Die Home” input is available only in Die Accelerator mode.

6. The “Short Part” and “Very Short Part” outputs are only available on models with “Brake & Hump (U)” option.

7. The Scanner Verify, and Horn outputs are only available when the “Dietrich IO (D)” option is set. The “Dietrich IO” option can not be used at the same time as the “Brake & Hump” option.

8. The following inputs and outputs are available only when the “Tube Mill (T)” is set:

- Scrap Input
- Test Part Input
- Mister Output
- Dump Trigger Output
- Scrap Dump Output

9. The Manual Stacker input is not available when the base model is an **XL212CL** and the controller is configured for twelve presses since this input is already defined as the Press 11 Complete input. The Stacker output is still available in this configuration.

10. Material Loop Full input is available only when the “C” continuous press option is enabled.

11. Continuous Stroke Mode output is available only when the “C” continuous press option is enabled

12. The Uncut Length output is available only when the “U”, Brake and Hump, option is enabled and the controller is configured for Feed-to-Stop operation.

13. Die Home 2, Drive Enable 2, Jog Die 2 Fwd and Jog Die 2 Rev inputs are only available on models that support two Die Accelerators and only when both Die Accelerators are configured.

14. Jog Forward and Jog Reverse inputs become Jog Die 1 Fwd and Jog Die 2 Rev when two Die Accelerators are enabled.

XL200 Series Standard Closed Loop Switch Settings Version 2.00

Models: XL200CL, XL200HCL

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	Disable Punch	Enable Punch ¹
5	See Below	See Below
6	See Below	See Below
7	Punch Material Motion (See Note 5)	Punch Material Motion (See Note 5)
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
Switch 5	Switch 6	Description
OFF	OFF	Feed-to-Stop, One Encoder ²
ON	OFF	Feed-to-Stop, Two Encoders ²
OFF	ON	Single-Speed Die Accelerator ³
ON	ON	Two-Speed Die Accelerator

Notes for Models **XL200CL** and **XL200HCL**:

1. For model **XL200CL**, Version 2.02 or earlier, the punch press can only be enabled in the Feed-to-Stop mode. Later versions allow the punch press to be enabled in the Die-Accelerator mode also.
2. Feed-to-Stop mode is NOT allowed on the **XL200HCL** model.
3. When the Tube Mill (T) option is active, the controller must be configured as a Single-Speed Die-Accelerator.
4. Encoder 1 and Encoder 2 are defined as follows:

Model	Encoder 1	Encoder 2
XL200CL Feed to Stop	Motor Encoder (Feeder)	Line Encoder (when 2-encoder option is used)
XL200CL, XL200HCL Die Accelerator	Line Encoder	Motor Encoder (Die Accelerator)

5. Starting with versions 3.44.00 and 4.07.00, switch 5 can be used to convert the Non-Stop press to a Feed-to-Stop press. If switch 4 (Enable Punch) is turned on and the controller is configured as a Die Accelerator, turning on switch 5 configures the punch as a Two-Speed Feed-to-Stop press. If switch 4 and 6 are not on switch 7 should be off. If the alternating punch option is Enabled, both alternating presses will be configured for Feed-to-Stop.

**Models: XL202CL, XL206CL, XL212CL,
 XL202CLF, XL206CLF, XL212CLF,
 XL202HCLF, XL206HCLF, XL212HCLF,
 XL202CLF-MHA, XL206CLF-MHA, XL212CLF-MHA,**

Switch #	OFF		ON	
1	CW Encoder 1 Direction		CCW Encoder 1 Direction	
2	CW Encoder 2 Direction		CCW Encoder 2 Direction	
3	Normal Analog Voltage Polarity		Inverted Analog Voltage Polarity	
4	Single Speed One Encoder ¹		Two Speed Two Encoders ¹	
5	See Below		See Below	
6	See Below		See Below	
7	See Below		See Below	
8	See Below		See Below	
9	CRT Disabled		CRT Enabled	
10	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
Switch 5 ²	Switch 6 ²	Switch 7 ²	Switch 8 ²	Number of Presses
OFF	OFF	OFF	OFF	1
ON	OFF	OFF	OFF	2
OFF	ON	OFF	OFF	3
ON	ON	OFF	OFF	4
OFF	OFF	ON	OFF	5
ON	OFF	ON	OFF	6
OFF	ON	ON	OFF	7
ON	ON	ON	OFF	8
OFF	OFF	OFF	ON	9
ON	OFF	OFF	ON	10
OFF	ON	OFF	ON	11
ON	ON	OFF	ON	12

Notes for Models **XL202CL, XL206CL, XL212CL, XL202CLF, XL206CLF, XL212CLF, XL202HCLF, XL206HCLF, XL212HCLF, XL202CLF-MHA, XL206CLF-MHA, XL212CLF-MHA:**

1. Switch 4 configures Single/Two Speed on all “CLF”, “HCLF” and “CLF-MHA” models. Switch 4 configures One/Two Encoders on all “CL” models.
2. “CLF” and “CLF-MHA” models can be configured for a maximum of 6 presses.
3. Encoder 1 and Encoder 2 are defined as follows:

Model	Encoder 1	Encoder 2
All “CLF”, “HCLF” and “CLF-MHA”	Line Encoder	Motor Encoder (Die Accelerator)
XL202CL, XL206CL, XL112CL	Motor Encoder (Feeder)	Line Encoder (when 2-encoder option is used)

Models: XL212CLF-MHA2

Switch #	OFF		ON	
1	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
2	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
3	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
4	Single Speed		Two Speed	
5	See Below		See Below	
6	See Below		See Below	
7	See Below		See Below	
8	See Below		See Below	
9	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
10	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
11	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
12	NOT USED – MUST BE OFF		NOT USED – MUST BE OFF	
13	See Below		See Below	
14	See Below		See Below	
15	See Below		See Below	
16	See Below		See Below	
Switch 5²	Switch 6²	Switch 7²	Switch 8²	Number of Presses
OFF	OFF	OFF	OFF	1
ON	OFF	OFF	OFF	2
OFF	ON	OFF	OFF	3
ON	ON	OFF	OFF	4
OFF	OFF	ON	OFF	5
ON	OFF	ON	OFF	6
Switch 13⁴	Switch 14⁴	Switch 15⁴	Switch 16⁴	Number of Presses on Second Die
OFF	OFF	OFF	OFF	0
ON	OFF	OFF	OFF	1
OFF	ON	OFF	OFF	2
ON	ON	OFF	OFF	3
OFF	OFF	ON	OFF	4
ON	OFF	ON	OFF	5

Notes for Models **XL212CLF-MHA2**:

- Switch 4 configures Single/Two Speed.
- “CLF-MHA2” models can be configured for a maximum of 6 presses.
- Encoder 1 and Encoder 2 are defined as follows:

Encoder 1	Encoder 2	Encoder 4
Motor Encoder (Die 1)	Motor Encoder (Die 2)	Line Encoder

- If any of these switches are on, a second DA is enabled. The number of presses must be defined larger than the number of presses on the second die. The presses for the first die start with the shear press and end at the first press on the second die. The first press for the second die is (Number of Presses – Number of Presses on Second Die + 1)

Models: XL244CL, XL244HCL

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	Disable All Punches	Enable Punches
5	See Below	See Below
6	See Below	See Below
7	No 2d Die Accelerator	2d Die Accelerator enabled ⁴
8	No Gags	Gag Outputs Enabled ⁵
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
Switch 5	Switch 6	Number of Open Loop Punches¹
OFF	OFF	1
ON	OFF	2
OFF	ON	3
ON	ON	4

Notes for Models **XL244CL, XL244HCL**:

1. Each Open Loop Punch will have a corresponding boost output.
2. Models **XL244CL** and **XL244HCL** are defined to function only as a single-speed die-accelerator.
3. Encoder 1, 2 and 3 are defined as follows:

Model	Encoder 1	Encoder 2	Encoder 4 (Ver. 4)
XL244CL, XL244HCL (Single) Die Accelerator	Line Encoder	Motor Encoder (Die Accelerator)	Not Used
XL244CL, XL244HCL (Dual) Die Accelerator	Motor Encoder (Die 1)	Motor Encoder (Die 2)	Line Encoder

4. Version 4 only. Punches must be enabled. Disables DIP switches 1,2 and 3. Changes Encoder definitions.
5. Punches must be enabled. A minimum of two gags will be available. Unused press outputs convert to gag outputs.

Model XL270CL (Tile Machine Controller)
I/O Definitions

IO#	Inputs	Outputs
1	Jog Forward	Fast
2	Jog Reverse	Slow
3	Run	Reverse
4	E-Stop	Run
5	Setup Lockout	Item Complete
6	Manual Shear	Drive Enable
7	Manual Punch 1	<i>(Future Print Flush)</i>
8	Tail Out	<i>(Future Print Trigger)</i>
9	Press 0 Complete, Shear	Press 0 Down (Shear)
10	Press 1 Complete	Forming Press 1 Down
11	Press 2 Complete ¹	Forming Press 2 Down ¹
12	Press 3 Complete, Entry Shear	Press 3 Down (Entry Shear)
13	Press 1 Forming Tool Complete ² Press 4 Complete (KMF) ³	Press 4 Down (KMF) ³
14	Manual Punch 2 ¹	Press 5 Down (KMF) ³
15	Press 0 Up Complete	Press 0 Up (Shear)
16	Press 1 Up Complete	Forming Press 1 Up
17	Press 2 Up Complete ¹	Forming Press 2 Up ¹
18	Press 3 Up Complete	Press 3 Up (Entry Shear)
19	Stacker Complete	Not Used
20	Manual Stacker	Press 1 Forming Tool
21	<i>(Future Asynchronous Print Detect)</i>	Press 2 Forming Tool ¹
22	Feed OK	Stacker
23	Slow Run	Not Used
24	Press 5 Complete (KMF) ³	Not Used

**Model XL270CL (Tile Machine Controller)
Switch Settings**

Switch #	OFF	ON
1	CW Encoder 1	CCW Encoder 1
2	CW Encoder 2	CCW Encoder 2
3	Normal Analog Polarity	Inverted Analog Polarity
4	Disable Twin Press Option	Enable Twin Press Option
5	See Below	See Below
6	See Below	See Below
7	See Below	See Below
8	See Below	See Below
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
Switch 5	Switch 6	Motor Type
OFF	OFF	Feed-to-Stop, One Encoder
ON	OFF	Feed-to-Stop, Two Encoder
OFF	ON	Reserved
ON	ON	Reserved
Switch 7	Switch 8	Machine Type
OFF	OFF	Formia
ON	OFF	Sen Fung
OFF	ON	Reserved
ON	ON	Reserved

Notes for Model XL270CL (Tile Machine Controller):

1. Inputs/Outputs only available when Twin Press Option is selected via dipswitch configuration.
2. Press 1 Forming Tool Only available when configured as a Sen Fung Machine.
3. The Press 4 and 5 inputs and outputs were added to support the KMF Felt applicator module. They are only added when the Machine is configured for a Formia tile machine. The KMF module only requires Down outputs so, to preserve the remaining outputs for other unforeseen uses, no down outputs are provided.

Model XL208CL I/O Definitions (Version 3 and Higher)

IO#	Inputs	Outputs
1	Jog Forward	Fast Forward
2	Jog Reverse	Slow
3	Run	Reverse
4	Emergency Stop (E-Stop)	Run
5	Setup Lockout	Item Complete
6	Manual Shear	Drive Enable
7	Manual Punch	Print Flush/Encoder
8	Tail Out (Inverted Sheet Detect)	Print Trigger
9	Not Used	Not Used
10	Not Used	Not Used
11	Not Used	Not Used
12	Not Used	Not Used
13	Not Used	Not Used
14	Not Used	Not Used
15	Not Used	Not Used
16	Not Used	Not Used
17	Not Used	Not Used
18	Not Used	Not Used
19	Not Used	Not Used
20	Manual Stacker	Not Used
21	Asynchronous Print Detect	Not Used
22	Die Home	Stacker
23	Not Used	Not Used
24	Not Used	Not Used

Model XL208CL Switch Settings (Version 3 and Higher)

Switch #	OFF	ON
1	CW Encoder 1 Direction	CCW Encoder 1 Direction
2	CW Encoder 2 Direction	CCW Encoder 2 Direction
3	Normal Analog Voltage Polarity	Inverted Analog Voltage Polarity
4	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
5	See Below	See Below
6	See Below	See Below
7	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
8	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
9	CRT Disabled	CRT Enabled
10	NOT USED – MUST BE OFF	NOT USED – MUST BE OFF
Switch 5	Switch 6	Description
OFF	OFF	Invalid
ON	OFF	Invalid
OFF	ON	Single-Speed BOSS
ON	ON	Two-Speed BOSS

Notes for Models **XL208CL**:

- Encoder 1 and Encoder 2 are defined as follows:

Model	Encoder 1	Encoder 2
XL208CL	Line Encoder	Motor Encoder (Die)

