Rotary Cam Based Punch Press Controls
This platform of punch press controls utilizes a rotary cam limit switch with drive check for the machine’s position and timing signals.
Rotary Cam Based Punch Press Controls

Overview

The Model 3200SS (Solid State) Control System is completely prewired and ready for installation. System supplied complete with a well marked terminal strip for easy, safe, and accurate electrical interface to the various punch press components. Due to the hybrid design characteristics of the 3200SS, a main power disconnect switch and magnetic motor starters can be supplied in the same control panel. Complies with section 1910.217 of the Federal Register and ANSI B11.1-2009.

Utilizes a rotary cam limit switch (shown) for the machine timing signals.

All of the listed SSM products below meet or exceed 1910.217 of the Federal Register and ANSI B11.1-2009.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSM-05</td>
<td>3200SS (Boards Only) Clutch/Brake System with remote status display</td>
</tr>
<tr>
<td>SSM-08</td>
<td>3200SS (Boards Only) Clutch/Brake System with remote status display, IEC switches, push buttons and legend plates</td>
</tr>
<tr>
<td>SSM-10</td>
<td>3200SS control boards mounted on panel backplate with remote status display</td>
</tr>
<tr>
<td>SSM-20</td>
<td>3200SS control boards mounted on panel backplate with remote status display, switches, push buttons</td>
</tr>
<tr>
<td>3200SS</td>
<td>3200SS control boards with NEMA12 (IP64) control panel with IEC switchgear</td>
</tr>
<tr>
<td>3200SS with 1500 Package</td>
<td>3200SS with NEMA12 (IP64) control panel with IEC switchgear and control package 1500</td>
</tr>
</tbody>
</table>

Control Package 1500 includes the following:

- No. 303A Dual Solenoid Valve with Muffler
- No. 306B heavy duty pressure switch
- No. 310A Rotary Cam (4) with sprockets and Chain
- BM-1600 encoder added if BM-1600 is ordered
- No. 311 Filter, Regulator, Lubricator
- No. UL-501 Operator Station

ROTARY CAM LIMIT SWITCHES

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-082</td>
<td>310A</td>
<td>4 Cam, Rotary Cam Limit Switch (with drive check)</td>
</tr>
<tr>
<td>21-089</td>
<td>310E</td>
<td>6 Cam, Rotary Cam Limit Switch (with drive check)</td>
</tr>
<tr>
<td>21-090</td>
<td>310G</td>
<td>8 Cam, Rotary Cam Limit Switch (with drive check)</td>
</tr>
<tr>
<td>21-091</td>
<td>310A-MD</td>
<td>4 Cam, Rotary Cam Limit Switch (with drive check &amp; encoder)</td>
</tr>
<tr>
<td>21-092</td>
<td>310E-MD</td>
<td>6 Cam, Rotary Cam Limit Switch (with drive check &amp; encoder)</td>
</tr>
<tr>
<td>21-093</td>
<td>310G-MD</td>
<td>8 Cam, Rotary Cam Limit Switch (with drive check &amp; encoder)</td>
</tr>
</tbody>
</table>

Note -- IEC switchgear supplied standard (NEMA optional). Adder to replace standard IEC switchgear with NEMA switchgear.

*Please note that when punch press timing signals are generated by Rotary Cam or Limit Switches, it is required to have a “time based brake monitor.” The time based brake monitor is to measure the press stopping time on each stroke. If the subject press that is being updated with controls does not have a time based brake monitor, add the Model BM-1600 Time Based Brake Monitor to the press control.*
Various Models of the Rotary Cam Based Punch Press Controls

SSM-05

The Board Only Clutch/Brake Module (Part #SSM-05). The redundant clutch/brake punch press control module with a remote panel mount message display (available in English or Spanish). Please see the design criteria and system description writing. Complies with section 1910.217 of the Federal Register and ANSI B11.1-2009.

Part #SSM-05 includes:
- Master Board
- Slave Board
- Power Supply Board
- Diagnostic Message Display
- Connecting Cables
- Cover/Hardware
- Software (Master) microprocessor
- Software (Slave) microprocessor

SSM-08

The redundant clutch/brake punch press control module with a remote panel mount message display (available in English or Spanish). Please see the indepth design criteria and system description writing. Complies with section 1910.217 of the Federal Register and ANSI B11.1-2009. Also included are all of the switches, legend plates, push buttons, and indicator lights for easy mounting into your existing control.

Part #SSM-08 includes:
- Master Board
- Slave Board
- Power Supply Board
- Diagnostic Message Display
- Connecting Cables
- Cover/Hardware
- Software (Master) microprocessor
- Software (Slave) microprocessor

SSM-10

Small in Size -- Big in Safety and Control
Excellent for the Rebuilder or O.E.M. to install into existing control panel
The redundant clutch/brake punch press control module has a remote panel mount message display (available in English or Spanish). Please see the indepth design criteria and system description writing. Complies with section 1910.217 of the Federal Register and ANSI B11.1-2009.

SSM-20

The Short Stack Plus (Part #SSM-20) encompasses all of the features and components of the SSM-10 (see page 24 for complete list of features) plus all of the following switches, legend plates, push buttons, and indicator lights for easy mounting into your existing control panel. Complies with section 1910.217 of the Federal Register and ANSI B11.1-2009.

Part #SSM-20 includes:
- Keyed selector switches and legend plates for:
  - Hand/foot mode
  - Off/inch/single/continuous

Push buttons and legend plates for:
- System start
- System stop
- Automatic continuous set-up

Indicators and legend plates for:
- System on
- Ground fault
- Brake monitor
- Interrupted stroke provision
Various Models of the Rotary Cam Based Punch Press Controls

3200SS


Due to the hybrid design characteristics of the 3200SS, a main power disconnect switch and magnetic motor starters can be supplied in the same control panel.

Customer to specify operator control location (photo below displays operator controls on panel door).

Interrupted Stroke Provision with Indicator
If the punch press is in the single stroke or continuous mode and the press stops before the completion of a full stroke, the Interrupted Stroke Provision is activated. The control will automatically switch to the inch mode and the palm buttons must be used to return the ram to the top of the stroke. When back at the top, the control automatically switches back to the original operational mode setting and the operator may resume normal production. The Interrupted Stroke Provision improves productivity and safety significantly by eliminating the need for the operator to make mode selection adjustments on interrupted strokes.

Automatic Continuous Set Up Push Button
This prior action push button must be operated to set-up the press for continuous operation. Once depressed, the operator has a preset length of time in which to depress both palm buttons concurrently to initiate operation in the continuous mode.

LED Diagnostics
Punch Press Components and System Diagnostics with LED Indicator Lights, on printed circuit boards for all inputs and outputs.

Brake Monitor--Top Stop Indicator
Oil tight indicator light to detect top stop overrun, this light is tied into the rotary cam to provide an electro-mechanical brake monitoring system. Time-based brake monitoring optional.

Ground Fault Detector
Oil tight push to test type wired to continuously monitor press grounding whenever control power is on.

Transformer
To reduce voltage from 480/240V to 120 VAC secondary. Consult factory for 208 or 550 volt system.

Keyed Mode Selector Off-Inch-Single Continuous
4 position keyed lock selector switch for supervised selection of mode of operation of the press. When in the inch mode the operator cannot hold or tie one run button down and use the other button to inch the press with one hand operation. Both buttons must be depressed concurrently. Micro-Inching and Automatic External Trip optional.

Feature Listing for SSM-10 and SSM-20:
• Control reliable redundant control module
• Diagnostic Message Display
• Fused transformer
• Control module pre-wired to terminal strip
• Pressure clamp terminal strip
• Mounted on a 17” (432mm) x 18” (457mm) backplate
• Wiring diagram and complete installation instructions supplied
• Modes of operation off – inch – single – continuous
• Continuous ARM
• Top stop
• Anti-tie down and anti-repeat
• System start/stop functions
• SPM Range - 1 to 500
• Control reliable design
• Interrupted stroke provision with indicator

• Inch mode monitoring
• Control module provides anti-tie down and concurrency function for up to four sets of operator stations
• Light curtain mute-out on upstroke standard
• Clutch/brake module designed to fit into tight spaces. Printed circuit board dimensions; only 6.5” (165mm) x 5” (127mm) x 4” (102mm) including standoff.
• Control systems are captively designed, manufactured, and supported.
• Self-contained plain English message display
• Self-diagnostic system
• The control module monitors the signals and circuits as specified by OSHA and ANSI standards
• Control incorporates dual logic power supplies
• Two-year warranty on control module
Incorporates all the requirements of OSHA for control reliability and component monitoring. Also includes component and system diagnostics with indicator lights for total press monitoring. Complies with section 1910.217 of the Federal Register and ANSI B11.1-2009.

When foot actuation is used, a method of guarding the point of operation must be provided. Refer to OSHA/ANSI requirements.

Features
- Model 3200SS Control Panel
- Expandable
- Brake Monitor
- Two Hand Anti-Tie Down
- System Control Reliability
- Single Stroke

The control panel 3200SS is included in the 1500SS Package.

Dual Solenoid Valve
The dual solenoid valve is monitored and contains a pressure controlled spool in an assembly mounted between the pilot and valve body assemblies. Pressure signals are applied to each end of the monitor spool. If these signals differ by more than a built-in design limit, they cause the spool to shift to a latched position. The spool movement causes the pilots to be exhausted and pilot supply air to be vented to the atmosphere, thus rendering the valve inoperable. The monitor must be reset by unlatching the spool before another valve cycle can be initiated.

Operator Station
No. UL-501 Two Ergonomic UltraTouch modules mounted on a NEMA 12 operator station run bar with a red mushroom emergency stop button located in the center and a yellow mushroom top stop button located off center. This style assembly is ideal for the metal stamping/metal fabrication industry. All the modules are mounted in accordance to OSHA, ANSI, and CSA standards in regards to run button spacing.

Heavy Duty Pressure switch No. 306
This NEMA 12 oil-tight and dust-tight switch is adjustable from 1 to 115 PSI.

Filter Regulator Lubricator No. 311

Rotary Cam Switch with Drive Check No. 310A
This NEMA 12 rotary switch provides limit switch functions required by control system. Spring-loaded mounting absorbs shock and will stop the press should the drive chain break. Cams are easily adjusted with tool provided.
Rotary Cam Based - Punch Press Controls
Options

Description

• Fused main power Disconnect (IEC or NEMA)
• Magnetic motor starters  (IEC or NEMA)
• Rotary Cam Limit Switches
• 54-003 - Model BM-1600 Time Based Brake Monitor mounted in a control panel (with encoder)
• Micro-Inching function
• Light Guard on/off supervisory controlled key switch (IEC)
• Multiple operator station control key switch (IEC)
• Bar Turnover function (IEC)
• Die Block receptacle outlet
• Shutdown timer
• 110VAC outlet
• 220VAC outlet (specify load)
• 5 Digit resettable LCD counter (battery powered) 2.8” x 1.5” (Part Number 39-026)
• Remote Operator Interface Panel
• NEMA Style Indicators & Switch gear on control panel to replace IEC Style
• Automatic External Trip
  SSM-10 without IEC switchgear (at time of purchase)
  SSM-20 with IEC switchgear (key switches & push buttons)

• Continuous on Demand
  SSM-10 without IEC switchgear (at time of purchase)
  SSM-20 with IEC switchgear (key switches & push buttons)

(For Custom Programming & Remote Field Upgrades, please consult factory at service@pressroomelectronics.com or (630) 443-9320.)

GUARDING:
Safety Light Curtain (up to four sets of pylons, specify size)
(see Pinnacle Systems, Inc. website for models)
# Rotary Cam Based - Punch Press Controls

## Replacement Parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-072</td>
<td>Steel master/slave/power/relay stack cover (white)</td>
</tr>
<tr>
<td>20-001</td>
<td>1A Slo-Blo glass 3AG fuse</td>
</tr>
<tr>
<td>20-018</td>
<td>1A Fuse (plastic standup micro, in 24vdc output)</td>
</tr>
<tr>
<td>20-022</td>
<td>1A Slo-Blo nano SMF fuse</td>
</tr>
<tr>
<td>26-016</td>
<td>Diagnostics Status Display label (overlay)</td>
</tr>
<tr>
<td>30-012</td>
<td>24vdc @ 2.2A power supply (90-260vac In) 3.9” L x 3.8” W x 1.4” H (99.1mm x 96.5mm x 35.6mm)</td>
</tr>
<tr>
<td>32-101</td>
<td>4 pole 12 VDC (clear KACO safety relay)</td>
</tr>
<tr>
<td>39-026</td>
<td>Standalone five digit counter with reset.</td>
</tr>
<tr>
<td>42-004</td>
<td>Master software Chip (please note rectangular or square)</td>
</tr>
<tr>
<td>42-005</td>
<td>Slave software Chip (please note rectangular or square)</td>
</tr>
<tr>
<td>52-032</td>
<td>Diagnostics Status Display unit</td>
</tr>
<tr>
<td>52-071</td>
<td>Ribbon cables</td>
</tr>
<tr>
<td>52-093</td>
<td>Master/Slave 12 conductor Input Cable (52”) Double ended female</td>
</tr>
<tr>
<td>52-119M</td>
<td>Master computer board (no CPU)</td>
</tr>
<tr>
<td>52-119S</td>
<td>Slave computer board (no CPU)</td>
</tr>
<tr>
<td>52-120</td>
<td>Power supply/Relay board (with relays)</td>
</tr>
</tbody>
</table>
Rotary Cam Based Punch Press Control

Ordering Guide

Please complete the form on the next two pages and email it to the Pressroom Sales Department at sales@pressroomelectronics.com. You may also fax the form to (412) 262-1197. We also have an electronic version of this form available on our website www.pressroomelectronics.com.

Name __________________________ Email _________________________
Company _________________________ Punch Press Manufacturer _________________________
Address _________________________ Model # ______ Serial # ______
City ____________________________ Shop # ______ Press Speed (SPM) ______
State _____ Zip _____ Voltage ______ Cycle ______ Phase ______
Phone __________________________ Fax _________________________

Rotary Cam Based OEM and Rebuilder Clutch / Brake Controls

Specify operator control location. Please provide quantity next to desired option(s).

☐ Left End (LE) ☐ Panel Door (PD) ☐ Right End (RE)

Qty.
☐ Board Only Clutch / Brake System (SSM-05)
☐ Board Only Clutch / Brake System (SSM-08) with IEC Switches, push buttons and legend plates
☐ Short Stack (SSM-10)
☐ Short Stack Plus (SSM-20) with IEC switchgear
☐ Model 3200SS (Solid State) Control Systems
  NEMA 12 Enclosure with IEC switchgear

Customized Control Panel Options

Using Model 3200SS Control System as a base. Please provide quantity next to desired option(s).

Qty.
☐ Fused Main Power Disconnect
  Mounted on control panel ______ AMP
  Choose Style: IEC NEMA
☐ Main Motor Magnetic Motor Starter
  Choose Style: IEC NEMA
  Choose: Rev Non-Rev
  _______ HP _______ Full Load Amps
  Includes on/off push buttons and keyed selector switch forward/reverse when applicable.
☐ Ram Adjust Magnetic Motor Starter
  Choose Style: IEC NEMA
  _______ HP _______ Full Load Amps
  Includes up/down push buttons and keyed selector switch forward/reverse when applicable.
☐ Accessory Magnetic Motor Starter
  Choose Style: IEC NEMA
  Choose: Rev Non-Rev
  _______ HP _______ Full Load Amps
  Includes on/off push buttons and keyed selector switch forward/reverse when applicable.
☐ Time Based Brake Monitor (front panel mounted)
☐ Micro-Inching Feature
☐ Continuous On Demand
☐ Automatic External Trip
☐ Light Curtain Interface
  Keyed selector switch on/off mounted on control panel for light curtain.
Rotary Cam Based Punch Press Control Ordering Guide

- **Multiple Operator Stations Control**
  Keyed selector switch on/off mounted on control panel to turn additional operator stations on/off.

- **Bar Turnover Function**
  Permits manual rotation of the flywheel with the clutch engaged for die setting. Controlled by keyswitch on/off.

- **Open Space For Inside Control Panel**
  Four mounting additional customer supplied components. Specify desired space: ________ x ________

- **Remote Master Control Station**
  Moves all the switchgear and Display unit into a separate 12" x 14" x 8" box that can be placed closer to the operator. The control boards, optional starter(s), optional disconnect remain in a separate Control panel whose size is dictated by the size of the starter(s) & disconnect. NOTE: There is a 15’ cable length limitation between the Remote box and Control panel.

- **Model BM-1600**
  Time Based Brake Monitor

- **Custom Programming & Remote Field Upgrades**
  Email service@pressroomelectronics.com or call (630) 443-9320.

- **Additional Options**
  Please specify additional options that are desired, but not listed.

- **Console Mounted Controls**
  Consult factory for specifics.

- **Die Block Receptacle Outlet**
  Female receptacle for an electrical interlock on a die block.

- **110 VAC Outlet**
  Panel mounted 110 VAC outlet for powering lights, press auxiliary equipment etc.

- **220VAC Outlet**
  Panel mounted 220VAC outlet for powering lights, press auxiliary equipment etc.

- **Shutdown Timer**
  Automatically shuts off the punch press when not in use. Length of time is customer adjustable.

- **Counter**
  Retestable five digit numerical counter mounted on control panel.

- **Safety Light Curtain (SLC)**
  Model SS Solid State Outputs
  Specify Size - 4” (101mm) to 64” (1625mm) guarded zone in 4” (101mm) increments.

  - [ ] 4
  - [ ] 8
  - [ ] 12
  - [ ] 16
  - [ ] 20
  - [ ] 24
  - [ ] 28
  - [ ] 32
  - [ ] 36
  - [ ] 40
  - [ ] 44
  - [ ] 48
  - [ ] 52
  - [ ] 56
  - [ ] 60
  - [ ] 64

**Additional Comments or Questions**

---

Product Photos and Descriptions

*For additional information on all products listed, please visit our website www.pressroomelectronics.com.*

- **SSM-05**
- **SSM-10**
- **SSM-08**
- **SSM-20**
- **PressCommander Resolver Based**
- **Model 3200SS Rotary Cam Based**
- **The Ultimate**
Machine Safeguarding Products

- Safety Light Curtains (all types and styles)
- Safety Mat Systems (all types and styles)
- Universal Safety Controller HUB / Safety PLC
- Ergonomic Palm Buttons *UltraTouch*®
- Safety Interlock Switches (explosion proof)
- Fencing with Interlocks
- Stack Lights and E-Stops
- OSHA and ANSI Compliant Controls
- Customized “control reliable” controls for dual solenoid activated pneumatic & hydraulic safety valve applications
- Energy Isolation and Single Point Lockout Systems
- Plant Surveys and Risk Assessment
- Stainless Steel Enclosures Available
- Customized Control Panels

sales@pinnaclesystems.com • www.pinnaclesystems.com
Additional products to achieve your Total Safety Solution!!!

- Safety Light Curtains (All Types and Styles)
- Universal Safety Controller HUB / Safety PLC
- Safety Mat Systems and Controls
  - Area Guarding Systems
  - NSD Safety Mat Systems
  - STTS Safety Mat Systems
  - Direction of Travel Mats
  - High-Temp Welding Mats
- Ergonomic Palm Buttons
  - UltraTouch Palm Buttons
- Safety Interlock Switches (including explosion proof)
- Customized “control reliable” controls for dual solenoid activated pneumatic and hydraulic valve applications
- Fencing with Interlocks
- E-Stop Buttons
- Stack Lights
- Energy Isolation and Single Point Lockout Systems
- Plant Surveys, Risk Assessment & Installation Services
- Customized Control Panels; Stainless Steel enclosures available for all products

**Punch Press / Metal Stamping Industry**

- Resolver or Rotary Cam Based Clutch / Brake Controls - OSHA/ANSI Compliant
- Punch Press Automation Controllers
- Time-Based Brake Monitors
- Programmable Limit Switches
- Die Protection & Tonnage Monitoring Systems
- Servo Feed Interfaces

**Press Brake Guarding and Controls**

- Press Brake Guarding for Mechanical, Air Clutch and Hydraulic Press Brakes
- Press Brake Control Systems

We have designed our equipment to the very highest performance and safety standards known to the current technological state of the art, as evidenced by our U.S.A. and foreign patents issued and pending. However, the installation, usage, and suitability, and fitness of our equipment for any purpose, known or unknown, is interdependent upon the performance of other equipment not manufactured, installed, secured or maintained by Pressroom Electronics.

We cannot and do not accept responsibility for any overall system performance when factors such as these, are beyond our control.

---

**Pressroom Electronics™**

www.pressroomelectronics.com

**Sales and Marketing Office**
P.O. Box 99875
Pittsburgh, PA 15233

Phone: (412) 262-1115
Fax: (412) 262-1197

sales@pressroomelectronics.com
orderentry@pressroomelectronics.com

**Manufacturing and Service Center**
1510 Hubbard Ave.
Batavia, IL 60510 USA

Phone: (630) 443-9320
Fax: (630) 443-9346

service@pressroomelectronics.com