Punch Press Controls Overview

Resolver Based "PressCommander" Punch Press Control

"High Speed" For press speed range above 500 Strokes Per Minute (SPM)

Exceeds OSHA 1910.217 & ANSI B11.1-2009, "Control Reliable Design," with dual logic power supplies, heavy duty resolver, System diagnostics and programming in plain English/Spanish which can control up to four sets of operator stations, Major faults such as E-Stop, motion, brake monitor, and sensor faults are handled by two force-guided relays (Form B safety relays), Off--inch--single--continuous, Continuous ARM; top stop, anti-tie down and anti-repeat, SPM Range (500 and above), Password and supervisory controlled keyed selector switch for security of data entry, Interrupted stroke provision with indicator, Inch mode monitoring, Crank angle and speed readout (SPM), Time-based brake monitor, Built-in motion detector and drift fault, 90° and 270° stop time tester/meter built-in, Built-in hour meter for maintenance, Built-in variable speed compensation, Servo-feed interface built-in, Six optically isolated die protection inputs, Six PLS (programmable limit switch) output relays, 100 job memory, Stroke, batch, quality, and part counters, Batch counter output relay, Die protection output relay, Speed output relay and Auxiliary output relay.

Optional: Ethernet or DeviceNet and PC Link to allow offline job creation and storage.

Optional: 10.1" color touchscreen replaces the standard display shown. (Includes Production Monitoring to create OEE.)

Optional: Expander Board (52-279) - Increases the die protection to 12 stations and the programmable limit switches (PLS) to twelve.

Part Number	Description (Resolver and resolver cable are included with all models).
PCS-05-OPTO	**High Speed PressCommander (Boards Only) Clutch/Brake System with remote standard display**
PCS-08-OPTO	**High Speed PressCommander (Boards Only) Clutch/Brake System with remote status standard display, IEC switches, push buttons and legend plates**
PCS-10-OPTO	**High Speed PressCommander mounted on panel backplate with remote standard display**
PCS-20-OPTO	**High Speed PressCommander mounted on panel backplate with remote standard display, IEC switches and push buttons**
PCS-2000-OPTO	**High Speed PressCommander NEMA12 (IP64) control panel with IEC Components**
PCS-4000-OPTO	**High Speed PressCommander NEMA12 (IP64) control panel & IEC components** Model #PCS-4000-OPTO control panel includes the following components: No. 303A Dual Solenoid Valve with Muffler No. 306 Heavy duty pressure switch 52-227 Heavy duty brushless Resolver transducer (formerly 40-003) No. 311 Filter, regulator, lubricator No. UL-501 operator station

Important Ordering Information for the PCS OPTO: The Programmable relay outputs (PLS1- 6) are normally a mechanical (dry contact) relay with 5A contacts. The PCS-OPTO replaces the PLS1-6 with Solid-State relays. The customer has the choice of replaceable Solid-State outputs PN# 37-045 3.0A @ 24VDC only, OR PN# 37-047 0.5A @ 120VAC/DC. The customer must specify which type of output at the time of order. (no difference in cost)

***Optional**: 10.1" color touchscreen replaces the standard display and is available for all models listed above.

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

PressCommander Options - Resolver Based

Utilizes the Standard Display

Additional Die Protection Inputs and PLS (programmable limit switch outputs)

Expander Board #52-279 adds additional 6 Die inputs and 6 Dry relay contact outputs (At time of order) - Increases the PressCommander die protection from six (6) to twelve (12) station die protection. Also increases the PressCommander programmable limit switch capacity from six (6) to twelve (12) programmable limit switches with mechanical relay (dry) outputs.

Expander power supply board #52-280 (At time of order) - Power Supply Board that stacks under the PressCommander Expander Board (52-279) and is required to power the Expander Board functions. **Request Both Part Numbers (52-279 and 52-280) at time of order if expansion is desired.**

Main Power Disconnects

Fused main power Disconnect (IEC or NEMA)

Refer to *Component* section of this catalog for voltage, sizing and part numbers for starters and main power disconnects.

Magnetic Motor Starters

Magnetic Motor Starters are available in IEC or NEMA design formats

Fwd/Rev switchgear with Motor start/stop pushbuttons and legend plates included with Reversing Starter purchase.

Motor start/stop pushbutton and legend plate included with Non-Reversing Starter purchase.

Refer to Component section of this catalog for voltage, sizing and part numbers of the appropriate size starter.

Remote Master Control Station (Free standing operator control station) PressCommander Standard Display Extender System.

Moves all the switchgear and the standard 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: Cables are available in 15’, 25’, 35’, and 50’ lengths. These cables should never be cut between the Remote Master Control Station and Control panel. 15’ cable is supplied standard for the Standard Display remote mater control station.

Extension Cables for Remote Master Control Stations located over 15’ (4.5m) with Standard Display from control panel.

Part# 53-456 is a 25’ Remote Standard Display Extender System (when the Standard Display unit is located 25’ from the PressCommander Board Stack)

Part# 53-457 is a 35’ Remote Standard Display Extender System (when the Standard Display unit is located 35’ from the PressCommander Board Stack)

Part# 53-458 is a 50’ Remote Standard Display Extender System (when the Standard Display unit is located 50’ from the PressCommander Board Stack)

Part #35-111 Ethernet option for the PressCommander Standard Display

Options continued on next page.

PressCommander Options - Resolver Based

Micro-Inching Function (includes key switch on/off)

Light Guard on/off supervisory controlled key switch (up to four curtains)

Multiple operator station control key switch

Bar Turnover Function (includes key switch on/off)

Die Block receptacle outlet

Shutdown timer (software based)

110VAC outlet or 220 VAC outlet (specify load)

NEMA style indicators & switchgear on control panel to replace IEC style supplied standard

SHUT HEIGHT INDICATOR:

Provides the capability to read the shut height to within .001 inch and will display the position of the slide. Each tool/die setting is saved under the job number. Shut Height Monitoring requires a shut height interface board (Part# 52-298) and a linear sensor for slide position measurement.

Choose a length below: A magnet and two mounting brackets are supplied standard with all linear sensors.

Size

4" - Part# 40-009

8" - Part# 40-010

12" - Part# 40-011

16" - Part# 40-012

24" - Part# 40-013

AUTOMATIC EXTERNAL TRIP:

PCS-10 without IEC switchgear (at time of purchase)
PCS-20 with IEC switchgear (key switches & push buttons)

30-012 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) for powering sensors or other auxiliary devices

CONTINUOUS ON DEMAND:

PCS-10 without IEC switchgear (at time of purchase)
PCS-20 with IEC switchgear (key switches & push buttons)

Custom Software Programming (one time fee).

REMOTE MONITORING: (internet based)

Ethernet 100baseT with built in Web page Server (with downtime monitor and logging)

Wireless Ethernet (Wi-Fi) Bridge - Part # 39-154

GUARDING:

Safety Light Curtain (up to four sets of pylons, specify size) (Visit www.pinnaclesystems.com for models available)

HYDRAULIC OVERLOAD:

Press will stop when output opens, then allows the press to be moved in the inch mode with the input still open.

CUSTOMIZED SOFTWARE PROGRAMMING:

Software can be upgraded in the field with a laptop computer.

Options continued on next page.

PressCommander Options - Resolver Based

CLUTCH-BRAKE TIME DELAY HUB OPTION:
Provides the press control with a separate relay for the CLUTCH and a separate relay for the BRAKE to allow for a time delay between each, and to be control reliable.
Consists of the following:

1 - Safety HUB (Part# 53-448) running the Clutch-Brake program
1 - 24VDC Power Supply (Part# 30-012)
2 - Safety Relays for HUB channel D (Part # 52-278)

PEAK TONNAGE MONITORING: (add suffix T1,T2,T3,or T4 to Presscommander Model#)
T1 - One channel monitoring with strain sensor and cable
T2 - Two channel monitoring with strain sensor and cable
T3 - Three channel monitoring with strain sensor and cable
T4 - Four channel monitoring with strain sensor and cable

SIGNATURE TONNAGE ANALYSIS MONITORING (Requires 10.1" Touchscreen - Part # 39-151)

Add suffix: T1-S, T2-S, T3-S, T4-S to the PressCommander Model.

T1-S - One channel monitoring with strain sensor and cable
T2-S - Two channel monitoring with strain sensor and cable
T3-S - Three channel monitoring with strain sensor and cable
T4-S - Four channel monitoring with strain sensor and cable

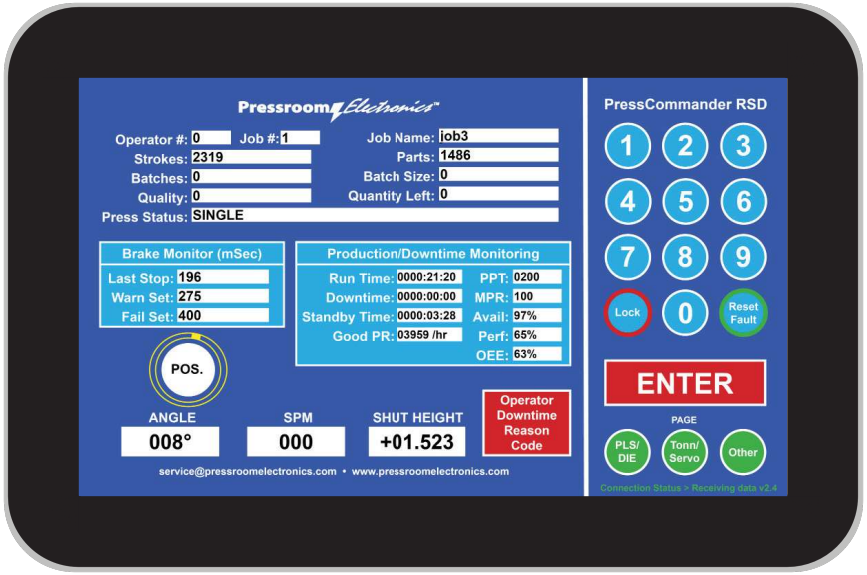
Part# 39-151	10.1" color touchscreen replaces the Standard PressCommander four line vacuum fluorescent display mounted onto NEMA 12 (IP 64) control panel. Includes Production Monitoring to create OEE.

Remote Master Control Station with 10.1" color touchscreen
Moves all the switchgear and the touchscreen until 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) and disconnect. This requires the Ethernet option to be installed on the Touchscreen.

Part# 43-027 (Required)	Ethernet cable to connect the Remote Master Control 10.1" color touchscreen to the control panel that contains the control boards, optional starters and disconnects. Specify length needed in feet.

Optional Touchscreen features and capabilities on the following pages.

Optional: PressCommander Touchscreen



The 10.1” color touchscreen (Part #39-151) option replaces the standard PressCommander alpha-numeric four line by twenty character display (shown above right) of the resolver based PressCommander Press Control.

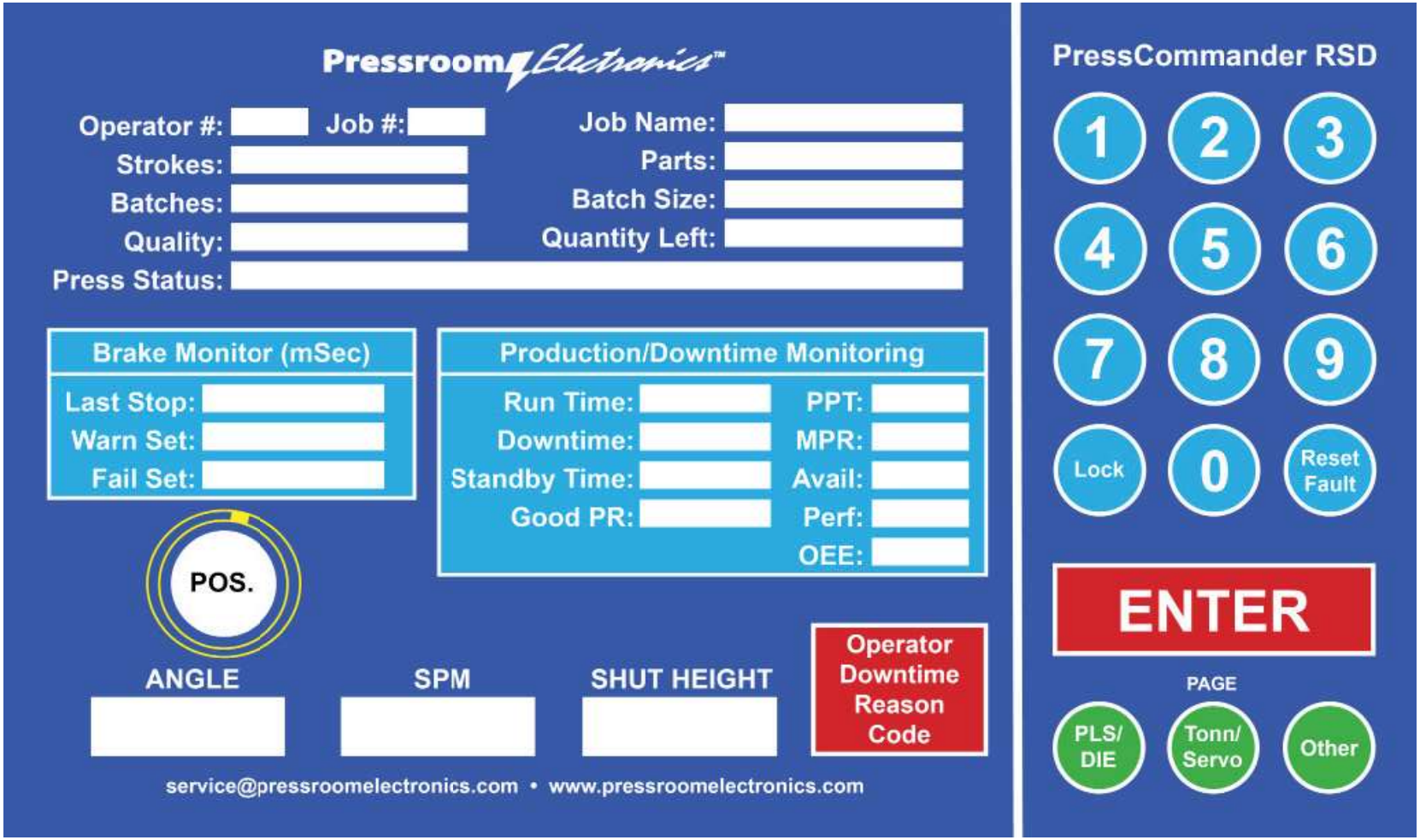
The color touchscreen provides full programming capability for the PressCommander operational features such as timers, counters, die protection, tonnage monitoring (peak or signature), PLS (programmable limit switches) and Downtime Production Monitoring. Standard features and function listing can be found on page A2 of this catalog. The color touchscreen features also incorporate a Windows Operating Systems and 32 GB of memory.

The optional PressCommander Touchscreen provides simple connectivity with the built-in wireless Windows operating system. This will provide the operator and front line supervisor with the press operational status information. This can also provide automatic population of press data into Excel spreadsheet formats if desired via log files for the machine’s production status and Downtime reasons.

The following pages will illustrate the functional layout of the various pre-programmed (yet customizable) screens. This will provide the user with a simple format for accessing the various built-in features for enhancing machine utilization and ease of operation from the production machine.

Actual Size of PressCommander Touchscreen

Operator Screen



The Operator Screen displays the pertinent press information for the job that is running on the press. Also shown is the Production/Downtime section, which updates automatically in real time the production and downtime status of the press. This management tool is calculated automatically and produces the OEE (Overall Equipment Effectiveness) of the press. Excellent information for the press operator and front line supervisor which is calculated on the production floor “at the machine” and easily transmitted to the production office where the information is stored and data is shared globally by all team members, if desired by the management team.

PRODUCTION/DOWNTIME MONITORING DEFINITIONS:

Run Time	Actual time spent making parts.
Downtime	Actual time spent on Operator Downtime (i.e. Reason Code) or Press Fault Code (i.e. Brake Fault, Die Fault).
Standby Time	Idle Time (i.e. breaks, lunch) or Operator did not specify Reason Code.
Good PR	Actual Part Rate (defined as Parts/Hour that are good).
PPT	(user entry) Planned Production Time - This is the standard maximum amount of time (in minutes) the machine should operate each Shift (subtracting breaks, lunch, etc.)
MPR	(user entry) Maximum Production Rate - This is the Maximum Part Rate (in Parts per Minute) that you would expect based on normal operation (this takes into account aging equipment, tools and substandard material).
Avail	(Availability %) - Actual Operating time / SPT (defined as what percentage of available time does the Press make parts).
Perf	(Performance %) - Actual Parts / Actual Operating time / MPR (defined as what percentage of parts did you make compared to the Maximum parts you could make).
OEE	Overall Equipment Effectiveness = Availability x Performance x Quality

Note: All of these values also appear in the log file as well. You can also change the DRIVE location of the LOG files (i.e. Remote Hard Drive Server) which provides access to the LOG files even when the Press is OFF.

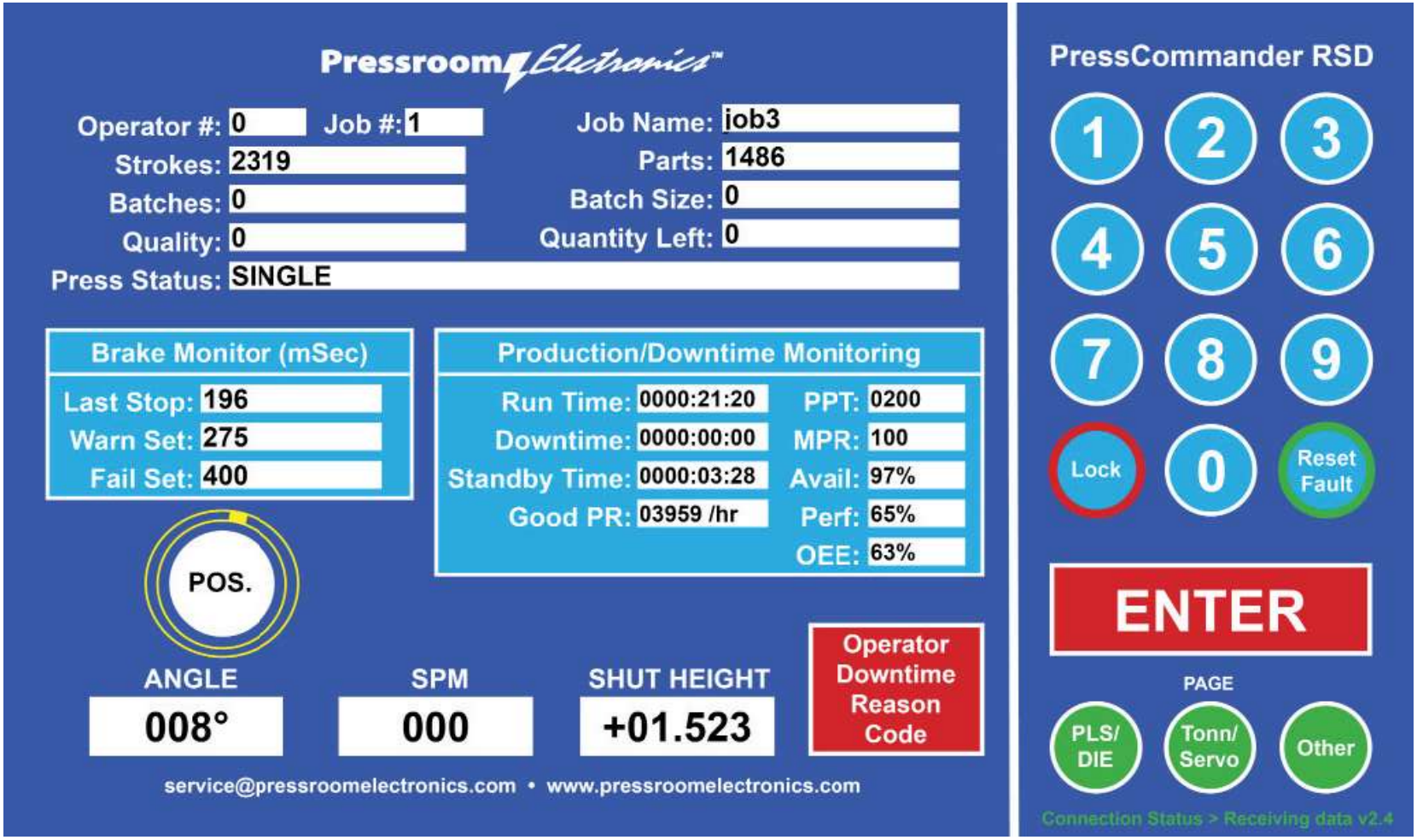
TOUCHSCREEN DOWNTIME & PRODUCTION MONITORING FOR OVERALL EQUIPMENT EFFECTIVENESS (OEE).

Requires Touchscreen Part# 39-151
20 Downtime Codes - Downtime codes are user programmable and customized to need. Downtime codes can be activated either by manually touching the appropriate touchscreen button **OR**
Automatically via the machine circuit signal that caused the machine to stop. This capability provides an exceptional granular fault cause for machine operational analysis.

If machine induced automatic signalling is desired to activate a specific downtime code (such as die protection, tonnage monitoring, shortfeed, misfeed etc.) One of the following input/output interface boards are required.

Part# 52-320	Provides the capability for six (6) downtime codes to be activated automatically by existing machine control electrics.
Part# 52-321	Provides the capability for sixteen (16) downtime codes to be activated automatically by existing machine control electrics.
Part# 52-320 and 52-321	Also include six (6) dry contact relays that can be used to signal stack lights, alarms etc. Relay Ratings: 5A @ 250 VAC • 5A @ 30 VDC • Coil: 12 VDC

Operator Screen



Real Time Press data (Production/Downtime Monitoring) including Parts & Batch Count, Crank Angle, along with Downtime Monitoring recorded into Excel Spreadsheet files automatically.

Die Protection/PLS Screen

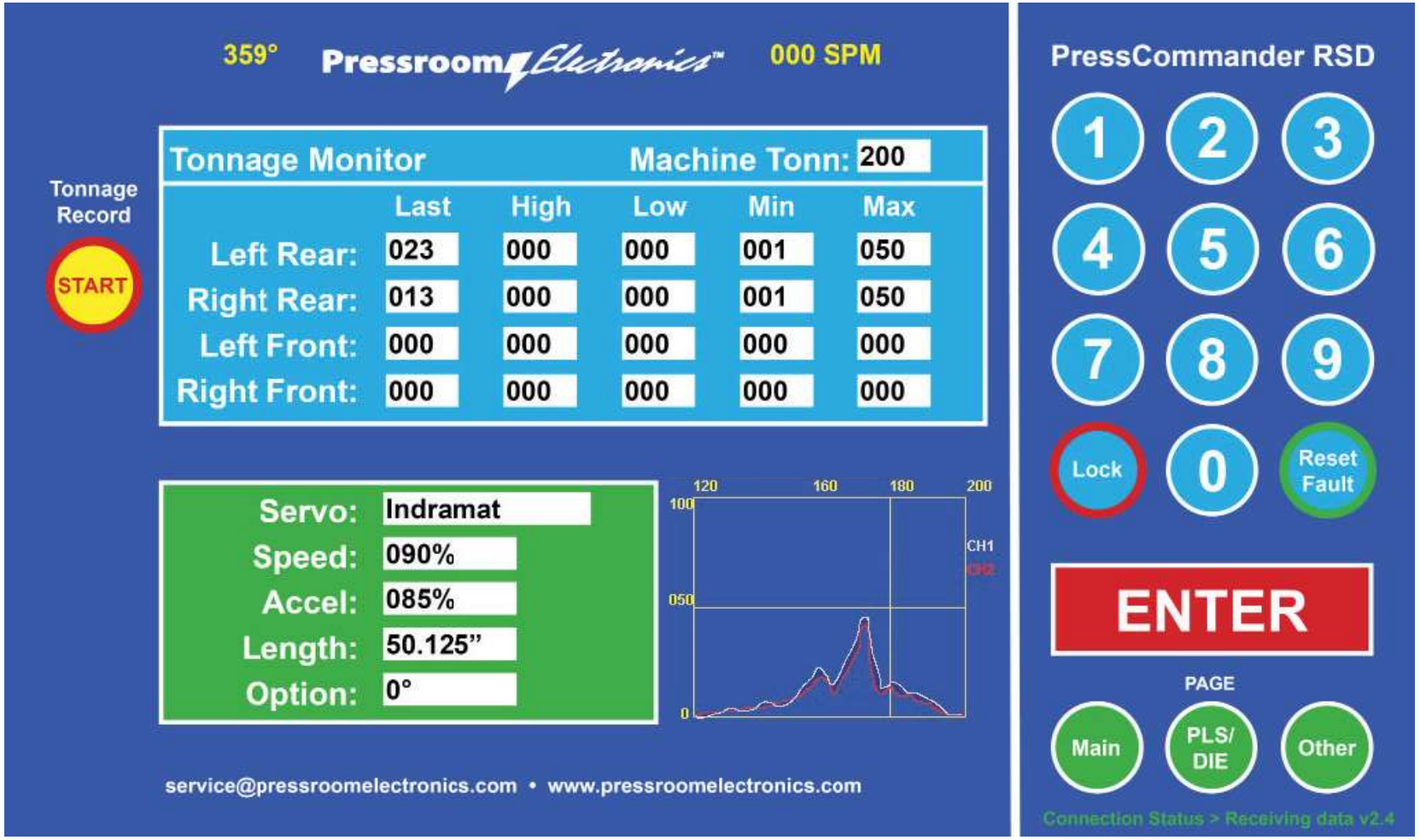
6 Programmable Outputs (PLS) and 6 Programmable Inputs (Die Protection) supplied standard.

Optional: Expander Board #52-279 adds additional 6 Die inputs and 6 Dry relay contact outputs (At time of order) - Increases the PressCommander die protection from six (6) to twelve (12) station die protection. Also increases the PressCommander programmable limit switch capacity from six (6) to twelve (12) programmable limit switches with mechanical relay (dry) outputs.

Expander power supply board #52-280 (At time of order) - Power Supply Board that stacks under the PressCommander Expander Board (52-279) and is required to power the Expander Board functions.

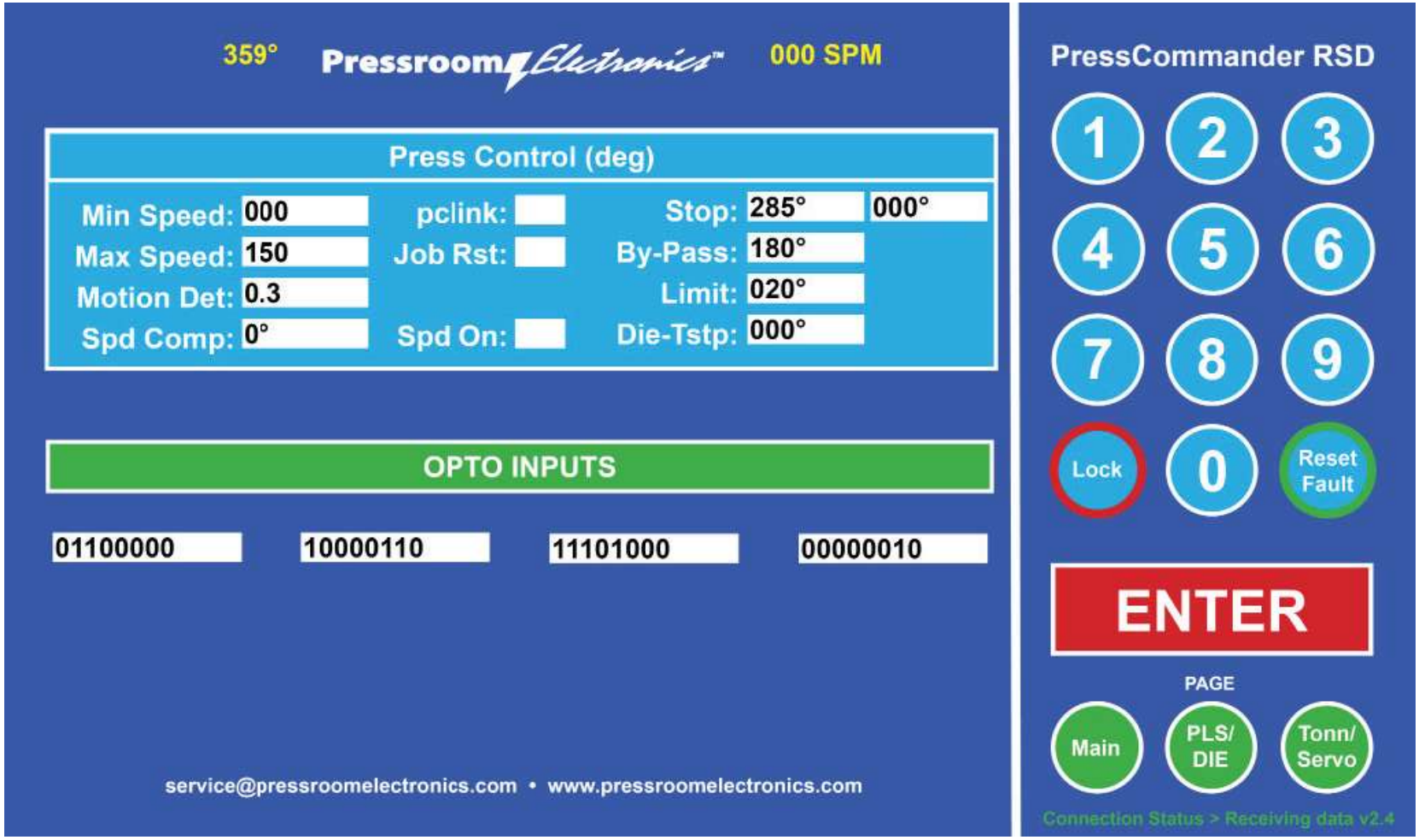
Request Both Part Numbers (52-279 and 52-280) at time of order if expansion is desired.

Servo Control/Tonnage Monitoring Screen



Displayed is the Servo Control. Optional 2 or 4 channel Peak Tonnage Monitoring or Signature Analysis shown above. All data can be recorded into log files.

Press Set-up Screen



Press setup parameters

Fault Message Screen

Fault monitoring messages can be recorded into Excel spreadsheet files automatically.

Downtime and Production Monitoring Screen

The operator can manually select a Reason which is automatically entered into the LOG file.
The Reason is declared over when the Press RUNS or the Downtime Over button is selected (and is logged).

Downtime and Production Monitoring Screen

During operation the user can add and edit 24 Reason Codes (up to 30 characters in length).
The reasons are stored on the users computer in a log file. System is capable of manual or automatic machine input of downtime reason(s). Downtime codes can be recorded automatically into Excel spreadsheets, Pareto charts or Pivot tables.

Production / Downtime Monitoring
Features, Benefits & Implementation

The Pressroom Electronics Production & Downtime Monitoring System (PDMS) represents an invaluable shop floor control and management tool. Through diligent use of the system, the management team can achieve significant gains to the overall operating performance of the plant. Indices related to Productivity, Throughput, Rework, Order Fulfillment, and Quality are common areas of impact.

Typically, there are four (4) phases to the implementation of the system:

- Understanding the Mechanics: As with anything new, the users will go through a short period of time to understand the inputs to and the resultant outputs from the system.

- Interpretation of the Data: The supervisors and management team acquire a unified understanding of the data and the indices of performance from the reporting elements of the system.

- Use of the Data: The supervisors and management team begin to use the data to manage the day to day operations and to improve the performance of the plant.

- Continuous Improvement (CI): The system is used as a key component to establish budgets, long term plans relative to capacity constraints and for CI projects.

Production / Downtime Monitoring
Features, Benefits & Implementation Cont.

As a value added service, Pressroom Electronics offers on-site consultants who provide assistance in augmenting and accelerating the rate of implementation of the Production & Downtime Monitoring System. Among the services offered:

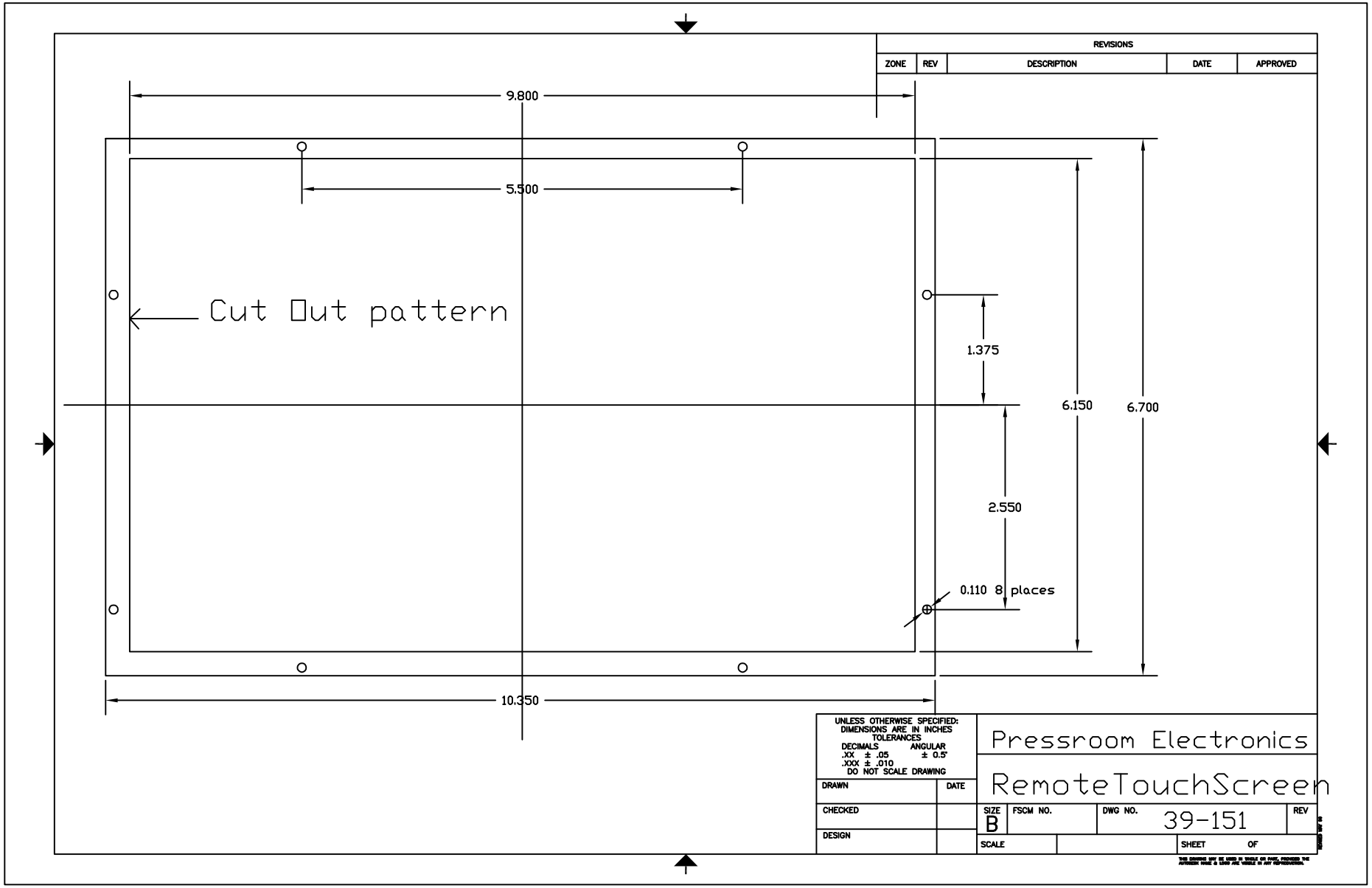
- Shop Floor Coaching: Time spent directly with the Supervisor/ Manager coaching them on the mechanics and use of the System as well as the indices of performance. This process accelerates the individual(s) understanding of the system and ensures a unified understanding of the data and indices of performance among the management team.

- Engineered Standards: This involves the establishment of Engineered Standards which are a key component to the integrity and effective use of the data and indices derived from the system.

- Facilitate Daily Review Meetings (DRM): Establish the timing, attendance and agenda for this important daily review meeting. Involves the facilitation of the meetings based on the data and downtime reported from the system and the training of the chairperson for perpetuity. This enables the ongoing and effective execution of these important daily corrective action meetings.

- Performance Measurement Reporting: Involves the custom design of the Daily Operating Report and the Weekly Management Report, including performance trend graphs. Targets the Key Performance Indicators (KPI) and other pertinent data that can be derived from the system. This enables timely, accurate and meaningful performance reporting.

Touchscreen Cutout Pattern



Punch Press Controls Overview

Resolver Based "PressCommander" Punch Press Control

For press speed range 1-500 Strokes Per Minute (SPM)

Exceeds OSHA 1910.217 & ANSI B11.1-2009, "Control Reliable Design," with dual logic power supplies, heavy duty resolver, System diagnostics and programming in plain English/Spanish which can control up to four sets of operator stations, Major faults such as E-Stop, motion, brake monitor, and sensor faults are handled by two force-guided relays (Form B safety relays), Off--inch--single--continuous, Continuous ARM; top stop, anti-tie down and anti-repeat, SPM Range (1 to 500), Password and supervisory controlled keyed selector switch for security of data entry, Interrupted stroke provision with indicator, Inch mode monitoring, Crank angle and speed readout (SPM), Time-based brake monitor, Built-in motion detector and drift fault, 90° and 270° stop time tester/meter built-in, Built-in hour meter for maintenance, Built-in variable speed compensation, Servo-feed interface built-in, Six optically isolated die protection inputs, Six PLS (programmable limit switch) output relays, 100 job memory, Stroke, batch, quality, and part counters, Batch counter output relay, Die protection output relay, Speed output relay and Auxiliary output relay.

Optional: Ethernet or DeviceNet and PC Link to allow offline job creation and storage.

Optional: 10.1" color touchscreen replaces the standard display shown. (Includes Production Monitoring to create OEE.)

Optional: Expander Board (52-279) - Increases the die protection to 12 stations and the programmable limit switches (PLS) to twelve.

Part Number	Description (Resolver and resolver cable are included with all models).
PCS-05	**PressCommander (Boards Only) Clutch/Brake System with remote standard display**
PCS-08	**PressCommander (Boards Only) Clutch/Brake System with remote standard display, IEC switches, push buttons and legend plates**
PCS-10	**PressCommander mounted on panel backplate with remote standard display**
PCS-20	**PressCommander mounted on panel backplate with remote standard display, IEC switches, push buttons and legend plates**
PCS-2000	**PressCommander NEMA12 (IP64) control panel with IEC Components**
PCS-2000-SFP	**PressCommander Small Form Package** The Small Form Package comes in a 12" x 14" x 8" NEMA 12 Control box and is the same price as a base PCS-2000 unit. It is based on a standard PCS-2000 which comes in a 20" x 20" x 8" box (going up in size depending on options). The SFP does not come with the step-down transformer and is not for customers who require additional options (i.e. Starter(s) , Disconnect, etc.). The SFP is for customers who already have a Panel for high voltage/high current equipment, and want the Controls to be closer to the operator. NOTE: There is no cable length limitation between the SFP and the high voltage equipment.
PCS-4000	**PressCommander NEMA12 (IP64) control panel & IEC components** Model #PCS-4000 control panel includes the following components: No. 303A Dual Solenoid Valve with Muffler No. 306 Heavy duty pressure switch 52-227 Heavy duty brushless Resolver transducer (formerly 40-003) No. 311 Filter, regulator, lubricator No. UL-501 operator station

***Optional**: 10.1" color touchscreen replaces the standard display and is available for all models listed above.

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

Punch Press Controls Overview

Resolver Based "PressCommander" Punch Press Control

"High Speed" For press speed range above 500 Strokes Per Minute (SPM)

Exceeds OSHA 1910.217 & ANSI B11.1-2009, "Control Reliable Design," with dual logic power supplies, heavy duty resolver, System diagnostics and programming in plain English/Spanish which can control up to four sets of operator stations, Major faults such as E-Stop, motion, brake monitor, and sensor faults are handled by two force-guided relays (Form B safety relays), Off--inch--single--continuous, Continuous ARM; top stop, anti-tie down and anti-repeat, SPM Range (500 and above), Password and supervisory controlled keyed selector switch for security of data entry, Interrupted stroke provision with indicator, Inch mode monitoring, Crank angle and speed readout (SPM), Time-based brake monitor, Built-in motion detector and drift fault, 90° and 270° stop time tester/meter built-in, Built-in hour meter for maintenance, Built-in variable speed compensation, Servo-feed interface built-in, Six optically isolated die protection inputs, Six PLS (programmable limit switch) output relays, 100 job memory, Stroke, batch, quality, and part counters, Batch counter output relay, Die protection output relay, Speed output relay and Auxiliary output relay.

Optional: Ethernet or DeviceNet and PC Link to allow offline job creation and storage.

Optional: 10.1" color touchscreen replaces the standard display shown. (Includes Production Monitoring to create OEE.)

Optional: Expander Board (52-279) - Increases the die protection to 12 stations and the programmable limit switches (PLS) to twelve.

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PCS-20-OPTO	**High Speed PressCommander mounted on panel backplate with remote standard display, IEC switches and push buttons**
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***Optional**: 10.1" color touchscreen replaces the standard display and is available for all models listed above.

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

PressCommander Proposal/Ordering Guide

Resolver Based Controls (All Models/Styles)

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 _____

*All PressCommander Models include clutch/brake and integrated automation control capability, standard display, resolver and 30' (9.1m) of connector ended resolver cable.

☐ **PCS-05**

*Components as stated above.

☐ **PCS-08**

*Components plus switches, legend plates, indicators and push buttons.

☐ **PCS-10**

*Components mounted on a blackplate. Prewired to terminal strip.

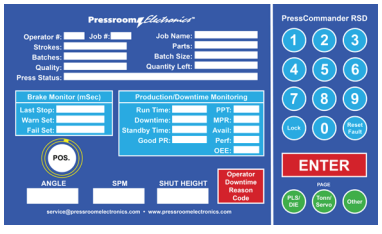
☐ **PCS-20**

*Components mounted on a backplate and prewired to terminal strip. Includes all switches, legend plates, indicators and push buttons.

☐ **PCS-2000**

*Components housed in a NEMA 12 (IP64) steel control panel. Prewired to terminal strip.

☐ **Optional Touchscreen Display**



Replaces standard display in all PCS Models. Part #39-151.

PressCommander Proposal/Ordering Guide

Resolver Based Controls with Standard Display (All Models/Styles)

1 to 500 SPM Press Speed

Qty.

- ☐ **PCS-05**
- ☐ **PCS-08**
- ☐ **PCS-10**
- ☐ **PCS-20**
- ☐ **PCS-2000**
  Specify Operator Control Location on Control Panel:
  ☐Left End ☐Panel Door ☐Right End

Above 500 SPM Press Speed

Qty.

- ☐ **PCS-05-OPTO**
- ☐ **PCS-08-OPTO**
- ☐ **PCS-10-OPTO**
- ☐ **PCS-20-OPTO**
- ☐ **PCS-2000-OPTO**
  Specify Operator Control Location on Control Panel:
  ☐Left End ☐Panel Door ☐Right End

☐ **PCS-2000-SFP PressCommander Small Form Package**

The PCS-2000-SFP comes in a 12” x 14” x 8” NEMA 12 Control box and is the same price as a base PCS-2000 unit. It is based on a standard PCS-2000 which comes in a 20” x 20” x 8” box (going up in size depending on options). The SFP does not come with the step-down transformer and is not for customers who require additional options (i.e. Starter(s) , Disconnect, etc.). The SFP is for customers who already have a Panel for high voltage/high current equipment, and want the Controls to be closer to the operator.
NOTE: There is no cable length limitation between the SFP and the high voltage equipment control panel.

☐ **PCS-4000 (1 to 500 SPM Press Speed)** **or** ☐ **PCS-4000-OPTO (Above 500 SPM Press Speed)**

Specify Operator Control Location (for either model):
☐Left End ☐Panel Door ☐Right End

☐ **Fused Main Power Disconnect** - Refer to Main Power Disconnect Section
Mounted on control panel _____ AMP
Choose Style: ☐IEC ☐NEMA Part#_____

☐ **Main Motor Magnetic Motor Starter** - Refer to Main Power Disconnect Section
Choose Style: ☐IEC ☐NEMA
Choose: ☐Rev ☐Non-Rev
_____ HP _____ Full Load Amps Part#_____
Includes on/off push buttons and keyed selector switch forward/reverse when applicable.

☐ **Ram Adjust Magnetic Motor Starter** - Refer to Main Power Disconnect Section
Choose Style: ☐IEC ☐NEMA
_____ HP _____ Full Load Amps Part#_____
Includes up/down push buttons and keyed selector switch forward/reverse when applicable.

☐ **Accessory Magnetic Motor Starter** - Refer to Main Power Disconnect Section
Choose Style: ☐IEC ☐NEMA
Choose: ☐Rev ☐Non-Rev
_____ HP _____ Full Load Amps Part#_____
Includes on/off push buttons and keyed selector switch forward/reverse when applicable.

PressCommander Proposal/Ordering Guide

Resolver Based Controls with Standard Display (All Models/Styles)

Qty.

☐ **Micro-Inching Feature**

☐ **Automatic External Trip**

☐ **Continuous On Demand**

☐ **Light Curtain On/Off Key Switch**
Supervisory controlled for maintenance or set-up.

☐ **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 Inside Control Panel**
For mounting additional customer supplied components.
Specify desired space:
_____ X _____

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

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

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

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

☐ **Shut Down Timer**
Automatically shuts off the punch press when not in use. Length of time is customer adjustable.

☐ **Hydraulic Overload**
Press will stop when output opens, then allows the press to be moved in the inch mode with the input still open.

☐ **Part# 30-012**
24VDC @ 2.2 A power(90-26 VAC in)
3.9” Long x 3.8” Wide x 1.4” High (99 mm x 96 mm x 35.6 mm) for powering sensors, or other auxiliary devices.

Qty.

☐ **Clutch-Brake Time Delay HUB Option**
Provides the control with a separate relay for the CLUTCH and a separate relate for the BRAKE to allow for a time delay between each, and to be control reliable. Consists of the following:
(1) Safety HUB (Part# 53-448 running the Clutch-Brake program
(1) 24VDC Power Supply (Part#30-012)
(2) Safety Relays for HUB channel D (Part# 52-278)

☐ **Peak Tonnage Monitoring (check option below)**
- ☐ **T1** - One channel monitoring with strain sensor and cable.
- ☐ **T2** - Two channel monitoring with strain sensors and cables.
- ☐ **T3** - Three channel monitoring with strain sensors and cables.
- ☐ **T4** - Four channel monitoring with strain sensors and cables.

☐ **Signature Tonnage Analysis Monitoring**
Requires Touchscreen Part #39-151 (check option below)
- ☐ **T1-S** - One channel monitoring with strain sensor and cable.
- ☐ **T2-S** - Two channel monitoring with strain sensors and cables.
- ☐ **T3-S** - Three channel monitoring with strain sensors and cables.
- ☐ **T4-S** - Four channel monitoring with strain sensors and cables.

☐ **Safety Light Curtain**
Model SS Solid State Outputs Safety Light Curtain
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

☐ **Shut Height Monitor**
Requires interface board Part# 52-298
Choose a length below: A magnet and two mounting brackets are supplied standard with all linear sensors.
Size
- ☐ 4” - Part# 40-009
- ☐ 8” - Part# 40-010
- ☐ 12” - Part# 40-011
- ☐ 16” - Part# 40-012
- ☐ 24” - Part# 40-013

Consult factory for longer lengths.

PressCommander Proposal/Ordering Guide

Resolver Based Controls (For Standard Display models)

Additional Die Protection Inputs and PLS (programmable limit switch outputs) for all models.

☐ **Expander Board #52-279**

Adds additional 6 Die inputs and 6 Dry relay contact outputs (At time of order) - Increases the Press Commander die protection from six (6) to twelve (12) station die protection. Also increases the PressCommander programmable limit switch capacity from six (6) to twelve (12) programmable limit switches with mechanical relay (dry) outputs.

☐ **Expander power supply board #52-280 (At time of order)**

Power Supply Board that stacks under the PressCommander Expander Board (52-279) and is required to power the Expander Board functions.

Request Both Part Numbers (52-279 and 52-280) at time of order if expansion is desired.

For Models that utilize the Standard Display

☐ **Remote Master Control Station**

(Free standing operator control station) PressCommander Standard Display Extender System. Moves all the switchgear and the standard 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: Cables are available in 15’, 25’, 35’, and 50’ lengths. These cables should never be cut between the Remote Master Control Station and Control panel. 15’ cable is supplied standard for the Standard Display remote mater control station.

☐ **Extension Cables for Remote Master Control Stations located over 15’ (4.5m) with Standard Display from control panel.**

- ☐ Part# 53-456 is a 25’ Remote Standard Display Extender System
  (when the Standard Display unit is located 25’ from the PressCommander Board Stack)
- ☐ Part# 53-457 is a 35’ Remote Standard Display Extender System
  (when the Standard Display unit is located 35’ from the PressCommander Board Stack)
- ☐ Part# 53-458 is a 50’ Remote Standard Display Extender System
  (when the Standard Display unit is located 50’ from the PressCommander Board Stack)

☐ **Part #35-111 Ethernet option for the PressCommander Standard Display**

PressCommander Proposal/Ordering Guide

Resolver Based Controls (For Touchscreen Display models)

☐ **Part# 39-151**

10.1" color touchscreen replaces the Standard PressCommander four line vacuum florescent display. Available for all PressCommander models. Includes Downtime and Production Monitoring System.

☐ **Remote Master Control Station with 10.1" color touchscreen**

Moves all the switchgear and the touchscreen until 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) and disconnect. This requires the Ethernet option to be installed on the Touchscreen.

☐ **Part# 43-027 (Required)**

Ethernet cable to connect the Remote Master Control 10.1" color touchscreen to the control panel that contains the control boards, optional starters and disconnects.
Specify length needed in feet. _____

Touchscreen Downtime and Production Monitoring for Overall Equipment Effectiveness (OEE).

☐ **Requires Touchscreen Part# 39-151**

20 Downtime Codes - Downtime codes are user programmable and customized to need. Downtime codes can be activated either by touching the appropriate touchscreen button **OR** Automatically via the machine circuit signal that induced the machine to stop. This capability provides an exceptional granular fault cause for machine operational analysis.
Production Monitoring is supplied standard with the Touchscreen.

If machine induced automatic signalling is desired to activate a specific downtime code (such as die protection, tonnage monitoring, shortfeed, misfeed etc.) One of the following input/output interface boards are required.

☑ Part# 52-320

Provides the capability for six (6) downtime codes to be activated automatically by existing machine control electrics.

☐ Part# 52-321

Provides the capability for sixteen (16) downtime codes to be activated automatically by existing machine control electrics.

*Note - Part# 52-320 and 52-321
Includes six (6) dry contact relays that can be used to signal stack lights, alarms etc.
Relay Ratings: 5A @ 250 VAC • 5A @ 30 VDC • Coil: 12 VDC

Additional Die Protection Inputs and PLS (programmable limit switch outputs) for all models.

☐ **Expander Board #52-279**

Adds additional 6 Die inputs and 6 Dry relay contact outputs (At time of order) - Increases the Press Commander die protection from six (6) to twelve (12) station die protection. Also increases the PressCommander programmable limit switch capacity from six (6) to twelve (12) programmable limit switches with mechanical relay (dry) outputs.

☐ **Expander power supply board #52-280 (At time of order)**

Power Supply Board that stacks under the PressCommander Expander Board (52-279) and is required to power the Expander Board functions.

Request Both Part Numbers (52-279 and 52-280) at time of order if expansion is desired.