Resolver Based
Punch Press Controls

Operator controls & Punch Press Automation functions that are completely integrated and supplied standard with clutch/brake control.

Pressroom Electronics™

The Resolver Based PressCommander Clutch/ Brake OSHA Control with Complete Press Automation Built-In (shown with Standard Display)

The User Friendly PressCommander ™
(shown above with Standard Display)
Available in <u>any</u> control panel layout or retrofits easily into an existing control panel.

Standard Safety / Automation Features:

- Exceeds OSHA 1910.217 & ANSI B11.1-2009
- Quick and Easy Installation
- Control Reliable Design (Triple CPU Redundancy)
- Incorporates dual logic power supplies
- Heavy duty resolver with self-checking input on every press cycle with 30' of resolver cabling supplied standard
- Complete system diagnostics and programming in plain English/Spanish by a four line by twenty character vacuum fluorescent display
- Optional: 10.1" color touchscreen display replaces the standard display shown.
- Can control up to four sets of operator stations
- Operates at 24VDC, 110VAC, or 240VAC / 440VAC
- Major faults such as E-Stop, motion, brake monitor, and sensor faults are handled by two force-guided relays (Form B safety relays)
- 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
- 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
- 90º and 270º stop time tester/meter built-in
- Built-in variable speed compensation
- Servo-feed interface built-in
- Six optically isolated die protection inputs that can be either AC or DC (sourcing or sinking) (Expandable)
- Six limit switch outputs can be set to cycle (non-timed) two times per crank rotation by setting an open/close crank angle (Expandable)
- The last three limit switch outputs can be set for timed, non-timed, delay, hold, or cycle two times per crank revolution.
- Six PLS (programmable limit switch) output relays are small, high speed, and high capacity. These outputs can be controlled by the press crank angle position, dwell time, number of strokes or any combination of the above. (Expandable)
- Optional "Expander" board provides an additional six Die Inputs and six Programmable Outputs.
- 100 job memory (removable)
- Stroke, batch, quality, and part counters
- Batch counter output relay
- Die protection output relay (opens when there is a fault)
- Speed output relay (opens when press speed falls out of the max/min parameters)
- Auxiliary output relay (customer assigned usage)
- Optional Ethernet or CAN network
- Remote monitoring with Ethernet
- PC Link to allow offline job creation and storage
- Optional Tonnage Monitoring
- Two-year warranty
- Made in the USA

<u>**Optional**</u> **- 10.1" Touchscreen replaces Standard Display shown above left. Includes Production Monitoring to create OEE.**

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

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

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.

<u>Size</u>

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.

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

PressCommander RSD

1 2 3
4 5 6
7 8 9
Lock 0 Reset Fault

ENTER

PAGE

PLS/DIE   Tonn/Servo   Other

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Job #: ___

Operator #: ___
Strokes: ___
Batches: ___
Quality: ___
Press Status: ___

Job Name: ___
Parts: ___
Batch Size: ___
Quantity Left: ___

Brake Monitor (mSec)
Last Stop: ___
Warn Set: ___
Fail Set: ___

Production/Downtime Monitoring
Run Time: ___ PPT: ___
Downtime: ___ MPR: ___
Standby Time: ___ Avail: ___
Good PR: ___ Perf: ___
OEE: ___

Operator Downtime Reason Code

POS.

ANGLE ___
SPM ___
SHUT HEIGHT ___

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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

PressCommander RSD

PressroomElectronics™

Operator #: 0   Job #:1   Job Name: iob3

Strokes: 2319   Parts: 1486

Batches: 0   Batch Size: 0

Quality: 0   Quantity Left: 0

Press Status: SINGLE

Brake Monitor (mSec)

Last Stop: 196
Warn Set: 275
Fail Set: 400

POS.

ANGLE
008°

SPM
000

Production/Downtime Monitoring

Run Time: 0000:21:20   PPT: 0200
Downtime: 0000:00:00   MPR: 100
Standby Time: 0000:03:28   Avail: 97%
Good PR: 03959 /hr   Perf: 65%
OEE: 63%

Operator Downtime Reason Code

SHUT HEIGHT
+01.523

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1 2 3
4 5 6
7 8 9
Lock 0

Reset Fault

ENTER

PAGE

PLS/ DIE   Tonn/ Servo   Other

Connection Status > Receiving data v2.4

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

PressCommander RSD

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NAME	Spd	CLS-OPN	CLS-OPN	DLY-HLD	CLS-TIM	PLS
1 LUBE		100-200	000-000	000-000	000-000	
2 CHUTE		100-200	000-000	000-000	000-000	
3 PILOT		170-190	000-000	000-000	000-000	
4 LS4		000-000	000-000	000-000	000-000	
5 LS5		000-000	000-000	000-000	000-000	
6 LS6		000-000	000-000	000-000	000-000	

NAME	TYPE	STP BGN-END		WND	FLT	DIE
1 EJECT1	MOM	E	000-000			
2 EJECT2	MOM	E	000-000			
3 PNP	MOM	E	000-000			
4 EOS	MOM	E	000-000			
5 SEN5	MOM	E	000-000			
6 SEN6	MOM	E	000-000			

KEY

PLS * = RLY ON

Spd * = Speed Comp ON

CLS-OPN = In DEG.

DLY-HLD = Cycles

TIM = Time in 100thSec

7-12

PAGE: Main | Tonn/Servo | Other

Connection Status > Receiving data v2.4

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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

PressCommander RSD

1	2	3
4	5	6
7	8	9
Lock	0	Reset Fault

ENTER

PAGE

Main | PLS/DIE | Other

Connection Status > Receiving data v2.4

359° **000 SPM**

Pressroom Electronics™

Machine Tonn: 200

Tonnage Monitor

	Last	High	Low	Min	Max
Left Rear:	023	000	000	001	050
Right Rear:	013	000	000	001	050
Left Front:	000	000	000	000	000
Right Front:	000	000	000	000	000

Servo:	Indramat
Speed:	090%
Accel:	085%
Length:	50.125"
Option:	0°

CH1
CH2

200
180
160
120
100
050
0

Tonnage Record

START

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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

PressCommander RSD

1	2	3
4	5	6
7	8	9
Lock	0	Reset Fault

ENTER

PAGE

Main   PLS/DIE   Tonn/Servo

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Press Control (deg)

Min Speed:	000	pclink:		Stop:	285°		000°
Max Speed:	150	Job Rst:		By-Pass:	180°
Motion Det:	0.3			Limit:	020°
Spd Comp:	0°	Spd On:		Die-Tstp:	000°

OPTO INPUTS

01100000   10000110   11101000   00000010

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Press setup parameters

Fault Message Screen

PressCommander RSD

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FAULTS:

DRIFT FAULT	(Press detected in motion, but not activated)
RESOLVER FAULT 2	(Cable problem or Analog circuit failure)
RESOLVER FAULT 3	(Cable problem or Analog circuit failure)
M/S ANGLE MISMATCH	(Master and Slave press angles don't match)

(Sample of fault messages.)

Keypad: 1 2 3 4 5 6 7 8 9 0

Reset Fault

Lock

ENTER

PAGE

Main   Tonn/Servo   Other

PLS/DIE

Connection Status > Receiving data v2.4

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

Downtime and Production Monitoring Screen

PressCommander RSD

1	2	3
4	5	6
7	8	9
Lock	0	Reset Fault

ENTER

PAGE

Main | Tonn/ Servo | Other

Connection Status > Receiving data v2.4

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Touch a Red Downtime Button to Log the Reason

Downtime Reason #1	Downtime Reason #2	Downtime Reason #3	Downtime Reason #4
Test	Downtime Reason #6	Downtime Reason #7	Downtime Reason #8
Downtime Reason #9	Downtime Reason #10	Downtime Reason #11	Downtime Over #12

Add / Edit Reason Description(s)

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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

PressCommander RSD

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Touch a line to Add / Edit Downtime Button Reason

1 Downtime Reason #1
2 Downtime Reason #2
3 Downtime Reason #3
4 Downtime Reason #4
5 Test
6 Downtime Reason #6
7 Downtime Reason #7
8 Downtime Reason #8
9 Downtime Reason #9
10 Downtime Reason #10
11 Downtime Reason #11
12 Downtime Over #12

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1 2 3 4 5 6 7 8 9 0

Reset Fault
Lock
ENTER
PAGE
Main Tonn/Servo Other

Connection Status > Receiving data v2.4

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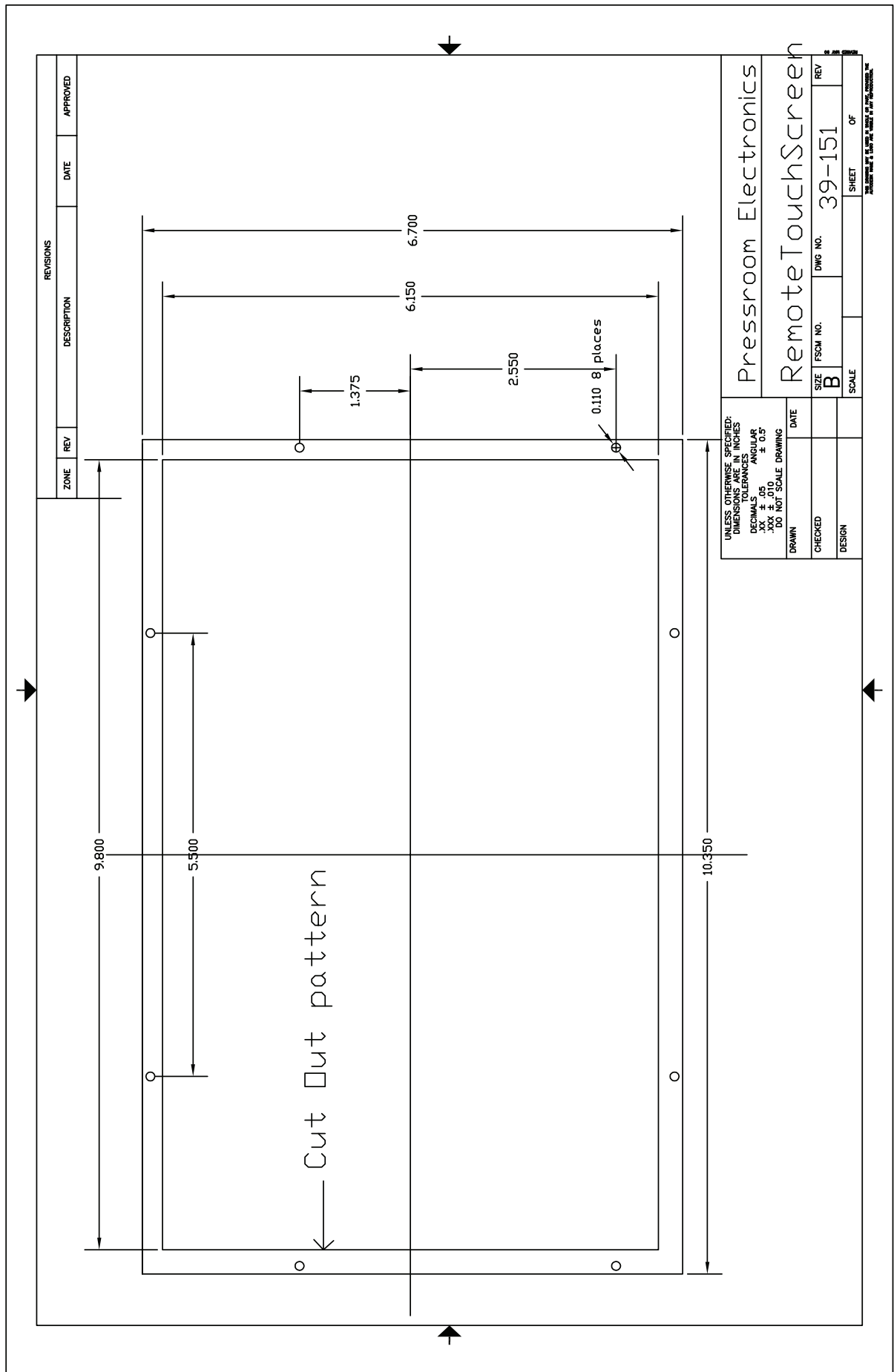
• Understanding the Mechanics: As with anything new, the users will go through a short period of time to understand the inputs to and the resultant outputs from the system.

• 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

Cut Out pattern

6.700

6.150

2.550

1.375

0.110 8 places

9.800

5.500

10.350

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS   ANGULAR
XX   ± .05   ± 0.5°
XXX ± .010
DO NOT SCALE DRAWING

DRAWN   DATE

CHECKED

DESIGN

Pressroom Electronics

RemoteTouchScreen

SIZE FSCM NO.   DWG NO.   REV
B   39-151

SCALE   SHEET   OF

ZONE	REV	DESCRIPTION	DATE	APPROVED
		REVISIONS		

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.

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.

Various Models of PressCommander
Resolver Based Punch Press Controls

Touchscreen is optional for all models.

PCS-05*

Shown with Panel Mount
Message Display

The Board Only Commander Module
The redundant clutch/brake punch press control module with a remote panel mount message display (available in English or Spanish).

Resolver Transducer
Shown with 30' connector cabling supplied standard

Model PCS-05 includes:
• Master Board
• Slave Board
• Power Supply Board
• Diagnostic Message Display
• Connecting Cables
• Cover/Hardware
• Software (Master) microprocessor
• Software (Slave) microprocessor

PCS-08*

The redundant clutch/brake punch press control module with a remote panel mount message display (available in English or Spanish). Also included are all of the switches, legend plates, push buttons, and indicator lights for easy mounting into your existing control.

Model PCS-08 includes:
• Master Board
• Slave Board
• Power Supply Board
• Diagnostic Message Display
• Connecting Cables
• Cover/Hardware
• Software (Master) microprocessor
• Software (Slave) microprocessor

Resolver Transducer
Shown with 30' connector cabling supplied standard

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

Indicators & legend plates for:
• System on
• Ground fault
• Brake monitor
• Interrupted stroke provision

PCS-10*

The compact Model PCS-10 is big in safety and automation control. The redundant clutch/brake punch press control module has a remote panel mount message display (available in English or Spanish).

Resolver Transducer
Shown with 30' connector cabling supplied standard

Shown with Panel Mount
Message Display

Model PCS-10 includes:
• Control reliable design (triple CPU redundancy)
• Diagnostic Message Display
• Fused transformer
• Control Module pre-wired to terminal strip
• Pressure clamp terminal strip
• Mounted on an 18" (457mm) 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
• 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 modules and resolver

Various Models of PressCommander
Resolver Based Punch Press Controls

PCS-20*

Model PCS-20 encompasses all of the features and components of Model PCS-10 plus all of the switches, legend plates, push buttons, and indicator lights for easy mounting into your existing control.

Resolver Transducer
Shown with 30' connector cabling supplied standard

Model PCS-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

Touchscreen is optional for all models.

PCS-2000*

Left End
"LE"

Panel Door
"PD"

Right End
"RE"

The Model PCS-2000 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, a main power disconnect switch and magnetic motor starter can be supplied in the same control panel.

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

Our ordering/proposal form will allow you to configure your system exactly how you want it.

Resolver Transducer
Shown with 30' connector cabling supplied standard

Model PCS-2000 includes:
• NEMA 12 Enclosure

• System Start Guarded Push Button (Air and Power Interlock)

• System Stop Unguarded Push Button

• System On Indicator Light

• Plain English messages for status and system self-diagnostics

• 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.

• Time-Based Brake Monitor

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

• Continuous Arm Timer

• Fused Secondary Pressure Clamp Terminals

• Hand/Foot Mode Two position keyed selector for hand or foot mode initiation.

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

• Interrupted stroke provision

• Keyed Mode Selector Off-Inch-Single- Continuous Four 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. Microinching and Automatic External Trip optional.

PCS-4000 Resolver Based Punch Press Control & Components

Touchscreen is optional.

PCS-4000*

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 Standard B11.1-2009.

When foot actuation is used, a method of guarding the point of operation must be provided.

Refer to the PressCommander Options in this catalog for a complete listing of the PCS-4000 features.

*Includes the same features as the PressCommander listed on page A9. Each model varies slightly in it's packaging. See individual product descriptions for details.

PCS-4000 includes the following:

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 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

Industrial Grade Brushless Resolver Transducer Part No. 40-003
Heavy duty brushless resolver transducer which replaces the current mechanical rotary cam switch. Resolver Cabling 30' Part No. 45-020

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.
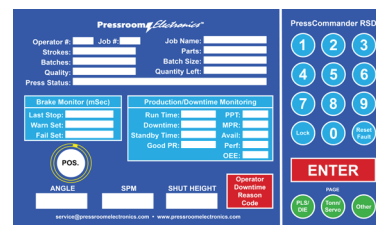
☐ **PCS-10**

*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   **Above 500 SPM Press Speed**

Qty.   **Qty.**

☐ **PCS-05**   ☐ **PCS-05-OPTO**

☐ **PCS-08**   ☐ **PCS-08-OPTO**

☐ **PCS-10**   ☐ **PCS-10-OPTO**

☐ **PCS-20**   ☐ **PCS-20-OPTO**

☐ **PCS-2000**   ☐ **PCS-2000-OPTO**
Specify Operator Control Location on Control Panel: Specify Operator Control Location on Control Panel:
   ☐Left End   ☐Panel Door ☐Right End   ☐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 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 (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.
<u>Size</u>
☐ 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.

Replacement Parts for PressCommander Resolver Based Controls
(All Models/Styles)

REPLACEMENT PARTS LISTING

Part Number	Description
11-157	Panel Mount (with Gasket)
11-167	Shield cover for Display unit
11-168	Shield cover for master/slave/power board stack
20-022	1A Slo-Blo nano SMF fuse
20-023	5A Fuse (white nano)
26-091	Display Overlay
30-009	Tonnage Controller (3 or 4 channel)
30-010	Tonnage Sensor & 35' of cable
30-013	Tonnage Controller (1 or 2 channel)
32-002	Output Relay (black G6B-1174P)
32-006	Output Relay (black G6B-2114P)
32-101	4 pole 12 VDC (clear KACO safety relay)
35-111	Ethernet Module with software (factory installed & replaced)
35-065	EEPROM Job memory chip (100 jobs) (59 jobs with optional expander board)
35-120	Job memory chip for the PressCommander only (150 jobs) (100 jobs with optional expander board)
37-040	Solid State output relay (factory installed and replaced)
39-151	10.1" color touchscreen
39-084	RUN/PROG keyswitch, key, and cable
45-020	Resolver cable (30') with connectors
45-027	Display data/power cable (6' standard size)
45-029	Display data/power cable (15' extended length for remoting Display unit)
52-227	Resolver unit (no cable) (formerly 40-003)
52-245	PCS Display board (with job memory and VFD display)
52-246	PCS Master board
52-247	PCS Slave board
52-248	PCS Power supply / Relay output board (with relays and fuses)
52-251	Ribbon Cable Assembly
52-271	Master/Slave 9 conductor Input Cable (4.5')
52-279	Expander Board (requires DeviceNet Plug on back of Display Unit)
52-280	Expander Power supply (stacks under Expander board)

Custom Programming & Remote Field Upgrades

The entire Pressroom Electronics product mix has the capability to have our factory personnel create special programs or functions for your unique machine application. Additionally, when your customized program or function is completed, we simply send you an encrypted electronic file to download into your Pressroom Electronics product via the onboard USB port provided. This simple, easy, cost efficient procedure will enhance your machine utilization, and most importantly, it's safe.

Consult your Pressroom Electronics distributor or our factory to turn your customized application in to a reality. You may contact our factory direct through the contact information below.

Phone: (630) 443-9320
Email: service@pressroomelectronics.com

NOTES

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Machine Safeguarding Products

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Safety Interlock Switches
and Rope Pull Switches

Fencing with
Interlocks

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Modules
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Safety Mat Systems

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- Safety Interlock Switches (explosion proof)
- Fencing with Interlocks
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- OSHA and ANSI Compliant Controls

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- Plant Surveys and Risk Assessment
- Stainless Steel Enclosures Available
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    - 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

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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.

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