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*

Shown with Panel Mount
Message Display

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

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**

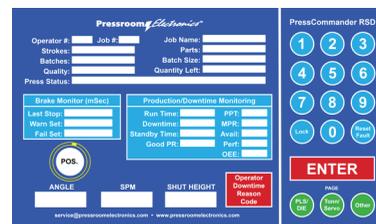*Components mounted on a blackplate. Prewired to terminal strip.

☐ **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 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.
   <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.