

# Punch Press Automation Controllers

## PressCam 8 Junior and PressCam 8



**Pressroom**  *Electronics*™

# Punch Press Automation

## Feature Comparison of PressCam 8 Junior and PressCam 8

	PressCam 8™ Junior	PressCam 8™
Diagnostic Display	Vacuum Fluorescent (4 lines/20 characters)	Monochrome LCD Display (8" diagonal screen)
Ease of Programming	Cursor/Key Pad	Tuning Knob
Control Reliable System	No	Yes
Limit Switch Outputs	6	11
Die Protection Inputs	6	16
Number of (non-timed) events per crank rotation	2	3
Number of Jobs Stored in Memory	100	100
Memory Chips Removable (sockets)	Yes	Yes
Brake and Die Sensor Inputs optically coupled AC or DC (sourcing or sinking)	Yes	Yes
Length of Name of Job (characters)	7	13
Motion Detection Lack of (Motion Fault) Unintended (Drift Fault)	Yes	Yes
Brake Monitoring (Time-Based)	Yes	Yes
SPM Indicator (strokes per minute)	Yes	Yes
Servo Feed Interface	Yes	Yes
Counters: Stroke, Batch, Quality, and Part	Yes	Yes
Password and/or Supervisory Controlled Selector Switch	Yes	Yes
PCLink to allow off-line job storage and creation	Yes	Yes
Speed Compensation of User Selected Outputs	Yes	Yes
Tonnage monitoring	N/A	Optional
Resolver & Cable Supplied	Yes	Yes
Built-in 90° and 270° stop time tester	Yes	Yes



PressCam 8  
Junior

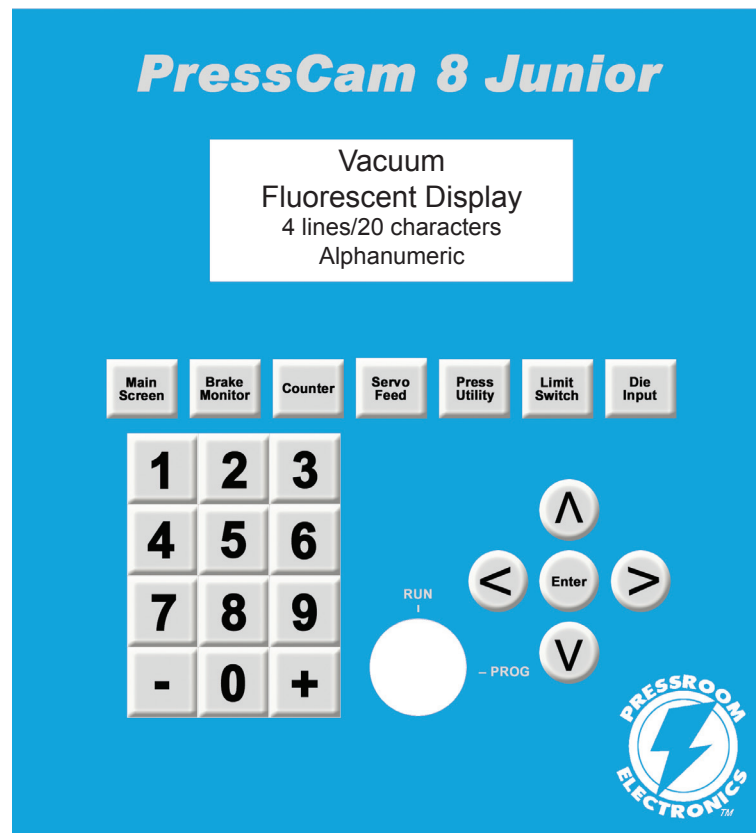


PressCam 8

For OSHA and ANSI Compliant Clutch/Brake Press Controls, please see the PressCommander.

# Punch Press Automation

## PressCam 8 Junior Layout



## Design Features

- All six Limit Switch Outputs can be set to cycle (non-timed) two times per crank rotation by setting an open / close crank angle.
- The last three outputs can be set for timed, non-timed, delayed, and hold or cycled two times per crank revolution.
- Major faults such as E-Stop, motion, brake, and sensor faults are handled by two force-guided relays (Form B Safety relays).
- The six outputs are small, high-speed, high-capacity relays.
- Brake and die sensor inputs are optically coupled and can be either AC or DC (sourcing or sinking).
- Up to 100 Jobs can be saved using a nonvolatile memory chip. The memory chip is removable for ease of transfer. Each Job Number stores a name and/or number up to 7 characters for easy identification.
- Built-in Brake Monitor will issue a warning when the programmed warning time is exceeded and will issue a failure signal when programmed stop time is exceeded.
- True Motion Detection system checks for lack of motion (Motion Fault) and unintended motion (Drift Fault).
- SPM Indicator (Strokes per Minute).
- Crank angle shown graphically and in large numbers.
- Speed compensation of user selected outputs.
- Servo feed interface.
- Stroke, Batch, Quality, and Part Counters to keep track of operation.
- Password and/or Supervisory Controlled Selector Switch to prevent altering of parameters, except for the counters.
- PCLink to allow offline job creation and storage.
- Built-in 90° and 270° stop time tester.

# Punch Press Automation

## PressCam 8 Junior

### Overview



The PressCam 8 Junior is a resolver-based press automation controller that incorporates a programmable cam limit switch, timed-based brake monitor, servo feed control, four counters, and a die protection system. The PressCam 8 Junior is controlled by a 16-bit computer that constantly checks the resolver for accuracy.

The PressCam 8 Junior has a keypad, menu, cursor buttons (for easy navigation and operation), and a four line (20 characters each line) vacuum fluorescent display for easy viewing purposes.

A “RUN/PROG” keyswitch is also provided where, while in the “RUN” mode, you are not able to alter any parameter or job change. The “RUN” mode only allows the user to clear counters and reset die sensor faults. In the PROG mode, the Die Faults do not open up the fault relays which allows for die setups. All other faults will cause the fault relays to open. If the password feature is enabled, you must first enter in the three digit password in order to pass into the PROG mode to allow parameter changes.

### Industrial Grade Brushless Resolver Transducer



The heavy duty brushless resolver transducer replaces the current mechanical rotary cam switch. This unit was designed for hostile industrial environments such as punch press mechanical shock and vibration, extreme temperature and humidity, oil, coolant, and lubrication mists. The resolver transducer features excellent repeatability and gives absolute shaft position feedback. High speed operation along with long transducer cable (runs up to 600 feet/183m) give the resolver transducer wide application ranges. The resolver transducer is a passive device which contains no sensitive electronics and has superb noise immunity.

The resolver mounts easily to an end of a crankshaft and can rotate clockwise or counter-clockwise. Simple connector ended transducer cabling is supplied to connect the resolver to the PressCam 8 Junior controller console. The PressCam 8 Junior’s microprocessor-based control constantly monitors the resolver position and displays both the angular position of the shaft and speed of the machine (tachometer). 3/4” (19 mm) resolver shaft diameter.

# Punch Press Automation

## PressCam 8 Junior

### Specifications

#### Input Power: 3 Voltage Ranges:

24VDC (optional)  
120VAC (standard)  
240VAC (optional, jumper selectable)  
All AC voltages work with 50 or 60 Hz  
10 watts with all relays on

#### Fuses:

<i>I/O Board:</i>	F1 to F8	LS Outputs	5A Fast Blow (20-023)
	F7	Power	1A Slow Blow (20-022)
	F9 to F15	Die Inputs	5A Fast Blow (20-023)
	F35	12VDC	5A Fast Blow (20-023)
<i>Computer:</i>	F1	Power	5A Fast Blow (20-023)

#### Indicators:

*Computer:* Vacuum Fluorescent 4 lines/20 characters  
-5V (GRN) D10

#### *I/O Board:*

8 Optically coupled inputs (RED):  
Power ON D22  
Brake D21  
Die 1-6 D15-D20  
6 LS Outputs (GRN)  
LS1-6 D1-D6

#### Set Points:

Stroke Count:	0 to 999,999	strokes
Batch Count:	0 to 999,999	strokes
Quality Count:	0 to 999,999	parts
Part Count:	0 to 4	parts/stroke
	0 to 999,999	parts total
Batch Size:	0 to 999,999	strokes
Limit switch angle:	0 to 359	degrees
Limit switch timer:	0 to 9999	milliseconds
Die sensor angle:	0 to 359	degrees
Speed Compensation	0 to 99	degrees
Minimum Speed:	0 to 999	SPM
Maximum Speed:	0 to 999	SPM
Brake Warning:	1 to 999	milliseconds
Brake Failure:	1 to 999	milliseconds
Brake Actual:	1 to 999	milliseconds (+/- 1 millisecond accuracy)
Motion:	0 to 5.9	seconds (1/10-sec increments)
Drift:	preset to 2	SPM (1/10 SPM increments)
Crank Angle:	0 to 359	degrees (1-degree increments)
SPM:	0 to 999	strokes/minute (+/- 1 SPM accuracy)

#### Construction

##### *Stand Alone Unit:*

All 18 gauge painted steel NEMA 12 lockable box with sealed front panel  
Dimensions:  
7 1/4" (184mm) width; 9" (229mm) height; 3 1/4" (83mm) depth

##### *Panel Mount Unit:*

All 18 gauge painted steel NEMA 12 with gasket around edge.  
Dimensions: 6 1/2" (165mm) width; 7 1/8" (181mm) height

#### Temperature Range

0 to 50°C

#### Resolver

+/- 1° Resolution up to 600 RPM (+/- 2° Resolution from 601 to 1000 RPM)  
Shaft loading: Radial 400 lbs., Axial 200 lbs. - 3/4" (19mm) diameter shaft  
Standard cable 30' (9m). Maximum length of 600' (183m).

# Punch Press Automation

## PressCam 8 Junior

### Main Screen

The Main Screen allows for Job Selection and Naming, Parts, and Batch Count.

```
Job: 00

Parts: 000000
Batches: 000000
Angle: 000 SPM: 000
```

### Brake Monitor

In RUN Mode, the screen displays the Last Stop Time (in mSEC) and Last Dwell angle (in degrees).

```
Last Stop Time= 000
Last Stop Time= 000
```

In PROG mode, the original screen is displayed but with the Dwell angle added to the bottom line of the screen.

```
Warn= 000 Fail= 000
Motion Det= 0.0 sec
90° - 270° test
Dwell= Time= 000
```

### Counter

The PressCam 8 Junior provides four types of counters: Stroke, Batch, Quality, and Part. When programmed, a counter will increment each time a part is ejected from the machine. When the programmed value is met, the controller will initiate an action.

```
Strokes: 000000
Parts: 000000 /1
Batch size: 000000
Quality: 000000
```

### Servo Feed

Each PressCam 8 Junior job stores individual Servo Setup information and outputs through the RS-232 every time the unit is powered up, after you exit from the Servo Setup screen and after a job change. The Servo Setup screen can be accessed only while in PROG mode.

```
Speed 1-100: 000
Accel 1-100: 000
MPC 1-100: 000
Feed Len.: 000.000
```

### Press Utility

This screen allows you to program the following settings: speed compensations, minimum speed, maximum speed, clear job, top dead center, PC link, and set password.

```
Speed comp: 000
Min= 000 Max= 000
ClrJob SetTDC
PCLink Pasword 000
```

### Limit Switches

The following screen monitors the status of all six relay outputs as well as displays the current crank angle.

```
LS1 LS4
LS2 LS5
LS3 LS6
ANGLE: 000 MONITOR
```

### Cyclical Outputs

```
S CLS-OPN CLS-OPN
LS1 000-000 000-000
LS2 000-000 000-000
LS3 000-000 000-000
```

```
S CLS-OPN CLS-OPN
LS4 000-000 000-000
LS5 000-000 000-000
LS6 000-000 000-000
```

### Cycle Delay & Hold Outputs

	DLY CY	HLD CY
LS4	000	000
LS5	000	000
LS6	000	000

### Timed Outputs

	STRT ANG	HLDmSEC
LS4	000	0000
LS5	000	0000
LS6	000	0000

### Die Input

A unique name can be created for six die sensors (SEN1-SEN6) in the PROG mode while viewing the die monitor screens.

	TYPE	BGN END
SEN1	MOM	000-000
SEN2	MOM	000-000
SEN3	MOM	000-000

	TYPE	BGN END
SEN4	MOM	000-000
SEN5	MOM	000-000
SEN6	MOM	000-000

The Die Status Screen allows you to run the press and see when die sensors activate relative to press angle.

SEN1	*	SEN4
SEN2		SEN5 *
SEN3	*	SEN6
ANGLE: 000		MONITOR

# Punch Press Automation

## PressCam 8 Junior Overview/Ordering Procedure



The PressCam 8 Junior is a resolver-based press automation controller that incorporates a programmable cam limit switch, timed-based brake monitor, servo feed control, four counters, and a die protection system. The PressCam 8 Junior is controlled by a 16-bit computer that constantly checks the resolver for accuracy.



PressCam 8 Junior (all styles, Front panel & Stand alone). Includes resolver and cable

### ORDERING PROCEDURE

1. Specify Mounting Style
  - F ..... Front Panel Mounting to be installed in an existing control panel.
  - C ..... Stand alone NEMA12 enclosure
2. Specify Controller input power
  - 1 ..... 24VDC
  - 2 ..... 120VAC 50-60Hz
  - 3 ..... 240VAC 50-60Hz
3. Specify Clutch/Brake Valve Voltage
  - 1 ..... 24VDC
  - 2 ..... 120VAC 50-60Hz
4. Resolver Connector Cabling
  - 30' (9m) of cable with connectors is supplied standard. If additional length is needed, specify in feet, 150' (46m) maximum.

### EXAMPLE PART NUMBER

JR
-
C
-
2
-
1
-
30'

Mounting Style
Input Power
Clutch/Brake Valve Voltage
Resolver Cable

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

Part Number	Description
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 die protection sensors or other auxiliary devices

# Punch Press Automation

## PressCam 8 Junior

### REPLACEMENT PARTS LISTING

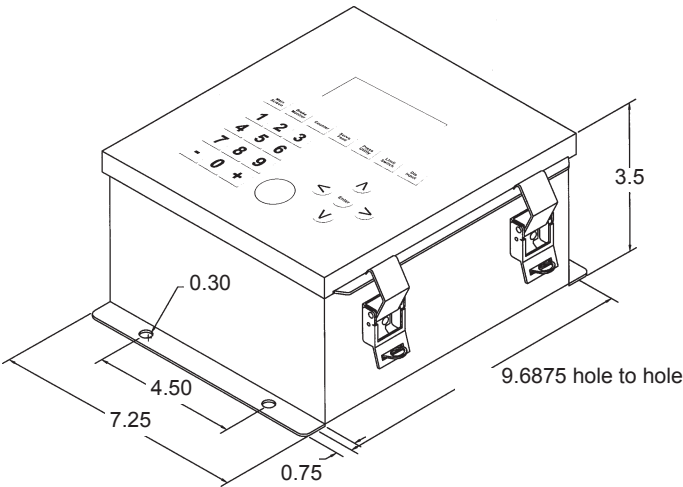
<b>Part Number</b>	<b>Description</b>
11-157	Panel Mount (with gasket)
11-158	Metal Box enclosure (with gasket)
11-160	Aluminum Shield cover for computer board
18-008	Vacuum fluorescent display (must be factory installed)
20-022	1A Slo-Blo nano SMF fuse
20-023	5A Fuse (white nano)
26-084	Graphic overlay skin
32-002	Output Relay (black G6B-1174P)
32-006	Output Relay (black G6B-2114P)
32-101	4 pole 12 VDC (clear KACO safety relay)
35-065	EEPROM Job memory chip (100 jobs)
39-084	RUN/PROG keyswitch, key, and cable
45-020	Resolver cable (30') with connectors
52-205	Junior computer board (with job memory)
52-206	Junior Power supply / Relay output board (with relays and fuses)
52-227	Resolver unit (no cable) (formerly 40-003)



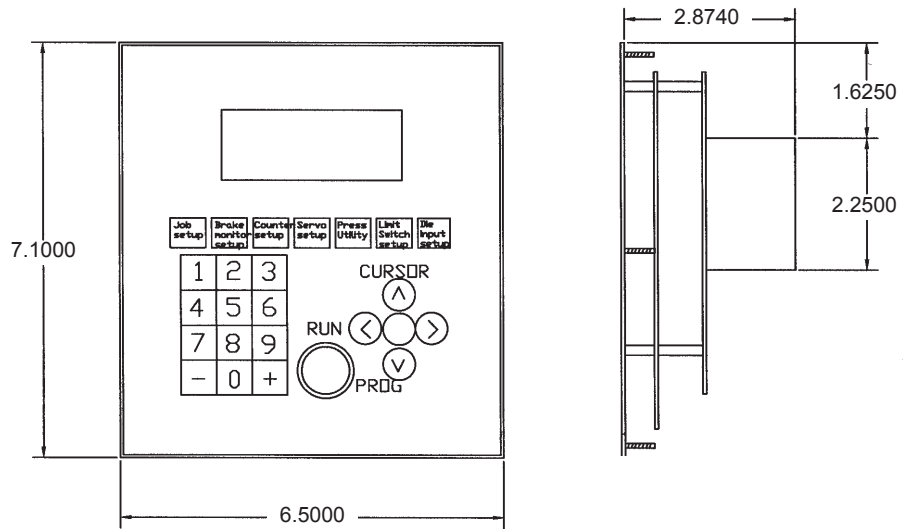
# Punch Press Automation

## PressCam 8 Junior

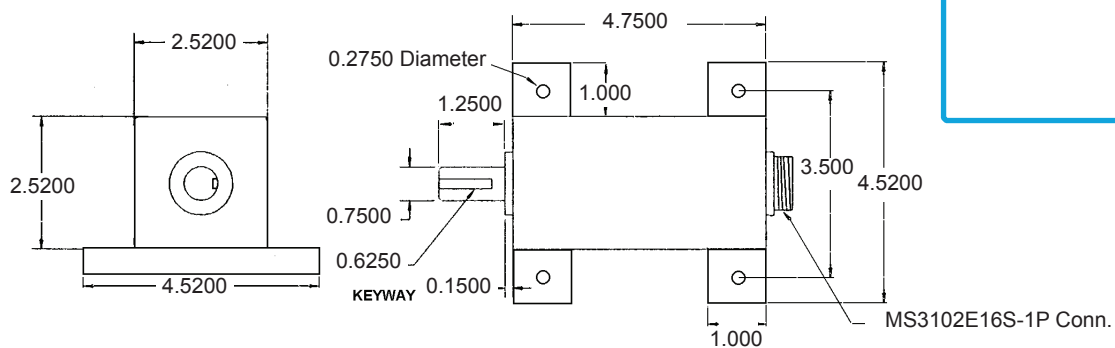
### Dimensions



PressCam 8 Junior shown installed in a stand alone NEMA 12 (IP64) lockable enclosure



PressCam 8 Junior Front Panel Mount Cut-Out Dimensions



Resolver Transducer

# Punch Press Automation

## PressCam 8

### Design Features

- “Control Reliable” design, utilizing two 16-bit computers, provides ultimate pressroom safety in automation.
- Operator “full view” of system status means no getting lost during programming.
- PressCam 8’s two 16-bit computers are configured to cross check each other and the resolver.
- All safety function faults utilize three monitored captive contact safety relays for the outputs related to motion detection, brake monitoring, and system self-checking (Form B safety).
- Non-volatile job memory of 100 stored programs recalled by job die number for all system functions.
- Eleven programmable limit switch outputs with multiple ON/OFFs per press cycle.
- Outputs can be solid state (AC or DC) or mechanical relays.
- Supervisory controlled RUN/PROG keyswitch with password protection.
- Built-in time-based brake monitor can issue warnings or a stop command when actual stopping time exceeds programmed set points.
- Built-in motion detection fault output should the press not start moving within the timed set point after the brake signal is given.
- Built-in drift detection fault output if the press moves when it should not.
- Built-in 90° and 270° stop time tester.
- PressCam 8’s cloning feature allows multiple PressCam 8 units to link via RS-232 for job copying.
- Contrast adjustment of the LCD computer screen.
- Automatic offset programming.
- Built-in press tachometer (SPM).
- Optically isolated AC and/or DC inputs (sourcing or sinking).
- Parts counter which can be programmed from 1 - 4 parts per press cycle for multiple out dies.
- Large 8” (203mm) diagonal computer screen (LCD).
- Unique digital programming knob acts like a PC mouse and eliminates keypad programming.
- The “control reliable” PressCam 8 can be used to supply the timing signals for the clutch/brake press control.
- Complete system diagnostics with plain English fault messages on the operator screen enhances productivity.
- PressCam 8 programs can be field upgraded or customized using a PC computer with a standard serial port.
- Four programmable timed limit switch outputs that can be position based or timed from 0 to 9999 milliseconds.
- Four Counters: Strokes, Parts, Batch, and Quality.
- Built-in power supply for input sensors (+12VDC).
- Built-in servo feed interface.
- Crank shaft angle displayed in degrees with a graphic shaft angle clock.
- Utilizes surface mount technology.
- Job memory chips are socketed for easy transfer to other units if desired.
- Programmable minimum and maximum speed limits with captive contact safety relay output (Form B safety).
- Programmable variable speed compensation.
- Punch press clutch/brake timing signals protected from tampering.
- Optional peak tonnage monitoring up to 4 channels.
- Compact in size.





# Punch Press Automation

## PressCam 8

### Overview

PressCam 8 is a “control reliable” resolver-based programmable cam switch, time-based brake monitor, die protection system with multiple counters and much more in one package. The system contains two 16-bit computers that are configured to cross check each other and the resolver. The dual computers are interfaced with a full view 8" (203mm) diagonal LCD computer screen for viewing and programming ease. This large operator screen (shown on the next page) supplies operators and front line supervisors production data without the need of cumbersome menu and program access codes.

All system faults generate descriptive plain English error messages on the computer screen. This provides floor personnel fast and reliable information related to the machine stoppage. The system is also provided with special watchdogs that turn off fault outputs should either computer become erratic. The software and system customization in both computers can be upgraded in the field using a PC computer with a standard serial port.

Programming PressCam 8 is so easy that you do not need a keypad, keyboard, or cumbersome programming techniques.

### Operator Screen

A large 8" (203mm) diagonal LCD computer screen is standard equipment on the PressCam 8. This single component brings the intelligence of the dual computer system to the punch press control panel providing positive system status interaction with the machine operator.

The screen brightness (contrast) is also adjustable so it can be easily read even when installed in dark areas.

### Digital Programming Knob

This innovative device replaces keypads or keyboards for programming the PressCam 8. The programming knob works similar to a computer mouse. Simply turn the knob to the highlighted field or program you desire then push. Your program is accessed with no keystrokes. By turning the knob, the appropriate numbers or letters appear on the highlighted screen to program the specific function you desire. Push again, your programming is completed! Additionally, no information can be programmed if it is not applicable to the specific function or operation.



### Industrial Grade Brushless Resolver Transducer

The heavy duty brushless resolver transducer replaces the current mechanical rotary cam switch. This unit was designed for hostile industrial environments such as punch press mechanical shock and vibration, extreme temperature and humidity, oil, coolant and lubrication mists. The resolver transducer features excellent repeatability and gives absolute shaft position feedback. High speed operation along with long transducer cable (runs up to 600 feet/183m) give the resolver wide application ranges. The resolver is a passive device which contains no sensitive electronics and has superb noise immunity.

The resolver mounts easily to an end of a crankshaft and can rotate clockwise or counter-clockwise. Simple connector ended transducer cabling is supplied to connect the resolver to the PressCam 8 controller console. The PressCam's microprocessor-based control constantly monitors the resolver position and displays both the angular position of the shaft and speed of the machine (tachometer). 3/4" (19 mm) resolver shaft diameter.

# Punch Press Automation

## PressCam 8

### Programming Screen

<b>JOB # 65</b>		<b>DIE No. 536</b>		<b>LS/OUTPUTS</b>			<b>DIE SENSORS</b>			
Stroke Count	19	Batch Count	0	Quality Count	300	Part 4 Count	612	1	*	staticNO
Batch Size	190	Reset All Faults		Adjust Contrast		Running Time		2		staticNO
Die Sensor Setup		Limit Switch Setup		Servo Setup		Tonnage Setup		3		momen.
Press Utility		Speed Comp.	20°	Minimum Speed	4 SPM	Maximum Speed	129 SPM	4		FAULT
								5		
								6		
								7		
								8		
								9		
								10		
								11		
								12		
								13	*	COUNTER
								14	*	DIE FLT
								15	*	SPEED
								16	*	GF1
										GF2

230°  
123 SPM

BRAKE MONITOR SETPOINTS				
WARN	FAIL	ACTUAL	MOTION	90° Stop Test
50msec	100msec	0msec	0.5sec	

Screen Actual Size

Shown above is the actual screen size and information available to the press operator on the PressCam 8 Programming Screen. No longer is it necessary to scroll through various menus and programming techniques to view data. The Programming Screen also provides an active “tool bar” for your press set-up personnel to quickly access the specific function they so desire. As one can see, a tremendous amount of production data can be obtained by simply viewing this single operator screen.

System simplicity is a dominant feature of the PressCam 8. By viewing the above screen, information can be obtained for four different counters, reset all faults, adjustment for screen contrast, die protection information, programmable limit switch information, shaft angle displayed in degrees, stroke per minute (SPM), and brake monitoring information.

Additionally, system fault messages are displayed in the area above the brake monitor setpoint section when they occur.

# Punch Press Automation

## PressCam 8

### Die Protection

Sensor			Event Window		Sensor			Event Window	
Name	Type	on	Begin	End	Name	Type	on	Begin	End
Sen 1	N.C.	*			Sen 9				
Sen 2	N.O.				Sen 10	Moment	*	20°	301°
Sen 3	Moment		100°	150°	Sen 11				
Sen 4	Maintain N.O.				Sen 12				
Sen 5	Maintain N.C.				Sen 13				
Sen 6					Sen 14				
Sen 7					Sen 15				
Sen 8					Sen 16				

EXIT (return back to main screen)									
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**DIE SENSOR SETUP**  
**PRESSCAM 8**

Screen Actual Size

The Die Protection Screen shown above is what your programmer will see when entering the die protection program. PressCam 8 provides sixteen different die protection sensor inputs that may be programmed for both cyclic and/or static function monitoring.

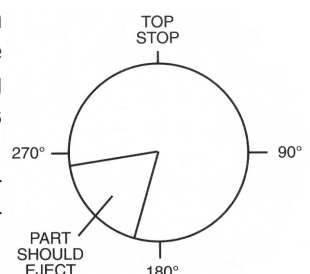
Cyclic function monitoring requires that an input sensor signal occur within a certain programmed shaft angle on each press cycle (e.g., part eject, part transfer).

Static monitoring is used for non-cyclic events such as end of material or stock buckle monitoring.

A fault output will occur if an input transition is not detected between the programmed limit set points (e.g., a part is to be ejected out of the die between 190° and 250° of the machine cycle). If the part is not detected within these parameters, a fault or stop signal is given to stop the machine.

To program, simply turn to “die-sensor set-up” and depress the programming knob. Now you are in the die protection program. Then put in the parameters in degrees when you would want to look for the part to eject or transfer. From 190° to 250° is when the sensor will be looking for the part. That is all there is to programming die protection. If a fault output occurs, simply view the screen and determine from what sensor the fault occurred.

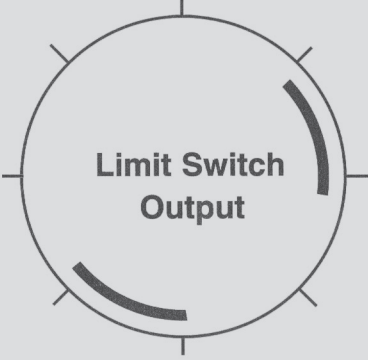
The die protection program can be fine tuned while the machine is in motion along with related peripheral signals such as feeds, lubrication, blowoffs, etc. This is an excellent method of increasing the machines efficiency.



# Punch Press Automation

## PressCam 8

### Programmable Limit Switch

Output	sp	First		Second		Third		Crank Angle 300°	
		Close	Open	Close	Open	Close	Open		
LS1	*	300°	320°						
LS2	*	200°	150°						
LS3		50°	100°	180°	230°				
LS4									
LS5									
LS6									
LS7									
						Delay Cycle	Hold Cycle	Start Angle	Hold Time
LS8									
LS9								100°	1000
LS10									
LS11									
EXIT	<b>LIMIT SWITCH OUTPUT SETUP SCREEN</b>								



Screen Actual Size

Limit switch programming simplicity is a PressCam 8 feature.

PressCam 8 crank angle position is generated by a heavy duty industrial resolver driven by the press crank shaft.

PressCam 8 provides the user with eleven programmable limit switch outputs used to initiate various peripheral equipment. These outputs can be programmed to turn on and off up to three times per press cycle.

The programmable limit switch outputs may be mechanical relay, solid state AC, or solid state DC. The solid state relays may be mixed on the same relay board.

The Delay and Hold cycle feature provides control for lubrication systems, scrap choppers, etc. This provides you with signals when you need events to occur on a pre-programmed intermittent (time) or multiple stroke basis.

Limit switches 1 – 7 can be programmed to turn ON and OFF up to three times per press cycle. Limit switches 8 – 11 can be programmed to turn ON and OFF up to two

times per press cycle or may be programmed to turn ON based on angle and OFF based on time. The timed outputs can be programmed from .001 to 10 seconds. Furthermore, these switches may be used with the Delay and Hold cycle feature which provides control for items that need not be initiated on every press cycle but a programmed number of press cycles. Or they can be held ON for a pre-programmed number of press cycles.

A minimum and maximum speed limit setting can be used to monitor optimum running speed versus actual. A deviation outside the programmed parameters will initiate a stop signal.

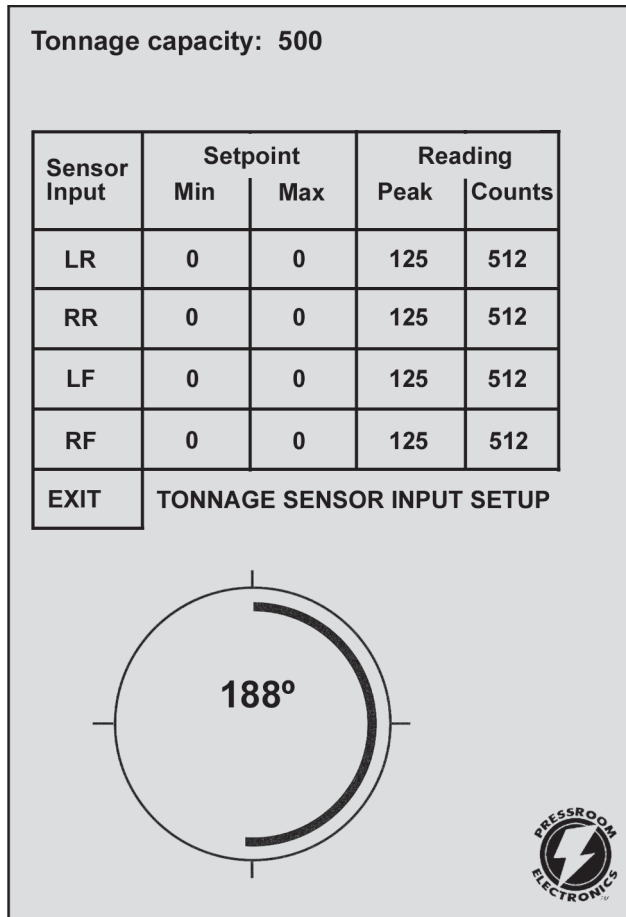
The system includes a true motion detection system that monitors the press cycle. If you tell the press cycle and it fails to move within the pre-programmed time (.001 to 4 seconds), a fault signal is issued. On the opposite side, if the press starts to cycle without initiation, a fault signal is issued to electrically disconnect all signals.

The clutch/brake timing signals can also be password-protected from inadvertent tampering by unauthorized personnel.

# Punch Press Automation

## PressCam 8

### Tonnage Screen



The TLM I/O load module is designed for critical force measurement applications where accuracy, extreme stability, and dependable noise rejection is essential. The module is a load measurement device without a display or alarms. The TLM is used as an input device to the PressCam 8 providing display and alarm control functions.

The TLM has high sensitivity levels that work well in an electrically “noisy” environment. It has two amplifier gain ranges (span ranges). Therefore, it can accept either weak or strong signals from the load sensor.

#### Features

- Signal conditioning module for strain gauge sensors and load cells
- Four independent channels for accommodating up to eight sensors
- For use with full-bridge sensors from 120 Ohms to 1,000 Ohms
- Plug-in connectors are used for the sensor inputs
- High/low sensitivity span ranges selected with front panel switch
- Automatic zero balance circuits assure accurate measurements
- Power input/output are plug-in connectors
- Built-in automatic peak load memory circuits
- Peak measurements are made with an external trigger device
- Built-in power supply for stable operation and noise rejection
- Compact size to fit almost any location
- Steel enclosure for maximum protection and noise rejection

## Specifications

**Transducers** Full Bridge, 120 Ohms to 1,000 Ohms. One to four channel version available. Maximum of two 350 Ohms sensors per channel.

**Dimensions** 2" (51mm) x 3.1" (79mm) x 8.95" (227mm)

**Balance Range** +/- 1 mV/V of offset

**Gain - Two Ranges** Low = 100 to 1,100 adjustable  
High = 1,000 to 11,000 adjustable

**Output Range** Approximately +/- 10VDC at 12VDC excitation

**Circuit Accuracy** Maximum inaccuracy of +/- 1% of full scale

**Circuit Linearity** Maximum non-linearity +/- .1% of full scale

**Auto Zero Time Constant** 10 seconds

**Frequency Response** Flat DC to 1 KHz

**Peak Decay** Less than 1% of full scale in 10 minutes

**Calibration Shunts** 1 Meg Ohm, .1%

**Input Power** 100 to 130VAC 50-60 Hz. Fused at .10 Amp.  
200 to 260VAC 50-60 Hz. Fused at .05 Amp.  
Input is jumper selectable. Fuses are 5mm x 20mm SLO-BLO.

**Sensor Excitation** Internally excited at +12VDC, .30 Amps maximum

**Sensor Input Connections** Four pin .2" (5mm) centers Phoenix connector

**Peak Output Connections** Six pin .2" (5mm) centers Phoenix connector

**Proximity Probe** 12VDC internally supplied to drive NPN or PNP probes, 50mA max. Input also supports dry relay contacts.

# Punch Press Automation

## PressCam 8

### Specifications

<b>Input Power:</b>	3 Voltage Ranges: 1) 24VDC (optional) 2) 120VAC (standard) 50 or 60 Hz 3) 240VAC (optional) 50 or 60 Hz	24 watts with all relays
<b>Input Control Unit:</b>	Monochrome LCD 8" (203mm) Diagonal Display	
<b>Display</b>	<ul style="list-style-type: none"> <li>• LCD BIAS (GRN) D16</li> <li>• Vpp (YEL) D8</li> <li>• 5VDC (GRN) D14</li> </ul>	
<b>I/O Board:</b>	+12 VDC (RED) D2 17 Optically Coupled Inputs 13 Solid-State or Mechanical Relay Outputs 3 Force-Guided Monitored Safety Relay Outputs (Form B)	
<b>Relays:</b>	Mechanical - SPDT Form C 10 AMP @ 260VAC 10 AMP @ 30VDC  Mechanical Captive Contact - Form B 8 AMPS @250VAC	AC Solid State - SP N.O. 3 AMP @ 140VAC 12-14VAC 25-70 Hz  DC Solid State - SP N.O. 3 AMP @ 60VDC 12-60 VDC
<b>Set Points:</b>	Stroke Count: 0 to 999,999 strokes Batch Count: 0 to 999,999 strokes Quality Count: 0 to 999,999 parts Part Count: 1 to 4 parts/strokes (programmable) 0 to 999,999 parts total Batch Size: 0 to 999,999 parts Limit Switch Angle: 0 to 359 degrees Limit Switch Timers: 0 to 9999 milliseconds Die Sensor Angle: 0 to 359 degrees Minimum Speed: 0 to 300 SPM Maximum Speed: 0 to 300 SPM Brake Warning: 1 to 999 milliseconds Brake Failure: 1 to 999 milliseconds Brake Actual: 1 to 999 milliseconds (+/- 1 ms accuracy) Start Motion: 0 to 5.9 seconds (1/10 sec increments) Crank Angle: 0 to 359 degrees (1 degree increments) SPM: 0 to 300 strokes/minute (+/- 1 SPM accuracy)	
<b>Components:</b>	<ul style="list-style-type: none"> <li>• <b>PressCam 8 Master Controller Panel Mount</b> 10.8" (274mm) W x 11.8" (300mm) H x 2.5" (64mm) D</li> <li>• <b>PressCam 8 Master Controller mounted in a Stand Alone NEMA 12 Enclosure</b> 11" (279mm) W x 13.1" (333mm) H x 5" (127mm) D</li> <li>• <b>Resolver Transducer</b>                +/- 1° Resolution up to 700 RPM                +/- 2° Resolution from 701-1000 RPM                3/4" (19mm) keyed shaft  <i>Rated shaft loading:</i> 200 lbs. axial 400 lbs. radial  <i>Weight:</i> 4 lbs.  <i>Vibration:</i> 20g to 2000 Hz  <i>Enclosure:</i> NEMA 13  <i>Rotation:</i> CW or CCW             </li> </ul>	
<b>Diagnostics:</b>	Complete system diagnostics on LCD screen	
<b>Enclosure Construction:</b>	18 gauge painted steel NEMA 12 lockable enclosure with sealed front panel or open frame for panel mounting.	
		<i>Shock:</i> 200 G for 11 msec <i>Operating Temp:</i> -20° to 125°C <i>Transducer to master controller:</i> 600' (183m) max <i>Resolver Cable:</i> 30' (9m) supplied standard with connectors





# Punch Press Automation

## PressCam 8 Overview/Ordering Procedure

PressCam 8 is a "control reliable" resolver based programmable cam switch, time-based brake monitor, die protection system, multiple counters, and much more in one package. The system contains two 16-bit computers that are configured to cross check each other and the resolver. The dual computers are interfaced with a full view 8" (203mm) diagonal LCD computer screen for viewing and programming ease. This large operator screen supplies operators and front line supervisors production data without the need of cumbersome menu and program access codes.

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

PressCam 8 (all styles, Front panel & Stand alone). Includes resolver and cable

### ORDERING PROCEDURE

1. Specify Mounting Style
  - F ..... Front Panel Mounting to be installed in an existing control panel.
  - C ..... Stand alone NEMA12 enclosure
  - T ..... Stand alone NEMA12 enclosure with room for the Tonnage Module
2. Specify Output Relays (11 maximum)
  - M ..... Mechanical Dry contact relays SPDT 10A@250VAC
  - A ..... AC Solid State - single Pole N.O. 3A@140VAC, 12-140VAC, 25-70Hz
  - D ..... DC Solid State - single Pole N.O. 3A@60VDC, 12-60VDC
3. Specify Controller Input power
  - 1 ..... 24VDC
  - 2 ..... 120VAC 50-60Hz
  - 3 ..... 240VAC 50-60Hz
4. Specify Clutch/Brake Valve Voltage
  - 1 ..... 24VDC
  - 2 ..... 120VAC 50-60Hz
5. Resolver Connector Cabling
 

30' (9m) of cable with connectors is supplied standard. If additional length is needed, specify in feet, 150' (46m) maximum.
6. Specify Tonnage Monitoring (optional)
  - 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

### EXAMPLE PART #

**PC8** - **C** - **Mechanical** - **AC Solid State** - **DC Solid State** - **1** - **1** - **30'** - **T4**  
 Style      Mounting Style      Output Relays      Output Relays      Output Relays      Input Power      Clutch/Brake Valve Voltage      Resolver      Tonnage

### TONNAGE MONITORING (OPTIONAL)

- T1**      One channel monitor module with strain sensor and cable
- T2**      Two channel monitor module with strain sensor and cable
- T3**      Three channel monitor module with strain sensor and cable
- T4**      Four channel monitor module with strain sensor and cable

#### Part Number

#### Description

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 die protection sensors or other auxiliary devices.

# Punch Press Automation

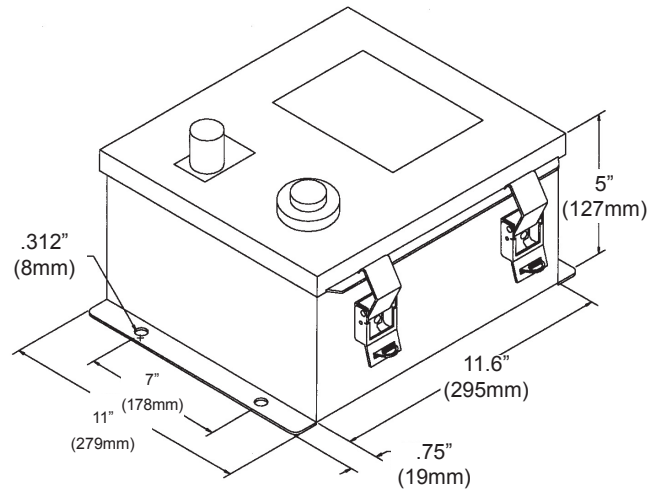
## PressCam 8

### REPLACEMENT PARTS LISTING

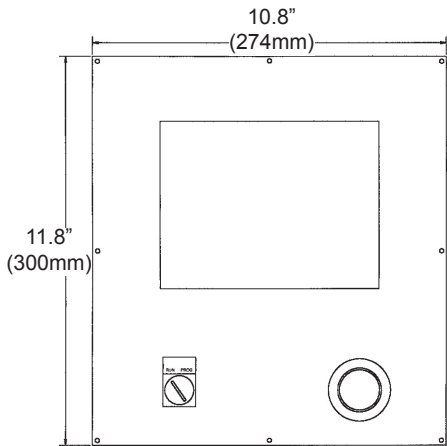
<b>Part Number</b>	<b>Description</b>
11-131	Panel Mount (with gasket)
11-132	LCD mounting bracket (blue)
11-133	Aluminum Shield cover for computer board
11-134	Metal Box enclosure (with gasket)
11-135	Solid State Relay hold-down for I/O board
11-159	Large Metal Box enclosure (includes space for TTLM module)
18-005	B/W LCD display panel (with backlight)
18-006	LCD Backlight power supply
18-007	LCD Backlight fluorescent tube
20-022	1A Slo-Blo nano SMF fuse
20-023	5A Fuse (white nano)
21-047	Tuning Knob (black knob)
21-048	Tuning Knob (black ring)
26-071	Graphic overlay skin
30-009	Replacement Tonnage Controller (3 or 4 channel input unit)
30-010	Replacement Tonnage Sensors & 35' of cable
30-013	Replacement Tonnage Controller (1 or 2 channel input unit)
32-038	Output Module (Solid State AC)
32-039	Output Module (Solid State DC)
32-041	Output Relay (G2R-1-S)
32-101	4 pole 12 VDC (clear KACO safety relay)
35-065	EEPROM JOB memory chip (50 jobs) (2 chips are required for 100 jobs) (2 chips are required for 100 jobs)
39-051	RUN/PROG Keyswitch (with keys and cable)
40-002	Tuning Encoder device
45-019	LCD cable (from LCD to Computer board)
45-020	Resolver cable (30') with connectors
52-115	Power & I/O board (without output modules) specify solid-state or relay
52-116	Dual Computer board (with 100 job memory)
52-122	I/O ribbon cable (from I/O board to Computer board) 2'
52-123	Power cable (from I/O board to Computer board) 2'
52-227	Resolver unit (no cable) (formerly 40-003)
52-282	Serial to Ethernet Board for PressCam 8

# Punch Press Automation PressCam 8

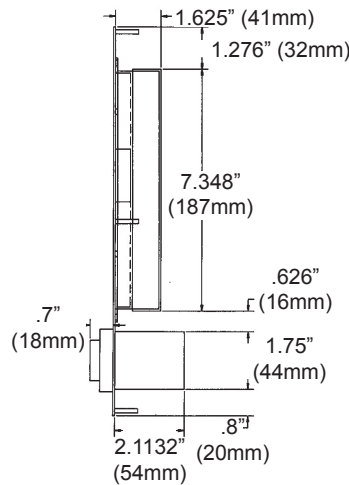
## Dimensions



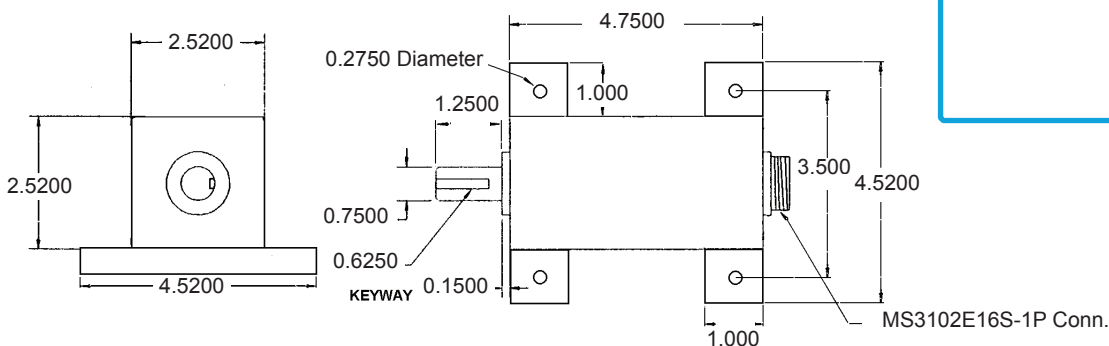
PressCam 8 shown installed in a stand alone NEMA 12 (IP64) lockable enclosure  
 Dimensions for the Tonnage version of the PressCam 8 are 14.5" (368mm) W x 13.1" (333mm) H



PressCam 8  
 Front Panel Mount



Resolver Transducer



## Additional products to achieve your **Total Safety Solution!!!**

- Safety Light Curtains (All Types and Styles)
- Universal Safety Controller HUB / Safety PLC
- Safety Mat Systems and Controls
  - Area Guarding Systems
  - NSD Safety Mat Systems
  - STTS Safety Mat Systems
  - Direction of Travel Mats
  - High-Temp Welding Mats
- Ergonomic Palm Buttons
  - UltraTouch Palm Buttons
- Safety Interlock Switches (including explosion proof)
- Customized "control reliable" controls for dual solenoid activated pneumatic and hydraulic valve applications
- Fencing with Interlocks
- E-Stop Buttons
- Stack Lights

- Energy Isolation and Single Point Lockout Systems
- Plant Surveys, Risk Assessment & Installation Services
- Customized Control Panels; Stainless Steel enclosures available for all products

### **Punch Press / Metal Stamping Industry**

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

### **Press Brake Guarding and Controls**

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



# **Pressroom** *Electronics*™

[www.pressroomelectronics.com](http://www.pressroomelectronics.com)

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