

## Hardware Components

The Omega Configurable Press Control System is a bundled package consisting of hardware, software, and documentation. The Omega System includes two SLC processors, conforming with

### Hardware Components – Rack A

Quantity	Component
1	Ten-slot rack
1	Power supply
1	SLC processor
2	16 point input modules
1	16 point output module
1	8 point output module
1	Communications module
1	Flash memory module
1	16 point input module

various ANSI and OSHA regulations for solid-state control of mechanical stamping presses. The Omega System utilized two hardware racks.

### Hardware Components – Rack B

Quantity	Component
1	Seven-slot rack
1	Power supply
1	SLC processor
2	16 point input modules
1	16 point output module
1	8 point output module
1	Communications module
1	Flash memory module



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# Omega™ Series Press Control System.

*Comes pre-programmed with clutch/brake, main motor control, lube functions, die monitoring, programmable limit switch and more.*



## Product Profile



### Introduction

Before purchasing new mechanical presses, or retrofitting your present equipment, we would like to take this opportunity to make you aware of the advantages of Allen-Bradley's newest Omega™ Configurable Press Control System. Built around redundant Allen-Bradley SLC processor, the Omega Press Control System provides basic Clutch/Brake control as well as main motor control, lube function, die monitoring, programmable limit switch, production monitoring, brake monitoring, and recipe management. Optional features include shut height adjustment, automatic counterbalance, and servo feeds. Tonnage monitoring is also accommodated, with the addition of Helm Instrument's Tonnage Monitoring Module.



documentation. It has been designed to control basic clutch/brake mechanisms on mechanical stamping presses, and to provide a full suite of auxiliary functions. The Omega Press Control System includes two redundant SLC processors to conform with ANSI and OSHA regulations governing the use of solid-state controllers for press control operations.

Each SLC processor contains flash memory that has been pre-programmed at our factory with the software required to provide basic clutch/brake control as well as a full range of supporting functions.

### Pre-Programmed EOI

The Allen-Bradley Omega Press Control System can be equipped with an optional EOI electronic operator interface, based on the Allen-Bradley PanelView™ 600. Like the controller portion of the control system, the 6556-SPV600 is also pre-programmed at our factory, and comes with a wide variety of runtime status

and edit screens which greatly reduce the integration effort required to interface this high-performance control system to your stamping presses.

### AC or DC Kits Available

Two Omega Press Control Systems are available. The 6556-SCBK3 works with a grounded 120VAC power source. The SCBK3DC is for use with press controls utilizing a 24VDC grounded power source

### PanelView 600 Color Operator Interface

The window into the Configurable Press Control System (and your press operations) is a pre-configured operator interface based on Allen-Bradley's robust PanelView 600 Electronic Operator Interface. Configuration, runtime and recipe screens are pre-installed at our factory. Installation is simple, requiring only that the operator interface be powered and connected to the Omega Press Control System



## Clutch/Brake Control

Allen-Bradley Omega Press Control Systems use common logic to control the clutch/brake portion of a mechanical stamping press. Wiring diagrams simplify control installation, and pre-installed logic is ready to run once the control system is wired to the press and operator interface. Clutch/Brake logic includes one set of Run/Inch buttons, multiple modes of operation( off, inch, single, continuous). A single resolver is required, and a second resolver or rotary cam is required for a second position device.

## Faults and Prompts

The Configurable Press Control System can display up to 40 faults and 40 prompts per processor. Faults define the problem to the specific processor, reducing the time required to bring the press back on line.

## Clutch & Brake Time Monitor

This logic calculates clutch and brake engage times. Both factors are indicators of clutch and brake wear; this feature permits these components to be repaired before failure results in an extended shutdown.

## Production Monitor

This feature enables operators to determine percent complete and finish time of a run. The SLC processor's communications capabilities can transmit this data to computers used to schedule production.

## Die Monitoring

Die monitoring provides automatic detection of absence, or mis-alignment of material moving through an automated stamping press system, as well as detection of unwanted material in the die. The Omega Press Control System provides 16 die monitor inputs, each which can be user-configured as normally open or normally closed. Users can then select from several types of die monitor circuits, including static, cyclic, transfer, in-position, or

intermittent. A selection of outputs are available when a fault is detected, including warning, top-stop, stop now, or die monitor circuit by-pass.

## Programmable Limit Switches

The System provides eight configurable programmable limit switch outputs, which can be turned "on" at a user-designated angle. Optionally, outputs can be turned "on" after a preset number of press cycles. Outputs can be turned "off" by time or angle. The programmable limit switch feature can be used to sequence the operation of auxiliary functions such as lifters, blow-off valves, and grippers, as well as simplifying interpress automation.

## Recipe Storage

Critical die parameters can be stored using the System's Recipe Storage feature. This helps reduce set-up time, and can reduce the amount of press testing after die changeover.

## Production Counters

A Production Run Counter permits the press operator or supervisor to input the total number of parts required for a specific production run, and provides optional methods for stopping the run when the count is reached. A Batch Run Counter is a subset of the Production Run Counter, and is used to keep track of "bins" of parts during the production run.

## Maintenance Timers

Two timers permit accumulating elapsed motor run time and clutch engaged time to schedule maintenance.

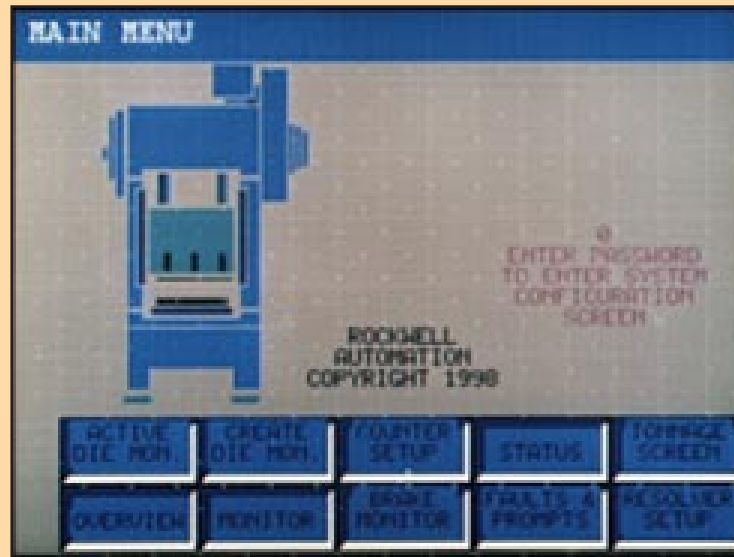
## Lube

The System comes with a configurable lube function, providing continuous, pulsed, and pulsed by press cycle modes.

## Optional Features

Optional features include tonnage monitoring, tonnage calibration and tonnage alarms. These features require the addition of hardware modules for their operation.

# Configuration, Runtime, and Recipe Windows Into Your Press Operations



## Main Menu Screen

A comprehensive main menu display permits operators to access Omega's easy-to-use configuration, runtime, and recipe screens.



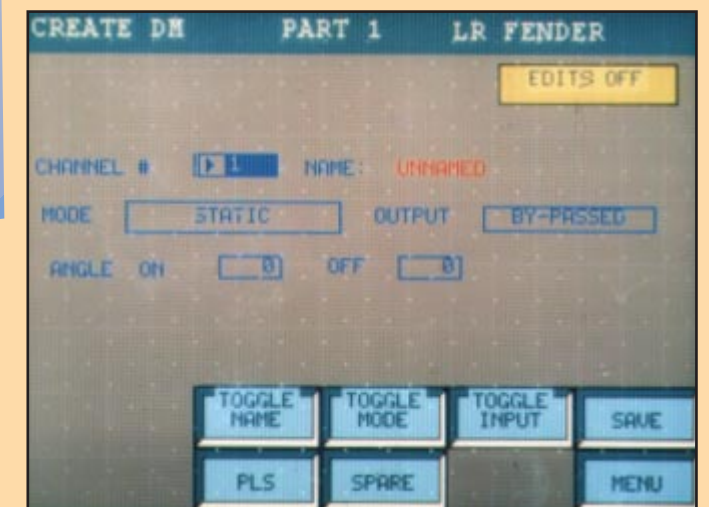
## Runtime Screens

Runtime screens include set-up or monitoring screens for die monitor, clutch/brake, and fault prompts, as well as a screen for the optional tonnage monitor feature.



## Configuration Screens

Configuration screens for the lube and production counter features are provided by the Omega System. Using these screens, the lube function can be configured to operate continuously, in a pulsed mode, or by machine cycle. Production counters can be configured to accumulate total number of parts stamped per production run, or by 'batch.'



## Die Monitoring Screen

The Die Monitoring screen permits the user to configure each of the Die Monitor's 16 outputs as Normally Open or Normally Closed, and to monitor the die for presence or absence of specific objects constantly or during a selectable window.