



ISB

*Safeguarding metal stamping
& fabricating machines since
1976*

RBPC



Resolver
Based
Press
Control

WHY ISB?

Since 1972, we have lead, pioneered and shaped the guarding aspect of the metal stamping and forming industry with many innovative solutions at affordable prices:

- 1972 ISB , as reflected by its name, Infrared safety Barriers, designed and developed the first light curtain using Infrared light emitting invisible diodes. A concept which is currently adopted by every competitor.
- 1978 ISB introduced the first micro processor based press controller.
- 1982 ISB introduced the first Ergonomic Run Buttons, Softouch

During This period of time, we have observed virtually every possible combination of events and conditions, which sometimes, have caused presses to run unsafely .

We have dedicated the combined experience and knowledge of our staff to develop this most compact , comprehensive and flexible press automation control package available in the market. This is a very simple device to install and with its automatic conversion to Spanish, at the push of a button, it is even easier to use.

The RBPC

The ISB RBPC is the industry's most cost-effective press control and automation solution that shops of all sizes can afford to install on every one of their presses and press brakes. Every control contains firmware to operate power presses from hand-fed through 800 strokes per minute, as well as mechanical friction clutch and air clutch press brakes. The ISB RBPC design utilizes two separate processors that each operate with different software and monitor every input and output.

Certain companies do manufacture redundant fail safe PLC based controls, designed to be used on Punch Presses provided that the software written is deemed or certified to comply with the fail safe requirements of the current governing standards. It is the responsibility of the user to insure that the software generated for these PLCs are certified to comply with current standards.

KEY FEATURES OF RBPC

- All electrical connections are made with plug-in terminal blocks for easy installation by most plant maintenance personnel, as well as allowing for easy field serviceability.
- The RBPC control is equipped with automatic top stop compensation, which means no more adjusting of complicated cam switch timing every time you change jobs or press speed and this feature also makes the initial installation very easy.
- The very user-friendly operator interface has a 4-line LCD readout that is easy to read and displays complete fault messages and operator prompting.
- ISB RBPC controls can accommodate multiple palm button stations (4 sets), electric foot switches (2), Kwik-Trip Sensor input, and even a treadle input for mechanical press brake applications.
- Modes of operation, such as, Inch, Timed Inch, Single Stroke, Auto-Continuous, Auto Single Stroke (for feed lead press applications), and Kwik Trip are included through soft-key access. Inch / Single Stroke / Auto Continuous can be wired to a hard key switch if this is preferred, but 3 die protection channels are sacrificed.
- RBPC units can be used in english or spanish language modes.
- Multiple levels of password protection give press operators only the level of access that they need, while set-up and supervisor personnel have their own levels of password protection.
- Back up and restore capability is very convenient way to back up the stored programs or parameters on a remote PC to avoid setting or reprogramming the RBPC for any unforeseen cause or event.

RBPC OPERATING MODES

The RBPC is supplied with a single selector key switch to RUN or PROGRAM the different operating parameters. All press-running or operating modes are selected by the key pad. However, an external separate key selector switch of choice can be installed by the user. Three of the die monitor inputs will have to be sacrificed if this option is preferred. The key switch can be supplied by the user at any time.

All imaginable known methods to cycle a press are available within the same RBPC controller:

1. Single stroke
2. Continuous or manual continuous.
3. Inch or timed micro inch with a selectable timer
4. Press lead feed or feed lead press.
5. Hand to foot (for use on Mechanical Press Brakes)
6. PSDI mode 1 "self-trip"
7. PSDI mode 2 "self-trip"
8. Quick-trip mode - Unique and proprietary with RBPC control.

NOTE: For more details or information on how the above methods can be initiated please consult the detailed information on the RBPC controller available in our web-site www.isblite.com

Cycle Initiators

A press cycle can be initiated by using any one or a combination of the following devices:

1. An electric foot switch
2. A set of two Run buttons, ISB "Softouch 2" buttons recommended.
3. An ISB light curtain, PSDI 1 (Commonly known as Self trip 1) * or PSDI 2 (self trip 2). This mode may require a variance from the current OSHA standards
4. "KWIKTRIP" Exclusively available with the RBPC controls.
A single Softouch button will trip the press

NOTE: For more details or information on how the above methods can be initiated please consult the detailed information on the RBPC controller available in our website www.isblite.com

5. Hand and Foot Mode: In this mode of operation, the user can select any combination of palm buttons or foot switches required to initiate the press cycle.

Complies With

OSHA; 1910.217

ANSI B11.1 Safety Control requirements for mechanical power presses

ANSI B11.3 Safety Control requirements for power press brakes

CSA Z142-02 code for power press operation: health safety and guarding requirements

Networking

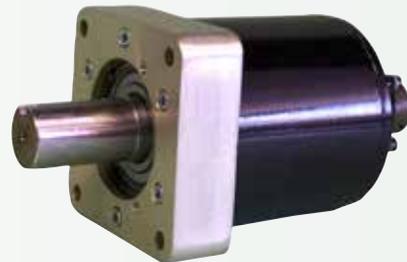


Vital optional feature of RBPC is its networking capability via your local network or the web. It will connect your laptop or computer, to the RBPC controller, through its designated IP address. You will gain access to a lot of vital operating information, such as parts, faults, counter and more. At a one time fixed cost, no software required to be down loaded or purchased.

Resolver & Mounting Accessories

This is a very robust position tracking mechanism, which is designed to replace an existing cam box or a rotary pulse generator. The main drive shaft is located within a solid Aluminum block and supported with two heavy duty rotary bearings to insure maximum stability and long life. These resolvers are available in 3/8 or 3/4 inch shafts

RESOLVER
3/8" Shaft - 30-0018-010
3/4" Shaft - 30-0018-020



RESOLVER
CABLE
55-0556-020
55-0556-030
55-0556-050



PROXIMITY
SWITCH
18-0223-001



STRAP CAM &
LOBE
56-0200

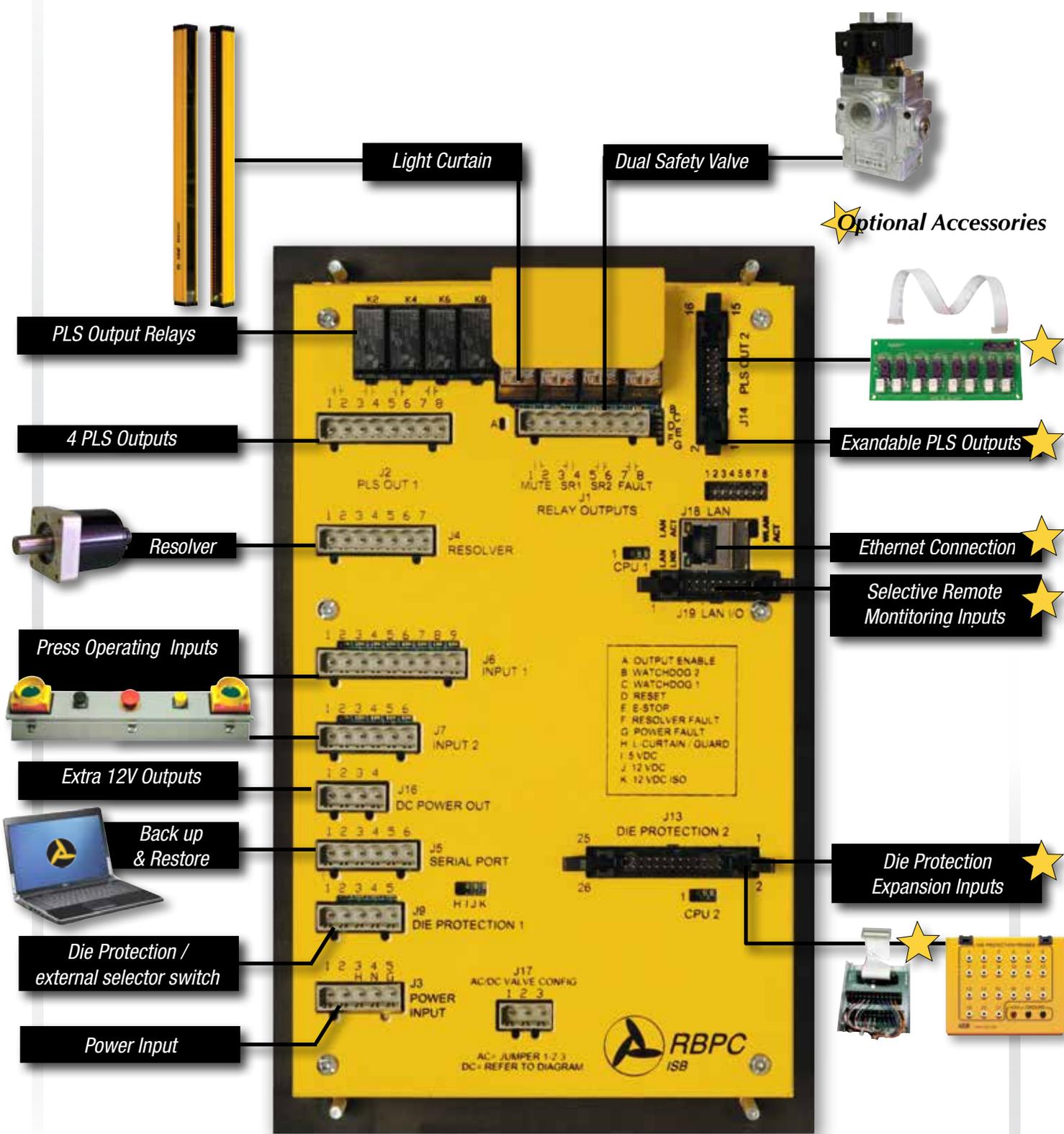


RESOLVER
MOUNT
BRACKET
02-0399



RESOLVER
MOUNTING
SPRING LOADED
BASE
56-0699





General specifications

Input power: 90–250V DC or AC 50/60Hz, 48W max (internally compensates for fluctuations) **Safety relay output rating:** 5A/250V AC unfused **Operating ambient temperature:** 0° C to 40° C (32° F to 104° F) **Dimensions:** RBPC 12" H x 7.3" W x 1.8" D - RBPC with enclosure 14" H x 9" W x 4" D - Enclosure (part #: 01-0675-000) **Resolver specifications** Shaft diameter: 3/8" (part #: 30-0018-010) or 3/4" (part #: 30-0018-020) **AC voltage:** 4V peak to peak (5%) - Frequency: 4kHz (5%) - Transfer ratio: 1 (5%) - **PLS channels :** PLS output relay rating: 4A/ 250V AC unfused - Relay typical response time: 10ms - Speed range: 0 to 800 RPM - **Die protection inputs:** Input type: Optoisolated, NPN transistor or contact closure to ground - Speed range: 0 to 800 RPM (5 degrees minimum dwell aperture for 800 RPM)

Important Note

Connections in above are only pictorial depictions to illustrate ease of installation. For Proper installation use the instructions outlined in the installation manual provided with the unit.

Vital Information at Your Finger Tip.

Brake and clutch wear monitor

This feature is also part of OSHA's 1910.217 requirements. It mandates that the performance of the brake be monitored on every stroke of the press. The monitoring system should prevent the press from generating another cycle should it exceed the predetermined parameters set by the user. The unique and exclusive feature of the Brake Monitor incorporated in the RBPC is that not only it monitors compliance with these parameters, it also adjusts the trigger point for the top stop... Automatically! every cycle of the press, to ensure that the press does not exceed the dead top position. The press never drifts past its top position. This feature is only available in ISB RBPC Press Controls.

LED CIRCULAR ARRAY DISPLAY FEATURES

The circular LED Array on the front panel of the RBPC provides for a visual indication of where you are in the press stroke. The ISB RBPC has made this feature much more valuable by utilizing a Multi-color LED Circular Array. A green LED is illuminated on the array to show actual position of the press. Yellow LED's are illuminated on the array each time the press stops to display the presses braking angle. RED Led's on the circular array are used to display the dwells on the programmable limit switches and blue LED's are used to display dwells of the die protection "look windows".

P.L.S. (Programmable Limit Switch) FEATURE

The standard RBPC is equipped with 4 built-in PLS Channels and 8 additional channels are optionally available. These electronic cams are designed to turn "ON" and "OFF" devices such as air blow-offs, feeders, spray lubricators, etc using relays that are either mechanical type or solid-state (specify AC or DC load). All 3 types of relays are interchangeable and are field replaceable. Each PLS channel is programmed to go on and off at programmed machine angles and can have multiple dwells. A maximum dwell timer is included for each PLS channel.

DIE Protection Features

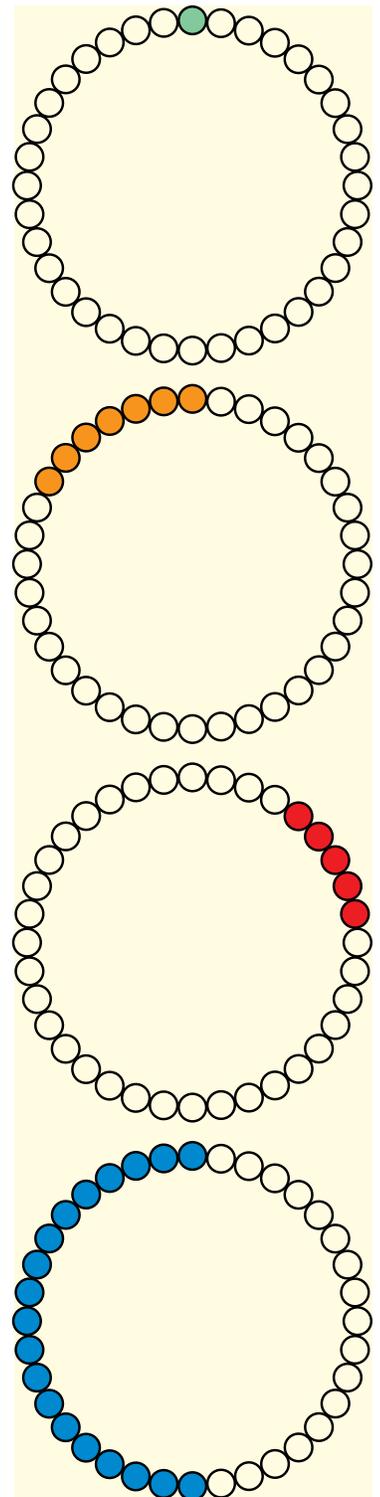
Die Protection System is intended to monitor input sensors and ensure that proper conditions are established before the DIE makes a hit.

RBPC Die protection System can monitor up to 4 inputs. If one or more input takes place outside the programmed window, a fault will be generated.

Each DIE Protection input can be programmed to generate one of the following faults:

- E-Stop (Emergency Stop)
- T-Stop (Top Stop)
- F-Relay (Fault Relay)

An expansion module with 21 inputs is available to increase the die protection channels up to 25 some of which can be provide with analog inputs. (see part number RBPC-DIE-EXP).



Other Valuable Benefits

Job Storage Features

RBPC allows the user to store parameters for user-named programs (Jobs), up to three hundred (0 to 300) Jobs. Each Job contains press operational parameters like, Operation mode, PLS settings, DIE settings, Braking settings and more. Once a job is opened, PLS settings, DIE settings, Operation Mode, Actuating Mode and Braking Settings are loaded into the system.

Resolver Features

RBPC uses a Resolver (electronic absolute position sensing device) to monitor the position of the crankshaft of the machine. Motion detection, direction detection and tachometer are implemented by using the information given by this device. Minimum and Maximum speeds are also checked to avoid unsafe press operation. Security Tests are also performed to ensure proper Resolver operation and to improve the reliability of the system.

Password Protection Features

The access to RBPC options, functions and modes is restricted by a key and a User Level password based system. These levels include one basic operator level and two restricted modes (Set-Up level and Supervisor Level).

Counter & Hour Meter Features

A total hits counter, as well as a quality and batch pre-settable counters are standard in every RBPC. Each counter is independently resettable. A non-resettable hour meter that records clutch engagement time with resolver motion and a second hour meter that is resettable provide a valuable tool for machine maintenance scheduling.

Fault messages and Working Conditions Recording Features

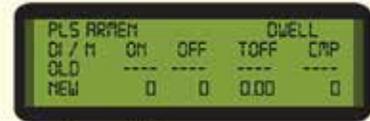
RBPC keeps track of fault conditions up to thousand (1000) events. The information stored when a fault condition occurs includes:

- Fault code
- Hour meters indications
- Last stopping time measured before the fault occurs.

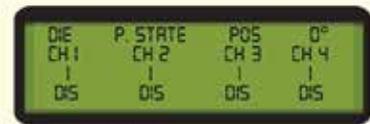
Other relevant information like largest stopping time recorded, the amount of brake failure shutdowns, the amount of times emergency stop is used, and the amount of total fault are stored into RBPC memory. This feature is intended to provide the user with the information needed in order to troubleshoot the machine.



User Level



Configure PLS



Die Protection



Brake Wear



Supervisor Menu



Operator Menu



Press Control



Counter Value

OTHER PRODUCTS OFFERED BY ISB

ISB SAFETY RELAY



CE

PRESS BRAKE GUARDING



ERGONOMIC RUN BUTTONS



SAFETY VALVES

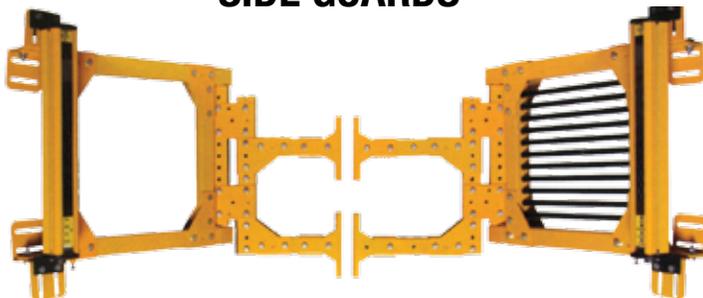


CE

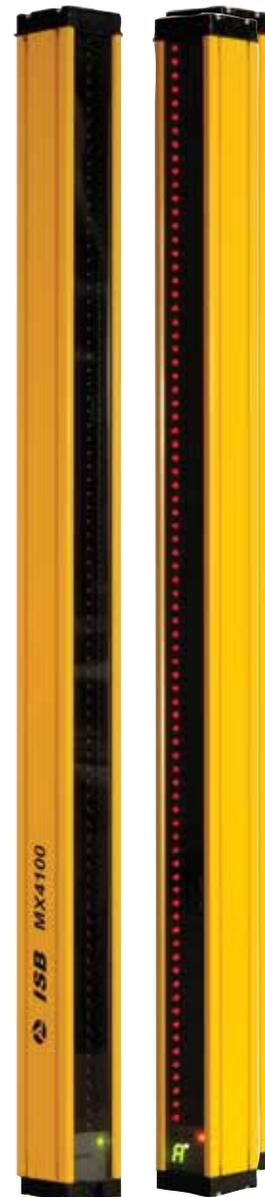
PALM BUTTON STATION



SIDE GUARDS



LIGHT CURTAINS



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