# TYPE 4 SAFETY LIGHT CURTAINS

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Safety is our passion, YOUR safety is our mission.

# ISB MX SERIES

The ISB MX series of Light Curtains are Type 4 Active Optoelectronic Protective Devices ( AOPD).

Compliant with the following standards:
IEC 61496-1
IEC 61496-2
EN ISO 13849-1 + AC
EN 62061
IEC 61508 Parts 1-7
IEC 60204-1
EN 50178
ANSI B11.19
ANSI/RIA R15.06

## FEATURES

### Common Features of MX4100 and MX4200 Light Curtains

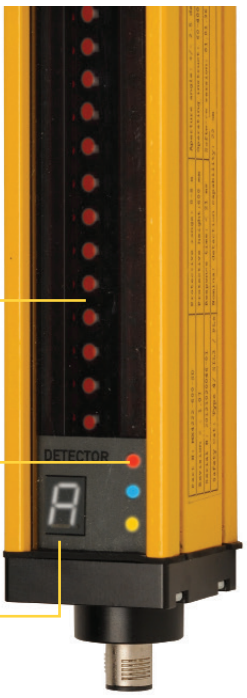
- Detection capability:
  14 mm for finger protection
  22 mm, 30 mm and 38 mm for hand protection
  82 mm for body protection
- Protective field height: 300 mm to 1800 mm
- Maximum range: 10 m
- Start / Restart Interlock, selectable.
- EDM: External Device Monitoring, selectable.
- OSSD with two separate safety outputs.
- Easy set-up, no separate software or computer required
- Individual indicators for each beam
- Solid aluminium construction

### Additional features of the MX4200

- Fixed monitored blanking
- Fixed partially monitored blanking
- Floating blanking
- Configurable tolerances for all blanking modes
- Muting

### Multiple indicators

The MX series of light curtains are designed with multiple indicators to facilitate its use and indicate the status of the unit at any given time.



# FEATURES AND FUNCTIONS

### Start and restart interlocks

The MX4100 and MX4200 models provide two separate interlock functions:
The start interlock function is intended to hold the OSSD outputs into its OFF state after a power up, even if the protective field is clear. The OSSD outputs will not be switched back to the ON state until actuation of the RST/EDM input (usually a push button switch or reset button).
The restart interlock function works in a similar way, holding the OSSD outputs OFF after the protective field has been cleared until the RST (reset button) is actuated.

### External device monitoring

The EDM function is intended to monitor the state of external contacts and its primary application is to detect malfunctions (e.g. contact welding) in the external relays, contactors or valve solenoids connected to the outputs of the MX4000 safety light curtain.

### Muting (MX4200 only)

Muting is a deliberate and controlled suppression of the safety function of the MX4000 safety light curtain. As long as the muting function is active, the OSSD outputs will remain in the ON state even if the protective field is interrupted. The intended use of the muting function is to suspend temporarily the safety function when the machine does not represent a risk or hazard to the operator, e.g. a pallet over a conveyor or an automatic guided vehicle to pass through the protective field. When using the mute function, a blue LED light will blink to show that the safety light curtain is in a muted condition. Additionally, the auxiliary output can be configured to signal the current state of the muting function through an external indicator lamp.

### Muting override (MX4200 only)

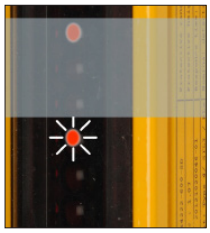
The muting override function allows the user to force a muting condition even if the prerequisite of a clear protective field is not satisfied.This function is intended mainly for automation applications (e.g. conveyors and packaging machinery) where it may be required to momentarily restart the machine in order to remove any object that may have clogged in the protective field due to a fault in the muting sequence.


### Blanking (MX4200 only)

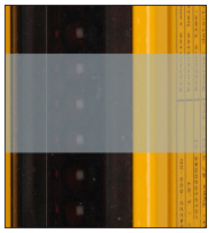
The blanking function is a special function which allows an object of a size greater than the detection capability of the safety light curtain to be inside the protective field without switching off the safety outputs of the device. The intended uses of this function are those applications where a machinery part is required to be present in the protective field without impairing the manufacturing process or the functionality of the machine. In order to cope with the constraints of particular applications, the MX4200 system offers three different blanking modes:

A fixed monitored blanking,
B fixed partially monitored blanking,
C floating blanking

Unsatisfied Flashing Blanking Indicator



Incorrect Object Size and Placement



Correct Object Size and Placement

### Fixed monitored blanking

The fixed monitored blanking allows an object of a fixed size to be located at a specific position in the protective field without deactivating the safety outputs of the light curtain. The actual size and position of the object are continuously monitored and, as soon as these parameters differ from the programmed values (if the object is moved or removed) the safety outputs of the light curtain will be immediately deactivated (OFF state). This blanking mode is intended to allow a fixed part of the machinery (e.g. part feeder, support arm, conveyor, etc.) to be present within the protective field without impairing the operation of the machine.

### Fixed partially monitored blanking

In this mode, the monitoring of the size of the blanked object is partial and limited to checking that it does not exceed the predefined maximum size. The object position is monitored and constrained to be within the boundaries of the predefined maximum object size. This blanking mode is particularly useful in those cases where an object is required to enter the protective field at the same position during the machine operation, e.g. parts over a conveyor, robotic feeders, etc.

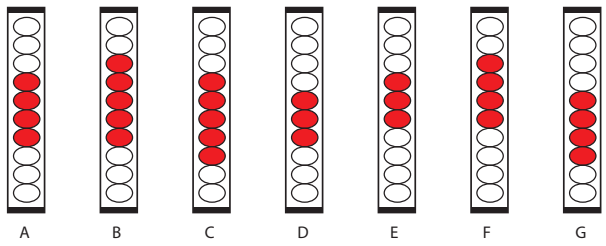
## Blanking tolerance

In some applications, the blanked object cannot be precisely positioned due to vibration, poor handling or physical limitations (e.g. flexing and twisting in large objects), hence causing size discrepancies in the sensed pattern. For these cases, the MX4200 can assign a blanking tolerance at each end of a fixed (monitored or partially monitored) blanking pattern.

| EFFECTIVE DETECTION CAPABILITY WITH BLANKING TOLERANCE | | | | | |
|---|---|---|---|---|---|
| TOLERANCE (beams) | NOMINAL DETECTION CAPABILITY | | | | |
| | 14 mm | 22 mm | 30 mm | 38 mm | 82 mm |
| −1 | 14 mm | 30 mm | 45 mm | 60 mm | 150 mm |
| +1 | 14 mm | 30 mm | 45 mm | 60 mm | 150 mm |
| +2 | 22 mm | 45 mm | — | — | — |
| +3 | 30 mm | 60 mm | — | — | — |
| ±1 | 22 mm | 45 mm | 68 mm | 90 mm | 225 mm |
| −1/+2 | 30 mm | 60 mm | — | — | — |
| −1/+3 | 38 mm | 75 mm | — | — | — |

If a bilateral tolerance of ±1 beam is applied to the same object, then all the obstruction patterns in the examples (A, B, C, D, E, F and G) are allowed. Examples F and G depict a particular case in which the object uses both tolerances (plus and minus) at the same time (object is shifted by one beam)

**BEAM TOLERANCE EXAMPLES**

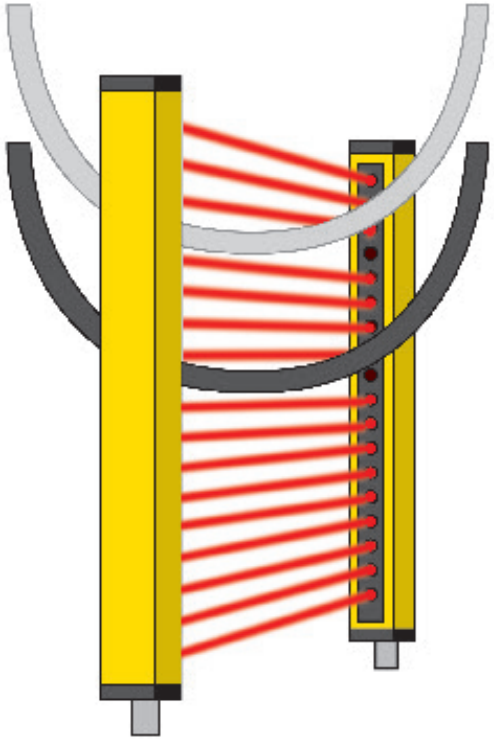



## Floating blanking

The floating blanking mode allows a single (or multiple) object(s) of a defined maximum size to enter and move within the protective field without switching off the safety outputs of the light curtain. This feature can be useful in those applications where it is necessary that a small object(s) can enter, leave, and move freely within the protective field during the operation cycle of the machine (e.g. hanging hoses, moving machinery parts, etc.). The blanked objects may enter and move only in the protective field areas that are not used by fixed blankings. Also, when allowing multiple blanked objects, they cannot overlap with each other. In any case at least one unobstructed beam must be between a blanked object and another.

| EFFECTIVE DETECTION CAPABILITY FOR FLOATING BLANKING | | | | | |
|---|---|---|---|---|---|
| NUMBER OF FLOATING BEAMS | NOMINAL DETECTION CAPABILITY | | | | |
| | 14 mm | 22 mm | 30 mm | 38 mm | 82 mm |
| 1 | 22 | 38 | 52 | — | — |
| 2 | 30 | 52 | — | — | — |
| 3 | 38 | — | — | — | — |

When using the floating blanking function, the effective detection capability of the AOPD is increased according to the number of floating beams, as shown in table above.



Note: One of multiple floating beams can be selected using the parameterization /teach tool

## Auxiliary I/O

All safety light curtains on the MX4000 series include a multi-purpose auxiliary I/O connection on the main detector units which can be used as a signalling output for non-safety-related external devices (e.g. relays, indicator lamps, PLCs, etc.).

# PARAMETERIZATION / TEACH TOOL

**AVAILABLE PARAMETERIZATION / TEACH TOOLS**

## Teaching Beam Blanking

The MX4200 Safety Light Curtains can easily have beam(s) blanked out to accommodate conveyors, chutes or any other obstructions that are penetrating the active area of protection. This teach-in process will allow the user to quickly introduce an allowable obstruction within the safety zone of the light curtain by using one of our easy-to-use Parameterization / Teach Tools. For Supervisory purposes, all Parameterization / Teach tools have a keyed switch and a push button for double verification. The blanking configuration can be completed by following 3 simple steps. Once the safety light is taught where the obstruction is allowed, you can unplug the teach tool until the next time changes are required, or you can leave it in place and simply put the key in the run position and remove the key. The advantages to the user are very apparent when compared to other models in the market that require the user to get on their knees and press little switches behind a tiny door at the bottom of the safety light. Other models also require downloaded software and using a laptop computer, which is clearly not ideal on the shop floor.

### Setting Parameterization functions

The MX4100 and MX4200 models of safety light curtains have numerous factory settings and can be used on a wide variety of machines. We ship light curtains with the most popular modes as our default settings. All MX4000 Series Light Curtains can have their Parameters changed by using one of our easy-to-use Parameterization / Teach Tools.
The Parameter configurations can be completed by following several simple steps. Once the safety light is properly configured, you can unplug the teach tool until the next time changes are required, or you can leave it in place and simply put the key in the run position and remove the key.

### Parameter Reference Table

1 Scan mode
2 Interlock Functions
3 EDM Function
4 Auxiliary Output Signaling
5 Mute Functions (MX4200 only)
6 Blanking tolerance, positive (MX4200 only)
7 Blanking Tolerance, Negative (MX4200 only)
8 Floating Beam number (MX4200 only)
9 Floating Beam occurrences (MX4200 only)
0 Data Interface (MX4200 only)

MX4000-PB

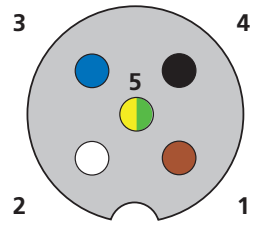
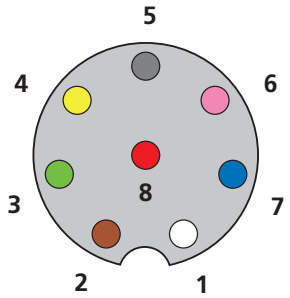
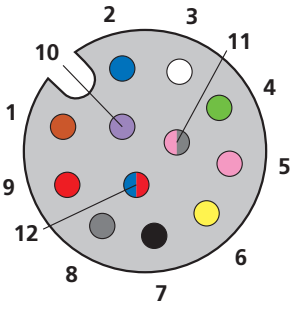
This model is available in a rugged plastic enclosure with a 1.5 meter pre-wired 5 conductor cable ready to be plugged into any one of the junction blocks.


MX4100-PT and MX4200-PT (Pass Through)

This portable unit is designed to be connected when required. The 8 and 12 conductor cables are for the MX4100-PT and the MX 4200-PT respectively. These units are designed to float between the detector column and the cable connected to the detector.

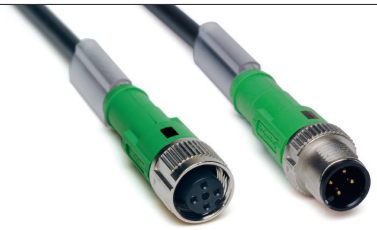
# CABLES AND CONNECTORS MX4100 AND MX4200 SERIES

All MX cables are provided with M12 female IP65 rated connectors on one side. The other end has pig-tail termination to be wired to the machine controls or into the ISB supplied MXB and MXW wiring box. Excess cable may be cut to meet the desired length.

| CONNECTORS | | |
|---|---|---|
| LENGTH | PART # | PIN FEMALE |
| **ALL MX4000 Emitters requires 5 PIN CONNECTORS** | | |
| 5 m | 55-4010-05 |  5 PIN FEMALE   |
| 10 m | 55-4010-10 | |
| 15 m | 55-4010-15 | |
| **Detectors for the MX 4100 series of units require 8 PIN CONNECTORS** | | |
| 5 m | 55-4011-05 |  8 PIN FEMALE   |
| 10 m | 55-4011-10 | |
| **Detectors for the MX 4200 series of units require 12 PIN CONNECTORS** | | |
| 5 m | 55-4012-05 |  12 PIN FEMALE   |
| 10 m | 55-4012-10 | |

## MX extension cables

These are preassembled M12 IP65, 5 pin connector cables, male on one end female on the other. They are intended to be used with JB4 or JB5 junction blocks, for quick connectability to any input or output device such as power supply, OSSD outputs, mute sensors, teach tool, auxilliary output or EDM inputs.

| EXTENSION CABLES | | |
|---|---|---|
| LENGTH | PART # | |
| 5 m | 55-4013-05 |  |
| 10 m | 55-4013-10 | |
| 1.5 m | 55-4004-015 |  |
| 3 m | 55-4004-03 | |
| 5 m | 55-4004-05 | |
| 10 m | 55-4004-10 | |

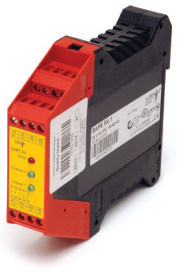
## MX POWER SUPPLIES

P/N: 31-4001
24 V DC 42 W
100 - 240 V AC input
DIN RAIL MOUNT
1.75 A

P/N: 31-4002
24 V DC 120 W
100 - 240 V AC input
DIN RAIL MOUNT
5 A

## MX SAFETY RELAYS

P/N: 22-4001
Main safety relay
24 VDC



P/N: 22-4002
Expansion safety relay

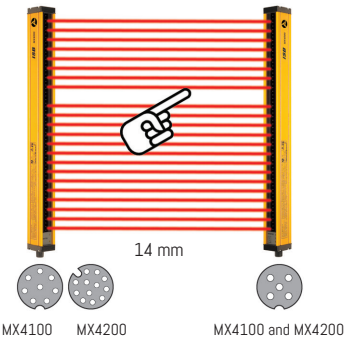
## Manual Reset Buttons

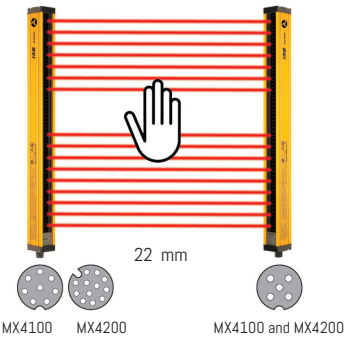
For applications where the operator can pass completely through the light curtain's protective area and enter the danger area, the light curtain interlock parameterization can be changed from auto reset to manual reset. In this new mode, the safety light will go to the red condition as the operator passes through the safety light and will stay red until the operator leaves the danger zone and passes back through the light curtain and presses the reset button.

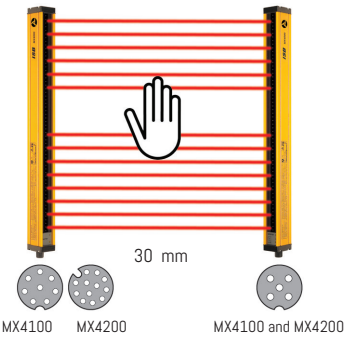
| MANUAL RESET BUTTON | | |
|---|---|---|
| **Ordering information** | **Part Number** | **To be used for** |
|  | MX4000-MRB-01 | Manual Reset Button for MX4000 systems (includes 1.5 meter pre-wired cable) |
| | MX4000-MRB-03 | Manual Reset Button for MX4000 systems (includes 3 meter pre-wired cable) |
| | MX4000-MRB-05 | Manual Reset Button for MX4000 systems (includes 5 meter pre-wired cable) |
| | MX4000-MRB-10 | Manual Reset Button for MX4000 systems (includes 10 meter pre-wired cable) |
| **Manual reset button to be used with junction blocks** | | |
|  | MX4000-MRB-JB-01 | Manual Reset Button for MX4000 systems to be used with junction blocks (includes 1.5 meter pre-wired cable with connector) |
| | MX4000-MRB-JB-03 | Manual Reset Button for MX4000 systems to be used with junction blocks (includes 3 meter pre-wired cable with connector) |
| | MX4000-MRB-JB-05 | Manual Reset Button for MX4000 systems to be used with junction blocks (includes 5 meter pre-wired cable with connector) |
| | MX4000-MRB-JB-10 | Manual Reset Button for MX4000 systems to be used with junction blocks (includes 10 meter pre-wired cable with connector) |

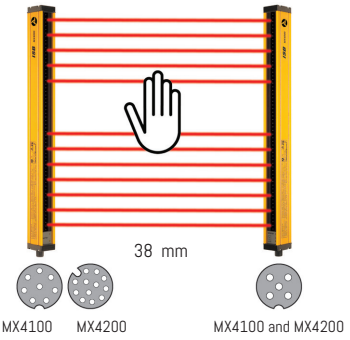
# MERLIN MX4100 & MX4200 SERIES

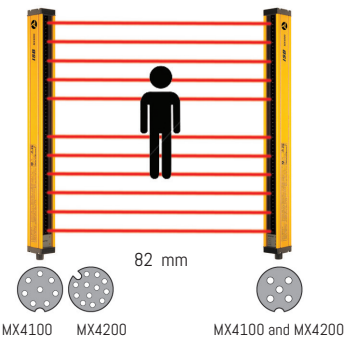
| DETECTION CAPABILITY | FIELD HEIGHT (mm) | EMITTER P/N | DETECTOR P/N | | RESPONSE TIME (ms) |
|---|---|---|---|---|---|
| | | | MX4100 | MX4200 | |
| 14 mm / 0.55" | 300 | MX4014-300 | MX4114-300 | MX4214-300 | 21 |
| | 450 | MX4014-450 | MX4114-450 | MX4214-450 | 27 |
| | 600 | MX4014-600 | MX4114-600 | MX4214-600 | 34 |
| | 750 | MX4014-750 | MX4114-750 | MX4214-750 | 40 |
| | 900 | MX4014-900 | MX4114-900 | MX4214-900 | 46 |
| | 1050 | MX4014-1050 | MX4114-1050 | MX4214-1050 | 53 |
| | 1200 | MX4014-1200 | MX4114-1200 | MX4214-1200 | 59 |
| 22 mm / 0.87" | 300 | MX4022-300 | MX4122-300 | MX4222-300 | 15 |
| | 450 | MX4022-450 | MX4122-450 | MX4222-450 | 18 |
| | 600 | MX4022-600 | MX4122-600 | MX4222-600 | 21 |
| | 750 | MX4022-750 | MX4122-750 | MX4222-750 | 25 |
| | 900 | MX4022-900 | MX4122-900 | MX4222-900 | 28 |
| | 1050 | MX4022-1050 | MX4122-1050 | MX4222-1050 | 31 |
| | 1200 | MX4022-1200 | MX4122-1200 | MX4222-1200 | 35 |
| | 1350 | MX4022-1350 | MX4122-1350 | MX4222-1350 | 38 |
| | 1500 | MX4022-1500 | MX4122-1500 | MX4222-1500 | 42 |
| | 1650 | MX4022-1650 | MX4122-1650 | MX4222-1650 | 45 |
| | 1800 | MX4022-1800 | MX4122-1800 | MX4222-1800 | 48 |
| 30 mm / 1.2" | 300 | MX4030-300 | MX4130-300 | MX4230-300 | 13 |
| | 450 | MX4030-450 | MX4130-450 | MX4230-450 | 15 |
| | 600 | MX4030-600 | MX4130-600 | MX4230-600 | 18 |
| | 750 | MX4030-750 | MX4130-750 | MX4230-750 | 20 |
| | 900 | MX4030-900 | MX4130-900 | MX4230-900 | 22 |
| | 1050 | MX4030-1050 | MX4130-1050 | MX4230-1050 | 25 |
| | 1200 | MX4030-1200 | MX4130-1200 | MX4230-1200 | 27 |
| | 1350 | MX4030-1350 | MX4130-1350 | MX4230-1350 | 30 |
| | 1500 | MX4030-1500 | MX4130-1500 | MX4230-1500 | 32 |
| | 1650 | MX4030-1650 | MX4130-1650 | MX4230-1650 | 34 |
| | 1800 | MX4030-1800 | MX4130-1800 | MX4230-1800 | 37 |
| 38 mm / 1.5" | 300 | MX4038-300 | MX4138-300 | MX4238-300 | 11 |
| | 450 | MX4038-450 | MX4138-450 | MX4238-450 | 13 |
| | 600 | MX4038-600 | MX4138-600 | MX4238-600 | 15 |
| | 750 | MX4038-750 | MX4138-750 | MX4238-750 | 17 |
| | 900 | MX4038-900 | MX4138-900 | MX4238-900 | 18 |
| | 1050 | MX4038-1050 | MX4138-1050 | MX4238-1050 | 20 |
| | 1200 | MX4038-1200 | MX4138-1200 | MX4238-1200 | 22 |
| | 1350 | MX4038-1350 | MX4138-1350 | MX4238-1350 | 24 |
| | 1500 | MX4038-1500 | MX4138-1500 | MX4238-1500 | 26 |
| | 1650 | MX4038-1650 | MX4138-1650 | MX4238-1650 | 27 |
| | 1800 | MX4038-1800 | MX4138-1800 | MX4238-1800 | 29 |
| 82 mm / 3.23" | 300 | MX4082-300 | MX4182-300 | MX4282-300 | 9 |
| | 450 | MX4082-450 | MX4182-450 | MX4282-450 | 10 |
| | 600 | MX4082-600 | MX4182-600 | MX4282-600 | 11 |
| | 750 | MX4082-750 | MX4182-750 | MX4282-750 | 12 |
| | 900 | MX4082-900 | MX4182-900 | MX4282-900 | 12 |
| | 1050 | MX4082-1050 | MX4182-1050 | MX4282-1050 | 13 |
| | 1200 | MX4082-1200 | MX4182-1200 | MX4282-1200 | 14 |
| | 1350 | MX4082-1350 | MX4182-1350 | MX4282-1350 | 15 |
| | 1500 | MX4082-1500 | MX4182-1500 | MX4282-1500 | 16 |
| | 1650 | MX4082-1650 | MX4182-1650 | MX4282-1650 | 17 |
| | 1800 | MX4082-1800 | MX4182-1800 | MX4282-1800 | 18 |



## GENERAL SPECIFICATIONS

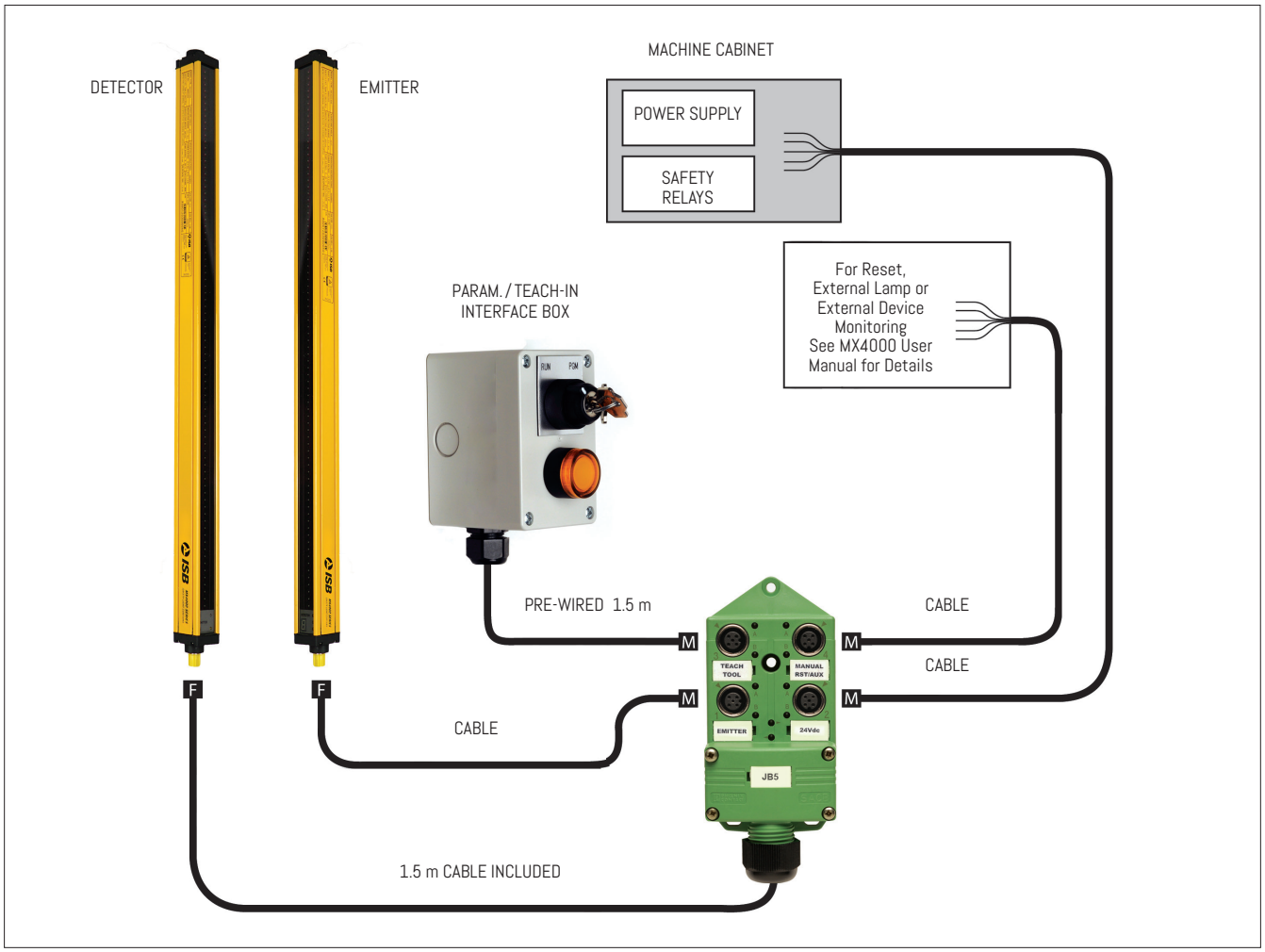
| | | MINIMUM | TYPICAL | MAXIMUM |
|---|---|---|---|---|
| Protective field height (depending on model) | | 300 mm | — | 1800 mm |
| Detection capability (depending on model) | | 14 mm | — | 82 mm |
| Detection range | | 0.1 m | 8 m | 10 m |
| Effective aperture angle | | — | — | ± 2.5° |
| Supply voltage (Us) | | 19.2 V | 24 V | 28.8 V |
| Residual input voltage ripple | | — | — | ± 10 % |
| Safety | Type according to IEC 61496 | — | Type 4 | — |
| | SIL according to IEC 61508 | — | SIL 3 | — |
| | SILCL according to IEC 62061 | — | SILCL 3 | — |
| | Performance level ISO 13849-1 | — | PL e | — |
| | Category as per ISO 13849 | — | Cat. 4 | — |
| | Service life | — | — | 20 years |
| | Probability of a failure to danger $PFH_d$ | — | 5.5E-9 $h^{-1}$ | — |
| | Probability of a failure to danger $PFD_{av}$(T) | — | 4.8E-4 h-1 | — |
| | MTTFd | — | 1.5E6 h | — |
| Environmental | Enclosure rating (IEC 60529) | IP 65 | | |
| | Protection class (IEC 50178) | III | | |
| | Operating ambient temperature | 0 °C | — | 50 °C |
| | Storage ambient temperature | –20 °C | — | 60 °C |
| | Relative humidity | 15 % | — | 95 % |
| | Rigidity | 5 g, 10..55 Hz as per IEC 60068-2-6 | | |
| | Shock | 10 g, 16 ms, as per IEC 60068-2-29 | | |
| Material | Main body | Aluminium (epoxy coated, yellow) | | |
| | End caps | Aluminium (anodized, black) | | |
| | Front cover | Polycarbonate | | |
| Standards | EMC | IEC 61000-4-3/4/5/6 | | |
| | Safety | IEC 61496-1 Type 4 ESPE | | |
| | | IEC 61496-2 Type 4 AOPD | | |
| | | IEC 61508 SIL3 | | |

## Mechanical Dimensions

### OVERALL COLUMN HEIGHT

| MODEL | HEIGHT | MODEL | HEIGHT |
|---|---|---|---|
| MX4000-300 | 370 mm | MX4000-1200 | 1270 mm |
| MX4000-450 | 520 mm | MX4000-1350 | 1420 mm |
| MX4000-600 | 670 mm | MX4000-1500 | 1570 mm |
| MX4000-750 | 820 mm | MX4000-1650 | 1720 mm |
| MX4000-900 | 970 mm | MX4000-1800 | 1870 mm |
| MX4000-1050 | 1120 mm | | |

# JUNCTION BLOCKS




## MX extension cables

These are preassembled M12 IP65 5 pin connector cables, male on one end female on the other. They are intended to be used with JB4 or JB5 junction blocks. For quick connectability to any input or output device such as power supply, OSSD outputs, mute sensors, teach tool, auxilliary output or EDM inputs.

| CABLES | | |
|---|---|---|
| LENGTH | PART # | |
| 5 m | 55-4013-05 |  |
| 10 m | 55-4013-10 | |
| 1.5 m | 55-4004-015 |  |
| 3 m | 55-4004-03 | |
| 5 m | 55-4004-05 | |
| 10 m | 55-4004-10 | |

With all pre-wired inputs and outputs for an easy installation.

All you have to do is connect the 4 or 5 wires to your power source and connect the OSSD outputs. These MX junction blocks are invaluable tools that will make installing a pair of MX columns easier and less time consuming.

These junction blocks will also save you on the need to acquire the more costly larger cables required for a direct connection to your control box.

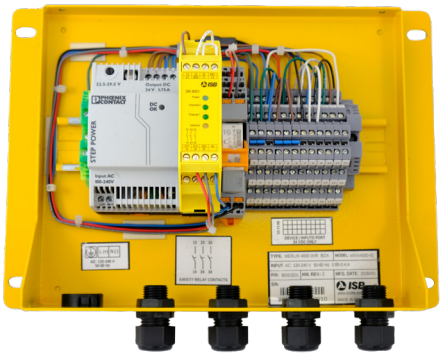
As well, adding or removing a function will be an easier task and will not require any rewiring work.

| JUNCTION BLOCK | |
|---|---|
| **Ordering information** | |
| JB4 | 4 port Junction block and cable assembly for MX4100 (1.5 m cable with 8-pin M12 connector) |
| JB5 | 4 port Junction block and cable assembly for MX4200 (1.5 m cable with 12-pin M12 connector) |

* OTHER CONFIGURATIONS OF JUNCTION BLOCKS ARE AVAILABLE.

# MX WIRING BOXES

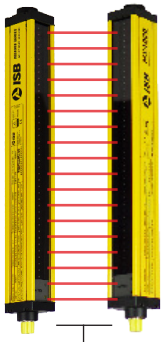
The MX light curtain wiring boxes are designed to perform an easy and fast installation of ISB Merlin 4000 Systems and ISB MX4000 Light Curtain Systems. These wiring boxes come with all internal components pre-wired, and may contain from 1 up to 4 safety relays, a 24 VDC power supply, and an external interrupt relay.




The MX light curtain wiring boxes come in different models depending on the application.
Please refer to the table below to select the right model.

## WIRING BOX SELECTION TABLE

### MX4100/4200 LIGHT CURTAINS



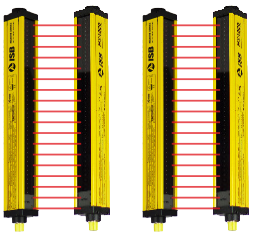
1 Light Curtain
(1x MX4100/4200)

Features with dedicated ports included on wiring box including port for MX4000-PB teach tool.

MXW4003-01
(120/240VAC)
MXW4003-11 (24 VDC)

Features can be used with 1 JB4/JB5

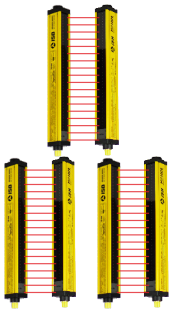
MXW4001-01
(120/240VAC)
MXW4001-11 (24 VDC)



2 Light Curtains
(2 x MX4100/4200)

Features can be used with 2 JB4/JB5

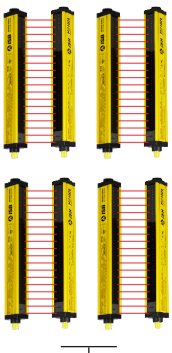
MXW4001-02
(120/240VAC)
MXW4001-12 (24 VDC)



3 Light Curtains
(3 x MX4100/4200)

Features can be used with 3 JB4/JB5

MXW4001-03
(120/240VAC)
MXW4001-13 (24 VDC)



4 Light Curtains
(4 x MX4100/4200)

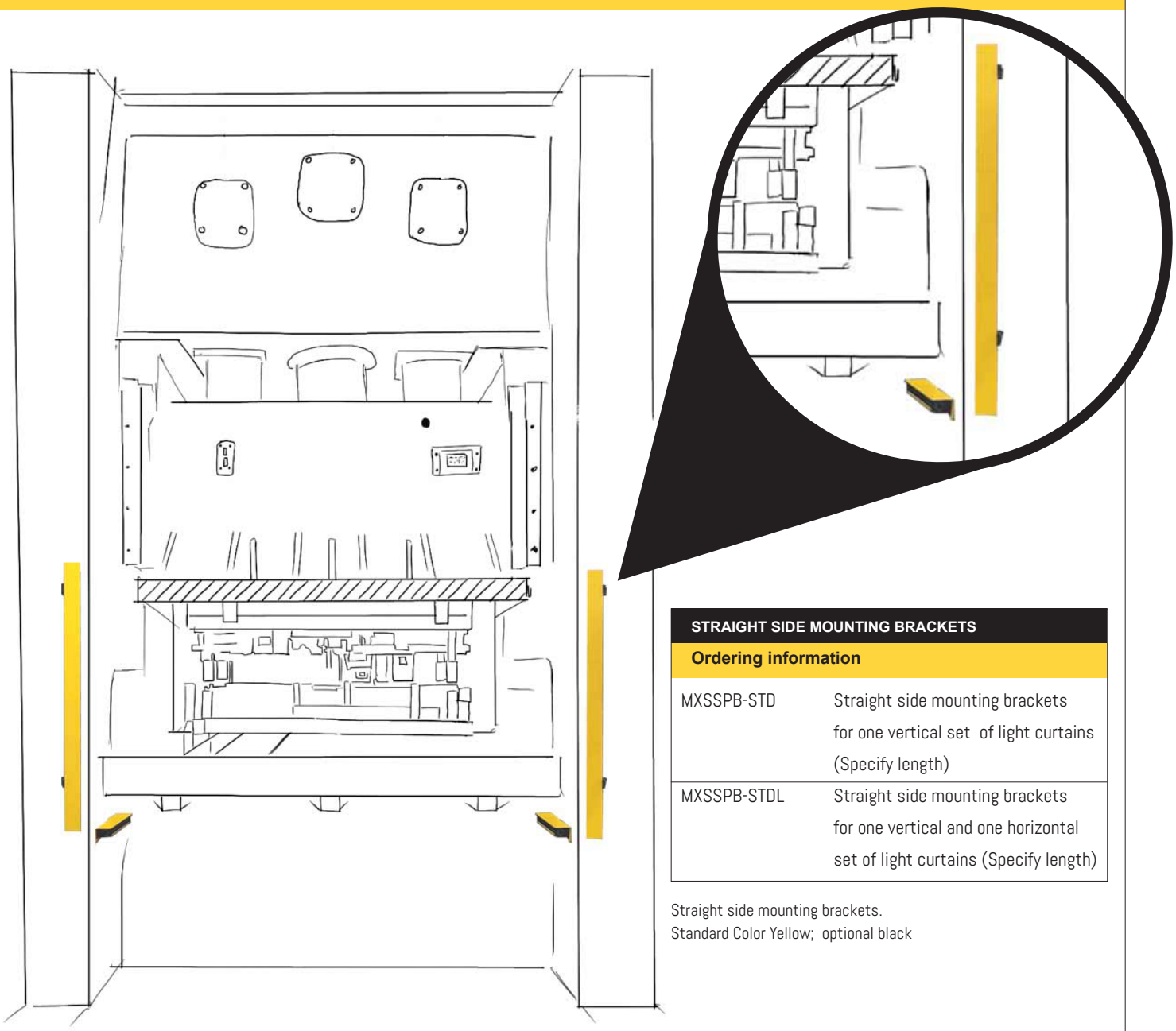
Features can be used with 4 JB4/JB5

MXW4001-04
(120/240VAC)
MXW4001-14 (24 VDC)

## Straight Side Press Mounting Brackets

ISB custom built mounting brackets provide a solid mounting surface for press mounting our MX4000 Series Light Curtains, while having a protective flange to protect the face of the lens openings. The heavy duty steel plates are oversized to protect the connector end and have slots to allow for aligning the safety lights. They are provided with additional smaller slotted brackets for press column mounting the protective plates that will also double as a method for setting the safety distance.
If a second light curtain grid is required mounted horizontally, to prevent an operator from standing inside the primary vertical guard, a second model bracket is available that provides mounting provisions for both the vertical and horizontal safety light curtains.

**STRAIGHT SIDE PRESS**



**STRAIGHT SIDE MOUNTING BRACKETS**

**Ordering information**

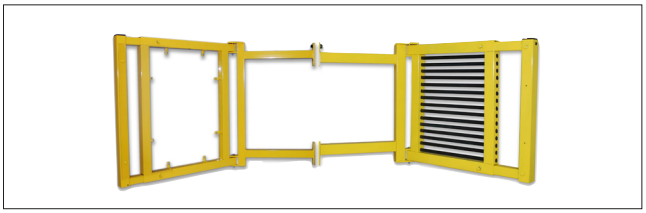
| | |
|---|---|
| MXSSPB-STD | Straight side mounting brackets for one vertical set of light curtains (Specify length) |
| MXSSPB-STDL | Straight side mounting brackets for one vertical and one horizontal set of light curtains (Specify length) |

Straight side mounting brackets.
Standard Color Yellow; optional black

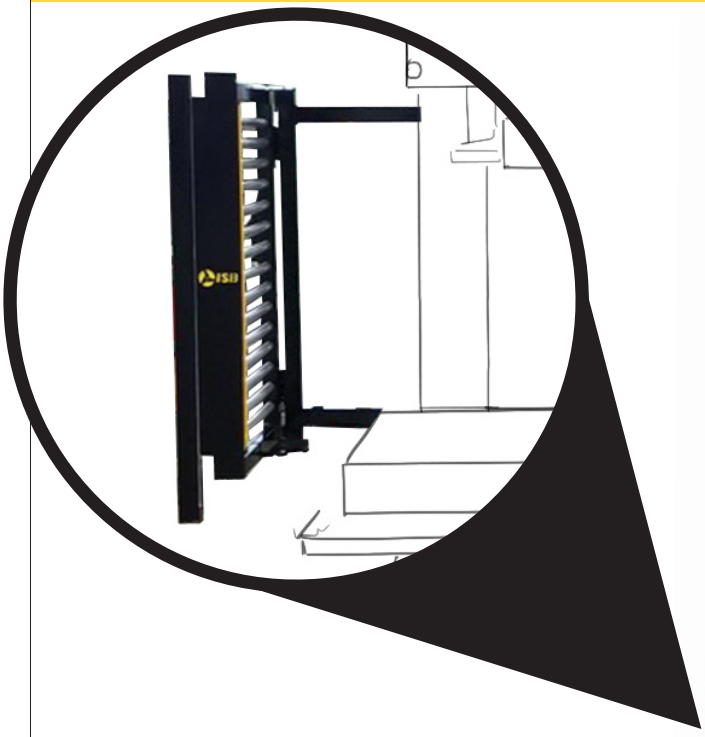
## Light Curtain Swing Away Side Guards for C-Frame Power Presses or Press Brakes

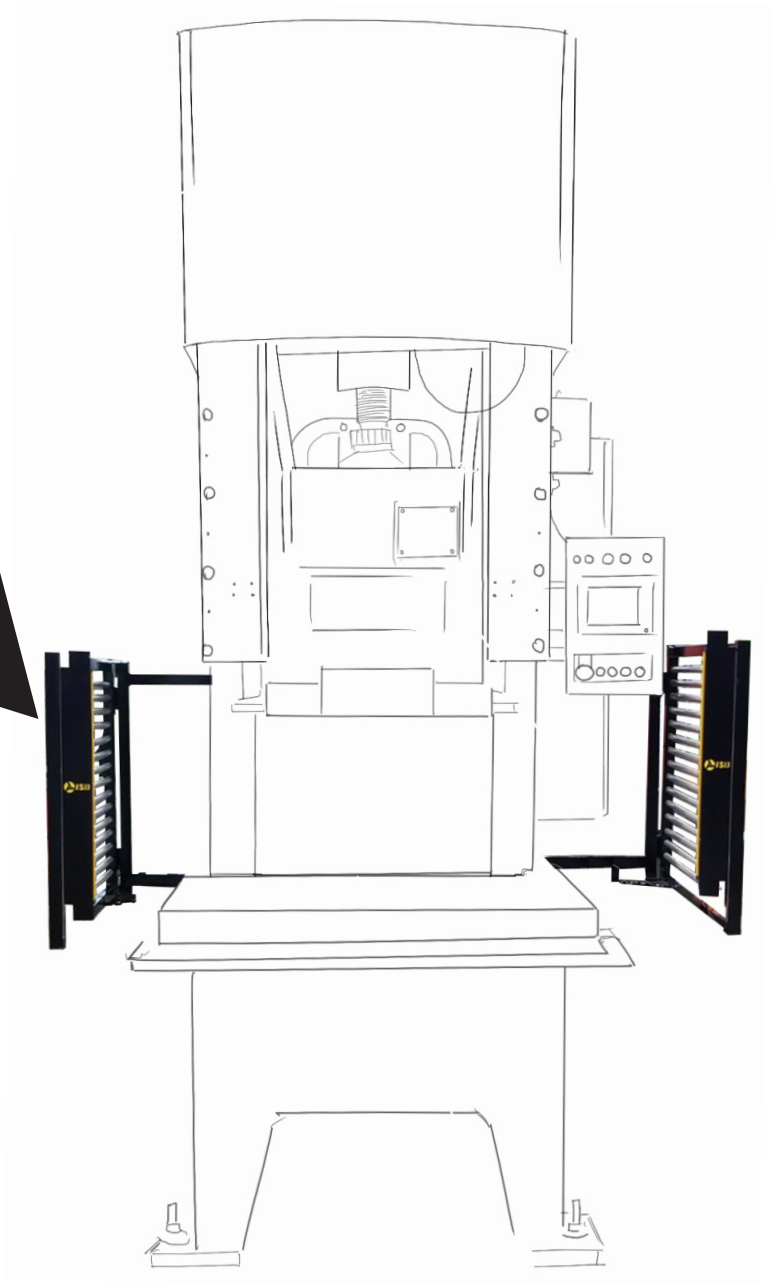
ISB custom built welded swing away light curtain mounting brackets have built-in swing away side panels to allow for easy die changeover. The side panels are available in clear Lexan for the maximum amount of visibility, or horizontal bar side panels with removeable rods to allow for strip feeding, conveyors, part chutes, etc.

**LEXAN SIDE SCREENS** | **REMOVABLE HORIZONTAL BARS**



**C-FRAME PRESS**





| SWING AWAY SIDE GUARD MOUNTING BRACKETS | |
|---|---|
| **Ordering information** | |
| MXSSG-450-PLX | (for 450 mm (18″) light curtains) |
| MXSSG-600-PLX | (for 600 mm (24″) light curtains) |
| MXSSG-750-PLX | (for 750 mm (30″) light curtains) |
| MXSSG-900-PLX | (for 900 mm (36″) light curtains) |
| MXSSG-1050-PLX | (for 1050 mm (42″) light curtains) |
| MXSSG-1200-PLX | (for 1200 mm (48″) light curtains) |

Substitute -PLX for HB for all P/N's for horizontal bar side screens. Standard color is Yellow. Black color option is available.

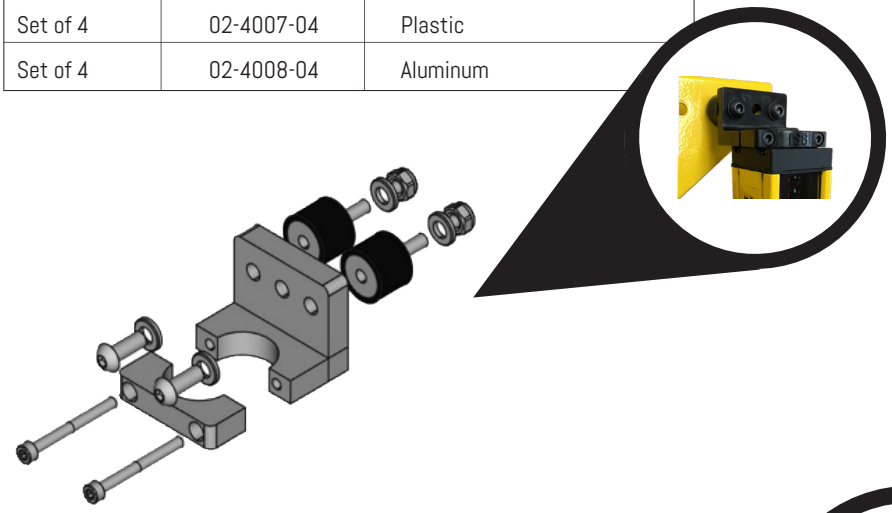
# MX MOUNTING HARDWARE & ACCESSORIES

## MX Mirrors

| MX MIRRORS * Sold Individually | |
|---|---|
| **Ordering information** | |
| ISBM-300 | Mirror assembly, alum. extrusion for 300 mm light curtains. |
| ISBM-450 | Mirror assembly, alum. extrusion for 450 mm light curtains. |
| ISBM-600 | Mirror assembly, alum. extrusion for 600 mm light curtains. |
| ISBM-750 | Mirror assembly, alum. extrusion for 750 mm light curtains. |
| ISBM-900 | Mirror assembly, alum. extrusion for 900 mm light curtains. |
| ISBM-1050 | Mirror assembly, alum. extrusion for 1050 mm light curtains. |
| ISBM-1200 | Mirror assembly, alum. extrusion for 1200 mm light curtains. |
| ISBM-1350 | Mirror assembly, alum. extrusion for 1350 mm light curtains. |
| ISBM-1500 | Mirror assembly, alum. extrusion for 1500 mm light curtains. |

## MX4000 Mounting brackets

| MX SPLIT COLLAR MOUNTING BRACKET WITH SHOCK MOUNTS | | |
|---|---|---|
| **Ordering information** | | |
| Set of 4 | 02-4007-04 | Plastic |
| Set of 4 | 02-4008-04 | Aluminum |



## MX Floor Mount Pedestal & Base

| MX FLOOR MOUNT PEDESTAL & BASE | |
|---|---|
| ***Pedestals sold in sets of two.** | |
| MSA-0003-004 | Pedestal set, floor mounted with levelling screws, 1829mm/72" (a pair) |

# OTHER PRODUCTS OFFERED BY ISB

## RBPC RESOLVER BASED PRESS CONTROL

The ISB RBPC Control has a compact design for easy installation. The entire press control and automation package, including the operator interface is self-contained in a panel-mount housing that could fit into your brief case.

With built in die monitoring for your air clutch mechanical presses

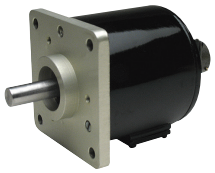
Up to 12 PLS Channels with;

P/N: RBPC-PLS-EXP

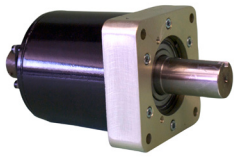
Up to 25 Die Protection Channels with;

P/N: RBPC-DIE-EXP
P/N: RBPC-DIE-ERC


### RESOLVER



RESOLVER 3/8"
30-0018-01



RESOLVER 3/4"
30-0018-02

## FAB MAT AND CONTROLLER

Fab-Mat, made to order (width WW, length LL), black :
FM-WWLL-B

Fab-Mat edge trimming aluminum extrusion.
Supplied in 108" lengths :
34-0893-000


Complete Fab Mat 2 Controller:
P/N FM2-CTR

Relay only:
P/N 22-4000-01

TÜV

# OTHER PRODUCTS OFFERED BY ISB

## PRESS BRAKE GUARDING


Press brakes are difficult machines to guard, A standard safety light curtain can not provide protection because of these varying part profiles. Only the unique MERLIN concept, pioneered by ISB, can learn each flange profile while making your initial sample part and automatically create a window exactly the proper size required for each specific cycle. This opening may change from stroke to stroke automatically, completely determined by our processor, not your operator or set up personnel.

## SOFTOUCH 2 - ERGONOMIC BUTTONS

P/N: ST2-0001

P/N: ST2-0001-90

P/N: ST2-4200-00

## DIE BLOCKS

Provide safety during set up and maintenance of power presses.

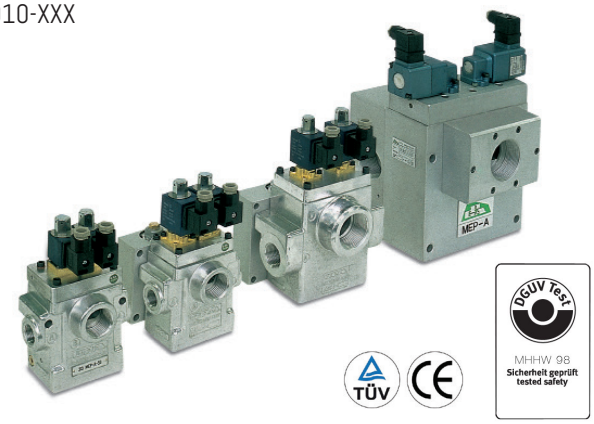
SB-035-XX


SB-125-XX

SB-015-XX

## SAFETY VALVES

Self monitoring 120 VAC or 24 VDC coils, 56-3010-XXX




Safety is our passion, YOUR safety is our mission.

ISB

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