

Ordering Procedure

microGUARD®

Example
Part #

MG - 04 - OF - 20 - (Options)

Light Curtain Controller
Module Housing

Pylon
Size

Light Curtain
Style and
Beam Spacing

Scanning distance
in feet—20' (6.1m)
standard, 50'
(15.24m) maximum

Light Curtain Controller Module Housing

MG - NEMA 12 & 13 (IP 64) stand alone Metal Box Controller Module

DR - 35mm DIN-rail Mountable Controller Module (24VDC Input Power Only)

Pylon Sizes (Protected Area)

1/2" (13mm) Beam Spacing: 04,08,12,16,20,24,28,32,36,40,44,48,52,56,60,64

1" (25mm) Beam Spacing: 04,08,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68,72,76,80,84,88,92,
96,100,104,108,112,116,120

Light Curtain Style and Beam Spacing

1/2" (13mm) Spacing of Beams

OF - Constant scan - no blanking.

1F - 1 beam floating blank built-in.

8K - Up to 3 beam floating blank adjustable by the use of a keyswitch removable in all positions. Capable of constant scan or one, two, or three floating beams.

AB - Includes constant scan light curtain, one beam floating blank, and two auto blank modes.

CE - No blanking, 24VDC input power, 2° angle of divergence, and CE certified (designed to conform to the European Market and worldwide IEC 61496 Parts 1 & 2 Standards).

1" (25mm) Spacing of Beams

OF1 - Constant scan - no blanking.

1F1 - 1 beam floating blank built-in.

8K1 - Up to 3 beam floating blank adjustable by the use of a keyswitch removable in all positions. Capable of constant scan or one, two, or three floating beams.

AB1 - Includes constant scan light curtain, one beam floating blank, and two auto blank modes.

CE1 - No blanking, 24VDC input power, 2° angle of divergence, and CE certified (designed to conform to the European Market and worldwide IEC 61496 Parts 1 & 2 Standards).

Options (Add underlined suffix to part number)

AVAILABLE ON BOTH METAL BOX & DIN-RAIL CONTROLLERS

SMB - **Swivel Mounting Brackets for Pylons:** Replaces the fixed mounting brackets normally supplied. Provides a 360° rotation of pylons.

MO - **Guarding Mute-Out:** Mutes out the light curtain during the non-hazardous portion of the machine cycle.

DN - **DeviceNet™:** Fieldbus network compatible.

Extended Range Units: 21' (6.4m) to 35' (10.67m) scanning distances (specify desired scanning distance).

AVAILABLE ON THE METAL BOX CONTROLLER

LR - **Resettable Latching Relays:** Requires the light curtain to be manually reset every time the sensing field is penetrated (*built-in standard on the DIN-rail Controller Module*).

SC - **Single Controller for Multiple Light Curtains:** Cost effective approach when a machine requires multiple light curtains. All curtains are controlled by a single MicroGuard controller. Up to four sets of pylons can be connected to the controller.

ES - **Emergency Stop Input:** E-Stop input requiring the MicroGuard to issue a stop command (*built-in standard on the DIN-rail Controller Module*).

24VDC - **24VDC Input Power:** Required for 24VDC input power.

220VAC - **220VAC Input Power:** Required for 220VAC input power.

AVAILABLE ON THE DIN-RAIL CONTROLLER

RSD - **DIN-rail Remote Status Display (RSD):** Remote mounting plate providing a single location to mount the following on existing panel door: light curtain scrolling diagnostic message display, blanking option keyswitch (if applicable), and status indicator lights (all styles).

CI - **Cincinnati Interface:** Requires the MicroGuard to issue a stop command every machine cycle (*built-in standard on the Metal Box Controller Module*).

AO - **Analog Output for Non-Safety Applications:** -10VDC to +10VDC or 0VDC to +10VDC.

EXTRA PYLON PROTECTION (OPTIONAL)

- PT** - **Polycarbonate tube** which will encase the pylons for high impact protection.
- AT** - **Acrylic Tube** which will encase the pylons for protection from caustic and/or chemical agents.

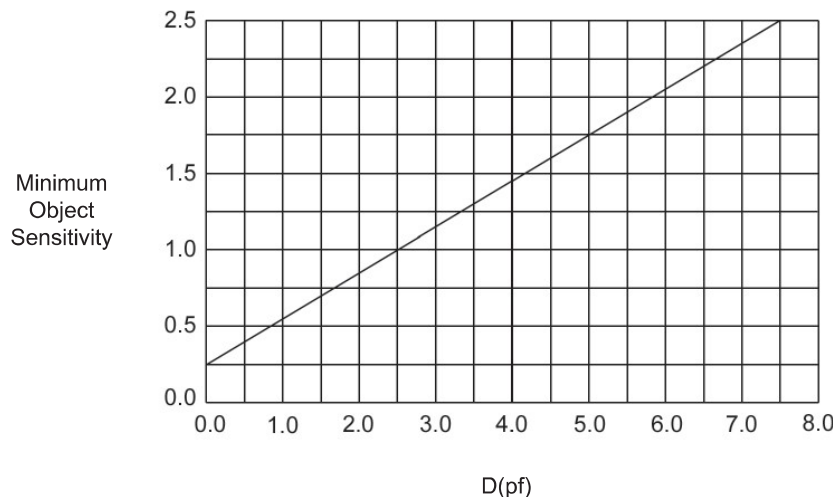
Formula for calculating light curtain safety distance

The effective sensing field of the device shall be located at a distance from the nearest recognized hazards such that the operator or others cannot reach the hazard with a hand or other body part before cessation of motion during the hazardous portion of the machine cycle.

The point at which a device responds to an intrusion may vary. The devices should be located or adjusted such that the device always responds to the intrusion at or prior to the safety distance. Care should be exercised when installing the device to ensure that it does not detect false signals from other devices in the area.

Usually the electro-optical presence-sensing device is used in a manner that provides a protected zone in front of the primary work area with auxiliary devices or guards used to protect secondary access areas. In some cases, however, mirrors may be used in conjunction with the device to provide 2-, 3-, 4-, or 5-sided protection.

The machine stop time should be measured with the machine running at its fastest speed with its heaviest die or tooling and the stop time being measured at the 90° position in the downstroke.



The following formula should be used when calculating the safety distance:

$$Ds = K \times (Ts + Tc + Tr + Tbm) + D(pf)$$

- Ds** = Minimum safety distance between the device and the nearest point of operation hazard (in inches).
- K** = Hand speed constant. This value has been determined by various studies and, although these studies indicate speeds of 63 in/sec to over 100 in/sec, they are not conclusive determinations. The employer should determine this value by considering all factors, including physical ability of the operator.
- Ts** = Stop time of the machine tool measured by a stop time measurement device.
- Tc** = Response time of the control system (usually is taken care of by the measurement device).
- Tr** = Response time of the presence-sending device and it's interface, if any, as stated by the manufacturer or measured by the employer.
- Tbm** = Additional time allowed for the brake monitor to compensate for variations in normal stopping time.
- D(pf)** = Depth Penetration Factor. Added distance as indicated by the above chart. The minimum object sensitivity is stated by the manufacturer.

Order Form

Name: _____

Company: _____

Phone: _____

Email: _____

Fax: _____

Address: _____

City: _____

State: _____

Zip: _____

**Light Curtain
Controller
Module
Housing**

**Pylon
Size**

**Light Curtain
Style and Beam
Spacing**

**Scanning distance (ft.):
20' (6.1m) standard,
50' (15.24m) maximum**

(Options)