

WINTRISS®



Shadow 10

Safety Light Curtains Built Tough for Industrial Environments

Shadow¹⁰

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Point of Operation Safety Device

The Shadow 10 light curtains are built with the pressroom and other demanding applications in mind. Not only do these rugged light curtains withstand the rigors of everyday use, they also simplify programming and day-to-day maintenance. With more than 50,000 systems installed, the Shadow series has a proven track record.

3rd Party certified to UL/CSA/CE & TUV standards

Category 4 for high risk hazards

Programmable floating and fixed monitored blanking

Alignment indicators simplify installation

7 Segment display and diagnostic indicator LEDs

Up to 4 sets of light curtains can connect to one control

Features

- Connect up to 4 sets of heads to one control box/WPC APEX
- Individual Beam Indicators
- **Protective Height:** 11.8in/300mm to 59in/1500mm
- **Object Sensitivity:** 22mm for Hand Protection
- **Maximum Range:** 26ft/8m
- OSSD with two separate safety outputs
- Highly adjustable brackets can reorient up to 360°
- Solid Aluminum Construction

Programmability

- Programmable Interlock Function
- Fixed Monitored Blanking
- Floating Blanking
- Configurable Tolerances for all Blanking Modes
- All heads are individually programmed and managed

Multiple Indicators

The Shadow 10 Light Curtain features multiple indicators to facilitate its use and indicate the status of the unit at any given time.

Individual Beam Status Indicators

- 3 Bright LED indicators
 - Red or Green for status
 - Blue solid indicates active blanking mode
 - Blue flashing indicates muting
 - Yellow solid indicating lock-out condition
 - Yellow flashing for interlock condition is engaged

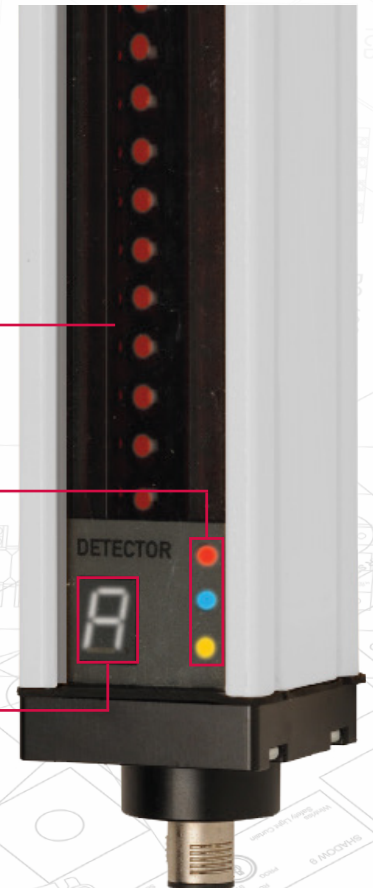
7-Segment display turns on when required for additional information.

Certifications

Safety: Type 4, SIL 3, SILCL 3, PL e, Cat. 4

Environmental: IP 65, IEC 61496-1, Type 4 ESPE

Safety 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, ANDI/RIA R15.06



The **Shadow 10 Safety Light Curtains** are Type 4 Active Optoelectronic Protective Devices (AOPD) with intuitive programmability. Shadow 10 light curtain sets consist of an Infrared (IR) emitter head and a detector head with a complementary array of IR photo-sensors. Together, they identify when objects greater than 22mm cross into the protective light field and then deactivate the light curtain's safety outputs (OFF state).

Shadow 10 Parameters

Scan Code

Two selectable light modulation patterns allow multiple emitter–detector pairs to operate in close proximity without mutual interference. Each detector column recognizes light emissions only from an emitter column using the same scan code, ensuring reliable operation in multi system installations.

Interlock Functions

Start Interlock

The start interlock function holds the OSSD outputs in the OFF state after power up, even when the protective field is clear. This prevents unexpected machine start up following a power outage or power cycle.

Restart Interlock

The restart interlock function maintains the OSSD outputs in the OFF state after an interruption of the protective field. This prevents automatic machine restart when the protective field is cleared.

External Device Monitoring (EDM)

The EDM function monitors the state of external control components. Its primary function is to detect faults—such as welded contacts—in external relays, contactors, or solenoid valves connected to the safety outputs of the safety light curtain. For proper operation, positive guided feedback contacts must be used.

Blanking

The blanking function allows an object of a size greater than 22mm to be present in the protective field without disabling the safety outputs of the device.

The system continuously monitors the object's size and position. If either parameter deviates from its programmed value—due to movement or removal—the safety outputs are immediately deactivated (OFF state). The individual beam indicators (IBIs) for the blanked area are illuminated. This mode is designed to accommodate fixed machine components such as part feeders, support arms, or conveyors within the protective field without affecting normal machine operation.

Blanking Tolerance

In applications where precise object positioning is difficult due to vibration, handling limitations, or object flexing, a blanking tolerance can be applied.

Shadow 10 allows a configurable blanking tolerance at each end of a fixed blanking pattern to compensate for minor variations in object position or size.

Floating Blanking

Up to three floating blanking windows can be programmed. Floating blanking is ideal for applications where smaller objects must freely enter, exit, or move within the protective field during machine operation, such as hanging hoses or moving machine parts. Floating mode supports multiple occurrences of objects entering and exiting the protective field without interrupting operation.



Shadow 10 Control Options

Shadow 10 Control Box

The optional Shadow 10 safety control box is designed to connect to up to 4 sets of light curtain heads. This compact, programmable turnkey solution is pre-configured by Wintriss for optimal integration with Shadow 10 systems.

Each light curtain head is connected to an individual input on the controller, allowing for parallel operation. This design improves system responsiveness and simplifies troubleshooting.

The Shadow 10 control box can accommodate all sizes of transmitter and receiver heads. No special settings are required.

The Shadow 10 control box is available in two output configurations:

- **24VDC OSSD Output:** Standard configuration, fully compatible with WPC 1000/2000/APEX controllers and most modern safety circuits.
- **120VAC OSSD Output:** Available via an alternate version of the controller for compatibility with older or legacy equipment requiring higher voltage output signals.

The Shadow 10 safety control box is CE and UL certified, and the enclosure is NEMA 12 rated.



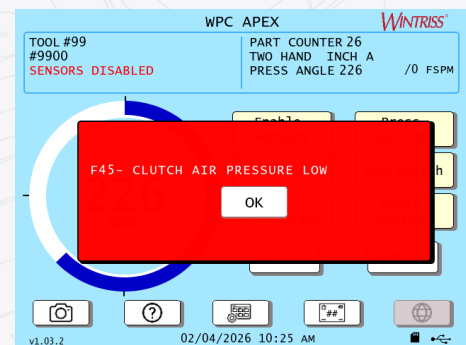
The WPC APEX

The 3rd Generation Wintriss Press Control can connect to up to four sets of light curtains, which allows you flexibility in protecting your operators and machines.

The WPC APEX includes all the standard features of the WPC line: Clutch/Brake Control, brake monitoring (both stopping time and number of degrees to stop), crank angle and SPM display.

In addition, the WPC APEX features:

- Counters (strokes, good parts, total hits, presets)
- Up to 7 cross-checked safety interlocks and 7 standard non-safety programmable user inputs
- 4-input die protection system
- 8 optional programmable cam outputs
- Detailed explanations of detected faults
- Interrupted stroke provision
- Micro-inch
- Mode-specific user inputs
- Dedicated BDC and TDC outputs
- Tool number memory
- Five Programmable E-Stop Code Inputs
- USB Firmware Updates
- Four Operator Station Inputs
- Program/Run and Operating Mode Key Switches



The WPC APEX is CSA certified, and the enclosure is NEMA 12 rated.



Shadow 10 Accessories

Die Safety Blocks provide safety during set-up and maintenance for power presses by mechanically and electrically preventing inadvertent die closure. Die safety blocks are placed between the die punch and holder with the machine stroke up. They are rated to support a static load.

Available Sizes: MINI (1.5" O.D.), Standard Round (3" O.D.), and Standard Horseshoe (5.625" O.D.) Styles

Safety die block holders, handles, and stabilizers are also available.



Sof-Touch 2 ergonomic palm buttons eliminate stressful and strenuous forces associated with pushing mechanical buttons. This replacement for conventional spring-loaded run buttons mitigates the risk of "Carpal Tunnel Syndrome" for press operators.



Shadow 10 Mirrors help expand your light curtain grid and are available in all Shadow 10 light curtain protective heights.



Split Collar Brackets allow you to mount your light curtain and adjust them up to 360°.



The Portable Teach Tool allows you to program your light curtain parameterization and blanking without a control box. The teach tool allows you to connect to the light curtains for individual programming rather than relying only on a mounted safety control box.



Cables are preassembled M12 IP65 connector cables, male on one end female on the other, for quick connectability to any input or output device such as power supply, OSSD outputs, mute sensors, teach tool, auxilliary output, or EDM inputs.



Shadow 10 Main Receiver and Main Transmitter cables are available in sizes 16ft (5m), 33ft (10m), 49ft (15m), 66ft (20m), 100ft (30m). Transmitter extension cables are 1ft (0.3m), 1.6ft (0.5m), 5ft (1.5m), 10ft (3m), 16ft (5m), 33ft (10m), 49ft (15m), and 66ft (20m).



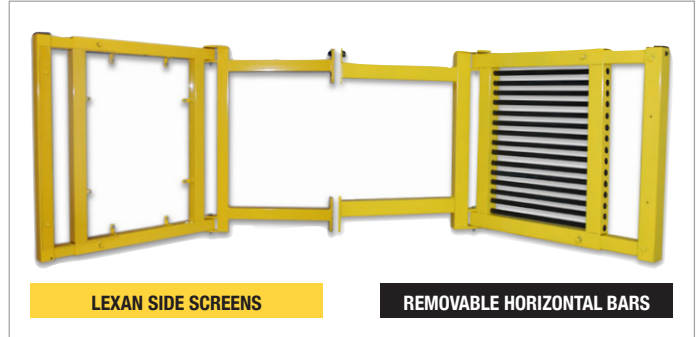
Position Y Cable Kits are used for daisy-chaining transmitters.



Shadow 10 Hardguarding

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

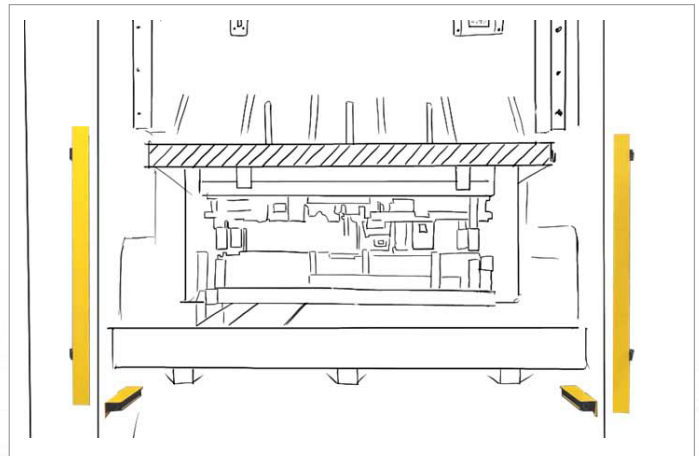
Wintriss custom-built light curtain mounting brackets have built-in swingaway side panels to allow for easy die changeover. The side panels are available in clear Lexan for the maximum amount of visibility or horizontal bars with removeable rods to allow for strip feeding, conveyors, part chutes, etc.



Straight Side Press Mounting Brackets

Wintriss custom-built mounting brackets provide a solid surface for press mounting Shadow 10 light curtains and feature a protective flange to protect the lens faces. The oversized heavy duty steel plates protect the connector ends and have slots to allow for safety light alignment. They have additional smaller slotted brackets for press mounting the protective plates, which also double as a method for setting the safety distance.

Mounting brackets are available for both vertical and horizontal light curtains.



Service and Support

All Wintriss personnel have a thorough understanding of the various safety standards that apply to safety light curtain systems. At your request, we will analyze your application and make recommendations for the proper light curtain configuration as well as any supplemental guarding that may be required.

We offer a toll-free number for technical assistance. Call 1-800-586-TECH (8324) should you have any questions about your equipment. Our technical staff is ready to assist you Monday through Friday, 8 a.m. to 5 p.m. Eastern Time. In many cases, our experienced technical staff can resolve your inquiry right over the phone.

In-House Repair

Wintriss offers in-house repair for Shadow 10 light curtains from our headquarters in Massachusetts, USA. We have an average 2-week repair turnaround time and offer a 48-hour expedited service. All of our light curtain systems carry an industry-leading 2-year warranty.

Nationwide field service is also available. Contact the Wintriss Technical Support group at 1-800-586-8324.

Find Out More

For more information, contact your local Wintriss representative or visit our web site at www.wintriss.com.

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Wintriss Controls Group is a leading manufacturer of press automation, die protection, press brake guarding, and safety controls for metal stamping and forming industries; press brake guarding, and data collection systems for all discrete manufacturing. We provide seminars for all products and OSHA compliance along with plant surveys.

These products, which leverage Wintriss's 70+ years of experience in the metal stamping industry, are known for their proven performance and rugged dependability in the toughest factory environments. Wintriss equipment is backed by attentive service, timely repairs, and comprehensive spares inventories. A toll-free hotline gives customers immediate access to technical support experts for product information and applications assistance.

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