

EZ-SCREEN Low-Profile Safety Light Curtain Systems

Product Specifications

Supply Voltage at the Device	24V dc \pm 15% (use a SELV-rated supply according to EN IEC 60950) (The external voltage supply must be capable of buffering brief mains interruptions of 20 ms, as specified in IEC/EN 60204-1.)
Residual Ripple	\pm 10% maximum
Supply Current	Emitter: 60 mA max. Receiver (no load): 150 mA max., exclusive of OSSD1 and OSSD2 loads (up to an additional 0.5 A each) and Aux Out load (up to 0.25 A)
Emitter Remote Test Input	Test mode is activated either by applying a low signal (less than 3V dc) to emitter Test/Reset terminal for a minimum of 50 milliseconds, or by opening a switch connected between Test/Reset and +24V dc for a minimum of 50 milliseconds. Beam scanning stops to simulate a blocked condition. A high signal at Test/Reset deactivates Test mode. High Signal: 10 to 30V dc Low Signal: 0 to 3V dc Input Current: 35 mA inrush, 10 mA max.
Emitter Controls and Adjustments	Scan Code Selection: 2-position switch (code 1 or 2). Factory default position is code 1. Test/Reset: 2-position switch. Factory default position is Reset. Invert Display: 2-position switch. Factory default position is OFF (standard display). Fault: 2-position switch. Factory default position is OFF.
Emitter Status Indicators	One bi-color (Red/Green) Status indicator: indicates operating mode, lockout or power OFF condition 7-Segment Diagnostic indicator (1 digit): indicates proper operation, scan code, or error code
Wavelength of Emitter Elements	Infrared LEDs, 850 nm at peak emission
Receiver Response Time	Dependent on number of sensing beams
Receiver Recovery Time	Blocked to Clear (OSSDs turn ON; varies with total number of sensing beams and whether Sync beam is blocked): 14 mm Models, Beam 1 (Sync Beam): 109 ms to 800 ms 14 mm Models, All Other Beams: 33 ms to 220 ms 25 mm Models, Beam 1 (Sync Beam): 81 ms to 495 ms 25 mm Models, All Other Beams: 25 ms to 152 ms
Receiver EDM Input	+24V dc signals from external device contacts can be monitored (one-channel, two-channel or no monitoring) via EDM1 and EDM2 terminals in the receiver. High Signal: 10 to 30V dc at 30 mA typical Low Signal: 0 to 3V dc

Receiver Reset Input	The Reset input must be high for 0.25 to 2 seconds and then low to reset the receiver High Signal: 10 to 30V dc at 30 mA typical Low Signal: 0 to 3V dc Closed Switch Time: 0.25 to 2 seconds
Output Signal Switching Devices (OSSDs)	Two redundant solid-state 24V dc, 0.5 A max. sourcing OSSD (Output Signal Switching Device) safety outputs. (Use optional interface modules for ac or larger dc loads.) Capable of the Banner “Safety Handshake”. ON-State voltage: ≥ Vin-1.5V dc OFF-State voltage: 1.2V dc max. (0-1.2V dc) Max. load capacitance: 1.0 μF Max. load inductance: 10 H Leakage Current: 0.50 mA maximum Cable Resistance: 10 Ω maximum OSSD test pulse width: 100 to 300 microseconds OSSD test pulse period: 10 ms to 22 ms (varies with number of beams) Switching Current: 0-0.5 A
Auxiliary Output Switching Capacity (OSSD/Fault)	Current-sourcing (PNP) solid-state output, 24V dc at 250 mA max.
Controls and Adjustments	Scan Code selection: 2-position switch (code 1 or 2). Factory default position is code 1. Trip/Latch Output selection: Redundant switches. Factory default position is T (trip). EDM/MPCE monitor selection: 2-position switch selects between 1- or 2-channel monitoring. Factory default position is 2-channel monitoring. Reduced Resolution: Redundant switches. Factory default position is OFF. Aux./Fault: 2-position switch. Factory default position is Aux. Invert Display: 2-position switch. Factory default position is OFF.
Ambient Light Immunity	> 10,000 lux at 5° angle of incidence
Strobe Light Immunity	Totally immune to one Federal Signal Corp. “Fireball” model FB2PST strobe
Status Indicators	Yellow Reset indicator: indicates whether system is ready for operation or requires a reset Bi-color (Red/Green) Status indicator: indicates general system and output status Bi-color (Red/Green) Zone Status indicators: indicate condition (clear or blocked beam) of a defined group of beams 7-Segment Diagnostic indicator (1 digit): indicates proper operation, scan code, error code, or total number of blocked beams
Short Circuit Protection	All inputs and outputs are protected from short circuits to +24V dc or dc common.
Electrical Safety Class (IEC 61140: 1997)	III
Safety Rating	Type 4 per IEC 61496-1, -2; Category 4 PL e per EN ISO13849-1, SIL3 per IEC 61508; SIL CL3 per IEC 62061
Operating Range	0.1 m to 7 m (4 in to 23 ft)

	<p>Range decreases with use of mirrors and/or lens shields:</p> <p>Lens shields – approximately 10% less range per shield.</p> <p>Glass-surface mirrors – approximately 8% less range per mirror. See the specific mirror data sheet or the Banner Safety Catalog for further information.</p>
Resolution	14 mm or 25 mm, depending on model (Reduced Resolution OFF)
Effective Aperture Angle (EAA)	Meets Type 4 requirements per IEC 61496-2, Section 5.2.9 ± 2.5° @ 3 m
Enclosure	<p>Materials: Extruded aluminum housing with yellow polyester powder finish standard (optional clear anodized or static-dissipative nickel-plated finish) and well-sealed, rugged die-cast zinc end caps, acrylic lens cover, copolyester access cover. Nickel-plated models also have static-dissipative acrylic lens cover and nickel-plated end caps.</p> <p>Rating: IEC IP65</p>
Operating Conditions	<p>Temperature: 0° to +55° C (+32° to 131°F)</p> <p>Max. Relative Humidity: 95% maximum relative humidity (non-condensing)</p>
Shock and Vibration	EZ-SCREEN LP components have passed vibration and shock tests according to IEC 61496-1. This includes vibration (10 cycles) of 10-55 Hz at 0.35 mm (0.014 in) single amplitude (0.70 mm peak-to-peak) and shock of 10 g for 16 milliseconds (6,000 cycles).
Mounting Hardware	Emitter and receiver each are supplied with a pair of swivel end-mounting brackets and two swivel side-mount brackets. Models longer than 690 mm also include one or more additional side-mount bracket(s) for center support. Mounting brackets are 8-gauge cold-rolled steel, black zinc finish.
Certifications	Approvals are pending.