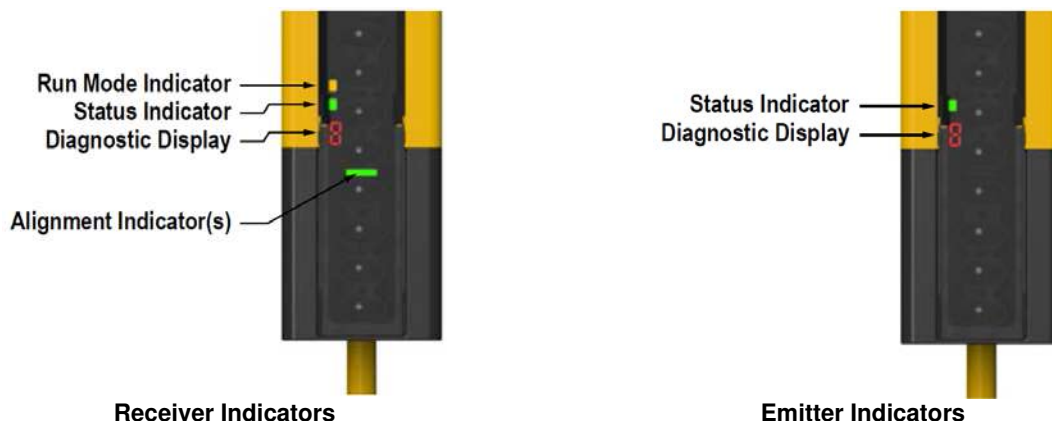


# EZ-SCREEN LS Safety Light Screen



## System Operation, Diagnostics and Troubleshooting

Both emitter and receiver feature 7-segment Diagnostic Displays and individual Status LEDs to provide continuous indication of operating status, configuration and error conditions. Active Alignment (Segment) Indicators provide for beam block information and easier installation.

Run Mode: Indicated by the sensor's status LEDs:

- Solid RED (Blocked condition, OSSDs OFF),
- Solid GREEN (Defined area clear, OSSDs ON; Emitter transmitting)
- Flashing GREEN (Blanking enabled, Defined area clear, OSSDs ON);

Lockout condition: Indicated by the sensor's status LED

- Flashing RED (Lockout, in conjunction with displayed error code, see below)

See EZ-SCREEN LS instruction manual p/n [179480](#) for complete installation, operational, and troubleshooting information, and applicable cautions and warnings.

## Receiver

### Status Indicators

- A single red/green Status indicator shows when the OSSD outputs are ON (GREEN) or OFF (RED), blanking is enabled (flashing GREEN), or the System is in Lockout status (flashing RED).
- An amber RUN Mode indicator shows when the system is operational (not in lockout).

### Diagnostic Display

(Multiple-digit codes are sequential, followed by a pause)

#### Operational Codes (RUN Mode, amber LED is ON)

Code	Description
-	RUN Mode (single dash)
C 1	Sensor configured for Scan code 1
C 2	Sensor configured for Scan Code 2
	Note: both emitter and receiver must be configured for the same Scan Code
CH 1	The first sensing beam (CH1 synchronization beam) at the display end of sensor is blocked (must remain clear) or the receiver Scan Code does not match the emitter Scan Code.
n n n	The number of blocked beams.
H	Cascade Stop Input open (stop command)

## Error Codes (with flashing RED status indicator)

Code	Problem	Solution
1	Output Error	<p>Error is caused by:</p> <ul style="list-style-type: none"> <li>• one or both outputs being shorted to a power supply (high or low)</li> <li>• by shorting OSSD 1 to OSSD 2</li> <li>• by an overload (greater than 0.5 A)</li> </ul> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Disconnect the OSSD loads and cycle power to the receiver.</li> <li>• If the error clears, the problem is in the OSSD load(s) or in the load wiring.</li> <li>• If the error continues with no load connected, replace the receiver.</li> </ul>
4	Receiver Error	<p>This error occurs because of either excessive electrical noise or an internal failure. This error can also occur when the remote fixed blanking RUN/PROGRAM switch is in the PROGRAM position during power-up.</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Cycle power, See <i>Recovery Procedures</i> in the instruction manual.</li> <li>• If the error clears, perform a Daily Checkout procedure (per EZ-SCREEN Checkout Procedures: Shift and Daily Checkout Procedure; Daily Checkout Card) and if the System checks out, resume operation. If the System fails the Daily Checkout procedure, replace the receiver.</li> <li>• If the error continues, check the ground connection (pin 7).</li> <li>• If the sensor has a good earth ground connection to pin 7, perform the Initial Checkout procedure (per <i>Initial Checkout Procedure</i> in the instruction manual).</li> <li>• If the error clears, check the external connections and configuration settings.</li> <li>• If remote fixed blanking is used, ensure RUN/PROGRAM is in the RUN position and cycle power.</li> <li>• If the error continues, replace the receiver.</li> </ul>
7	Receiver Error	<p>This error can be caused by intermittent connections between cascaded receivers or excessive electrical noise.</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Verify the cordset connections between the cascaded receivers.</li> <li>• If the error continues, replace the cordset(s).</li> <li>• If the error still continues, replace the receiver with the error code.</li> </ul>
8	EDM Error	<p>This error can occur when the EDM input is open at power up or if the signal fails to respond within 250 ms of the OSSDs changing state (On to Off).</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Verify that the EDM wiring is correct and that the external devices meet the requirements described in <i>Machine Primary Control Elements and EDM Input</i> in the instruction manual</li> <li>• If the error continues, remove power to the guarded machine, disconnect the OSSD loads, disconnect the EDM input signals, configure EDM for No Monitoring (per <i>Machine Primary Control Elements and EDM Input</i> in the instruction manual) and conduct the Initial Checkout procedure</li> <li>• If the error clears, the problem is in the External Device contacts or wiring, or is a response-time problem of the external devices. Verify that the EDM wiring is correct and that the external devices meet the requirements described in <i>Machine Primary Control Elements and EDM Input</i> in the instruction manual.</li> <li>• If the error continues, check for noise on the EDM inputs (see <i>Electrical and Optical Noise</i> in the instruction manual).</li> </ul>
10	Fixed Blanking Error	<p>This error occurs when beam(s) that have been blanked (programmed to ignore a fixed object) become clear when the object is removed or moved.</p> <p>Possible corrective action(s):</p>

Code	Problem	Solution
		<ul style="list-style-type: none"> <li>• Reposition the object and cycle power.</li> <li>• Re-program (teach) the fixed blanked object(s), see <i>Remote Fixed Blanking Programming Procedures</i> in the instruction manual.</li> </ul>
1 2	Programming Timeout Error	<p>This error occurs when the Fixed Blanking programming mode (teach) exceeds the ten minute limit.</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Re-program (teach) the fixed blanked object(s), see <i>Remote Fixed Blanking Programming Procedures</i> in the instruction manual.</li> </ul>
1 3	Cascade Error	<p>This error occurs when a cascade receiver is not terminated properly or if the EDM wiring to a cascade receiver is not terminated properly</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Verify that the last receiver in the cascade is terminated properly (see <i>Cascadeable EZ-SCREEN LS</i> in the instruction manual).</li> <li>• Verify that the EDM wiring is correct.</li> <li>• Verify the cordset connections between cascaded receivers.</li> <li>• If the error continues, replace the receiver.</li> </ul> <p>NOTE: In a cascaded system, all receivers are connected together, and all emitters are connected together.</p>
6 4	Excessive Noise Error – Cascade Input	<p>This error can occur due to excessive levels of electrical noise.</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Cycle power (see <i>Recovery Procedures</i> in the instruction manual).</li> <li>• If the error clears, perform the daily checkout procedure (per EZ-SCREEN Checkout Procedures: Shift and Daily Checkout Procedure; Daily Checkout Card) and if the System checks out, resume operation. If the System fails the Daily Checkout procedure, replace the receiver.</li> <li>• If the error continues, check the ground connection (pin 7).</li> <li>• If the sensor has a good earth ground connection to pin 7, perform the <i>Initial Checkout procedure (Trip Test)</i> in the instruction manual.</li> <li>• If the error clears, check for sources of electrical noise (see <i>Electrical and Optical Noise</i> in the instruction manual).</li> <li>• If the error continues, replace the receiver.</li> </ul>
H	Cascade Input Simultaneity	<p>Operation of channels A and B mismatch &gt; 3 seconds.</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"> <li>• Check operation of Channel A and Channel B of cascade input.</li> <li>• Cycle power or cycle the input. See <i>Emergency Stop Buttons in Cascaded Systems</i> and <i>Interlock Switches in Cascaded Systems</i> in the instruction manual.</li> </ul>

## Emitter

### Status Indicators

- A single bi-color red/green Status indicator shows when the emitter is in RUN mode (GREEN transmitting), or the System is in Lockout status (flashing RED).

### Diagnostic Display

(Multiple-digit codes are sequential, followed by a pause)

#### Operational Codes (RUN Mode, amber LED is ON)

Code	Description
-	RUN Mode (single dash)

# EZ-SCREEN LS Safety Light Screen



Code	Description
<b>C 1</b>	Sensor configured for Scan code 1
<b>C 2</b>	Sensor configured for Scan Code 2
	Note: both emitter and receiver must be configured for the same Scan Code
<b>2 7</b>	Emitter LED Problem - This is not an error that would immediately result in a lockout. This indication can occur due to a potential problem with an LED and is provided as an early warning indicator.

## *Error Code (with flashing RED status indicator)*

Code	Problem	Solution
<b>2 5</b>	Emitter Error	<p>This error can occur if the ID Input (pin 3, Orange) is not connected to +24 V dc. Excessive electrical noise or an internal failure can also cause this error.</p> <p>Possible corrective action(s):</p> <ul style="list-style-type: none"><li>• Verify that the ID Input (ID_in) wiring is connected to +24 V dc. See <i>Generic Wiring Diagram—5-pin and 8-pin Emitter</i> in the instruction manual</li><li>• Cycle the power to the emitter per <i>Recovery Procedures</i> in the instruction manual</li><li>• If the error clears, perform the daily checkout procedure (per EZ-SCREEN Checkout Procedures: Shift and Daily Checkout Procedure; Daily Checkout Card). If the System checks out, resume operation. If the System fails, replace the emitter</li><li>• If the error continues, check the ground connection (see <i>Cordsets</i> in the instruction manual)</li><li>• If the sensor has a good earth ground connection, check for electrical noise (see <i>Electrical and Optical Noise</i> in the instruction manual)</li><li>• If the error persists, replace the emitter</li></ul>