

## SIX MONTHLY CHECK-OUT

**THIS CHECK-OUT PROCEDURE SHOULD BE PERFORMED EVERY SIX MONTHS FOLLOWING SYSTEM INSTALLATION ISTRUCTIONS OR WHENEVER CHANGES ARE MADE TO THE SYSTEM (POSSIBLY AT EACH ESPE CONFIGURATION CHANGE).**

Check-out procedure has to be performed by qualified personnel respecting carefully the instructions provided in the specific chapters of the user manual (chap. 2; 3; 4; 5) and reference standards. A copy of the check-out form has to be kept on or near the machine or equipment where the ESPE is installed as detailed in the **CEI IEC 61496-1: 2004 European Safety Standard**.

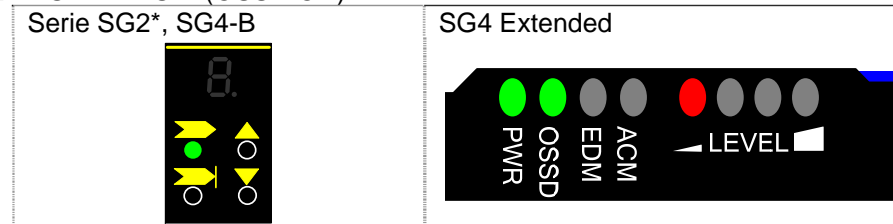
**WARNING !**  
**BEFORE POWERING THE MACHINE INSTALLING THE ESPE VERIFY THAT THE AREA PROTECTED BY THE ESPE IS FREE FROM PERSONNEL AND UNWANTED MATERIALS. FAILURE TO DO SO COULD RESULT IN SERIOUS BODY INJURY OR DEATH OF THE OPERATOR PERFORMING THE CHECK-OUT PROCEDURE.**

**This procedure must be carried-out in strict order as follows:**

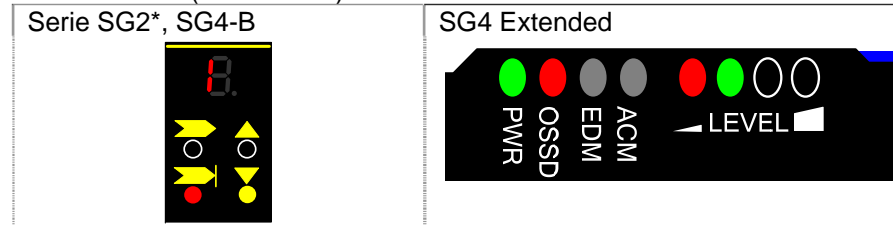
- Examine the controlled machine to verify that it is a type and design compatible with the ESPE Type 2 for SG2 and Type 4 for SG4 (refer to instruction manual "Typical Applications" of the user manual).
- Verify that the minimum safety distance from the closest danger point of protected machine to controlled area is not less than calculated distance, as specified in the formula given in the instruction manual "Minimum installation distance" and according to the ISO 13855/EN 999 standard.
- Verify that:
  - a. **Access to any dangerous part of the controlled machine** is not possible form any direction not protected by the ESPE or any other safety system or device.
  - b. **It is not possible for any operator to stand between controlled area and dangerous parts of the machine**
  - c. **Supplementary safety systems** is in place and functioning properly in any space (between controlled area and any hazard) which is large enough to allow a person to stand undetected.
- For ESPE with Manual restart, verify that the restart command is:
  - d. mounted outside the dangerous area;
  - e. mounted allowing the operator to have full view of the dangerous area;
  - f. mounted so that it cannot be reached from inside the dangerous area;
  - g. mounted in order to prevent improper or dangerous use of the command;
- Verify that the electrical connections between the OSSD outputs of the ESPE and MPCE of the controlled machine meet the requirements specified in the instruction manual "Electrical Connections" of the user manual.
- Control the presence of any reflecting surfaces and/or homologous device near controlled area (please refer to instruction manual "Minimum distance from reflecting surfaces"). If necessary remove the causes of dangerous interferences.
- Verify that the controlled machine is not powered.
- Check for any obstructions in controlled area.
- Apply power to ESPE only.

Verify that the LEDs on the receiver have the following status:

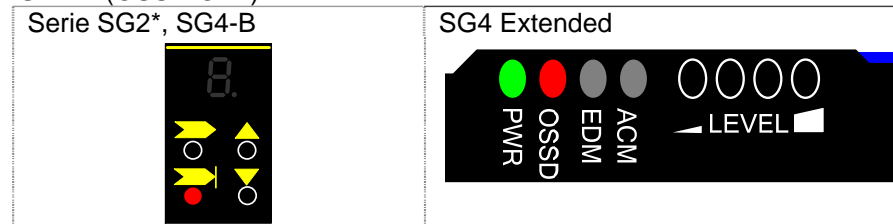
a. **NORMAL OP. (OSSD ON) :**



b. **INTERLOCK (OSSD OFF):**



c. **SAFE (OSSD OFF):**



- If ESPE is in the **NORMAL OP.** condition proceed with the following step.
- If ESPE is in the **INTERLOCK** condition, after the closing (for at least 0.5 sec) of a normally open external contact (TEST/RESET button), after the RESTART procedure, the ESPE returns to **SAFETY** condition. We can now proceed to the following step.
- If ESPE is in the **BREAK** condition, one or more beams inside the controlled area have been or are interrupted. To correct this situation proceed as follow:
  - i. verify carefully for any obstruction in the controlled area and remove them if necessary. For ESPE with manual restart go to point B;
  - ii. verify that the two yellow ▲ LAST and ▼ SYNC alignment LEDs are off. If necessary repeat alignment procedure (refer to instruction manual "Alignment procedure");
  - iii. verify that the two emitting and receiving unit front windows are not covered by dust and dirt due. If necessary, clean them following the procedure described herinafter).
  - iv. If one ore more blanking zones are configured on device (SG4 Extended only) verify the position of objects iterrupting device beams. Eventually re-operate blanking configuration by means of Teach-In or GUI.

**Do not continue until ESPE passes ALL tests listed above!**

**During the following tests take care not to expose operators to hazard !**

**WARNING !** If effective resolution configured on device is different than mechanical resolution specified on device label, use a "Test Piece" with size equal to effective resolution for all following checks. Please refer to par. 2.2.5 of Instruction Manual for how to properly use a Test Piece.

- Interrupt beams inside controlled are with specific "Test Piece" and verify that it is not possible for the controlled machine to be put into motion while beams are blocked.
- Power on the controlled machine and while it is moving use the "Test Piece" to block controlled area. Do not attempt to insert test piece into dangerous parts of the machine. Upon blocking any beam, dangerous parts of machine should come to a stop within T = time used to calculate minimum installation distance (refer to instruction manual "Minimum installation distance").

- Remove "Test Piece" from controlled area. Verify that:
  - a. if ESPE with Automatic restart, the machine must automatically restart with restart command;
  - b. if ESPE with Manual restart, the machine must not restart until receiving restart command;

Remove electrical power to ESPE. Verify that both the OSSD outputs automatically switch into OFF status and ensure that the machine is not capable of starting until power is re-applied to ESPE.

If ESPE with Manuale restart, restart device pressing the corresponding button for at least 0.5 secs and then release it.

**Verify total machine stopping time.** Using an instrument designed for this purpose, verify that the time is equal or less than the time specified by the machine manufacturer.

**Do not continue to use the ESPE and the equipment until the check-out procedure is complete and all problems are corrected !**

**If any decrease in machine stopping ability has occurred,** make necessary adjustments/repairs, recalculate Minimum Safety Distance S (refer to instruction manual "Minimum installation distance" of user manual), record new value obtained and proceed with the checks described in paragraph 8: "Periodical checks" of user manual.

**Verify MACHINE PRIMARY CONTROL ELEMENT (MPCE)** and any intermediary controls (such as safety modules, control units, etc) to check that they are functioning correctly and do not require maintenance or replacement.

Verify that the connections between MPCE and ESPE have not been modified which could jeopardise system functioning.

**WARNING !**  
**DO NOT USE MACHINE UNTIL SYSTEM IS WORKING PROPERLY. IF ALL OF THESE CHECKS HAVE NOT HAD POSITIVE RESULTS, DO NOT ATTEMPT TO USE ESPE UNTIL DEFECTS OR PROBLEMS HAVE BEEN CORRECTED. ATTEMPTS TO USE THE MACHINE UNDER SUCH CONDITIONS COULD RESULT IN SERIOUS BODY INJURY OR DEATH OF OPERATORS.**

### DEVICE CLEANING

The SG safety light curtains are composed of emitting and receiving units contained in sturdy yellow painted with IP65 protection. The front protection window is in PMMA. Emitters and receivers are best cleaned using cotton cloths dampd with water. Avoid pressing on surfaces and thus to make them opaque.

Avoid using on plastic or painted surfaces:

- alcohol or solvents
- wool or synthetic cloths
- paper or abrasive material

**ACCORDING TO 42/2006/EC: EC MACHINE DIRECTIVE THIS DOCUMENT MUST BE ATTACHED TO THE TECHNICAL DOSSIER OF THE MACHINE WHERE THE ESPE IS INSTALLED. A COPY OF THE CHECKOUT RESULTS SHOULD BE KEPT ON OR NEAR THE MACHINE.**