

## GIT – Safety dictionary

### What actually is ... "blinking"?

**In safety technology, "blinking" refers to changing how individual beams of optical protective devices (safety light curtains and multiple light beam safety devices, ESPE (i.e. light barriers)) function.**

To understand why blanking is needed, it is first necessary to explain how a light barrier works: Depending on the height of the sensor's protective field and its resolution (in normative terms: detection capability), the protective field between a transmitter and its synchronized receiver consists of a large number of beams; each beam is continuously controlled individually. If at least one of the beams is interrupted, the receiver switches off its safe switching output (OSSD), thereby sending a stop command to the downstream evaluation device. If, for design reasons, parts of the machine must always be in the protective field (e.g. the machine table), then these parts must be masked in the protective field – this is where blanking is needed. DIN EN 61496-1:2014 defines blanking as "an optional function which allows an object larger than the detection capability of the ESPE, to be located in the protective field without this causing the OSSD(s) to be switched to their OFF state". To prevent the deactivation of beams from inadvertently leaving a "hole" in the protective field, blanking must be monitored. This function checks that each of the blanked beams is permanently interrupted. If this is not the case, the light barrier reacts by deactivating its OSSDs (exactly like when the protective field is violated), which usually causes the hazardous machine movements to stop. This makes it impossible to teach in an object and to then remove it from the protective field.



DIN EN 61496-2:2014 defines two types of blanking:

- Fixed blanking, whereby the blanked objects are not allowed to move. This means they must precisely interrupt the beam pattern which has been taught in or configured using PC software.
- Floating blanking allows objects of a defined minimum and maximum size to move within configurable beam areas in the protective field.

If small objects are to be tolerated in the protective field (i.e. they may or may not be present), blanking is not possible. In this case, DIN EN 61496-2:2014 defines the "reduced resolution" function. At the expense of detection capability (increase in safety distance!), objects with a certain maximum size in the protective field do not cause the OSSDs to switch off – the objects are therefore tolerated. The term "reduced resolution" is sometimes wrongly confused with "floating blanking".

## Author



Leuze electronic GmbH + Co. KG  
Dr. Volker Rohbeck  
Safety Consultant  
In der Braike 1  
73277 Owen

Phone +49 7021 573 82183  
Fax +49 7021 573 82190  
Mobile +49 172 732 5091  
[volker.rohbeck@leuze.de](mailto:volker.rohbeck@leuze.de)  
[www.leuze.de](http://www.leuze.de)



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**Press inquiries**

Leuze electronic GmbH + Co. KG, Owen  
Martina Schili, Phone +49 7021 573-116  
martina.schili@leuze.de, [www.leuze.com](http://www.leuze.com)

