TIB Progressive Code	Product	Date
TIB_11	**Safety light curtains, safety interfaces, Mosaic, magnetic sensors, Light curtains for measurement**	09/04/2015
Description	New parameters of type 2 safety light curtains and require labeling. Updating product certifications.	
Object	In this document the modifications introduced by the harmonized standard IEC EN 61496 1-2 Ed. 3 regarding Type 2 safety light curtains will be explained. The amendments introduced in the product labelling will be described, as well as the variations of the product certifications logos and safety levels	

New safety parameters for Type 2 light curtains

When the chosen safety device is a photo-electric barrier (AOPD Active Optoelectronic Protective Device), the latter shall necessary belong to TYPE 2 or TYPE 4 as established by the International Standard IEC EN 61496 1-2.

NOTE: As a result of existing agreements between European Standard committees (CEN and CENELEC) and International Standard committees (ISO and IEC) to avoid duplication of work and structures, it has been decided to work on standards at one level only, and to carry out parallel voting so that the Standards are approved simultaneously as International (ISO or IEC) and as a European Standards (EN). If the European Standard is harmonized to an EU Directive, an informative Annex ZZ is added to it, where the relationship between the Standard and the Essential Requirements of that EU Directive is shown.

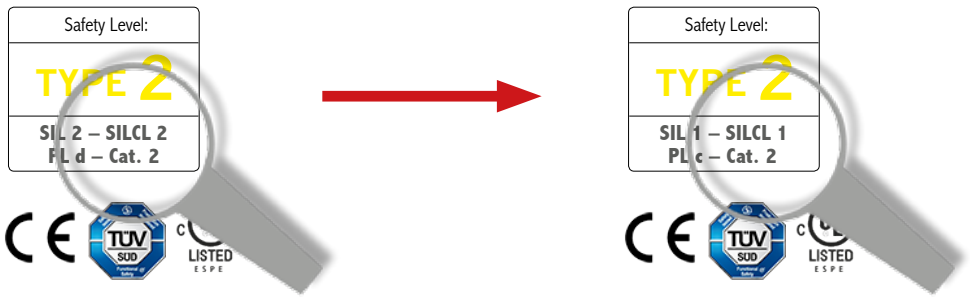
With the publication of Edition 3 of the harmonized EN 61496 1-2 standard it is no longer possible to use a Type 2 safety light curtains for safety functions assessed as SIL 2 / PL d. If a safety level of SIL 2 / PL d (or higher) is required and it is nevertheless intended to use a safety light curtain, then it will be necessary to use a Type 4 safety light curtain.

This regulatory requirement derives from the fact that the reduction of risk that can be obtained via a photoelectric safety light curtain is not only a function of the safety level of its electronic parts, but is also determined by its systematic capabilities (for example: environmental influences, EMC, optical performance and detection principle).

The systematic capability of a Type 2 photoelectric light curtain may in fact not be sufficient to ensure adequate risk reduction for SIL 2 / PL d applications.

The standard also establishes that the labelling of Type 2 safety light curtains must indicate such limitation to SIL 1 / PL c.

The PFHd values declared for the electronic control part of the device, on the other hand, are not limited and therefore it is possible to use the PFHd value provided by the manufacturer of the device in the global assessment of the safety function, even if it exceeds the SIL 1 / PL c range.



Change on the technical label certification of the products

With the update of the standards some certifications and safety levels of the products have been changed.

Safety light curtains

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
EOS 4	Safety Level: TYPE 4 SIL 3 – SILCL 3 PL e – Cat. 4	Safety Level: TYPE 4 SIL 3 – SILCL 3 PL e – Cat. 4	None Starting from mid-May the third edition of EN 61496 1-2 will be valid. A new CE and TUV certificate referring to edition 3 will be issued.
ADMIRAL	Safety Level: TYPE 4 SIL 3 – SILCL 3 PL e – Cat. 4	Safety Level: TYPE 4 SILCL 3 PL e – Cat. 4	From 30 December 2014, with the issuance of new certificate by the TUEV, ADMIRAL no longer complies with IEC 61508 (SIL 3). **Note:** compliance with IEC 61508 (SIL) standard is not required to ensure the perfect compatibility with the Machinery Directive, if the product complies with ISO 13849-1 (PL) and IEC EN 62061 (SILCL).
JANUS	Safety Level: TYPE 4 SIL 3 – SILCL 3 PL e – Cat. 4	Safety Level: TYPE 4 SIL 3 – SILCL 3 PL e – Cat. 4	None until the certificate expires in 2016.
EOS2	Safety Level: TYPE 2 SIL 2 – SILCL 2 PL d – Cat. 2	Safety Level: TYPE 2 SIL 1 – SILCL 1 PL c – Cat. 2	Edition 3 of standard EN 61496 1-2 states that starting from May 2015) it will no longer be possible to use a Type 2 light curtain in safety functions assessed as SIL2 / PLd or higher. As a consequence the standard also requires that the marking of Type 2 light curtains shows a maximum safety level of: SIL1 , PLc. It means a change in the technical label of the product.

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
VISION	Safety Level: TYPE 2 SIL 2 – SILCL 2 PL d – Cat. 2	Safety Level: TYPE 2 SILCL 1 PL c – Cat. 2	Edition 3 of standard EN 61496 1-2 states that starting from May 2015) it will no longer be possible to use a Type 2 light curtain in safety functions assessed as SIL2 / PLd or higher. As a consequence the standard also requires that the marking of Type 2 light curtains shows a maximum safety level of: SIL1 , PLc. It means a change in the technical label of the product.. From 30 December 2014, with the issuance of new certificate by the TUEV, VISION no longer complies with IEC 61508 (SIL 2). **Note:** compliance with IEC 61508 (SIL) standard is not required to ensure the perfect compatibility with the Machinery Directive, if the product complies with ISO 13849-1 (PL) and IEC EN 62061 (SILCL).

Standards

- 2006/42/CE "Machine Directive".
- 2004/108/CE "Electromagnetic Compatibility Directive".
- 2006/95/CE "Low Voltage Directive".
- EN 61496-1 Ed.3 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests".
- EN 61496-2 Ed.3 "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)
- EN 61508-1 "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements".
- EN 61508-2 "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems."
- EN 61508-3 "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements".
- EN 61508-4 "Functional safety of electrical/electronic programmable electronic safety related systems - Definitions and abbreviations.
- IEC 62061 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems".
- EN ISO 13849-1 "Safety of machinery:- Safety-related parts of control systems - Part 1: General principles for design".
- EN 50178 "Electronic equipment for use in power installations".
- EN 55022 "Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of Measurement".
- UL (C+US) "Mark for USA and Canada".
- ANSI / UL 1998 "Safety Software in Programmable Components".

Mosaic modular controller

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
MOSAIC	Safety Level: SIL 3 SIL 3 – SILCL 3 PL e – Cat. 4	Safety Level: SIL 3 SIL 3 – SILCL 3 PL e – Cat. 4	None.

Standards:

- 2006/42/CE "Machine Directive".
- 2004/108/CE "Electromagnetic Compatibility Directive".
- 2006/95/CE "Low Voltage Directive".
- EN 61496-1 Ed.3 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests".
- EN 61131-2 "Programmable controllers - Part 2. Equipment requirements and tests.".
- EN 61508-1 "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements".
- EN 61508-2 "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/ programmable electronic safety-related systems."
- EN 61508-3 "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements".
- EN 61508-4 "Functional safety of electrical/electronic programmable electronic safety related systems - Definitions and abbreviations.
- IEC 62061 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems".
- EN ISO 13849-1 "Safety of machinery:- Safety-related parts of control systems - Part 1: General principles for design".
- EN 50178 "Electronic equipment for use in power installations".
- EN 55022 "Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of Measurement".
- UL (C+US) "mark for USA and Canada".
- ANSI / UL 1998 "Safety Software in Programmable Components".

Magnus magnetic sensors

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
Magnus			None - Magnus sensors can be connected with the safety controller Mosaic, with which they are certified to reach safety level PLe / SIL3.
MG d1	Safety Level: PL d SILCL 2 - Cat. 3	Safety Level: PL d SILCL 2 - Cat. 3	None Magnus sensors can be connected with the dedicated interface MGd1, with which they are certified to reach PLd (1 sensor) or PLc (up to 4 sensors).

Standards:

- 2006/42/CE "Machine Directive".
- 2004/108/CE "Electromagnetic Compatibility Directive".
- 2006/95/CE "Low Voltage Directive".
- EN 61508-1 "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements".
- EN 61508-2 "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/ programmable electronic safety-related systems."
- EN 61508-3 "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements".
- EN ISO 13849-1 "Safety of machinery:- Safety-related parts of control systems - Part 1: General principles for design".
- IEC 62061 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems".

Safety interfaces

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
SV MR0	Safety Level: SIL 3 — SIL 3 – SILCL 3 PL e – Cat. 4	Safety Level: SIL 3 — SIL 3 – SILCL 3 PL e – Cat. 4	None. Standards: • 2006/42/CE • 2004/108/CE • 2006/95/CE • EN ISO 13849-1 • EN 61508-1, 2, 3, 4.
AD SR1 **AD SRM**	Safety Level: TYPE 4 — SIL 3 – SILCL 3 PL e – Cat. 4	Safety Level: TYPE 4 — SILCL 3 PL e – Cat. 4	From 30 December 2014, with the issuance of new certificate by the TUEV, AD SR1 - AD SRM no longer complies with IEC 61508 (SIL 3). **Note:** compliance with IEC 61508 (SIL) standard is not required to ensure the perfect compatibility with the Machinery Directive, if the product complies with ISO 13849-1 (PL) and IEC EN 62061 (SILCL). Standards: • 2006/42/CE • 2004/108/CE • 2006/95/CE • EN 61496-1, 2 • EN ISO 13849-1 • EN 50178 • EN 55022 .
AD SRT	Safety Level: PL e — Cat. 4 Type III C (EN 574)	Safety Level: PL e — Cat. 4 Type III C (EN 574)	Not renewed the agreement for the publication of the mark to the product which however remains certified by TUEV Nord Cert GmbH. Standards • 2006/42/CE • 2004/108/CE • 2006/95/CE • EN ISO 13849-1 • EN 574 .
AD SRE4 - AD SRE4C	Safety Level: PL e — PL e - Cat. 4	Safety Level: PL e — PL e - Cat. 4	Not renewed the agreement for the publication of the mark to the product which however remains certified by TUEV Nord Cert GmbH. Standards • 2006/42/CE • 2004/108/CE • 2006/95/CE • EN ISO 13849-1 • EN 60204-1.

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
AD SRE3 - AD SRE3C	Safety Level: PL d Cat. 3	Safety Level: PL d Cat. 3	Not renewed the agreement for the publication of the mark to the product which however remains certified by TUEV Nord Cert GmbH. Standards • 2006/42/CE • 2004/108/CE • 2006/95/CE • EN ISO 13849-1 • EN 60204-1.
AU SX - AU SXM	Safety Level: TYPE 2 SIL 2 – SILCL 2 PL d – Cat. 2	Safety Level: TYPE 2 SILCL 1 PL c – Cat. 2	Edition 3 of standard EN 61496 1-2 states that starting from May 2015) it will no longer be possible to use a Type 2 light curtain in safety functions assessed as SIL2 / PLd or higher. As a consequence the standard also requires that the marking of Type 2 light curtains shows a maximum safety level of: SIL1 , PLc. It means a change in the technical label of the product. From 30 December 2014, with the issuance of new certificate by the TUEV, AU SX - AU SXM no longer complies with IEC 61508 (SIL 2). **Note:** compliance with IEC 61508 (SIL) standard is not required to ensure the perfect compatibility with the Machinery Directive, if the product complies with ISO 13849-1 (PL) and IEC EN 62061 (SILCL). Standards: • 2006/42/CE • 2004/108/CE • 2006/95/CE • EN ISO 13849-1 • IEC 62061 • EN 61496-1, 2 • EN 50178 • EN 55022.
AD SR0 - AD SR0A			Adding the certification of internal relays.

Standards:

- 2006/42/CE "Machine Directive".
- 2004/108/CE "Electromagnetic Compatibility Directive".
- 2006/95/CE "Low Voltage Directive".
- EN 61496-1 Ed.3 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests".
- EN 61496-2 Ed.3 "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)
- IEC 62061 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems".
- EN ISO 13849-1 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design".
- EN 50178 "Electronic equipment for use in power installations".
- EN 55022 "Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of Measurement".
- EN 60204-1 "Safety of machinery - Electrical equipment of machines - Part 1: General requirments"
- EN 61508-1 "Functional safety of electrical/electronic programmable electronic safety related systems - General requirements".
- EN 61508-2 "Functional safety of electrical/electronic/programmable electronic safety related systems - Requirements for electrical/electronic/programmable electronic safety-related systems."
- EN 61508-3 "Functional safety of electrical/electronic programmable electronic safety related systems: Software requirements".
- EN 61508-4 "Functional safety of electrical/electronic programmable electronic safety related systems - Definitions and abbreviations.
- EN 574 "standard and monitors the simultaneity between the two inputs (< 0.5 sec)".
- UL (C+US) "Mark for USA and Canada".

Photocells

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
ILION	Livello di sicurezza: TIPO 2 SIL 2 – SILCL 2 PL d – Cat. 2	Livello di sicurezza: TIPO 2 SILCL 1 PL c – Cat. 2	Edition 3 of standard EN 61496 1-2 states that starting from May 2015) it will no longer be possible to use a Type 2 light curtain in safety functions assessed as SIL2 / PLd or higher. As a consequence the standard also requires that the marking of Type 2 light curtains shows a maximum safety level of: SIL1 , PLc. It means a change in the technical label of the product.
	CE TÜV SÜD	CE TÜV SÜD	From 30 December 2014, with the issuance of new certificate by the TUEV, ILION no longer complies with IEC 61508 (SIL 2). **Note:** compliance with IEC 61508 (SIL) standard is not required to ensure the perfect compatibility with the Machinery Directive, if the product complies with ISO 13849-1 (PL) and IEC EN 62061 (SILCL).
ULISSE	Livello di sicurezza: TIPO 2 SIL 2 – SILCL 2 PL d – Cat. 2	Livello di sicurezza: TIPO 2 SILCL 1 PL c – Cat. 2	Edition 3 of standard EN 61496 1-2 states that starting from May 2015) it will no longer be possible to use a Type 2 light curtain in safety functions assessed as SIL2 / PLd or higher. As a consequence the standard also requires that the marking of Type 2 light curtains shows a maximum safety level of: SIL1 , PLc. It means a change in the technical label of the product.
	CE TÜV SÜD	CE TÜV SÜD	From 30 December 2014, with the issuance of new certificate by the TUEV, ULISSE no longer complies with IEC 61508 (SIL 2). **Note:** compliance with IEC 61508 (SIL) standard is not required to ensure the perfect compatibility with the Machinery Directive, if the product complies with ISO 13849-1 (PL) and IEC EN 62061 (SILCL).

Standards

- 2006/42/CE "Machine Directive".
- 2004/108/CE "Electromagnetic Compatibility Directive".
- 2006/95/CE "Low Voltage Directive".
- EN 61496-1 Ed.3 "Safety of machinery - Electro sensitive protective equipment - General requirements and tests".
- EN 61496-2 Ed.3 "Safety of machinery - Electro-sensitive protective equipment - Particular requirements for equipment using active opto-electronic protective devices (AOPDs)
- EN ISO 13849-1 "Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design".
- IEC 62061 "Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems".
- EN 50178 "Electronic equipment for use in power installations".
- EN 55022 "Information Technology Equipment- Radio Disturbance Characteristics- Limits and Methods of Measurement".

Measurement Light curtains

Product	Certification and safety levels in 2014	Certification and safety levels in 2015	Changes
Micron	CE	CE cULus LISTED	UL