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Machinery Directive 2006/42/EC Annex. IX
EC type-examination certificate for safety components
(ref. Annex IV – 19,21)

Certificate No.:	TUV IT 0948 23 MAC 403 B Rev.1
Name and address of manufacturer:	Leuze Electronic GmbH&Co. KG In der Braike, 1 D-73277, Owen/Teck - Germany
Designation:	SRE - Safety Radar Equipment
Model/type:	LBK S-01 System Composed by controller LBK ISC BUS PS or LBK ISC100E-F or LBK ISC-02 or LBK ISC-03 or LBK ISC110E-P or LBK ISC110E-F or LBK ISC110E or LBK ISC110 and sensor(s) LBK S-01 <input type="checkbox"/> Single sample <input checked="" type="checkbox"/> Group of samples
Reference Standards:	EN ISO 13849-1:2023; EN ISO 13849-2:2012 EN IEC 62061:2021; IEC/EN 61508:2010 EN IEC 61496-1:2020, EN IEC 61496-2:2020 EN IEC 62046:2018
Test report:	TTR-25-0948-MAC-722391617-01

We herewith certify, as per Notified Body no.0948, that the product for the respective scope of application stated in the annex to this EC type-examination certificate meets the requirements of the Directive:

2006/42/CE

Issue date:	04/08/2025
Expiry date:	05/08/2030



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TÜV Italia S.r.l.
Notified Body, Identification N° 0948

Alberto Carelli
Industrie Service Division Manager

First Issue date:	02/10/2023
Expiration date of the last certification cycle:	05/08/2025



Annex to EC type-examination certificate n° TUV IT 0948 23 MAC 403 B Rev.1

1. Scope:

SRE (Safety Radar Equipment) – Model LBK S-01 System.

The component falls under Annex IV points 19 and 21 of the Machinery Directive 2006/42/EC as it belongs to the category “Protective devices designed to detect the presence of persons and logic units to ensure safety functions”.

2. Reference Standard:

EN ISO 13849-1:2023; EN ISO 13849-2:2012

EN IEC 62061:2021 ; IEC/EN 61508:2010

EN IEC 61496-1:2020, EN IEC 61496-2:2020

EN IEC 62046:2018

The standards cited on the reference certificate of this Annex (see above)

☒ have been fully applied

☐ have been partially applied

3. Main technical characteristics

The product is composed by:

- a controller model
LBK ISC BUS PS or
LBK ISC100E-F or
LBK ISC-02 or
LBK ISC-03 or
LBK ISC110E-P or
LBK ISC110E-F or
LBK ISC110E or
LBK ISC110
- an array of up to 6 sensor model LBK S-01

The controller is an independent unit that can control up to six sensors. The controller communicates with the sensors using a CAN bus. The sensors detect movements inside a forbidden area. The controller can put the OSSD output (in redundant configuration) in safe state (de-energised state) to block the machinery movement.



The product complies with:

Parameter	Value	Measuring unit
Type (EN IEC 62061, IEC/EN 61508)	B	--
Category (EN ISO 13849-1/2)	Sensor: in 1oo1: 2; in 1oo2: 3 Controller: risk reduction equivalent to category 3	--
Architecture (EN IEC 62061, IEC/EN 61508)	Single Sensor: 1oo1(D) Controller: 1oo1(D) (1oo2(D) for OSSD output)	--
MTTF _D (EN ISO 13849-1/2)	42	Years
DC _{AVG} (EN ISO 13849-1/2)	>98	%
SFF (EN IEC 62061, IEC/EN 61508)	>98	%
CCF (EN ISO 13849-1/2)	75	--
β, β _D (EN IEC 62061, IEC/EN 61508)	5, 1	%
PFH		
Overall safety functions:	without FieldBus: Controller + Sensor (in 1oo1 configuration): 4,53E-08 Controller + Sensor (in 1oo2 configuration): 8,03E-09	1/h
	with PROFINET/PROFIsafe or FSoE or CIP SAFETY: Controller + Sensor (in 1oo1 configuration): 4,63E-08 Controller + Sensor (in 1oo2 configuration): 9,03E-09	
Additional safety functions:	without FieldBus: Muting / Dynamic config. switch: 5,37E-09 Stop signal / Restart signal / I/O fieldbus: 5,45E-09	1/h
	with PROFINET/PROFIsafe or FSoE or CIP SAFETY: Muting / Dynamic config. switch: 6,37E-09 Stop signal / Restart signal / I/O fieldbus: 6,45E-09	
PL (EN ISO 13849-1/2)	d	--
SIL (EN IEC 62061, IEC/EN 61508)	2	--
ESPE Type (EN 61496-1)	3	--

EN IEC 62061, IEC/EN 61508 SIL 2
EN ISO 13849-1, 13849-2 PL d



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4. Conditions of validity of the certificate

The validity of the EC type examination certificate is subject to review every five years. If the validity is not extended, the manufacturer has the obligation to stop placing the machine on the market.

The manufacturer has the obligation to communicate any modification made to the approved type. TÜV Italia reserves the right to confirm the validity of the EC type examination certificate issued.

5. Note

In accordance with the provisions of the Machinery Directive 2006/42/EC, the applicant must inform the notified body regarding the modifications, even of minor importance, that he has made or intends to make to the model of the machine to which the certificate refers.

Copy of the test report n.: **TTR-25-0948-MAC-722391617-01** is delivered to the Manufacturer.

The validity of this certificate is linked to the validity of the EC type examination certificate n° **TUV IT 0948 20 MAC 190 B Rev.8**

This annex is an integral part of the EC type examination certificate n°

TUV IT 0948 23 MAC 403 B Rev.1

Milan, 04/08/2025



Information regarding the TÜV Italia Certificate

This certificate is only valid for the referenced company and its facilities stated on the certificate. Only the Certification Body is allowed to transfer (assign) it to a third party.

The right to use the marking depicted on the certificate covers solely products, which match with the type approval and the specifications within the test report or within its complementary (additional) agreements.

Each product has to contain (be accompanied) the necessary operating and assembly instructions. Each product must bear the clearly visible identification of the manufacturer or importer as well as a type plate, in order to identify the compliance of the type approval with the product placed on the market.

The holder of the TÜV Italia certificate is obliged to continuously observe if the manufacture of the marked products complies with the test requirements; he is obliged to perform the control tests defined within the test requirements or by the Certification Body in an orderly manner.

Aside from the conditions referenced above, the conditions within the General Contract are effective for the TÜV Italia certificate.

It is valid as long as the state of the art requirements on which the test (approval) was based, are effective, if it was not withdrawn prior on conditions within the General Contract.

If this certificate expires or is withdrawn it has to be returned to the Certification Body immediately.