Italia

CERTIFICATE

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 405 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:	SRE 200 Series Composed by controller LBK ISC BUS PS (Part No. 50145355) LBK ISC 100E-F (Part No. 50149650) LBK ISC 100E-C (Part No. 50154518) LBK ISC-02 (Part No. 50147250) LBK ISC-03 (Part No. 50147251) LBK ISC110E-P (Part No. 50145356) LBK ISC110E-F (Part No. 50149651) LBK ISC110E-C (Part No. 50154517) LBK ISC110E (Part No. 50149652) LBK ISC110 (Part No. 50149653) and sensor(s) LBK SBV-01 (Part No. 50147249) LBK SBV201 (Part No. 50150223) LBK SBV205 (Part No. 50149654)
	☐ Single sample ☒ 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; IEC TS 61946-5:2023; IEC TS 62998-1:2019
Test report:	TTR-25-0948-MAC-722386453

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: **14/03/2026**

00077

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: **14/03/2026**

Italia

Annex to EC type-examination certificate n° TUV IT 0948 23 MAC 405 B Rev.1

1. Scope:

SRE (Safety Radar Equipment) – Model LBK SBV 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
IEC TS 61946-5:2023; IEC TS 62998-1:2019
The standards cited on the reference certificate of this Annex (see above)

☒ have been fully applied

☐ have been partially applied

3. Main technical characteristics

LBK SBV System, composed by controller
LBK ISC BUS PS (Part No. 50145355)
LBK ISC 100E-F (Part No. 50149650)
LBK ISC 100E-C (Part No. 50154518)
LBK ISC-02 (Part No. 50147250)
LBK ISC-03 (Part No. 50147251)
LBK ISC110E-P (Part No. 50145356)
LBK ISC110E-F (Part No. 50149651)
LBK ISC110E-C (Part No. 50154517)
LBK ISC110E (Part No. 50149652)
LBK ISC110 (Part No. 50149653)
and sensor(s)
LBK SBV-01 (Part No. 50147249)
LBK SBV201 (Part No. 50150223)
LBK SBV205 (Part No. 50149654)

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.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICAT

Italia

The controller provides power supply for the connected sensors.
The product has the following interfaces with external world:

- Input signals (Type 3 according to EN 61131-2)
- OSSD outputs in redundant configuration
- PROFINET/PROFIsafe or FSoE or CIP SAFETY fieldbus output (LBK ISC BUS PS / LBK ISC 100E-F / LBK ISC 100E-C / LBK ISC110E-P / LBK ISC110E-F /LBK ISC110E-C)
- USB / Ethernet communication for system configuration (Ethernet communication not available on LBK ISC-03 and LBK ISC110)

The product complies with:

Parameter	Value	Measuring unit
Type (EN IEC 62061, IEC/EN 61508)	B	--
Category (EN ISO 13849-1/2)	Risk reduction equivalent to Category 3	--
Architecture (EN IEC 62061, IEC/EN 61508)	1oo1(D) (1oo2(D) for controller OSSD output)	--
$MTTF_D$ (EN ISO 13849-1/2)	42	Years
DC_{AVG} (EN ISO 13849-1/2)	>99	%
SFF (EN IEC 62061, IEC/EN 61508)	>99	%
CCF (EN ISO 13849-1/2)	75	--
β, β_D (EN IEC 62061, IEC/EN 61508)	5, 1	%
PFH		
Overall safety functions	without FieldBus: 1,30E-08 with PROFINET/PROFIsafe or FSoE or CIP SAFETY (LBK ISC BUS PS / LBK ISC 100E-F / LBK ISC 100E-C / LBK ISC110E-P / LBK ISC110E-F /LBK ISC110E-C only): 1,40E-08	1/h
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 (LBK ISC BUS PS / LBK ISC 100E-F / LBK ISC 100E-C / LBK ISC110E-P / LBK ISC110E-F /LBK ISC110E-C only): Muting / Dynamic config. switch: 6,37E-09 Stop signal / Restart signal / I/O fieldbus: 6,45E-09	1/h
PL (EN ISO 13849-1/2)	d	--
SIL (EN IEC 62061, IEC/EN 61508)	2	--
ESPE Type (EN 61496-1)	3	--
Performance Class (IEC TS 62998-1)	D	--

EN IEC 62061, IEC/EN 61508 SIL 2
EN ISO 13849-1, 13849-2 PL d
IEC TS 62998-1 Performance Class D

for the following overall safety function(s):

a. Safety-related stop function, detecting movements inside a forbidden area

• A target entering the sensor's detection zone shall cause the machinery hazardous movement to stop

b. Safety-related stop function, preventing restart / avoiding unexpected start up

Italia

• Detection of movements in the forbidden area, while the machinery is stopped, shall prevent the restart of the machinery

And for the following additional safety function(s):

• Muting
• Dynamic config switch
• Stop signal
• Restart signal
• I/O fieldbus

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-722386453*** is delivered to the Manufacturer.

The validity of this certificate is linked to the validity of the EC type examination certificate n° **TÜV IT 0948 21 MAC 0197 B Rev.6**

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

TUV IT 0948 23 MAC 405 B Rev.1

Milan, 04/08/2025

Italia

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.