ATEX TEST REPORT
Of routine testing of a device

ExTR Free Reference Number.....	20CH-00503.X01
Compiled by + signature (ExTL).....	Thomas Köhntopp Product Qualification
Reviewed by + signature (ExTL)....	Christian Ettlin Product Qualification
Date of issue.....	2019-12-12
CB Testing Laboratory	Eurofins Electric & Electronic Product
Address	Testing AG Luppmenstrasse 3 8320 Fehraltorf SWITZERLAND
Applicant's name	Leitronic AG
Address	Engeloostrasse 16, CH-5621 Zufikon, SWITZERLAND
Standard	EN IEC 60079-0:2018, EN 60079-11:2012
Test procedure	ATEX System
Test Report Form Number	ExTR Routine Testing (released 2018-08)
TRF Originator.....	Eurofins Electrosuisse Product Testing AG

Instructions for Intended Use of Ex Test Report:
This ExTR of routine testing is to be compiled and reviewed by the ExTL. The test report is to supplement is to be accompanied by a single ExTR Cover Sheet, which is to be approved by the ExCB. Only those clauses applicable to the supplemental issue being addressed are to be tabulated and remarked upon as part of this document.

General remarks:
The tests results presented in this report relate only to the object tested. Only clauses impacted by the extension are detailed. Only manufacturer's documents impacted by the extension are detailed.
This report shall not be reproduced except in full without the written approval of the testing laboratory.

Test item description	Emergency call phone
Trademark	---
Model/type reference.....	LMK70-ATEX (ZONE 0), LMK70-ATEX (ZONE 0/20), ATEX-BARRIERE
EU-Type Examination Certificate ..	SEV 13 ATEX 0179 X issue 1 from 2020-06-12
Serial/Lot No. (range)	LMK70-ATEX xxx: 2020-5166 to 2020-5304, 2020-6001 to 2020-6320 ATEX-BARRIERE: 2020-5125 to 2020-5160, 2020-6001 to 2020-6168
Manufacturer	Leitronic AG
Address	Engeloostrasse 16, CH-5621 Zufikon, SWITZERLAND
Manufacturing plant.....	Leitronic AG
Address	Engeloostrasse 16, CH-5621 Zufikon, SWITZERLAND
Code according to standard (e.g. Ex II T).....	Refer to clause 29.3.
Rating	See EU-Type Examination Certificate SEV 13 ATEX 0179 X

EN IEC 60079-0:2018			
Clause	Requirement – Test	Result – Remark	Verdict
27	Routine tests		
	The manufacturer shall carry out any routine test required in one of the standards referred to and after which the device has been tested and evaluated.	According to EN 60079-11:2012. No routine test required by this standard.	N / A
	Which routine tests are relevant with regard to explosion protection?	No routine test required by this standard.	N / A
29	Marking		
29.2	The marking is at the electrical equipment mounted on the main components in a well visible place.	Regarded	Pass
	The marking is legible and durable, taking into account possible chemical corrosion phenomena.	Regarded	Pass
29.3	The marking complies with the requirements listed in sections 29.2 to 29.16. The following information is provided		Pass
	Name of the manufacturer or his registered trademark	Leitronic AG	Pass
	Type designation of the manufacturer	LMK70-ATEX (ZONE 0) LMK70-ATEX (ZONE 0/20) ATEX-BARRIERE	Pass
	Ex Marking	Ⓔx II 1 G Ex ia IIC T4 Ga resp. Ⓔx II 1 GD Ex ia IIC T4 Ga Ex ia IIIC T 60 °C Da resp. Ⓔx II (1) GD [Ex ia Ga] IIC [Ex ia Da] IIIC	Pass
	Production number	LMK70-ATEX xxx 2020-5166 to 2020-5304 2020-6001 to 2020-6320 ATEX-BARRIERE 2020-5125 to 2020-5160 2020-6001 to 2020-6168	Pass
	ATEX certification number	SEV 13 ATEX 0179 X	Pass
	Additional information	Ui, Ii, Pi, Ci and Li of the corresponding circuits, Warning according to the special conditions of safe use, temperature range.	Pass
30	Instructions		
30.1	The electrical equipment is supplied with the operating instructions, which contain the following details:		Pass
	Safety information: - Getting Started - Using - Assembly and disassembly - Maintenance and Troubleshooting - Installation - Settings; adjustment	Regarded	Pass

EN IEC 60079-0:2018			
Clause	Requirement – Test	Result – Remark	Verdict
	If necessary, information on familiarization	Not necessary for this device.	N / A
	Information that unambiguously enables the decision as to whether the use of a device (according to its designated category) or a protection system in the intended area is safe under the expected conditions.	Regarded	Pass
	Electrical parameters and pressures, highest surface temperature and other limits.	Regarded	Pass
	If necessary, special conditions of safe use, including indications of improper use, which may occure.	Regarded	Pass
	If necessary, the essential features of the tools that can be attached to the device or protection system.	Not necessary for this device.	N / A
	The operating instructions include the plans and diagrams necessary for commissioning, maintenance, inspection, checking the functionality and, if necessary, repair of the device or protective system, as well as all relevant information, in particular with regard to safety.	Regarded	Pass

EN 60079-11:2012			
Clause	Requirement – Test	Result – Remark	Verdict
11	Routine verifications and tests		
11.1	Routine tests for diode safety barriers		
11.1.1	Completed barriers		N / A
	Each complete barrier has been subjected to a routine check, verifying the proper functioning of each barrier component and the resistance of all fuses. The use of detachable connection joints to perform this test is allowed provided intrinsic safety is maintained after disconnection.	Not such kind of a barrier.	N / A
11.1.2	Diodes for 2-diode “ia” barriers		N / A
	Before and after the following tests, the voltage across the diodes has been measured according to the manufacturer's instructions at ambient temperature. a) Each diode shall be exposed to a temperature of 150 ° C for 2 hours. b) Each diode shall be subjected to the pulse current test described in clause 10.12.	Not such kind of a barrier.	N / A

EN 60079-11:2012			
Clause	Requirement – Test	Result – Remark	Verdict
11.2	Routine tests for infallible transformers		Pass
	The voltage applied to the mains transformers during the routine tests corresponded to the values given in Table 9, where Un is the rated voltage of each winding to be tested.	No such transformer used.	N / A
	During these tests, there was no breakdown of the insulation between the windings or between any winding and the core or screen.	No such transformer used.	N / A
12	Marking		
12.1	General		Pass
	Intrinsically safe electrical equipment carry at least the minimum marking described in EN 60079-0. The serial number designation may be made using a date or batch code sufficient to ensure traceability for quality control purposes. All important parameters should, if possible, be included in the labelling, e.g. Um, Li, Ci, Lo, Co etc. The marking meets these requirements.	All necessary information are on the name plate.	Pass
12.2	Marking of connection facilities		Pass
	Connection parts, terminal boxes and connectors of intrinsically safe electrical equipment and associated equipment are clearly marked and clearly recognizable. If this colour is used, it is light blue. The connecting parts are.	Regarded	Pass
	When parts of an electrical equipment or various electrical equipment are connected via connectors, these connectors are characterized as containing only intrinsically safe circuits. If this colour is used, it is light blue.	Regarded	Pass
	In addition, sufficient and adequate labelling is provided to ensure a faultless connection for intrinsic safety as a whole. For examples see section 12.2 of this standard.	Regarded	Pass
13	Documentation		
	The descriptive documentation required by section 24 of EN 60079-0 contains the following information:		Pass
	Electrical parameters of the electrical equipment. 1) Power source output data such as Uo, Io, Po and, if applicable, Co, Lo and / or the allowable Lo / Ro ratio. 2) Power receiver input data such as Ui, Ii, Pi, Ci, Li and the Li / Ri ratio.	Regarded	Pass

EN 60079-11:2012			
Clause	Requirement – Test	Result – Remark	Verdict
	All special requirements for the construction and use.	Regarded	Pass
	The maximum voltage Um, which may be applied to non-intrinsically safe connections of associated equipment.	Not necessary for this device.	N / A
	Any particular conditions that have been used in determining the type of protection, for example, that the voltage from a protective transformer or a diode safety barrier is to deliver.	Regarded	Pass
	Compliance or non-compliance with clause 6.4.12.	Regarded	Pass
	The determination of the surface of a case, only if it is necessary for intrinsic safety.	Not necessary for this device.	N / A

Remarks

According to the EC type examination certificate SEV 13 ATEX 0179 X, no routine test is required.

Lot # 1 of 50 emergency telephones was checked. This lot comprises 104 pieces (LMK70-ATEX (ZONE 0)) or (LMK70-ATEX (ZONE 0/20)) and 204 pieces (ATEX-BARRIERE). The division between (LMK70-ATEX (ZONE 0)) and (LMK70-ATEX (ZONE 0/20)) takes place depending on the order by installing an (LMK70-ATEX (ZONE 0)) in a corresponding housing.

The values and equipment were checked using drawings and data sheets on the following components:

On the Barrier PCB

- D103, D104, D105:SMB5919BT3G, 5.6V (ON L13 919B)
- F101: Schurter FSF F125mA
- GL401, GL402, GL403: Z682
- ISO 305, 306, 401, 402, 403, 301, 302, 303, 304: AQY211EH (M 211EH)
- ISO 201, ISO202: IL300-G
- ISO101: RZK-1212S
- R301, R418, R417, R 416: 1k0 0.6W
- R216, R215, R411A, R413, R414: 4k7 0.6W
- R406, R 405: 47R 2W
- R415: 4R7 0.6W

On the call station PCB:

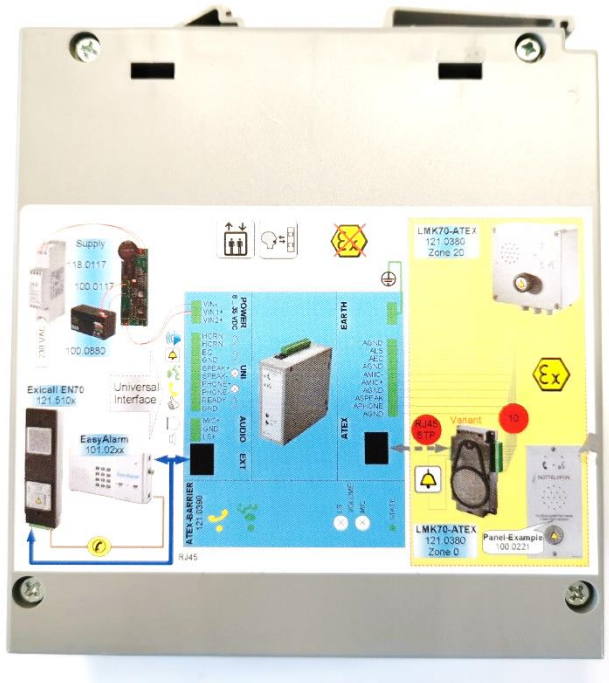
- R106, R 107: 100R 0.6W
- R103, R104, R109, R 213, R212: 300R 0.6W
- R108: 4R7 0.6W
- R201: 680R 0.6W
- R202: 1k0 0.6W
- GL101: Z632

Contrary to the EC type examination certificate SEV 13 ATEX 0179 X, an equivalent type (Wealthland AO67F-V3P42L5-C2) was installed instead of the MIC201. For better noise suppression, an additional filter capacitor is built into this, which in no way affects the intrinsic safety.

Barrier PCB

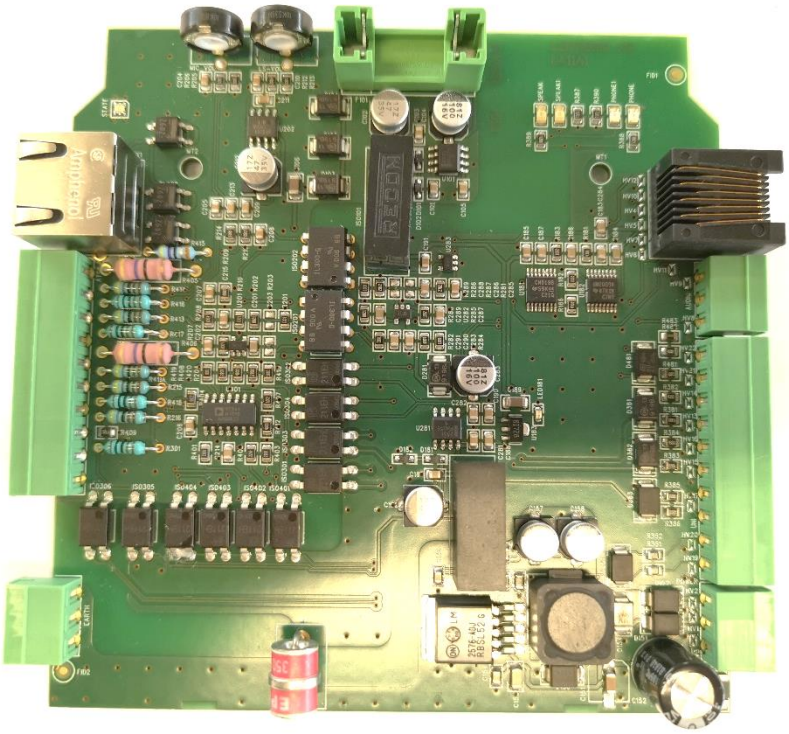
Pictures

Barrier bottom side with label

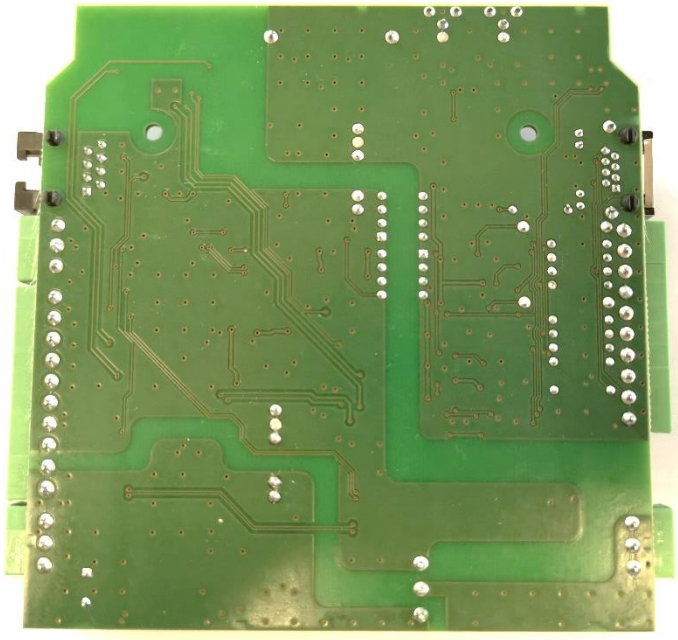


Barrier top side

Pictures



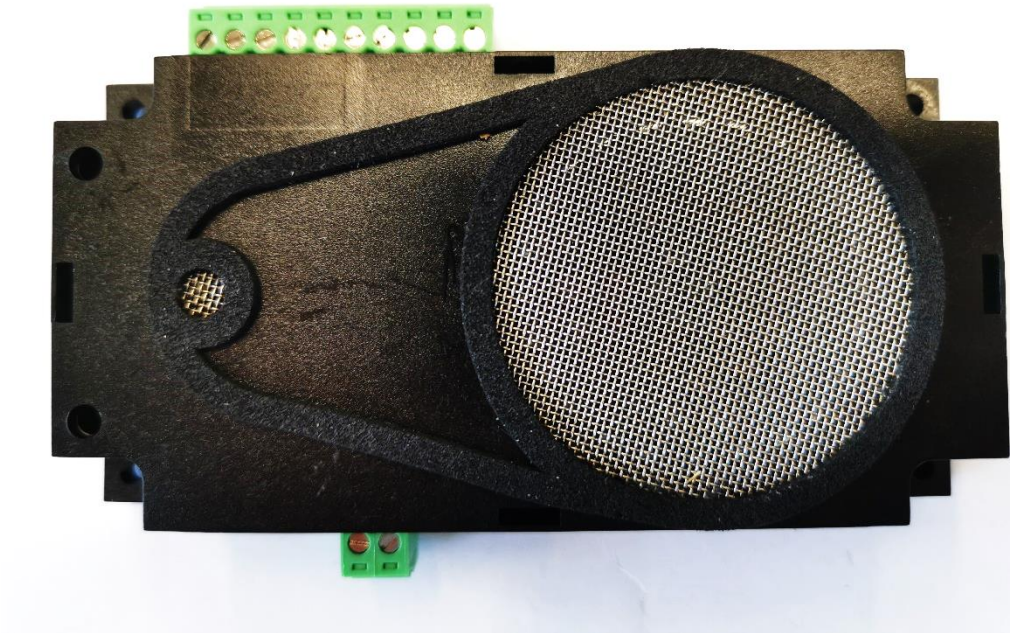
Barrier PCB top side



Barrier PCB bottom side

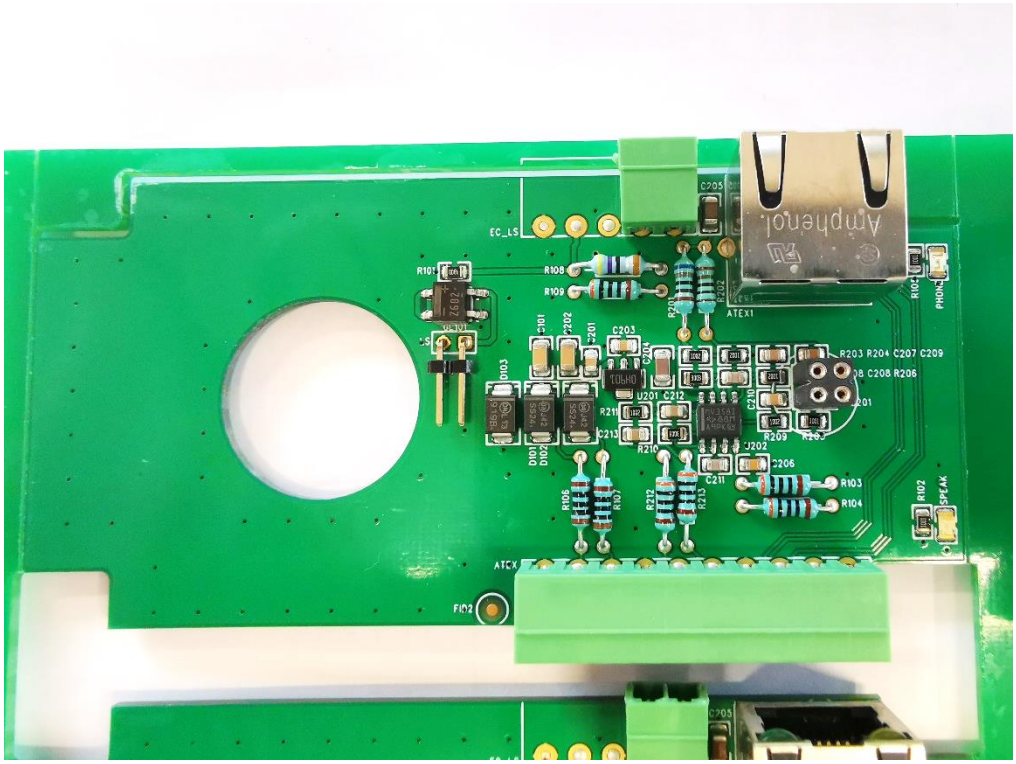
Pictures

LMK70-ATEX top side with label

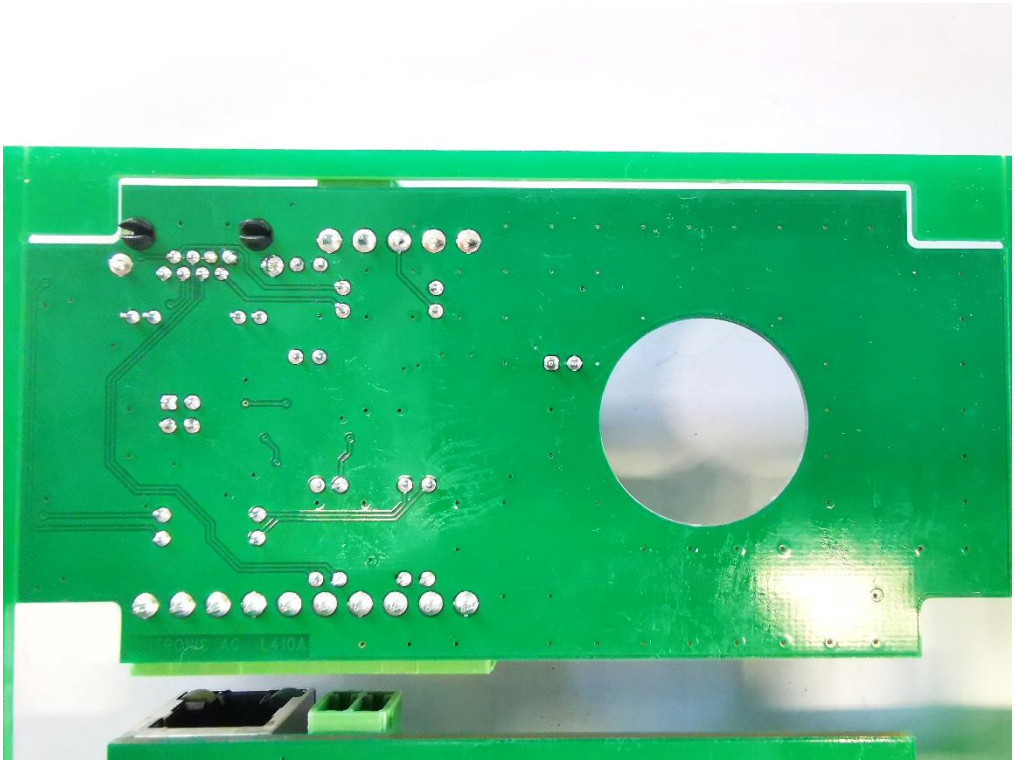


LMK70-ATEX top side

Pictures



LMK70-ATEX PCB top side



LMK70-ATEX PCB bottom side