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# **FLIR Si124-LD (2022)**

### P/N: T912184

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#### **Document identity**

Publ. No.: T912184 Commit: 86551 Language:

Modified: 2022-08-15 Formatted: 2022-08-15

#### Website

http://www.flir.com

#### **Customer support**

http://support.flir.com

#### Disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions.



#### **General description**

The FLIR Si124 is a system for acoustic image measurements and signal analysis.

The FLIR Si124 uses 124 microphones to form a very precise acoustic image in the desired direction. This acoustic image is transposed in real-time on top of a digital camera picture, which allows the user to accurately see from which directions sound is arriving at the camera. Interesting sound sources can then be separated and saved for deeper analysis, using the FLIR Acoustic Camera Viewer cloud service.

The camera is a smart acoustic device for locating leaks in compressed-air systems. It is up to ten times faster than traditional models, and instantly shows the located leaks on the camera view combined with estimated leak size and annual cost.

Analysis and reporting can be done using:

- FLIR Acoustic Camera Viewer (cloud service)
- FLIR Thermal Studio (desktop software).

Even the human ear can sometimes hear an air leak in a quiet environment, but in a typical industrial environment it is generally impossible to hear even bigger leaks due to loud background noise. The FLIR Si124 can very effectively filter out the industrial noise, allowing the user to locate quiet sounds even in noisy environments.

#### Features

- Cloud service: Upload the measurements to the FLIR Acoustic Camera Viewer for storage and analysis.
- Leak localization and detection including estimated leak size and annual cost.
- Quickly create reports in FLIR Acoustic Camera Viewer or FLIR Thermal Studio.
- Environment: For outdoor and indoor industrial use.

Acoustic specifications		
Acoustic measurement	124 low-noise MEMS microphones, real-time sound visualization	
Dynamic range, low limit	< -15 dB (frequency-dependent)	
Dynamic range, high limit	> 120 dB (frequency-dependent)	
Bandwidth	2 kHz to 65 kHz, adjustable range	
MEMS Sampling Frequency	130 kHz	
Distance	From 0.3 m (1.0 ft) up to 130 m (430 ft)	
Severity assessment	Automatic Al-based severity assessment including recommended actions in FLIR Acoustic Camera Viewer or FLIR Thermal Studio.	

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Acoustic specifications			
Leak localization and detection	Automatic leak recognition including estimated leak size and annual cost		
Leak rate	In typical industrial environment:		
	<ul> <li>&gt;0,032 l/min @ 3 bar from 3 m (9.8 ft)</li> <li>&gt;0,05 l/min @ 3 bar from 10 m (32.8 ft)</li> </ul>		
	Absolute minimum detection in quiet environment: 0.016 l/min @ 1.2 bar from 0.3 m (1.0 ft)		
User interface			
Display	Size: 5 in. 800 × 480		
	Color: 24 bit RGB		
	Brightness: 1000 cd/m2 (adjustable)		
Input device	Resistive touchscreen		
Power On indicator	LED (red)		
Video image resolution	800 × 480		
Camera FOV	62° × 49°		
Video frame rate	25 fps		
Acoustic image frame rate	30 fps		
Zoom	2x Digital zoom		
Languages	Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Indonesian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Thai, Traditional Chinese, Turkish, Vietnamese		
Analysis and reporting			
Online	FLIR Acoustic Camera Viewer (cloud service)		
Offline	FLIR Thermal Studio (desktop software)		
Communication and data storage			
Data transfer	Wi-Fi 2.4 GHz and 5 GHz IEEE 802.11.b/g/n/ ac wireless LAN     USB memory stick		
Camera software update	Automatic over Wi-Fi     USB via computer		
Still images	Yes		
Video recording	Yes, up to 5 minutes.		
Storage, internal	32 GB / 1000 snapshots (typical) SD card, non-removable		
Storage, external	8 GB / 500 snapshots (typical) USB mass storage, provided with device		

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Power supply	
Camera power input	Nominal input voltage 12 V
Camera perior input	Max input: 15 V 2.5 A
Battery	Li-lon rechargeable battery pack (RRC 2040): 10.8 V, 3.35 Ah, 36.2 Wh
	Usage: Up to 2.5 h (depends on ambient conditions)
	Charge time: 2 h
	Max output: 12.6 V, 4 A
Battery charger	Input: 19-26 VDC, 2.8 A
	Max output: 17.4 VDC, 4.8 A
Internal battery (only for camera backup use)	Li-lon 6 Wh
Environmental data	
Operating temperature range	-10 to 50°C (14 to 122°F)
Storage temperature range	-20 to 70°C ( -4 to 158°F)
Relative humidity	Recommended 0 to 90%
EMC	<ul> <li>FCC 47 CFR Part 15 Subpart B Class A</li> <li>EN 301 489-1 EMC for radio equipment</li> <li>EN 301 489-17</li> <li>ICES 003 Issue 7 Class A</li> </ul>
Radio	<ul> <li>EN 300 328 v2.1.1</li> <li>EN 300 893 v2.1.1</li> <li>FCC Part 15 C / E</li> <li>Raspberry Pi RPI3P-MODBP</li> <li>FCC ID: 2ABCB-RPI3BP</li> <li>ICED: 20953-RPI3P</li> </ul>
Protection class	IP51
Declaration of conformity	See: https://support.flir.com/resources/DoC
Physical data	
Camera size	315 × 170 × 160 mm (12.4 × 6.7 × 6.3 in)
Camera weight	0.98 kg (2.16 lb)
Battery size	85 × 59 × 22 mm (3.34 × 2.31 × 0.86 in)
Battery weight	0.17 kg (0.37 lb)
Total weight (camera + battery)	1.23 kg (2.71 lb)
Warranty and service	
Warranty	http://www.flir.com/warranty/
Shipping information	
Packaging, type	Cardboard box
Packaging, contents	
. assaging, contente	Camera Battery (2 ea) Battery charger Camera hand strap Neck strap Hard transport case
	License card: FLIR Si-series Plugin for FLIR Thermal Studio, Perpetual license Printed documentation USB memory stick
Packaging, weight	License card: FLIR Si-series Plugin for FLIR     Thermal Studio, Perpetual license     Printed documentation

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Shipping information	
EAN-13	7332558029688
UPC-12	845188026752
Country of origin	Finland

### Supplies & accessories:

- T912185; Battery RRC 2040
- T912186; Battery charger incl. power supply

RRC-Batteries Rev.: H



# **Safety Data Sheet**

### **RRC Batteries**

#### **Revision status**

Revision	Valid from	Changes	Author
Α	25Apr2017	First released version	DF
В	27jun2017	Change emergency phone numbers	DF
С	24oct2018	Template updated	НВ
D	01jan2019	Regulation updated	TN
E	01oct2019	Added new products	TN
F	07oct2019	Updated template & Hazardous components	TN
G	04feb2020	New products, hazardous components and regulations	TN
Н	29jan2021	Updated product list	TN

Valid from: 29.01.2021

### **Declaration of Conformance (DoC)**

**UN38.3 Test Summary** 

Dok-Typ: Formblatt

Dok-Nr.: FO\_Q\_068

Rev.: B



### 1. Product information / Battery physical Description

Model name:

RRC2040

Product classification:

Li-Ion rechargeable battery pack

Nominal voltage:

10.8V

Rated capacity:

www.rrc-ps.de

3350mAh

Capacity:

36.2Wh

Weight of product:

170g

#### 2. Manufacturer information

RRC power solutions GmbH Technologiepark 1 D-66424 Homburg Germany Telephone +49 6841 9809-0 sales@rrc-ps.de

3. Conformance information

The product in section 1 complies with

UN Manual of Tests and Criteria, Part III, Subsection 38.3: 2009, 6th Revision.

4. UN38.3 Test Summary			
UN38.3 Test Lab:	AnTeK Certification Inc.		
	7F., No. 351, Yangguang St., Neihu District,		
	Taipei City, Taiwan		
	atc@atclab.com.tw		
	Phone number: 02-87523779		
	E-Mail: atc@atclab.com.tw		
	Website: http://www.atclab.com.tw/		
Test Report No:	TW2003011-001		
Date:	2020-may-25		
<b>UN38.3 Tests Performed and Successfully</b>	T1. Altitude simulation	T5. External short circuit	
passed:	T2. Thermal Test	<b>T6.</b> Impact	
passear	T3. Vibration	T7. Overcharge	
	T4. Shock	T8. Forced Discharge	
Edition of UN Manual of Tests and Criteria used:	ST/SG/AC.10/11/Rev.6/Amend.1		

38.3.3 (f): n/a 38.3.3 (g): n/a

Ort und Datum der Ausstellung

[Place and date of issue]

Homburg, 28.July 2020

14

Unterzeichnet für und im Namen von:

[Signed for and on behalf of:]

RRC power solutions GmbH

Name [Name]

Funktion [Function]

Thomas Neumann

Regulatory Affairs Manager

DOC\_UN38.3 Test Summary\_RRC2040\_28jul2020.docx Formblatt Gültig ab [Valid from]: 31. Juli 2018

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报告编号 Report ID: MNIXE58T03464749

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# 锂电池或锂电池组 UN38.3 试验概要 Lithium Cell or Battery UN38.3 Test Summary

单位信息 Company information

委托单位 Applicant: 為		湖南华慧新能源股份有限公司 Hunan Huahui New Energy Co.,Ltd		
生产商 Manufacturer	名称 Name	湖南华慧新能源股份有限公司 Hunan Huahui New Energy Co.,Ltd		
	地址 Address	湖南省益阳市金秀路桐子坝巷 7 号 No.7, Tongziba Lane, Jinxiu Road, Yiyang, Hunan		
	电话 Tel.	0769-81601938		
	邮箱 E-mail	cqq@huahuienergy.com		
	网址 Website	www.huahuienergy.com		
测试单位 Test Lab.	名称 Name	谱尼测试集团深圳有限公司 Pony Testing Group Shenzhen Co., Ltd.		
	地址 Address	深圳市宝安区福海街道和平社区骏丰中城智造创新园 A2 栋一层 1/F., Building A2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Road, Bao'an District, Shenzhen, Guangdong, China		
	电话 Tel.	86-755-26050909		
	邮箱 E-mail	cst@ponytest.com		
	网址 Website	www.ponytest.com		



样品信息 Sample information:

11 HH			
样品名称	锂离子电池	样品型号	HTC1865
Sample name	Lithium ion battery	Sample model	111C1605
原始测试型号	1	产品参数	2.4V 1300mAh
Original tested type		Sample parameter	2.4 V 1300IIIAII
样品质量 Sample mass	38.2g	额定瓦时 Watt-hour rating	3.12Wh
电池或电池组类型	锂离子电池芯	物理形状	黄色圆柱形
cell or battery type	Lithium ion cell	Physical description:	Yellow Cylindrical
原报告编号	MDIVQM0U25132721	测试报告日期	2016-09-23
Original test report No.	WIDT V QWI0023132721	Date of test report	





No.: MNIXE58T03464749 Code: tsA220



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西安实验室: (029)89608785 呼和浩特实验室: (0471)3450025 杭州实验室: (0571)87219096

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厦门实验室: (0592)5568048 成都实验室: (028)87702708