

### P/N: T912183

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#### **Document identity**

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#### 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 and problem classification including severity assessment, using the FLIR Acoustic Camera Viewer cloud service.

With partial discharges, useful information about the criticality of the observed problem is obtained by combining the accurate information about the location of the problem with deeper analysis of the signal. Analysis can be done using:

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

#### **Features**

- Cloud service: Upload the measurements to the FLIR Acoustic Camera Viewer for storage and analysis, like discharge classification and severity assessment.
- 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)
Discharge detection	Automatic detection 50 / 60 Hz



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Acoustic specifications		
Discharge classification	Negative corona     Positive and negative corona     Floating discharge     Surface or internal discharge     PRPD pattern provided in FLIR Acoustic Camera	
Severity assessment	Viewer or FLIR Thermal Studio.  Automatic Al-based severity assessment including recommended actions in FLIR Acoustic Camera Viewer or FLIR Thermal Studio.	
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	
	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/	



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Shipping information		
Packaging, type	Cardboard box	
Packaging, contents	Camera Battery (2 ea) Battery charger Neck strap Hard transport case License card: FLIR Si-series Plugin for FLIR Thermal Studio, Perpetual license Printed documentation USB memory stick	
Packaging, weight	6 kg (13 lb)	
Packaging, size	490 × 365 × 190 mm (19.3 × 14.4× 7.5 in)	
EAN-13	7332558029671	
UPC-12	845188026745	
Country of origin	Finland	

### Supplies & accessories:

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

Valid from: 29.01.2021

## **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

## **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:

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 www.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: <a href="http://www.atclab.com.tw/">http://www.atclab.com.tw/</a>	
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	T6. Impact
passear	T3. Vibration	T7. Overcharge
	T4. Shock	<b>T8.</b> 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

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** 

型位信息 Comp	any information			
委托单位 App	托单位 Applicant: 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:

Full le w Sample intormat	11011;			
样品名称	锂离子电池	样品型号	HTC1865	
Sample name	Lithium ion battery	Sample model	П1С1603	
原始测试型号	1	产品参数	2.4V 1300mAh	
Original tested type	I	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	MDIVOMOUS5122721	测试报告日期	2016-09-23	
Original test report No.	MDIVQM0U25132721	Date of test report		





No.: MNIXE58T03464749

Code: tsA220



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青岛实验室: (0532)88706866 大连实验室: (0411)87336618

杭州实验室: (0571)87219096 苏州实验室: (0512)62997900 新疆实验室: (0991)6684186 宁波实验室: (0574)87736499

西安实验室: (029)89608785 深圳实验室: (0755)26050909 哈尔滨实验室: (0451)58627755 呼和浩特实验室: (0471)3450025 广州实验室: (020)89224310

石家庄实验室: (0311)85376660 武汉实验室: (027)83997127 合肥实验室: (0551)63843474 厦门实验室: (0592)5568048

成都实验室: (028)87702708