

P/N: 78502-0201

Copyright

© 2018, FLIR Systems, Inc.

All rights reserved worldwide. Names and marks appearing herein are either registered trademarks or trademarks of FLIR Systems and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

Document identity

Publ. No.: 78502-0201

Commit: 51963

Language:

Modified: 2018-09-05

Formatted: 2018-09-05

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.



Imaging and optical data	
Infrared resolution	384 × 288 pixels
UltraMax (super-resolution)	In FLIR Tools
NETD	<ul style="list-style-type: none"> <30 mK, 42° @ +30°C (+86°F) <40 mK, 24° @ +30°C (+86°F) <50 mK, 14° @ +30°C (+86°F)
Field of view	<ul style="list-style-type: none"> 42° × 32° 24° × 18° 14° × 10°
Minimum focus distance	<ul style="list-style-type: none"> 0.15 m (0.49 ft.), 42° 0.15 m (0.49 ft.), 24° 1.0 m (3.28 ft.), 14°
Minimum focus distance with MSX	<ul style="list-style-type: none"> 0.65 m (2.13 ft.), 42° 0.5 m (1.64 ft.), 24° 1.0 m (3.28 ft.), 14°
Focal length	<ul style="list-style-type: none"> 10 mm (0.39 in.), 42° 17 mm (0.67 in.), 24° 29 mm (1.41 in.), 14°
Spatial resolution (IFOV)	<ul style="list-style-type: none"> 2.00 mrad/pixel, 42° 1.09 mrad/pixel, 24° 0.63 mrad/pixel, 14°
Additional lenses	<ul style="list-style-type: none"> 42° 14°
Lens identification	Automatic
f number	<ul style="list-style-type: none"> 1.1, 42° 1.3, 24° 1.5, 14°
Image frequency	30 Hz

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

Imaging and optical data		
Focus		<ul style="list-style-type: none"> Continuous LDM One-shot LDM One-shot contrast Manual
Field of view match		Yes
Digital zoom		1–4× continuous
Detector data		
Focal plane array/spectral range		Uncooled microbolometer/7.5–14 μm
Detector pitch		17 μm
Image presentation		
Resolution		640 × 480 pixels (VGA)
Surface brightness (cd/m ²)		400
Screen size		4 in.
Viewing angle		80°
Color depth (bits)		24
Aspect ratio		4:3
Auto-rotation		Yes
Touchscreen		Optically bonded PCAP
Display technology		IPS
Cover glass material		Dragontrail®
Programmable buttons		1
Viewfinder		No
Image adjustment		<ul style="list-style-type: none"> Automatic Automatic maximum Automatic minimum Manual
Image presentation modes		
Infrared image		Yes
Visual image		Yes
Thermal fusion		No
MSX		Yes
Picture in Picture		Resizable and movable
Gallery		Yes
Measurement		
Camera temperature range	Object temperature range	Accuracy — for ambient temperature +15 to +35°C (+59 to +95°F)
–20 to +120°C (–4 to +248°F)	–20 to +100°C (–4 to +212°F)	±2°C (±3.6°F)
	+100 to +120°C (+212 to +248°F)	±2%

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

Measurement		
0 to +650°C (+32 to +1202°F)	0 to +100°C (+32 to +212°F)	±2°C (±3.6°F)
	+100 to +650°C (+212 to +1202°F)	±2%
+300 to +1200°C (+572 to +2192°F)	+300 to +1200°C (+572 to +2192°F)	±2%
Measurement analysis		
Spotmeter		3 in live mode
Area		3 in live mode
Automatic hot/cold detection		Auto-maximum/minimum markers within area
Measurement presets		<ul style="list-style-type: none"> No measurements Center spot Hot spot Cold spot User preset 1 User preset 2
Difference temperature		Yes
Reference temperature		Yes
Emissivity correction		Yes: variable from 0.01 to 1.0 or selected from materials list
Measurement corrections		Yes
External optics/windows correction		Yes
Screening		0.5°C (0.9°F) accuracy @ 37°C (98.6°F) with reference
Alarm		
Color alarm (isotherm)		<ul style="list-style-type: none"> Above Below Interval Condensation (moisture/humidity/dewpoint) Insulation
Measurement function alarm		Audible/visual alarms (above/below) on any selected measurement function
Set-up		
Color palettes		<ul style="list-style-type: none"> Iron Gray Rainbow Arctic Lava Rainbow HC
Setup commands		Local adaptation of units, language, date and time formats
Languages		21
Service functions		
Camera software update		Use PC software FLIR Tools
Storage of images		
Storage media		Removable memory; SD card (8 GB)
Time lapse (periodic image storage)		No

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

Storage of images	
Remote control operation	<ul style="list-style-type: none"> Using FLIR Tools (using USB cable) FLIR Tools Mobile (over Wi-Fi)
Image file format	Standard JPEG, measurement data included. Infrared-only mode
Image annotations	
Voice	60 seconds built-in microphone and speaker (and via Bluetooth) on still images and video
Text	Text from predefined list or soft keyboard on touchscreen
Visual image annotation	Yes
Image sketch	Yes: on infrared images only
Sketch	From touchscreen
METERLiNK	Wireless connection (Bluetooth) to: FLIR meters with METERLiNK
Compass	Yes
Laser distance meter information	Yes
Area measurement information	Yes
GPS	Yes: location data automatically added to every still image and the first frame in video from built-in GPS
Video recording in camera	
Radiometric infrared-video recording	RTRR (.csq)
Non-radiometric infrared-video recording	H.264 to memory card
Visual video recording	H.264 to memory card
Video streaming	
Radiometric infrared-video streaming (compressed)	Over UVC
Non-radiometric video streaming (compressed: IR, MSX, visual, Picture in Picture)	<ul style="list-style-type: none"> H.264 (AVC) over RTSP (Wi-Fi) MPEG4 over RTSP (Wi-Fi) MJPEG over UVC and RTSP (Wi-Fi)
Visual video streaming	Yes
Digital camera	
Resolution	5 MP with LED light
Focus	Fixed
Field of view	53° × 41°
Video lamp	Built-in LED light
Laser pointer	
Laser alignment	Position is automatically displayed on the infrared image
Laser distance meter	Activated by a dedicated button
Laser	Class 2, 0.05–40 m (1.6–131 ft.) ±1% of measured distance

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

Data communication interfaces	
Interfaces	USB 2.0, Bluetooth, Wi-Fi, DisplayPort
METERLiNK/Bluetooth	Communication with headset and external sensors
Wi-Fi	Peer to peer (<i>ad hoc</i>) or infrastructure (network)
Audio	Microphone and speaker for voice annotation of images
USB	USB Type-C: data transfer/video/power
USB standard	USB 2.0 High Speed
Video out	DisplayPort
Video connector type	DisplayPort over USB Type-C
Radio	
Operating frequency	Bluetooth + EDR/LE: 2402–2480 MHz WLAN 2.4 GHz: 2412–2462 MHz WLAN 5 GHz: 5150–5350 MHz (DFS: only slave mode) Note that frequency band 5150–5350 MHz is for indoor use only, see national regulations.
RF output (EIRP)	Bluetooth + EDR/LE: < 10 dBm WLAN: < 17 dBm
Antenna	Integrated PIFA antenna (gain: maximum 1.4 dBi)
Power system	
Battery type	Rechargeable Li-ion battery
Battery voltage	3.6 V
Battery operating time	> 2.5 hours at 25°C (68°F) and typical use
Charging system	In camera (AC adapter or 12 V from a vehicle) or two-bay charger
Charging time (using two-bay charger)	2.5 hours to 90% capacity with charging status indicated by LEDs
Charging temperature	0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F)
External power operation	AC adapter 90–260 V AC, 50/60 Hz, or 12 V from a vehicle (cable with standard plug—optional)
Power management	Automatic shut-down and sleep mode
Environmental data	
Operating temperature range	–15 to +50°C (5–122°F)
Storage temperature range	–40 to +70°C (–40 to +158°F)
Humidity (operating and storage)	IEC 60068-2-30/24 hours/95% relative humidity 25–40°C (77–104°F)/two cycles
EMC	<ul style="list-style-type: none"> ETSI EN 301 489-1 (radio) ETSI EN 301 489-17 EN 61000-6-2 (immunity) EN 61000-6-3 (emission) FCC 47 CFR Part 15 Class B (emission)



FLIR E85 24°

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

Environmental data	
Radio spectrum	<ul style="list-style-type: none">• ETSI EN 300 328• FCC Part 15.249• RSS-247 Issue 2
Encapsulation	IP 54 (IEC 60529)
Shock	25g (IEC 60068-2-27)
Vibration	2g (IEC 60068-2-6)
Drop	Designed for 2 m (6.6 ft.)
Safety	EN/UL/CSA/PSE 60950-1
Physical data	
Weight (including battery)	1 kg (2.2 lb.)
Size (L × W × H)	278.4 × 116.1 × 113.1 mm (11.0 × 4.6 × 4.4 in.)
Battery weight	140 g (4.9 oz.)
Battery size (L × W × H)	150 × 46 × 55 mm (5.9 × 1.8 × 2.2 in.)
Tripod mounting	UNC ¼"-20
Housing material	PCABS with TPE, magnesium
Color	Black
Warranty and service	
Warranty	http://www.flir.com/warranty/

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

Shipping information	
Packaging, type	Cardboard box
Packaging, contents	<ul style="list-style-type: none"> • Accessory Box I: <ul style="list-style-type: none"> ◦ Power supply for battery charger ◦ Power supply, 15 W/3 A ◦ Printed documentation ◦ SD card (8 GB) ◦ USB 2.0 A to USB Type-C cable, 1.0 m ◦ USB Type-C to HDMI adapter, standard specification UH311 ◦ USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m • Accessory box II: <ul style="list-style-type: none"> ◦ Accessory box III: <ul style="list-style-type: none"> – Front protection fastener – Hand strap bracket, left – Hand strap bracket, right – Screws – Torx T10 wrench ◦ Carabiner hook ◦ Front protection ◦ Hand strap ◦ Lanyard strap, camera ◦ Lens cap strap ◦ Wrist strap • Battery (2 ea) • Battery charger • Hard transport case • Infrared camera with lens • Lens cap, front • Lens cap, front and rear (only for extra lenses)
Packaging, weight	5.8 kg (12.8 lb.)
Packaging, size	500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in.)
EAN-13	4743254002678
UPC-12	845188013905
Country of origin	Estonia

Supplies & accessories:

- T197771ACC; Bluetooth Headset
- T199557ACC; Accessory Box II
- T199330ACC; Battery
- T199425ACC; Battery charger
- T130337ACC; Calibration target
- T911706ACC; Car adapter 12 V
- T199346ACC; Hard transport case
- T199588; Lens 14° + case
- T199589; Lens 24° + case
- T199590; Lens 42° + case
- T911689ACC; Pouch
- T911633ACC; Power supply for battery charger
- T911630ACC; Power supply for camera, 15 W/3 A
- T911631ACC; USB 2.0 A to USB Type-C cable, 0.9 m
- T911632ACC; USB Type-C to HDMI adapter, standard specification UH311
- T911705ACC; USB Type-C to USB Type-C cable (USB 2.0 standard), 1.0 m



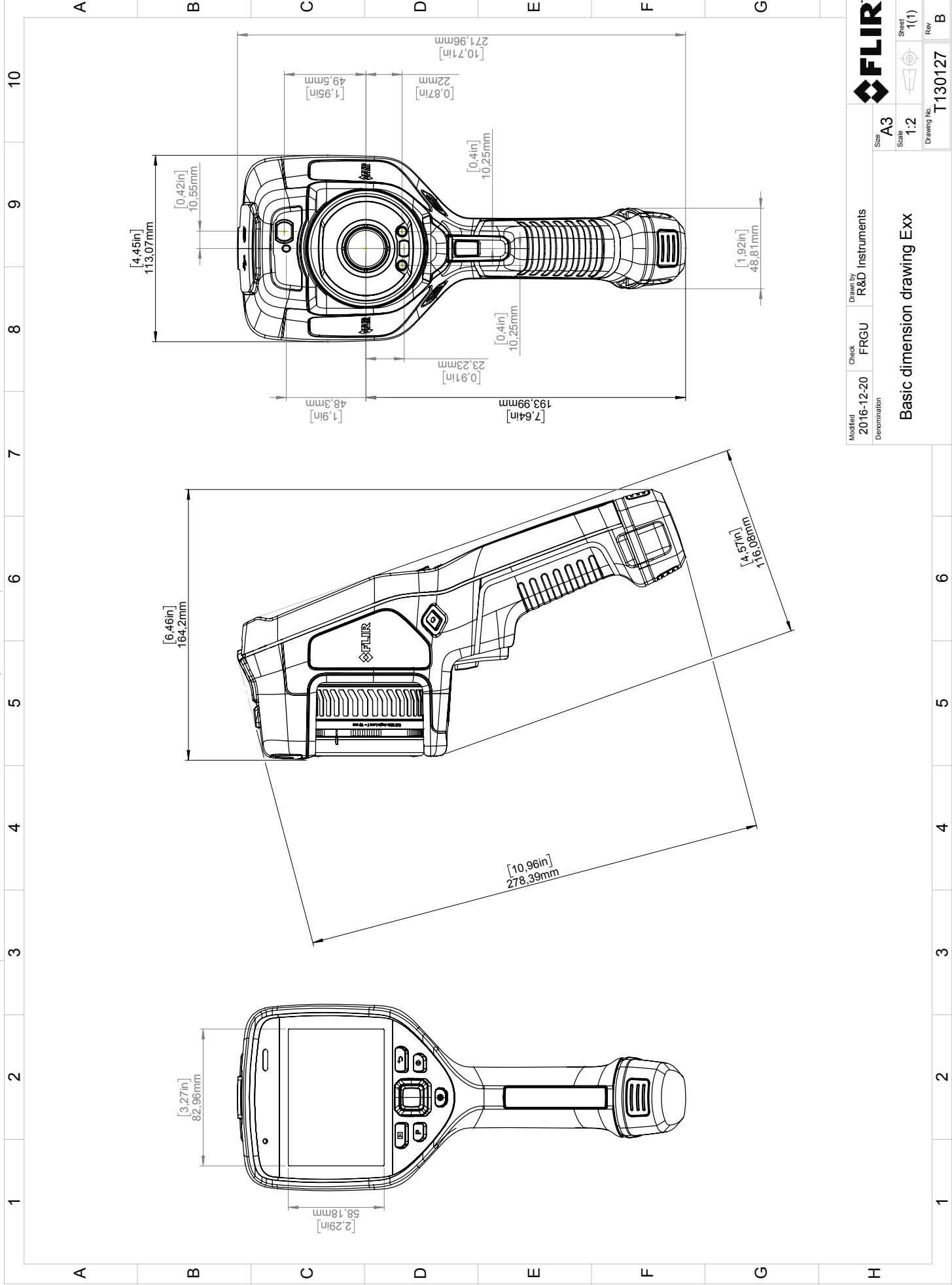
FLIR E85 24°

P/N: 78502-0201

© 2018, FLIR Systems, Inc.

#78502-0201; r. 51963;

- T911845ACC; USB Type-C to HDMI and PD adapter
- T300030; Option, No radio
- T198583; FLIR Tools+ (download card incl. license key)
- T198696; FLIR ResearchIR Max 4 (hardware sec. dev.)
- T199013; FLIR ResearchIR Max 4 (printed license key)
- T199043; FLIR ResearchIR Max 4 Upgrade (printed license key)
- INST-EW-0140; Extended Warranty 1 Year for E50, E60, E63, E53, E75, E85, E95
- INST-EWGM-0135; Extended Premier Warranty 1 Year for A35, A65, E50, E60, E63, E53, E75, E85, E95
- INST-GM-0125; Calibration incl General Maintenance for A35, A65, E30, E33, E40, E50, E60, E63, E53, E75, E85, E95, Kxx



© 2016, FLIR Systems, Inc. All rights reserved worldwide. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from FLIR Systems, Inc. Specifications subject to change without further notice. Dimensional data is based on nominal values. Products may be subject to regional market considerations. License procedures may apply. Product may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions. Diversion contrary to US law is prohibited.

Modified
2016-12-20
Denomination

Check
FRGU

Drawn by
R&D Instruments

Size
A3

Scale
1:2

Sheet
1(1)

Drawing No.
T130127

Rev
B

Basic dimension drawing Exx



The World's Sixth Sense™

February 20, 2018 Täby, Sweden

AQ320222

CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR E53 / E75 / E85 / E95 -series

Name and address of the manufacturer:

FLIR Systems AB

PO Box 7376

SE-187 15 Täby, Sweden

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration: FLIR E53 / E75 / E85 / E95 -series (Product Model Name FLIR-E7850).

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directives:

Directive	2012/19/EU	Waste electrical and electric equipment
Directive	2014/53/EU	Radio Equipment Directive (RED)
Directive	1999/519/EC	Limitation of exposure to electromagnetic fields (SAR)
Directive	2011/65/EU	RoHS and 2015/830/EU

Standards:

Emission:	EN 61000-6-3/A1:2011	Electromagnetic Compatibility Generic standards – Emission
Immunity:	EN 61000-6-2:2005 Draft EN 301489-1:2016 v2.1.0 EN 301489-17:2012 v2.2.1	Electromagnetic Compatibility Generic standards – Immunity
Laser:	EN 60825-1	Safety of laser products
Radio:	ETSI EN 300 328	Harmonized EN covering essential requirements of the R&TTE Directive
SAR:	EN 62209-2	Human exposure Wireless
Safety (Battery charger):	IEC 60950-1:2005+A1 EN 60950- 1:2006+A11:2009+A1:2010+A2:2013+AC:2011+A12:2011	Information technology equipment
RoHS:	EN 50581:2012	Technical documentation

FLIR Systems AB

Quality Assurance

Lea Dabiri

Quality Manager