

# **Epoc Solo**



# **User Manual**

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# **Document history**

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z is incremented for a minor change like a syntax error, adding a detail, a change in format, and are draft versions before official version y is incremented for official released versions x is incremented for a major change like adding a chapter, a new function

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#### **NOTE**

Scope Communications UK Ltd reserves the right to modify this manual and its contents without prior notice. E&OE.



# **Table of Contents**

Ab	breviations	4
Sa	fety instructions and Regulations	6
Pro	oduct overview	8
3.1		
3.2	Accessories	
Ep	oc Solo Operation	10
4.1	Switch on	
4.2	Switch off	
4.3	Send specific message	11
4.4	Battery Status & charging	
4.4	Optional Features	13
Sp	ecifications	14
5.1	Environmental	
5.2	Battery	14
5.3	Dimensions – Weight	14
5.4	RF Specifications	14
5.5	IoT Specifications	14
Wa	arranty & Customer Support	15
Re	cycling & Waste management	15
Re	qulatory	16
	Sa 2.1 Pro 3.1 3.2 Ep 4.1 4.2 4.3 4.4 4.4 Sp 5.1 5.2 5.3 5.4 5.5 Wa Re	Safety instructions and Regulations  2.1 Warning on batteries  Product overview  3.1 Epoc Solo  3.2 Accessories  Epoc Solo Operation  4.1 Switch on  4.2 Switch off  4.3 Send specific message  4.4 Battery Status & charging  4.4 Optional Features  Specifications  5.1 Environmental  5.2 Battery  5.3 Dimensions – Weight  5.4 RF Specifications



# 1 Abbreviations

Epoc	Name of Scope Communications UK's portable device group
Epoc Solo	Panic button/Lone worker/Tracker device
BLE	Bluetooth Low Energy
dBm	Decibel referenced to 1 milliwatt, power unit
EN 300 220-1	ETSI standard on: Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 1: Technical characteristics and methods of measurement
EN 300 220-2	ETSI standard on: Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 2: Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU for non-specific radio equipment
EN 300 224	ETSI standard on: Land Mobile Service; Radio Equipment for use in a Paging Service operating within the frequency range 25 MHz - 470 MHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
EN 301 489-1	ETSI standard on: Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
EN 301 489-2	ETSI standard on: Electromagnetic Compatibility (EMC)standard for radio equipment and services; Part 2: Specific conditions for radio paging equipment; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
EN 301 489-3	ETSI standard on: ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
EN 62368-1	International standard: Audio/video, information and communication technology equipment –Part 1: Safety requirements
EN 62479	International standard: Assessment of the compliance of low-power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
e.r.p.	Effective Radiated Power
ETSI	European Technical Standards Institute
EU	European Union
FCC	
IoT	Internet of Things
LED	Light Emitting Diode



LoRa	LoRa is a patented digital wireless data communication technology developed by Cycleo, www.lora-alliance.org
POCSAG Post Office Code Standardization Advisory Group, data transmi asynchronous protocol (used for pagers)	
PSU	Power Supply Unit
RIC	Radio Identity Code
RSSI	Received Signal Strength Indicator
RX	Related to reception
TX	Related to transmission
U/D	Up / Down
USA	United States of America
USB	Universal Serial Bus

CE	Compliant to European Union health, safety, and environmental protection standards, compliant to be sold within European Economic Area
UK	Compliant to Great Britain rules
FC	Compliant to FCC rules
	This product must not be thrown out with household waste (see paragraph 0)
	Scan code of EPOC SOLO serial number



#### 2 Safety Instructions & Regulations

#### **Important Installation Information**

It is the purchasers' responsibility to determine the suitability of this equipment and its derivatives for any given application. Any connection diagrams or usage information are provided as examples only; each use will require independent evaluation. Advice regarding connections to/from 3<sup>rd</sup> party equipment should always be sought from the equipment manufacturer.

Scope has, wherever possible, employed extra safeguards to monitor the system's performance. Certain system installations, operational requirements or budgets may, however, limit the effectiveness of these safeguards. Again, the suitability of the system for any given application must therefore be decided by the installer and their customer, relative to the application and risk. Good working practice dictates that a suitable system installation log must be generated, together with a record of the dates when the system has been manually checked, (with the aid of signal strength meters etc.) enabling the system performance to be compared with the original installation data.

Installation must only be undertaken by a competent person (defined as a person with relevant and current training and experience, with access to the requisite tools, equipment and information, and capable of carrying out the task), who shall ensure that all work is carried out in compliance with national wiring regulations and applicable standards. This instruction manual is intended for use only by persons with a reasonable knowledge of electrical and electronic equipment, industry standard conventions and terminology.

For UK equipment, Scope has no control of the use and application of the frequencies issued by OFCOM. Some equipment that is licensed may have greater protection than other equipment which is operated on a WT Act License Exempt basis.

#### **Important Safety Information**

Scope products are designed to operate safely when installed and used according to general safety practices. The following requirements should be observed at all times:

This equipment is designed for indoor/outdoor use to IP67, unless expressly stated otherwise, and must not be used in classified Hazardous Areas, including areas containing explosive or flammable vapours, unless express authorisation has been given in writing by the manufacturer. If in doubt, consult your local product dealer for further information.

Do NOT subject this equipment to:	Mechanical shock	Extremes of
	Electrostatic discharge	temperature
	Excessive humidity	Corrosive liquids

Do not obstruct any slots or openings in the product. These are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. Only use a damp cloth for cleaning (not liquid or aerosol-based cleaners), and ensure that any power is removed from the unit prior to beginning the cleaning operation. Removal of covers from the equipment must only be undertaken by authorised service personnel, who must ensure that power is isolated prior to removal.

#### Liability

Scope does not accept liability for any damage or injury, howsoever caused as the result of misuse of this equipment. It is the responsibility of the user to ensure that the equipment is operated in the manner for which it was intended and that it is the correct item of equipment for the required task.

#### Warrantv

This product is warranted as free from defects of workmanship and materials for a period of one year from the original purchase date. During this time, if there is a defect or malfunction of this product, Scope will, with proof of purchase, repair or replace at its discretion any defective parts, free of charge. This does not include where the adjustments, parts and repair are necessary due to circumstances beyond the control of Scope, including but not limited to fire or other casualty, accident, neglect, abuse, abnormal use or battery leakage damage.



#### Caution!

! Before using this radio device, read this document which contains important operating instructions to use it safely.

For more information on product details, handbooks, manuals and approved accessories, please refer to <a href="https://www.scope-uk.com">www.scope-uk.com</a> or send an e-mail to <a href="mailto:sales@scope-uk.com">sales@scope-uk.com</a>.

- ! Any changes or modifications of this product not expressly approved by Scope Communications UK Ltd will void your authority to operate this equipment.
- ! Use the equipment only with the accessories supplied or approved in the list published on <a href="https://www.scope-uk.com">www.scope-uk.com</a>.
- ! Follow "Warning on batteries" paragraph (below) to properly use the Li-ion battery.
- ! Do not use this product if it is visibly damaged.
- ! This product may malfunction if not installed and used in accordance with the Installation, Programming and User's handbooks. The use of radio systems near other electrical equipment, metallic surfaces or influenced by architectural obstacles may affect the proper function and respectively the radio coverage.

#### Warning on batteries

- Charge the Epoc Solo internal battery using the approved Scope Communications UK charger only.
- Use the battery in accordance with its water and/or dust Ingress Protection (IP) rating.
- Do not discard the battery into fire.
- Do not replace the battery in any area labelled "Hazardous Atmosphere".
- Do not disassemble, crush, puncture, shred, or otherwise attempt to change the shape of the battery.
- Do not dry a wet or damp battery with an appliance or heat source, such as a hair dryer or microwave oven.
- Do not allow conductive material such as jewellery, keys, or beaded chains to touch exposed battery connectors.



#### **3 Product Overview**

**Epoc Solo** is a very light and rugged POCSAG Panic Button transmitter. It can be programmed with up to 128 RIC codes (addresses). It also offers an RX acknowledge capability and is equipped with a Bluetooth module.

**Dimensions** 97.4x54.7x16.7mm

60g Weight

- Li-ion rechargeable battery

- IP67 compliant

- Accelerometer for lone-worker monitoring

#### **Epoc Solo** is packaged with:

Epoc Solo with internal battery QuickStart Guid







**Epoc Solo** 

Ref: EPSUSER Page Issue 1



#### **Accessories**

Programming and charging cradles are available separately as accessories. They both include power adapter & USB cable.

Below are details of available Epoc accessories and their Scope Part Numbers



Wall Mount Holster (front)
EPOCB1\_WMOUNT



Wall Mount Holster (side)



Epoc Slim Charger Lite (front)
[does NOT allow Epoc Programming]

EPOCSLIM\_CHAR\_UK with PSU UK



Epoc Slim Charger Lite (side)



Epoc Programmer/Charger with PSU UK

EPOCSPROG



Epoc UK mains PSU & USB Lead



# **4 Epoc Solo Operation**



#### Switch on

>2 second press on the Escape button switches the Epoc Solo ON

The LED array briefly flashes white, then extinguishes.





This is followed by an audible tone pattern, then the LED array briefly lights red, green, blue, white in sequence 3 times before it extinguishes.









The Epoc Solo is now in the ON state.



Briefly press the Escape button, the LED array flashes white to confirm the Epoc Solo is ON.



#### Switch off

Briefly press the Escape button 5 times (LED array flashes white during each press).





LED array will then emit 5 pale blue flashes, then the Epoc Solo will shut down.

# Send specific message

A long press (>2 secs) on the Central button will transmit the primary message.

The LED array will flash Red/White in sequence for 5 seconds with beep sound.





A long press (>2 secs) on the Escape button will transmit the secondary message

The LED array will flash Red/White in sequence for 3 seconds with beep sound.



# **Battery Status**

A short press of the Central button will indicate the battery level







>75%

25% - 75%

< 25%

Note that this is only an indication. Users are advised to recharge the Epoc Solo when red status is shown. A "Battery Low" message will be transmitted when <20%. This will repeat every 15 minutes until the battery is recharged. LED segments will rotate red for 8 seconds & beep.

# Charging

Insert the Epoc Solo into the charger shoe. The LED array will flash pink 3 times.



Whilst charging, each LED segment lights green in sequence.



When charging is complete, all four LED segments light green.





When the Epoc Solo is removed from the charger, each LED segment will sequence pink, then full white, then extinguish.



#### **Wall Bracket**

When used with the separately available wall bracket, the Epoc Solo will transmit an "In Holder" message when inserted into the bracket. The LED segments will sequence light blue accompanied by a beep sound.

When removed from the wall bracket, the Epoc Solo will transmit an "Out of Holder" message and the LED segments will sequence light blue accompanied by a beep sound.

# **Optional Features**

These features must be selected at the time of ordering and can only be enabled with the Epoc Solo Programming software. Please speak to our Sales Team for further details.

#### **Lone Worker Alert**

If no movement is detected for more than the preset time, a 10 second countdown will commence, notified by the LED segments sequencing red accompanied by a beep sound.

The Epoc Solo will then flash green for 4 seconds together with an escalating beep sound and will then transmit the "No Motion" alarm. The LED array will then flash red until the start of the next countdown sequence. This sequence will be repeated every 30 seconds until cancelled by a short press of the Escape button.

To suspend the alarm activation during countdown, press the Escape button briefly. This will reset the "no motion" timer to the start of the preset period.

# Message Acknowledge

After a message has been successfully sent, the Epoc Solo will flash the LED array yellow for 3 seconds to indicate that the message has been received by the intended recipient.



# **5 Specifications**

#### **Environmental**

Operating temperature range: -10°C to +60°C

Operating humidity range: 5-95% non-condensing Storage temperature range: -10°C to +50°C (1 month)

Water resistance: IP67

# **Battery**

Battery type: Li-ion Polymer 3.7V@850mAh (UFX 503440)

Temperature range (charging): 0°C to +40°C
Temperature range (discharging): -10°C to +60°C
Battery autonomy: up to 450 days

# **Dimensions – Weight**

Dimensions (excluding belt clip): H97.4 x W54.7 x D16.7mm

Overall weight: 60g approx. Case: PC YH10

# **RF Specifications**

Frequency bands MHz: POCSAG 438-470MHz / IoT TX (UK/EU)

RF channel bandwidth: 12.5 / 20 / 25kHz Maximum output power: < 20mW e.r.p (EU)

Frequency stability: ± 2ppm

Modulation: FSK (POCSAG)
Data rate: 512, 1200, 2400 Bds

Sensitivity UHF band: 2.0μV/m (512bds), 2.5μV/m (1200bds), 3.0μV/m (2400bds),

(body-worn)

Selectivity: >60dB ±25kHz

Intermodulation rejection: >65dB

# **IoT Specifications**

Bluetooth Low Energy V4.2/V5.0



#### **6 Warranty & Customer Support**

All **Scope Communications UK** products are guaranteed one (1) year, parts and labour, return to factory, from their delivery date.

Warranty on products parts cannot not be applied in following cases:

- Abnormal use of products: breakage, vandalism, handling errors, thefts
- External causes: thunder lightning, faulty power supply, flooding, water damage, fire, industrial disaster, nuclear disaster, natural disaster
- Repairs, adding, changes performed by personnel not authorised by **Scope Communications UK**

At the end of warranty period, products can be returned to Scope Communications UK Ltd for analysis and repair after customer has agreed the quotation.

A customer technical support exists within **Scope Communications UK**. This service can be contacted:

- By phone, via **Scope Communications** office: +44 1803 860700
- By mail: sales@scope-uk.com

Office is open daily Mon-Friday: 8h30-17h30.

# 7 Recycling & Waste management



**Epoc Solo** product contains electronic components which must not be thrown out with household waste.

The Directive **2012/19/EU** of the European Parliament and the Council on waste electrical and electronic equipment was implemented in order to ensure that products are recycled with best techniques of re-use, recycling and recovery of and so preserve, protect and improve the quality of the environment, and protect

such wastes, and so preserve, protect and improve the quality of the environment, and protect human health.

This product has been designed and manufactured with materials and components of high quality that can be reused or recycled. It is compliant with Directive **2011/65/EU** on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).



# 8 Regulatory

#### WARNING! No User Serviceable Parts

Alteration or modification to any part of this equipment, without the prior written consent of the manufacturer, will invalidate all approvals and warranties attached to the equipment. Further liability for the operation of the equipment, under applicable law, will pass to the person making the modification, who will absolve the manufacturer of any further responsibility for its correct operation and use.



Do not discard. At end of life this equipment must be sent to an authorised waste treatment centre. Contact Scope at the address below for further details.



The circuit boards within this equipment may be harmed by Electrostatic Discharge (ESD). Installers should ensure that both themselves and the system's chassis are grounded before beginning any installation, and should ensure that adequate anti-static procedures are adhered to at all times.

# 9 Declaration of Conformity

Hereby, the manufacturer Scope Communications UK Ltd declares that the radio equipment type: Epoc Solo

is in compliance with the Radio Equipment Directive 2014/53/EU and ROHS Directive 2011/65/EU. The full text of the EU Declaration of Conformity is available at the following internet address:

www.scope-uk.com/technical-support.html

or from Scope at: Quantum House, Steamer Quay, Totnes, TQ9 5AL United Kingdom.



The supply of this equipment is governed by our standard terms and conditions of sale, which can be provided on request.

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