| | Cobra4 Remote-Link | 12602.00 |

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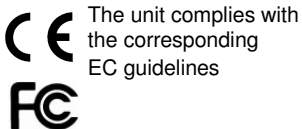Internet www.phywe.de

Operating instructions

The unit complies with the corresponding EC guidelines

Fig. 1: 12602.00 Cobra4 Remote-Link.

CONTENTS

1 SAFETY PRECAUTIONS

- Carefully read these operating instructions completely before operating this instrument. This is necessary to avoid damage to it, as well as for user-safety.
- Only use the instrument for the purpose for which it was designed.
- Only use the instrument in dry rooms in which there is no risk of explosion.
- Protect Cobra4 Remote-Link from dust, moisture and vapours. Use a slightly moist lint-free cloth to clean the instrument. Do not use aggressive cleaning agents or solvents.
- Only use the experimental set-up for the purpose for which it is intended.
- Open the instrument to change rechargeable batteries / batteries only.
- Separate the instrument from other instruments (PC, sensors) before changing rechargeable batteries / batteries.
- Pay attention to the polarity when changing rechargeable batteries / batteries!
- The present-day state of software development makes it impossible to guarantee that a product is free of faults. PHYWE Systeme GmbH & Co. KG therefore does not take on any liability for damages that occur during the installation or the use of the instrument.

2 PURPOSE AND CHARACTERISTICS

Cobra4 Remote-Link allows control of measured data recording in an experiment that is set up with a wireless-based Cobra4 network. The start and stop command for the measurement data recording is transferred by wireless to the PC by a Cobra4 Wireless Manager (12600.00) which is connected to the PC via a USB connection (Fig. 2).
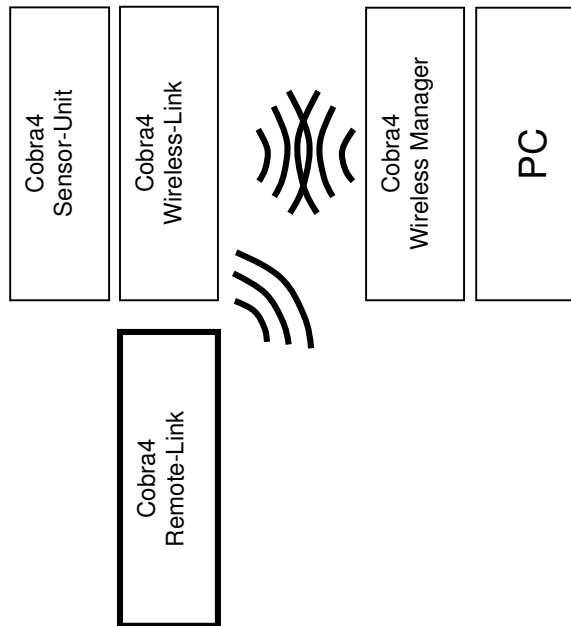

Fig. 2: Instrument concept and Cobra4 wireless path.

The voltage supply of the Remote-Link is provided by 2 AA rechargeable batteries or batteries held in it. It is to be noted here that metal hydride rechargeable batteries (for example, 07929.03) have a distinctly longer service life than other batteries.

Rechargeable batteries in Nickel-metal hydride technology feature a non-negligible self-discharge, whereas the recommended type is optimised in this regard.
Nevertheless, we recommend to recharge the batteries with charger prior to use.

3 FUNCTIONAL AND OPERATING ELEMENTS

3.1 Operating elements on the top

Cobra4 Remote-Link is equipped with various elements for indication of the status and for operation of it. These are described in the following (Fig. 3).
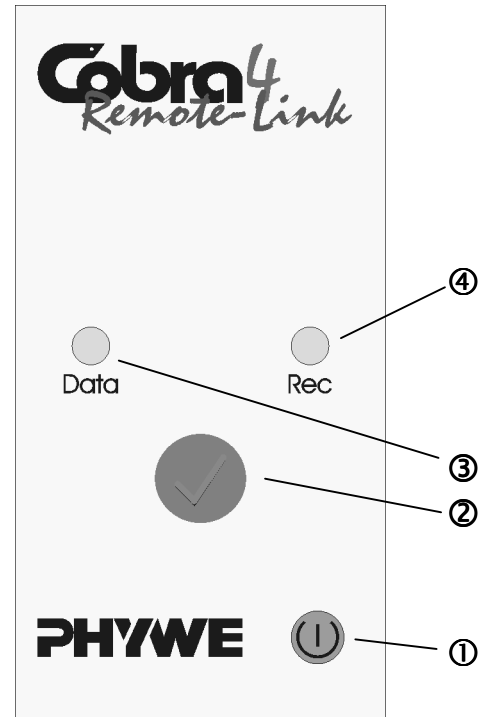

Fig. 3: 12602.00 Cobra4 Remote-Link operating elements.

1 On/off switch

Pressing the button switches the instrument either on or off. The instrument has an automatic circuit breaker to save the reserves of the rechargeable battery: Switch off is 10 minutes after the last press of a button or on ending „measure".

2 Confirmation button
To start and stop the recording of measured values.

3 LED *Data*
Flickers correspondingly to data exchange between Remote-Link and the PC to which a Cobra4 Wireless Manager is connected.

4 LED *Rec*
Lights up permanently when measurement data recording starts.

Important: Cobra4 Remote-Link communicates exclusively with instruments from the Cobra4 product line.

The status of the wireless communication, i.e. the quality of the signal, the version of the firmware and also the status of the internal memory, can be called by clicking on the Cobra4 Remote-Link icon in the user interface of "measure".

Only one Cobra4 Remote-Link can be used in any one wireless-based network.

3.2 Changing batteries

The end cap of the instrument must be unlocked to change rechargeable batteries / batteries (Fig. 4-1). To do this, use a pencil or a ball-point pen to press the raised release button into the housing until the end cap is sprung open by the spring force on the rechargeable batteries in the instrument.

After changing the rechargeable batteries (check polarity) hang the end cap in the one side and then click the other side position in the housing (Fig. 4-2).
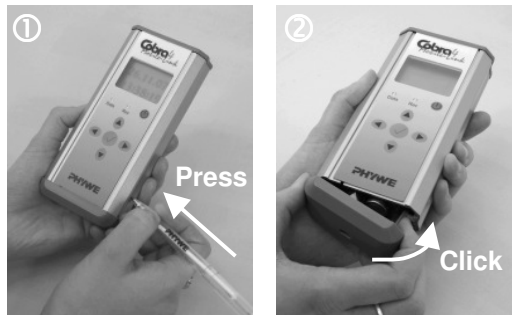

Fig. 4: Exchanging rechargeable batteries by unlocking ① and relocking ② the end cap.

4 NOTES ON OPERATION

Cobra4 Remote-Link fulfills the technical requirements combined in whole in current European Community Guidelines. The product characteristics justify the CE-mark and the FCC-mark. The following notes on usage are to be observed:

- Communication of Cobra4 Remote-Link with Cobra4 Wireless-Link can be so influenced by radio hops, particularly by W-LAN and Bluetooth equipment, that it no longer functions flawlessly.
- The instrument can be so influenced by electrostatic charges and other electromagnetic phenomena (HF, bursts, indirect lightning discharges) that it no longer works within the given specifications. Carry out the following measures to reduce or eliminate the effect of such disturbance: Ensure potential equalization at the PC (especially with Laptops). Use screening. Do not operate high frequency emitters (e.g. radio equipment or mobile radiotelephones) in the immediate vicinity. When a total failure of the instrument occurs, unplug it and plug it back in again for a reset.
- Optimal wireless communication between Cobra4 Wireless Manager and a peripheral Cobra4 Wireless-Link or Cobra4 Remote-Link instrument is only given when there is no obstacle between them and they are at the shortest possible distance (max. 20 m) from each other. Set up your experiment correspondingly.
- During data acquisition, other parallel-running PC applications can cause disturbance. Other USB equipment (e.g. Web-Cam) in particular should be switched off before "measure" is started.

Compliance statement:

USA This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
Usually this is followed by the following FCC caution:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canada "Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device." Usually this is followed by the following RSS caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

5 HANDLING

This section describes how to put Cobra4 Remote-Link into operation and provides an overview of how to handle it. To avoid failure or improper operation, please read carefully through this section.

5.1 Putting into operation

First install the necessary driver and operating program on the PC via the CD that is supplied. To do this, lay the "measure" CD supplied in the PC and follow the directions. Fit two charged rechargeable batteries or batteries (type AA) in the Cobra4 Remote-Link for the supply of the necessary power.

 We recommend nickel hydride rechargeable batteries, such as 07929.03, so that the maximum measurement time of the instrument is available.

5.2 Starting / stopping measurement data recording

When Cobra4 Remote-Link is switched on, it automatically searches for a corresponding Wireless Manager. The search procedure is indicated by the flickering *Data* LED. Should an active Cobra4 Wireless Manager be within reach, then the Remote-Link is integrated in the wireless network. Remote-Link is then automatically shown in the „measure" operating interface.

6 TECHNICAL SPECIFICATIONS (typical for 25 °C)

Operating temperature range 5... 40 °C

Relative humidity < 80%

Interface module for wireless-based starting and stopping of a measurement at a carrier frequency of 2.4 GHz

Voltage supply: 2x AA Rechargeable batteries

Power consumption (mA):	< 200
Output performance, wireless (mW)	1
Range, without obstacles (m)	20
Dimensions (mm): L x W x H (mm):	125 x 65 x 35
Weight (g):	200

Typical length of usage time using the recommended rechargeable batteries (h):	8

7   PARTS SUPPLIED

Cobra4 Remote-Link is supplied complete with the following components:

- CD measure for installation of the driver and operator software
- Operating Instructions
- 2 x Metal hydride rechargeable battery, AA   07929.03

8   ACCESSORIES

To work with Cobra4 Remote Link, further wireless-based Cobra4 product line interface modules are required:

Cobra4 Wireless Manager	12600.00
Cobra4 Wireless-Link	12601.00

Cobra4- Wireless-Link can be used with all instruments from the Cobra4 product line:

• Cobra4 Sensor-Unit pH and	
• 2 x Temperature NiCr-Ni	12630.00
• Cobra4 - Unit pH, BNC connector	12631.00
• Cobra4 - Unit Conductivity /	
• Temperature (Pt1000))	12632.00
• Cobra4 - Unit Conductivity with stainless	
• steel electrodes	12633.00
• Cobra4 - Unit Temperature,	
• semiconductor -20...110 °C	12640.00
• Cobra4 - Unit 2 x Temperature NiCr-Ni	12641.00
• Cobra4 - Unit Force 4 N	12642.00
• Cobra4 - Unit Force 40 N	12643.00
• Cobra4 - Unit Electricity	12644.00
• Cobra4 - Unit Acceleration	12650.00
• Cobra4 - Unit Weather: humidity, air	
• pressure, temperature, light intensity,	
• elevation	12670.00

For recharging batteries, we recommend a rapid charger for metal hydride rechargeable batteries, 110...240 V   07929.99

For fixing Cobra4 Remote-Link in position with a stand rod in experimental set-ups, we recommend the following accessory:

Support for Cobra4 with stand rod	12680.00

For table-top set-ups with Cobra4 Remote-Link, we recommend as accessory:

Holder for Cobra4	12681.00

9   NOTES ON THE GUARANTEE

We guarantee the instrument supplied by us for a period of 24 months within the EU, or for 12 months outside of the EU. Excepted from the guarantee are damages that result from disregarding the Operating Instructions, from improper handling of the instrument or from natural wear.

The manufacturer can only be held responsible for the function and technical safety characteristics of the instrument, when maintenance, repairs and alterations to the instrument are only carried out by the manufacturer or by personnel who have been explicitly authorized by him to do so.

10   WASTE DISPOSAL

The packaging consists predominately of environmentally compatible materials that can be passed on for disposal by the local recycling service.

Should you no longer require this product, do not dispose of it with the household refuse.
Please return it to the address below for proper waste disposal.

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