

Operation of the Cutting Machine CUTFOX 10

User manual



User manual

Operation of the Cutting Machine CUTFOX 10

2013-04-22

Designation: UM EN CUTFOX 10

Revision: 01

Order No.: —

This user manual is valid for:

Designation From this Serial No. onwards Order No. CUTFOX 10 231000 1206829

PHOENIX CONTACT 102786_en_01

Please observe the following notes

User group of this manual

The use of products described in this manual is oriented exclusively to qualified electricians or persons instructed by them, who are familiar with applicable standards and other regulations regarding electrical engineering and, in particular, the relevant safety concepts.

Explanation of symbols used and signal words



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety measures that follow this symbol to avoid possible injury or death.

There are three different categories of personal injury that are indicated with a signal word.

DANGER This indicates a hazardous situation which, if not avoided, will re-

sult in death or serious injury.

WARNING This indicates a hazardous situation which, if not avoided, could

result in death or serious injury.

CAUTION This indicates a hazardous situation which, if not avoided, could

result in minor or moderate injury.



This symbol together with the signal word **NOTE** and the accompanying text alert the reader to a situation which may cause damage or malfunction to the device, hardware/software, or surrounding property.



This symbol and the accompanying text provide the reader with additional information or refer to detailed sources of information.

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1 Basic information

1.1 Intended use

The CUTFOX 10 cutting machine cuts cables, litz wires, shrink sleeves and similar profiles and is particularly suitable for series production.

The CUTFOX 10 is exclusively intended for cutting cables, litz wires, shrink sleeves and similar profiles up to 8 mm.

Please note that only finely stranded copper litz wires up to 10 mm² and solid copper cables up to a maximum of 2.5 mm² may be used. Steel wires or similar may never be used, as these would destroy the cutter.

Willful modifications to the CUTFOX 10 are prohibited for safety reasons.

The required length and number of wires is entered either directly in the CUTFOX 10 with the keypad or can be documented on the PC with the supplied software and loaded to the CUTFOX 10.



WARNING: The CUTFOX 10 may only be used

- as intended and
- when in perfect working order regarding safe functioning.



WARNING: All persons responsible for commissioning, operating and maintenance of the CUTFOX 10 must be appropriately qualified and have read this user manual. In particular, they must be able to recognize dangers.



NOTE: Only use original replacement parts from Phoenix Contact.

1.2 For your safety



WARNING: The front door is installed for the safety of the operator. It is prohibited in all circumstances to modify, remove or by means of alterations bypass it.

The CUTFOX 10 may be operated only when the front door is closed.

Disconnect the mains plug before beginning maintenance work.

Make sure that there are no foreign objects inside the housing.

102786_en_01 PHOENIX CONTACT 1-1

2 Operating the CUTFOX 10

2.1 Scope of supply and overview

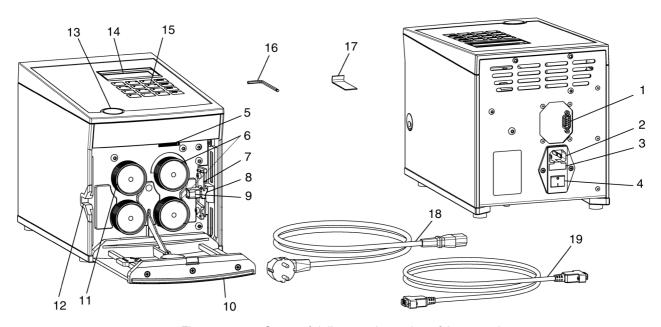


Figure 2-1 Scope of delivery and overview of the operating components

- 1 RS-232 interface
- 2 Mains connection
- 3 Mains fuses
- 4 Mains switch
- 5 Adjusting screw
- 6 Drive rolls
- 7 Cutter
- 8 Outlet slot
- 9 Cable routing
- 10 Front door

- 11 Metering roller
- 12 Insertion slot
- 13 Door opener
- 14 Display
- 15 Key pad
- 16 Allen key, size 3
- 17 Removal hook
- 18 Power cable
- 19 RS-232 cable

Not pictured: CD-ROM, user manual

2-1 PHOENIX CONTACT 102786_en_01

2.2 Setting up the CUTFOX 10



NOTE: The device must be set up on a level and horizontal surface.

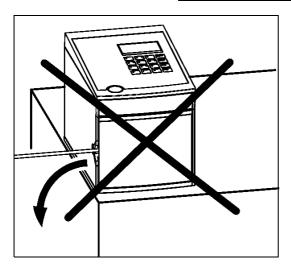


NOTE: During operation and storage, avoid the following:

- humid or dusty places and
- locations exposed to high levels of heat, direct sunlight or low temperatures (operating range: 15°C ... 35°C).



NOTE: Set up the CUTFOX 10 so that it cannot slip from its work surface. Use a non-slip mat or fix the CUTFOX 10 in place, as depicted in Fig. 2-2 (right).



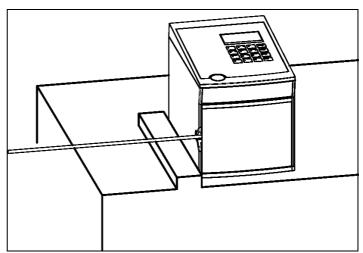


Figure 2-2 Example for fixing the CUTFOX 10



NOTE: Do not spill liquids on the CUTFOX 10.

Do not expose the CUTFOX 10 to strong vibrations or shocks.

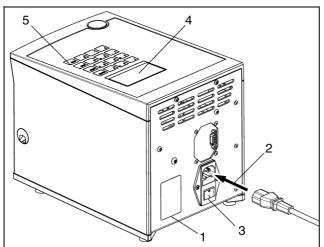


NOTE: If the machine is moved from a cold location to a warm location, condensation can

Before using the CUTFOX 10, open the front door and allow condensation to evaporate.

102786_en_01 PHOENIX CONTACT 2-2

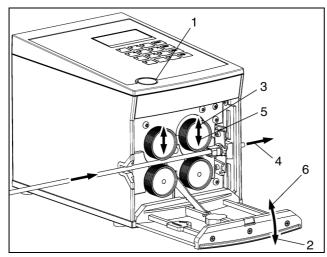
2.3 Connecting and inserting the cable



Connecting to mains

- Connect the power cable (2).
- Switch on the CUTFOX 10 with the mains switch (3) (press I).

The display (4) and the red "stop" LED (5) light up.



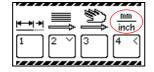
Inserting the cable

 Press the door opener (1) and fold down the front door (2).

The rollers are raised (3).

- Insert the cable between the rollers and pull it through the cable routing and out through the outlet slot (4).
- Fold up the front door (6).
 The rollers clamp the cable firmly (5).

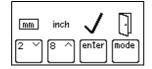
If you cut very soft or hard material, it is advisable to change the clamping pressure (see page 3-4).



Adjusting the measuring unit between millimeter and inch

The default is millimeter.

- Press and hold the "mode" button for approx. six seconds, until this display appears.
- Press the "4" key for mm/inch adjustment.



The measuring unit currently in use is framed (here, it is mm).

- The "2" key sets the measuring unit to mm.
 The "8" key sets the measuring unit to inch.
- Press the "enter" key to save the value and return to mode selection.

With the "mode" button, you can return to mode selection without saving.

2-3 PHOENIX CONTACT 102786_en_01

2.4 Automatic cable cutting



The CUTFOX 10 cuts the amount entered automatically to a specified length. This is the default mode and is active when the machine is switched on.

- Switch on the CUTFOX 10.
- Insert the cable as described (see page 2-3).
- To switch into this mode, press the "mode" button and then the "1" key.





Length (mm or inch, see page 2-3)

Number of cuts

To go (Number of cuts remaining)

Entering the parameters

- Enter the length and number of cuts with the keys "0" to "9".
- You can overwrite the values or delete them with the "C" button.
- For entries in inches, decimal places can be used.
- Switch to the next line with the "enter" key.

Cutting the cable

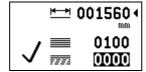
Press the "start" button. The green LED lights up.
 The cable is then cut automatically.

Pausing or stopping the cable

- Cutting can be interrupted. To do this, press the "stop" button. The red "stop" LED flashes.
- Press the "start" button to continue cutting.
- If you would like to stop cutting, press and hold the "stop" button for at least two seconds. The To go display is set to "0000".

Cutting finished

When the cutting is completed, the To go display reads "0000" and a checkmark is shown.



The length and number can be re-entered.

Changing modes

• Press the "mode" button to switch back to mode selection.

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2.5 Planning cutting jobs with a PC



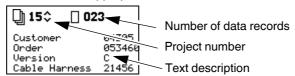
Data records with cutting jobs can be created at a PC. The data records contain information about the desired number and length as well as a description of the cable. These data records are then processed sequentially from the CUTFOX 10.

You can store and process up to 20 projects (lists) with a maximum of 100 data records (cutting jobs).

Connecting the CUTFOX 10 to a PC

- Switch off the CUTFOX 10 and the PC before connecting.
- Connect the CUTFOX 10 to a PC with the RS-232 cable supplied. The RS-232 interface is on the back side of the CUTFOX 10.
- Switch the CUTFOX 10 and the PC back on.
- Create the cutting jobs at the PC with the help of the CUTSOFT software supplied.
- Switch into the appropriate mode. Press the "mode" button and then the "2" key.





Loading a project to the CUTFOX 10

Load the desired project to the CUTFOX 10 with help of the software.
 While the project is being loaded to the CUTFOX 10, a display appears on the screen.
 When it is finished loading, a display for project selection appears.



Project selection

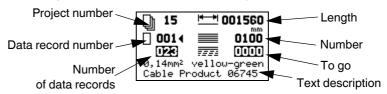
Select the project number.

The "2" key lowers this number.

The "8" key raises this number.

Press the "enter" key to confirm the selection.

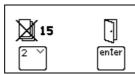
Then the settings for the selected project are displayed.



2-5 PHOENIX CONTACT 102786_en_01

Deleting a project

• If you would like to delete the current project, press and hold the "stop" button for at least two seconds. This display appears.



- To delete the project and return to project selection, press the "2" key.
- To return to project selection without deleting, press the "enter" key.

Changing settings



The values for length and number shown in project selection can be edited. The changes remain until the project is switched or closed.

Permanent changes have to be made at the PC and then loaded to the CUTFOX 10.

If, for example, a data record has been created where more cable is cut than actually required, then the number can be decreased here. But the next time this data record is accessed, the higher number, which is saved, will be used.

- Select a data record with the keys "0" to "9".
- You can overwrite the values or delete them with the "C" button.
- Switch to the next line with the "enter" key.
- Enter the length and number of cuts with the keys "0" to "9".
- For entries in inches, decimal places can be used.

Cutting the cable

- Insert the cable as described (see page 2-3).
- Press the "start" button. The green LED lights up.
 The CUTFOX 10 then processes all of the project's data records automatically.

Pausing or stopping the cable

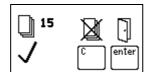
 Cutting can be interrupted. To do this, press the "stop" button. The red "stop" LED flashes and this display appears.



- Press the "start" button to continue cutting.
- To stop cutting, press the "mode" button to switch to another data record or close the project.

End of the project

The cutting is finished when this display appears.



- To return to project selection, press the "enter" key.
- To delete the completed project and return to project selection, press the "C" key.

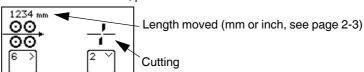
102786_en_01 PHOENIX CONTACT 2-6

2.6 Manual cable cutting



The cable can be moved and cut using button commands.

- Insert the cable as described (see page 2-3).
- Switch on the CUTFOX 10.
- To switch into this mode, press the "mode" button and then the "3" key.





Cutting cable

- Press and hold the "6" key until the cable has been moved the desired length.
- Press the "2" key to cut the cable.

Deleting the length

Press the "C" key to delete the set length.

Changing modes

Press the "mode" button to switch back to mode selection.

2.7 Exiting from cutting

- When no more cable is to be cut, switch off the mains switch (press 0).
- Open the front door and remove the cable.

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3 Troubleshooting

3.1 Error messages on the Display

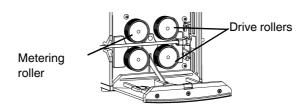
Table 3-1 Error messages and remedies

Display	Cause	Remedy
enter enter	Front door is open.	Close front door.
	The metering roller does not detect a cable.	Insert a new cable.
	While conveying the cable, it jammed or made a knot. The drive rollers slip.	Check if there is a jam or knot.
The error is trig- gered when the motor receives cur-	The force required to unwind the cable is too large. The drive rollers slip.	Check if the force required to unwind the cable is too large.
rent but the meter- ing rollers are not	The rollers do not convey the cable properly. The drive rollers slip.	Adjust the clamping pressure of the drive rollers (see page 3-4).
turning.		Replace the drive rollers (see page 3-4).
		Use drive rollers that suited to the cable (see page A-1).
	The metering roller slips past the cable.	Check if the metering roller is worn.
		Use a metering roller that suits the cable (see page A-1).
	While conveying the cable, it jammed or made a knot. The drive rollers are locked or are about to lock.	Check if there is a jam or knot.
The error is triggered when the motor current increases too fast.	The force required to unwind the cable is too large. The drive rollers are locked or are about to lock.	Check if the force required to unwind the cable is too large.
i enter	Maximum cutting force exceeded	Check if the cable cross section is too large or if the cable is for some other reason not suitable.
		Switch the cutter (see page 3-5).



Press the "enter" key to delete the error message.

Metering and drive rollers



102786_en_01 PHOENIX CONTACT 3-1

3.2 The length cut is wrong

- Check if the drive or metering rollers are worn and replace them.
- Adjust the clamping pressure of the drive rollers (see page 3-4).
- If the insulation of the cable is very hard, the metering roller can be exchanged with a PU roller or a steel roller (see page 3-4).

If the actual length cut is not consistent with the length set, the CUTFOX 10 has to be readjusted.

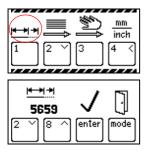
- Press and hold the "mode" button for approx. six seconds until this display appears.
- Press the "1" key to adjust the length.
 A value for length adjustment is displayed (here: 5659). This value indicates the number of pulses per meter.
- The "2" key lowers this value and with it the length conveyed. The "8" key raises this value and with it the length conveyed.
- Press the "enter" key to save the value and return to mode selection.
 With the "mode" button, you can return to mode selection without saving.

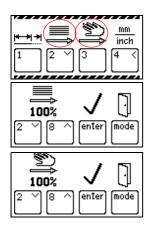
3.3 Adjusting the cable conveyor speed

The speed with which the cable is moved can be adjusted. This speed can be adjusted separately for automatic and manual modes.

- Press and hold the "mode" button for approx. six seconds until this display appears.
- Press the "2" key to change the speed in automatic mode and the "3" key for manual mode.
- The speed is preset to 100% and can be lowered.
 - The "2" key lowers this value and thus the speed.
 - The "8" key raises this value and thus the speed.
- Press the "enter" key to save the value and return to mode selection.

 With the "mode" button, you can return to mode selection without saving.





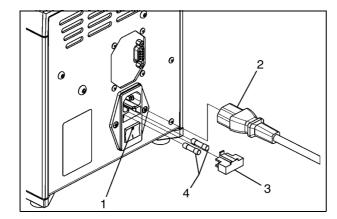
3-2

PHOENIX CONTACT 102786_en_01

3.4 CUTFOX 10 will not switch on

No mains connection

- Check whether the mains plug is connected to the CUTFOX 10 mains connection and the shock-proof plug is connected to the mains socket.
- Make sure that the power supply at the mains socket is OK.



Mains fuse blown



WARNING: Risk of injury

Switch off the CUTFOX 10 (1) and disconnect the mains plug (2).

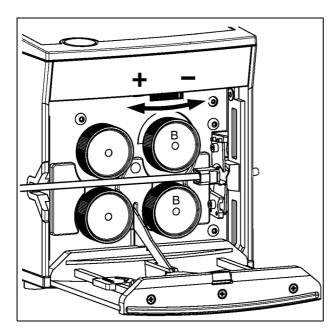
- Remove the fuse holder (3).
- Check the mains fuses (4).
- Replace the blown mains fuse (for ordering data see page A-1).
- · Push the fuse holder back in



NOTE: The fuse holder should snap into place.

102786_en_01 PHOENIX CONTACT 3-3

3.5 Adjusting or replacing the rollers

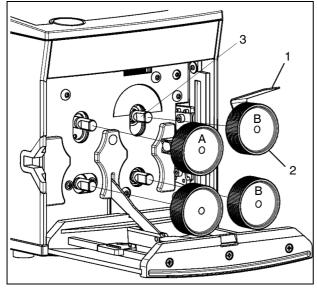


Adjusting the clamping pressure of the drive rollers (B)

The clamping pressure must suit the cable. For standard cable, it does not need to be changed.

The following generally applies:

- Hard and thick material: more pressure
- Soft and thin material: less pressure
- Press the door opener and fold down the front door.
- Set the clamping pressure with the adjusting screw.
 Rotate left → more pressure
 Rotate right → less pressure



Replacing drive or metering rollers



WARNING: Risk of injury

Switch off the CUTFOX 10 and disconnect the mains plug.

- Press the door opener and fold down the front door.
- Insert the removal hook (1) supplied behind the rollers
 (2) and push off the rollers.



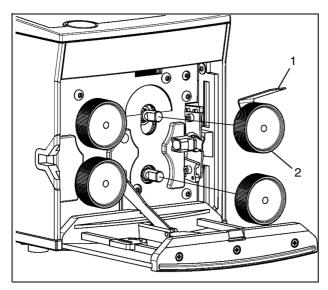
NOTE: Replace the drive rollers (B) in pairs only

Pay attention to the flat guiding surface (3) when mounting.

- Replace the rollers (for ordering data see page A-1).
- Fold up the front door.
- Plug in the mains plug again.

3-4 PHOENIX CONTACT 102786_en_01

3.6 Replacing the cutters



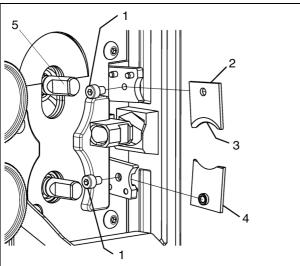
Removing the drive rollers



WARNING: Risk of injury

Switch off the CUTFOX 10 and disconnect the mains plug.

- Press the door opener and fold down the front door.
- Insert the removal hook (1) supplied behind the rollers
 (2) and push off the rollers.



Removing the cutters

- Loosen the screws (1) with the Allen key supplied.
- Remove both cutters (2 and 4).

Mounting the cutters



NOTE: Always replace both cutters.

Pay attention when mounting that the slanted cutting surfaces (3) face outwards.

- Place the lower blade (4) with the threaded insert onto the holder from the right.
- Place the upper blade (2) onto the holder from the left.
- Tighten the screws with the Allen key.



NOTE: Pay attention to the position of the flat guide surfaces on the shafts (5) when mounting the rollers.

- · Remount the drive rollers.
- Fold up the front door.
- Plug in the mains plug again.

102786_en_01 PHOENIX CONTACT 3-5

A Appendix

A 1 Ordering data

Cutting machine

Description		Designation	Order No.	Pcs./Pkt.
Cutting machine		CUTFOX 10	1206829	1
Replacen	nent parts			
Description		Designation	Order No.	Pcs./Pkt.
Drive / metering rollers Standard rollers		CF-10 WHEEL SET	1207271	1 pair
Rollers with PU contact surface		CF-10 WHEEL PU	On request	1
Rollers with a hardened, finely knurled steel contact surface		CF-10 WHEEL STEEL	On request	1
Cutter		CF-10 CUTTER KNIFE SET	1207284	1 set
Mains fuse T 2A/250V (20 x 5 mm)		-	On request	1 pair
Removal hook		CF-10 ABZH	1207297	1

Accessories

Description	Designation	Order No.	Pcs./Pkt.
Cable unwinder	CUTFOX 10 C-UN	1208393	1



A 2 Technical data

Technical data	
Mains connection	90 V 264 V / 47 Hz 63 Hz
Power consumption	150 VA
Cutting efficiency (flexible/solid)	$0.08~\text{mm}^2 \dots 10~\text{mm}^2 / 0.08~\text{mm}^2 \dots 2.5~\text{mm}^2$
Maximum throughput	8 mm
Cross section setting	Automatically
Number of cuts	1 9999 Pcs.
Length of cuts	2 mm 999999 mm/0.1 in 99999.9 in.
Feed rate	max. 0.5 m/s
Interface	RS-232
Dimensions (W x H x D)	194 mm x 228 mm x 301 mm
Weight	10 kg

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A 3 Declaration of conformity

1206829.CE.00	1206829.CE.00
EG-Konformitätserklärung EC-Declaration of Conformity Hersteller / Manufacturer: PHOENIX CONTACT Gmbh & Co. KG Anschrift / Address: Flachsmarkstrale &, D-2825 Blomberg, Germany	Anhang zur EG-Konformitätserklärung Annex on EC Declaration of Conformity vom / dated 2013-04-19
Produktbezeichnung / Product description: CUTFOX 10 Artieblosschrung / Artied description: 206829 Artieblosschrung / Artied description: 206829 as undsetherden / Artied description: 206829 as undsetherden / Artied description / Artied descr	Produktbezeichnung / Product description: [Agrienbezeichnung / Froduct description: 120829 Die Konformäte int den vessentlichen Anterderungen der Rottlinten) wird auch für folgende Produkte beschleinigt: The conformity with the essenticilar novements of the directive(s) is also certified by the declaration for following products. Artikel-Nr. / Article no. 1207543 CUTFOX 10 BASIC
ür die Beurfeilung der Übereinstimmung wurden folgende einschlägige Normen herangezogen: or evaluation of the conformity following relevant standards were consulted: EN ISO 12100:2010 EN ISO 13857:2008 EN 349:1993/A1:2008 EN 60204-1:2006 EN 61000-6-2:2005 EN 61000-6-3:2007/A1:2011 Veitere Informationen (z. B. Dokumente, Prüfberichte, Einschränkungen, etc.) zur Konformitätsbewertung: dditional information (for example documents, text reports, restrictions etc.) of the conformity assessment:	
artifikate einer benannten Stelle / Certificates by a notified body: Anschrift / Address: Referenz / Reference; Anschrift / Address:	
Anschrift / Address: Referenz / Reference; Anschrift / Address: Referenz / Reference; In the side of the side	
Anschrift / Address: Referenz / Reference: Anschrift / Address: Referenz / Reference: lie letzten beiden Ziffern des Jahres in dem die C.EKennzeichnung angebracht wurde: te last von fouwes of the veer in which the C.E. marking was sopiled:	

PHOENIX CONTACT GmbH & Co. KG, Flachsmarktstraße 8, D-32825 Blomberg, Germany

CUTFOX 10 1206829 CUTFOX 10 BASIC 1207543

The above-mentioned products are in conformity with essential requirements of the following directives and their amending directives.

2004/108/EC EMC Directive (Electromagnetic Compatibility)

2006/42/EC Machinery Directive

The following applicable standards were consulted for evaluating the conformity:

EN ISO 12100-1:2010 EN ISO 13857:2008 EN 349:1993/A1:2008

EN 60204-1:2006 EN 61000-6-2:2005 EN 61000-6-3:2007/A1:2011

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