

User manual

UM EN CF 500

Electric crimper CF 500



User manual Electric crimper CF 500

2012-04-10

- Revision: 03
- Order No.: —

This user manual is valid for:

Designation	Order No.
CF 500-230V	1208348
CF 500-120V	1208351

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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CF 500...

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1 Basic information

For safe handling and trouble-free operation of the CF 500, you must be familiar with and observe the safety notes.

1.1 Intended use



WARNING: The CF 500 is intended solely for crimping.

Only crimping dies with suitable cross sections may be used (see "Crimping dies and protective covers" on page A-1).

Under no circumstances should solid metal parts or other similar objects be inserted. This damages the crimping die.

Unauthorized conversions that exceed the scope of modification, and changes to the CF 500 are not permitted for safety reasons.



NOTE: Correct usage includes observing all notes and complying with the predefined operating conditions.



WARNING: The CF 500 may only be used

as intended and

- in a safe, and fault-free condition.



WARNING: All persons responsible for startup, operation, and maintenance of the CF 500 must be appropriately qualified and adhere strictly to this user manual.

The CF 500 is used for crimping various types of crimp contacts:

- Ferrules
- TWIN ferrules
- Turned contacts
- Slip-on sleeves and flat plugs
- Insulated cable lugs
- Cable lugs
- Tube lugs

Other crimp contacts on request.

Permitted operators

Only authorized and instructed operators may work with the CF 500.

The operator is responsible for all other persons within the workspace.

The owner must make the user manual available to the operator and ensure that the operator has read and understood it.



WARNING: Only use original crimp dies and replacement parts from Phoenix Contact.

1.2 Workplaces

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: 10°C to 40°C).



NOTE: Do not spill liquids on the CF 500.

Do not expose the CF 500 to strong vibrations or shocks.

1.3 For your safety



WARNING: The protective cover is fitted for the safety of the operator. Under no circumstances must it be modified, removed or bypassed by means of alterations.

WARNING: The CF 500 must only be operated with the protective cover attached.

Disconnect the mains plug prior to all work that requires removal of the protective cover (e.g., crimping die adjustment).

Switch off the electric crimper during breaks and when the device is not being used.

For reasons of safety, the CF 500 automatically switches off when the protective cover is removed.



WARNING: Disconnect the mains plug before opening the housing.

2 Description of the CF 500

2.1 Supplied as standard





2 Overview of the operating components



1	Control panel	Selection of operating functions and display of device states.
2	Counter	The counter records each complete crimping process. The counter reading is saved for approximately one week when the device is switched off.
3	Adjusting slide	The adjusting slide sets the area in which the crimping die is compressed with full force. If the die meets with resistance outside this area, the crimping pliers are opened immediately. $(1 = minimum area, 5 = maximum area.)$
4	Crimping die	Positions the crimp contact and crimps this with the wire.
5	Protective cover	The protective cover prevents injury in the crimping die danger zone. The CF 500 can only be operated when the protective cover is fully attached.
6	Carrier handle	The carrier handle is used for transporting the CF 500.
7	Foot pedal connection	Device connection for the foot pedal.
8	Mains connection	Device connection for the power cable.
9	Mains fuses	Micro fuses integrated into the mains connection (2x).
10	Mains switch	The mains switch switches the power supply on (I pressed) or off (0 pressed). The "ready" LED lights up when switched on.
11	Foot pedal	The foot pedal initiates the crimping process.

"**Reset" button** – resets the counter reading to zero.

ready for operation.



"Operating mode 1" – switches the CF 500 to operating mode 1 (LED lights up). In operating mode 1, the crimping process takes place in one step.

"Ready" LED - indicates that the unit is



"Operating mode 2" button – switches the CF 500 to operating mode 2 (LED lights up). In operating mode 2, the crimping process takes place in two steps. In the first step, only the contact is fixed in the die.



Buttons for limiting the opening – the opening of the crimping die can be adjusted by pressing the upper (open) or lower (close) button. The LEDs indicate the opening status:

"Error" LED - indicates that crimping failed or

Press the "enter" button, the LED goes out and

"Service" LED - indicates that the CF 500 re-

quires servicing. We recommend servicing by Phoenix Contact after 500,000 crimping processes in order to ensure a consistent level of

"Enter" button - clears the "Error" LED.

that there is a malfunction.

you can continue to crimp.

crimping quality.

- 4 LEDs light up: Maximum opening
 - No LEDs light up: Minimum opening

Changes are only effective once the next crimping procedure has been carried out.

2.4 Scope of use of the CF 500

The CF 500 electric crimper is used for crimping crimp contacts.

By using different crimping dies, various types of crimp contacts with a wide range of cross sections can be processed.

The CF 500 can be operated in two different operating modes:

- **Operating mode 1**: The crimp contact is crimped when the foot pedal is pressed.
- Operating mode 2: The foot pedal is pressed twice. The first press secures the inserted contact in the die. The second time the foot pedal is pressed, the crimp contact is crimped.

The press capacity can be adjusted. This prevents damage to the tools and faulty crimping due to incorrectly inserted contacts.

The opening stroke of the crimping die can be changed by simply pressing a button.

For precise crimping, a moveable locator, which positions the contacts directly under the crimping stamp, can be fitted.

Available crimping dies Available crimping dies are listed in the "Crimping dies and protective covers" ordering data on page A-1. A protective cover with a suitable insertion slot is assigned to each crimping die.

2.3 Function of the operating components

3 Starting up the CF 500

3.1 Overview

To start up the electric crimper, you must carry out the following steps:

- Set up the CF 500
- Remove the protective cover
- Fit the crimping die
- Attach the protective cover
- Connect and switch on the CF 500
- Center the crimping die
- Adjust the crimping die
- Prepare the unit for operation
- Set the optimum press capacity start
- Set the optimum opening stroke

3.2 How to proceed





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: 10°C ... 40°C).

Removing the protective cover



WARNING: Risk of injury

Disconnect the mains plug before removing the protective cover.

- Unscrew the screw (1).
- Remove the protective cover (2).









Fitting the crimping die



NOTE: Observe the mounting position:
Small cross section to the front
Large cross section to the rear

- Insert the lower crimping die (1).
- Gently tighten the screw (2).
- Insert the upper crimping die (3).
- Gently tighten the screw (4).

Attaching the protective cover

• Insert the security pin (1) into the lower crimping die and slide the protective cover (2) in until you feel it engage.



WARNING: The CF 500 must only be operated with the protective cover attached.

NOTE: If the protective cover is missing or incorrectly attached, then the CF 500 power supply disconnects.

Connecting and switching on the CF 500

• Connect the foot pedal (1) to the foot pedal connection.

for ne

NOTE: The CF 500 is available in two versions for 230 V and 120 V. Make sure the mains connection is correct (see rating plate).

- Connect the mains plug (2) to the mains connection and the shock-proof plug (3) to the socket.
- Switch on the CF 500 with the mains switch (4) (press I). The "ready" LED lights up (5).





Centering the crimping die



NOTE: The crimping die bore holes have some play for the mounting screws. Therefore you need to center and adjust the crimping die.

- Press the "operating mode 1" and "enter" buttons simultaneously (1).
- The LEDs for the "operating mode 1 + 2" buttons flash (2).
- Push the adjusting slide (3) to position 1.

NOTE: Only release the foot pedal once the crimping die is closed. Otherwise it opens automatically, adjustment mode is terminated, and the "error" LED lights up.

- Press and hold down the foot pedal (4).
- The crimping die (5) closes slowly, until it meets with resistance and centers itself.
- Release the foot pedal (6).

Adjusting the crimping die



WARNING: Risk of injury

Disconnect the mains plug before removing the protective cover.

- Switch off the CF 500 with the mains switch (1) (press 0).
- Disconnect the mains plug (2).
- Unscrew the screw (7).
- Remove the protective cover (3).
- Check the centering of the crimping die, adjust if necessary (4).
- Tighten the screws (5).
- Attach the protective cover (6) and tighten the screw (7).







Preparing the unit for operation

- Plug in the mains plug (1).
- Switch on the mains switch (2) (press I). The "ready" LED lights up (3).
- Press the foot pedal (4).
- The crimping die (5) opens automatically; release the foot pedal (6).
 - The "error" LED lights up (7).
- Press the "enter" button (8).
 The CF 500 is ready to operate.



NOTE: The device is set to operating mode 2. Check the operating mode before each use.

Setting the optimum press capacity start (1 ... 5)

- Push the adjusting slide (1) into position 1.
- Use the button to set "operating mode 1".
- Press the foot pedal.
 One crimp process is performed without an inserted crimp contact. If the "error" LED lights up, check the position of the crimping die (see page 3-3).
- Insert the wire and the crimp contact.



NOTE: Ensure the cross section is correct.

- Press the foot pedal.
- If the "error" LED lights up, move the adjusting slide up one position.
- Press the "enter" button.
- Repeat the process until the "error" LED no longer lights up.
- To compensate for any material tolerances, push the adjusting slide up one more position.

Setting the optimum opening stroke

- Press the upper button until all four LEDs light up. The maximum opening stroke is set.
- Carry out the crimping process.



NOTE: Changes to settings only take effect after the next crimping process.

- If the opening stroke is too large, press the lower button so that only three LEDs light up.
- Carry out the crimping process.
- Repeat the process until the optimum opening stroke is set.

4 **Operation**

5



³ 2

Setting operating mode 1

• Switch on the CF 500 with the mains switch (1) (press I).

The "ready" LED lights up (2).

- Press the "operating mode 1" button (3).
- If necessary, read the counter (4) and press the "reset" button to reset it to zero (5).





Crimping the crimp contact

- Center the crimp contact (1) on the lower crimping die.
- Insert the wire (2) into the crimp contact.



NOTE: Ensure the cross section is correct.

- Press the foot pedal (3) until the crimping die is completely closed (4).
- The crimping die (5) opens automatically; release the foot pedal (6).
- Remove the crimp contact with crimped wire (7).



NOTE: If there was a fault with the crimping, the "error" LED lights up (see page 5-1).

Shutting down

- If necessary, read the counter (1).
- Switch off the CF 500 with the mains switch (2) (press 0).









4.2 Two-step crimping

Setting operating mode 2

• Switch on the CF 500 with the mains switch (1) (press I).

The "ready" LED lights up (2).

- Press the "operating mode 2" button (3).
- If necessary, read the counter (4) and press the "reset" button to reset it to zero (5).

Clamping the crimp contact



NOTE: Ensure the cross section is correct.

- Center the crimp contact (1) on the lower crimping die.
- Press the foot pedal (2) until the crimp contact is clamped (3).
- Release the foot pedal (4).

Crimping the crimp contact

- Insert the wire (1) into the crimp contact.
- Press the foot pedal (2) until the crimping die is completely closed (3).
- The crimping die (4) opens automatically; release the foot pedal (5).
- Remove the crimp contact with crimped wire (6).



NOTE: If there was a fault with the crimping, the "error" LED lights up (see page 5-1).

Shutting down

- If necessary, read the counter (1).
- Switch off the CF 500 with the mains switch (2) (press 0).

5 Troubleshooting

5.1



"Error" LED lights up

This malfunction can be caused by:

- Foot pedal released too soon
- Incorrect cross section selected
- Incorrectly set press capacity start (1 ... 5)
- Crimping die incorrectly adjusted

Foot pedal released too soon

If the foot pedal is released too soon, the crimping die immediately opens up as far as its initial position.

- Press the "enter" button.
 - The "error" LED goes out.
- Repeat the crimping process.

Incorrect cross section selected

If a crimp contact that is too large or another unsuitable object is inserted, the crimping process is interrupted due to overload and the crimping die immediately opens as far as its initial position.

- Press the "enter" button. The "error" LED goes out.
- Repeat the crimping process with the correct cross section.

Incorrectly set press capacity start (1 ... 5)

The inserted contact is too large for the selected area.

- Push the adjusting slide up one position.
- Press the "enter" button.
 - The "error" LED goes out.
- Repeat the crimping process until the press capacity is optimally set.

Crimping die incorrectly adjusted



WARNING: Risk of injury

Disconnect the mains plug before removing the protective cover.

- Switch off the CF 500 with the mains switch (1) (press 0).
- Disconnect the mains plug (2).
- Unscrew the screw (3).
- Remove the protective cover (4).
- Loosen the screws (5).
- Carry out the startup steps (see Section 3).





5.2 CF 500 will not switch on

The CF 500 will not switch on. The "ready" LED does not light up. This malfunction can be caused by:

- No mains connection
- Mains fuse blown



No mains connection

- Check whether the mains plug is connected to the CF 500 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 CF 500 via the mains switch and disconnect the mains plug.

- Switch off the CF 500 with the mains switch (1) (press 0).
- Disconnect the mains plug (2).
- Pull out the fuse holder (3).
- Check the mains fuses (4).
- Replace the blown mains fuse (for Order No. see ordering data on page A-1).
- Insert the fuse holder..



NOTE: The fuse holder must snap into place.



A Appendix

A 1 Ordering data

Electric crimper

Description	Туре	Order No.
Electric crimper 230 V	CF 500-230V	1208348
Electric crimper 120 V	CF 500-120V	1208351
Mains fuse for CF 500-230V	FUSE SB 1.25 A	1208801
Mains fuse for CF 500-120V	FUSE SB 2.5 A	1209062

Crimping dies and protective covers

CF 500/DIE AI 6	CF 500/COV AI 6	CF 500/DIE AI 25	CF 500/COV ¹
Order No. 1212238	Order No. 1212254	Order No. 1212239	Order No. 1212250
	00		000
For ferrules (A and	Al…), 0.25 … 6 mm ²	For ferrules (A and A	I), 10, 16, and 25 mm ²
CF 500/DIE AI 50	CF 500/COV ¹	CF 500/DIE AI-TWIN 10	CF 500/COV AI-TWIN
Order No. 1212261	Order No. 1212250	Order No. 1212262	Order No. 1212266
	000		
For ferrules (A and A	Al), 35 and 50 mm ²	For TWIN ferrules (AI-TWIN	l), 2 x 4, 2 x 6, and 2 x 10 mm ²
CF 500/DIE TC 4	CF 500/COV ¹	CF 500/DIE TC 10	CF 500/COV ¹
Order No. 1212237	Order No. 1212250	Order No. 1212260	Order No. 1212250
For turned contacts (0			s (CK…), 6 10 mm²
CF 500/DIE SC 1,5	CF 500/COV SC	CF 500/DIE SC 6	CF 500/COV SC
Order No. 1212241	Order No. 1212251	Order No. 1212242	Order No. 1212251
	00		
For slip-on sleeves and fla 0.1 1.			lat plugs (SCF, SCM), . 6 mm²



2) Ø e/i (external/internal diameter, in millimeters), in relation to the cross section of the cable lug

Locator for slip-on sleeves and flat plugs

For precise crimping, a moveable locator, which precisely positions the contacts under the crimping stamp, can be fitted.

	Туре	Order No.	Crimp contacts	Die	Protective cover
	CF 500/LOC SCF 6,3/6	1212247	Slip-on sleeves (SCF) up to 6.3 mm wide	CF 500/DIE SC 6	CF 500/COV SC
	CF 500/LOC SCF 4,8/2,5	1212248	Slip-on sleeves (SCF) up to 4.8 mm wide	CF 500/DIE SC 1,5 CF 500/DIE SC 6	CF 500/COV SC
	CF 500/LOC SCF 2,8/1,5	1212249	Slip-on sleeves (SCF) up to 2.8 mm wide and 5 mm long	CF 500/DIE SC 1,5 CF 500/DIE SC 6	CF 500/COV SC
000	CF 500/LOC SCM 6,3/2,5	1212264	Flat plug (SCM), 0.5 2.5 mm²	CF 500/DIE SC 1,5 CF 500/DIE SC 6	CF 500/COV SC
	CF 500/LOC SCM 6,3/6	1212265	Flat plug (SCM), 1.5 6 mm ²	CF 500/DIE SC 1,5 CF 500/DIE SC 6	CF 500/COV SC

A 2 Technical data

Technical data	
Mains connection	
CF 500-230V	230 V/50 Hz
CF 500-120V	120 V/60 Hz
Power consumption	160 VA
Maximum press capacity	10 kN
Press time	<1s
Counter	6-digit LCD, can be reset
Dimensions (W x H x D)	140 mm x 220 mm x 320 mm
Weight of basic device	10 kg
Weight of foot pedal	1.2 kg

CF 500...

A 3	Declaration	of conformity
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EG-Konformitätserklärung EC-Declaration of Conformity Hersteller / Manufacturer: PHOENIX CONTACT GMBH & Co. KG Anschrift / Address: Flachsmarkistraße 8, D-32825 Blomberg, Germany	Anhang zur EG-Konformitätserklärung Annex on EC Declaration of Conformity vom / dated 22.03.2010
Produktbezeichnung / Product description. (Anteiteschang / Anteie description. Anteite-tic / Antei description. Anteite-tic / Antei description. 200348 Qas vorstehend Azeichnete Produkt stimmt mit den wesentlichen Anforderungen der nachfolgenden Richtlinie(n) und deren	Produktbezeichnung / Product description: CF 500-230V (Antiebezeichnung / Antiele escription, Antievel*: / Antiele accorption, 1208348
Anderungsrichtlinien überein / The above mentioned product is in line with the essential requirements of the below directive(s) and their modification directive(s):	Die Konformität mit den wesentlichen Anforderungen der Richtlinie(n) wird auch für folgende Produkte bescheinigt: The conformity with the essential requirements of the directive(s) is also certified by the declaration for following products.
2004/108/EC EMV-Richtlinie (Elektromagnetische Verträglichkeit) Electromagnetic Compatibility Directive (EMC)	Artikel-Nr. / Article no. Artikelbezelchnung / Article description
2006/42/EC Maschinenrichtlinie	1208351 CF 500-120V
2006/95/EC Machinery Directive 2006/95/EC Niederspannungs-Richtlinie (NSR) Low Voltage Directive (LVD)	
Für die Beurteilung der Übereinstimmung wurden folgende einschlägige Normen herangezogen: For evaluation of the conformity following relevant standards were consulted:	
EN ISO 12100-1:2003 EN ISO 12100-2:2003 EN ISO 13857:2008	
EN 349:1993 + A1 EN 60204-1:2006 EN 61000-6-2:2005 EN 61000-6-3:2007	
Additional Information (for example documents, test reports, restrictions etc) of the conformity assessment:	
Anschrift / Address: Referenz / Reference:	
Anschrift / Address:	
Referenz / Reference:	
Die letzten beiden Ziffern des Jahres in dem die CE-Kennzeichnung angebracht wurde: <u>10</u> The last two figures of the year in which the CE marking was applied: (un einzutragen, bie den Nederspannungsrichtinie / only to be entered on the iow voltage directive)	
Diese Erklärung gilt auch für die im Anhang aufgelisteten Produkte. (wenn angekreuzt) This declaration also applies for the products listed in the annex. (if marked with a cross)	
Diese Erklärung bescheinigt die Übereinstimmung mit den wesentlichen Anfordsanzen aufer genannten Richtlinie(n), enthält jedoch keine Zuscherung von Eigenschaften. Die Scheindies- und Erklandtministie der mitgelieferten Produktiokumentation sind zu beachten. This declaration certifies the conformity with the essential requirements of the indicated directive(s), it does not, howere, coverant any tharacteristics. The instructions for safety and installation of the enclosed product documentation have, the observed.	
Blomberg, 2010-03-22 Surdia Kocke Business Unit Kocke Business Unit Kocke Bed of Development Marking System & Service Angede even / conscipance	
FS A-7.0037 / -08- Formblatterstellister: 2009-11-10 Formblatterstellist Corporate Technology Date of form establishment: 2009-11-10 Form establishment Bilatt / Page 1 von / of 2 Bilatt / Page 1 von / of 2	10-01110.01.00.000 Blatt / Page 2 von / o

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CF 500-230V

CF 500-120V

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

2004/108/EC	EMC Directive (electromagnetic compatibility)
2006/42/EC	Machinery Directive
2006/95/EC	Low-Voltage Directive (LVD)

The following pertinent standards were consulted for evaluating the conformity:

EN ISO 12100-1:2003	EN ISO 12100-2:2003	EN ISO 13857:2008
EN349:1993 + A1	EN 60204-1:2006	EN 61000-6-2:2005
EN 61000-6-3:2007		