EC 65 | OPERATING MANUAL



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GLW CRIMPING TECHNOLOGY

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Safety

Basic instructions

The basic prerequisite for safe handling and trouble-free operation of the EC 65 is being familiar with and observing the safety instructions.

It is for your own safety!

The safety instructions must be observed by **all** persons working with the EC 65.

In addition, the rules and regulations pertaining to the application site, particularly those concerning the prevention of accidents, must be observed.

Symbols

The following symbols are used in this operating manual:



indicates a possible **danger of accident or injury** or possible **damage** to the EC 65.



indicates **instructions for use**.

Dangers posed by the machine

The EC 65 has been designed according to recognised technical safety rules and has been subjected to safety testing and acceptance.

It is equipped with protection devices.

Nevertheless, in the event of operating errors or misuse there is a danger to

- the life and limb of the operator,
- the machine.

The EC 65 may only be used

- for the purpose for which it was intended and
- in a perfectly safe technical condition.

All persons involved in the commissioning, operation and maintenance of the EC 65 must

- be appropriately qualified and
- be intimately familiar with this operating manual.

Correct use of the device

The EC 65 is designed exclusively for crimping work.

- Only crimp dies with the matching cross sections according to the **company supplementary sheet** may be used.
- Never insert solid metal parts or similar objects; this would destroy the crimp die.
- Unauthorised conversions which go beyond mere retooling and modifications to the EC 65 are prohibited for safety reasons!

Correct use of the instrument includes observation of all the instructions and the prescribed operating conditions.

Danger sources

The EC 65 may only be operated with the protective cover fitted.

- The mains plug must be pulled out prior to doing any work which entails removing the protective cover (e.g. adjusting the die).
- The device should be switched off at the mains switch during breaks and when not in use.

Work places

The following places should be avoided for operation and storage:

- damp or dusty places,
- places exposed to high temperatures, direct sunlight or low temperatures (operating range: 10°C to 40 °C).

Do not spill liquids onto the EC 65.

Do not expose the EC 65 to strong vibrations and impact.

Protective devices

The EC 65 is switched off by

- the mains switch (0 pressed, LED 

dark).
- pulling out the mains plug.
- pulling off the protective cover.

The protective cover is fitted for the operator's safety.
It may on no account be modified, removed or bypassed by conversions.

A sign on the bottom of the instrument warns of potential dangers.



Authorised operators

Only authorised and instructed operators may be allowed to work on the EC 65.
The operator is responsible for third persons within the working area.

The owner must:

- give the operator access to the operating manual and
- make sure that the operator has read and understood it.

Guarantee

Our "General Terms of Sale and Delivery" apply basically.
These will be available to the owner at the latest upon signing the contract.

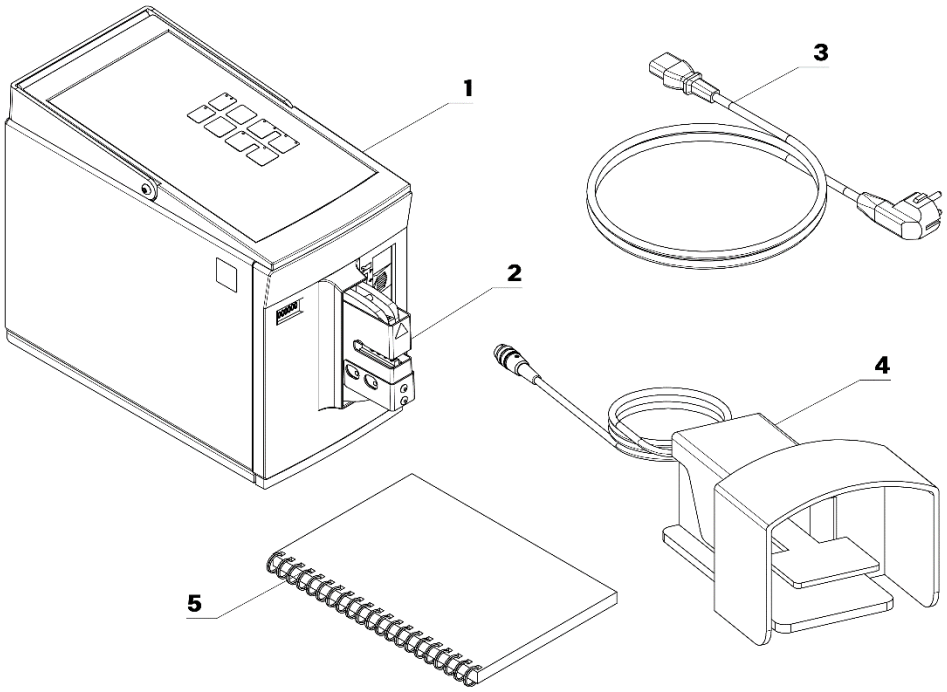
Guarantee and liability claims are excluded in the case of personal injury and property damage in the event of violation of the following points:

- use of the EC 65 for a purpose for which it was not intended.
- improper work places.
- improper use and use above and beyond that described in the operating manual.
- unauthorised constructional modifications to the EC 65.
- continued operation of the EC 65 after faults have been detected.
- continued operation of the EC 65 beyond 500,000 crimping processes. The device must be serviced by the manufacturer after 500,000 crimping processes. A LED  on the control panel signals when the device is due for servicing.
- improperly performed die assembly/repairs.

Only use original dies and spares.

Description

Scope of delivery



1. Basic device EC 65
2. Protective cover (only in connection with a crimping die)
3. Line cord
4. Foot switch
5. Operating Manual

Use

The electric crimper EC 65 is used for pressing crimp contacts.

By using different crimp dies crimp contacts of various kinds can be processed within a wide range of cross sections.

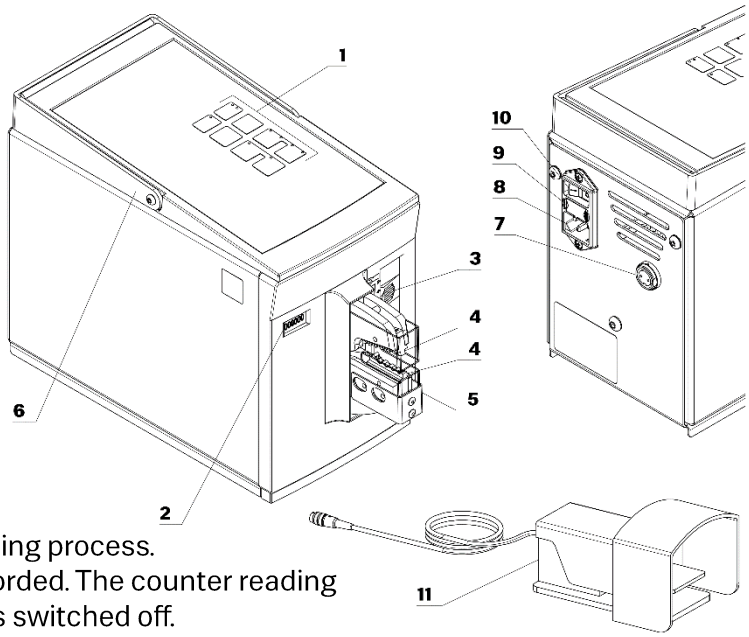
This wide range and short cycle times (< 1 s) make the EC 65 equally suitable for use in workshops and in complex cable assembly systems.

Crimp dies

The available crimp dies are listed in the company supplementary sheets.

Every crimp die is assigned a protective cover with an exactly fitting insertion slit

Operating components – overview



1. Control panel:
   Serves to select operating functions and display device states.
   Description see page 6.

2. Piece counter: 999999
   The counter records every completed crimping process.
   Crimpings aborted due to faults are not recorded. The counter reading is stored for about 1 week when the device is switched off.

3. Force range adjusting slide:
   The range in which the crimp die is pressed together with full force can be set with this slide. If the die meets with an obstruction outside this range, the crimping die open immediately to avoid damage to the die or to the falsely inserted material.

   • Position 1: min. force range
   • Position 5: max. force range

4. Crimp die:
   Positions the crimp contact and presses this together with the wire.
   It consists of the top and bottom die. These can be changed depending on the application.

5. Protective cover:
   Prevents injury to fingers and hands in the danger area of the crimp die.
   The EC 65 only works when the protective cover is fully inserted.

6. Handle: Serves for transporting the EC 65.

7. Connection foot switch: Device connection for the foot switch.

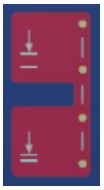
8. Mains connection: Device connection for the power cable.

9. Mains fuses: Fine fuses (2x) integrated in the mains connection.

10. Power switch:
    Switches on the power supply (I pressed) or off (0 pressed).
    The LED ready on the **control panel** lights up after switching on.

11. Foot switch:
    Pressing the foot switch triggers the crimping process.
    The foot switch must be kept pressed until the crimp die is fully closed (mode 1) or the crimp contact is clamped (mode 2).
    If the LED error lights up on the **control panel** the crimping process cannot be triggered.

Control panel

Taste	Anzeige	Funktion der Taste
		**LED-ready** indicates standby state
		**LED-error** indicates a preceding defective crimping or fault (a new crimping cannot be triggered as long as the LED is alight)
		**LED-service** indicates that the EC 65 is due for servicing (to guarantee consistent quality of the crimpings, the instrument must be serviced by the manufacturer after 500,000 crimpings).
		**Reset-button** Sets the piece counter reading back to 0 when the EC 65 is switched on.
		**Enter-button** Extinguishes the LED  . The EC 65 is ready.
		**Mode 1 button** Switches the EC 65 to mode 1 (LED lights). Crimping takes place in one step in mode 1. The crimp die is fully closed and reopened by pressing the foot switch.
		**Mode 2 button** Switches the EC 65 to mode 2 (LED lights). Crimping takes place in two steps in mode 2. The crimp contact is clamped in the crimp die but not crimped by pressing the foot switch. The wire can now be inserted in the crimp contact. The crimp die is fully closed and reopened by pressing the foot switch a second time.
		**Opening limit buttons** The opening of the crimp die can be changed by pressing the upper (open) and lower (close) button. The LEDs indicate the opening: • 4 LEDs alight: max. opening • no LEDs alight: min. opening Resetting only becomes active after the next crimping.

Commissioning

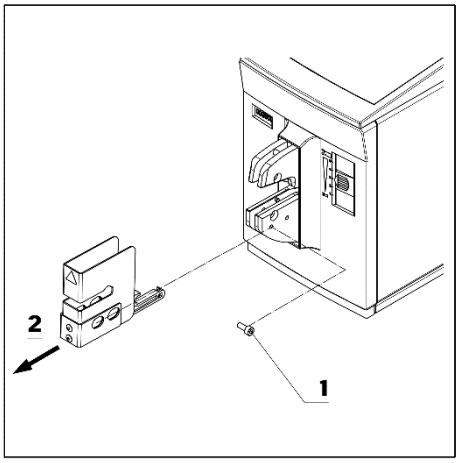
1. Selecting the installation site

- The installation site must be level and horizontal.

The conditions in the SAFETY chapter under Work Places must be observed.

2. Removing the protective cover

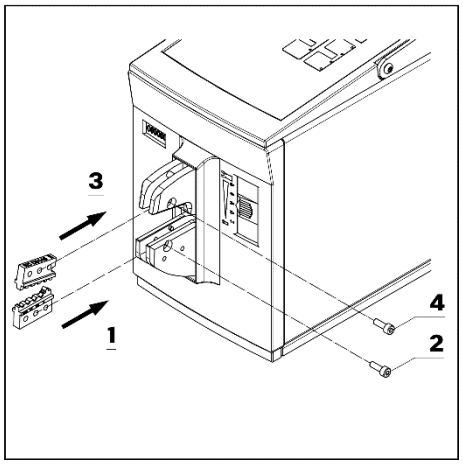
- Unscrew the screw (1).
- Pull off the protective cover (2).



3. Mounting the crimp die

Note installation position:
Small cross section at front.
Large cross section at back.

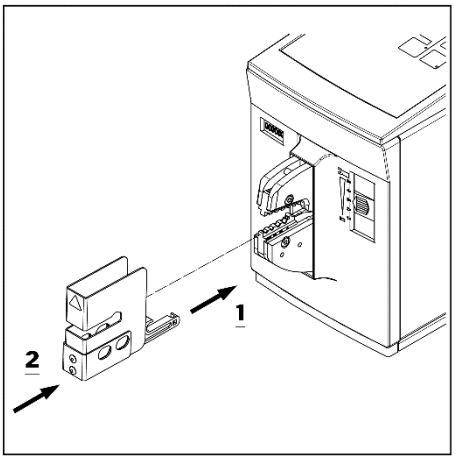
- Insert bottom die (1).
- Screw in screw (2) **loosely**.
- Insert top die (3).
- Screw in screw (4) **loosely**.



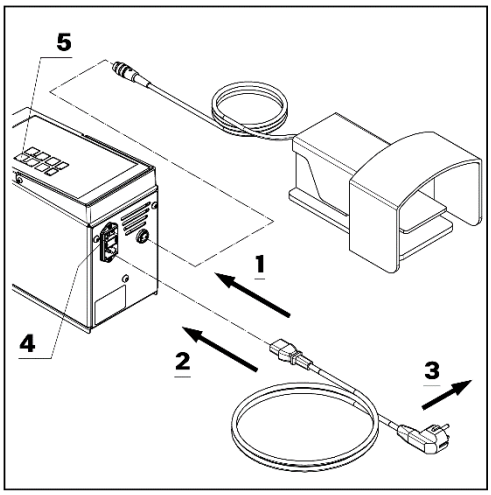
4. Mounting the protective cover

- Insert the safety pin (1) in the bottom die and push in the protective cover (2) until you can feel it snap in.

The power supply to the EC 65 will be cut off if the protective cover is not fitted or is not fitted properly.



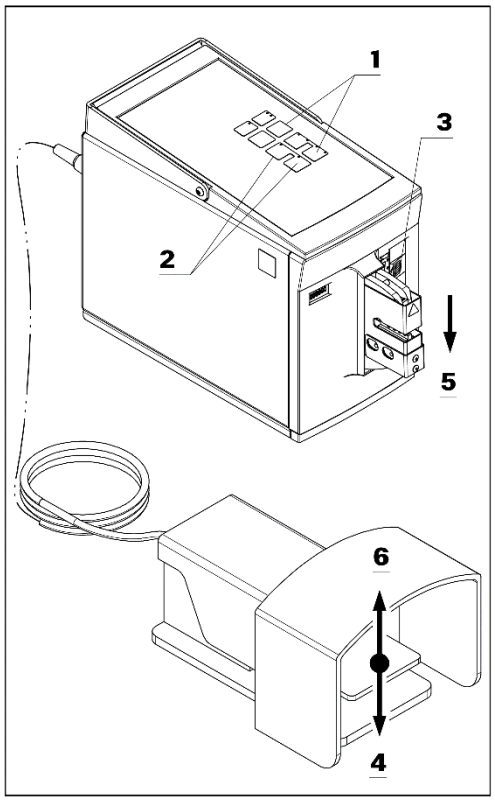
5. Connecting / switching on the EC 65



- Connect the foot switch (1) to the foot switch connection.
- Connect the mains plug (2) on the mains connection and the shock-proof plug (3) to the mains socket.
- Switch on the EC 65 at the mains switch (4) (press I)
- 

lights up (5).

6. Centring the dies



Since the bores of the dies have a slight clearance to the fastening screws it is possible to offset the dies to each other.

Centring / adjustment of the dies is possible with the following adjustment mode (steps 6 and 7).

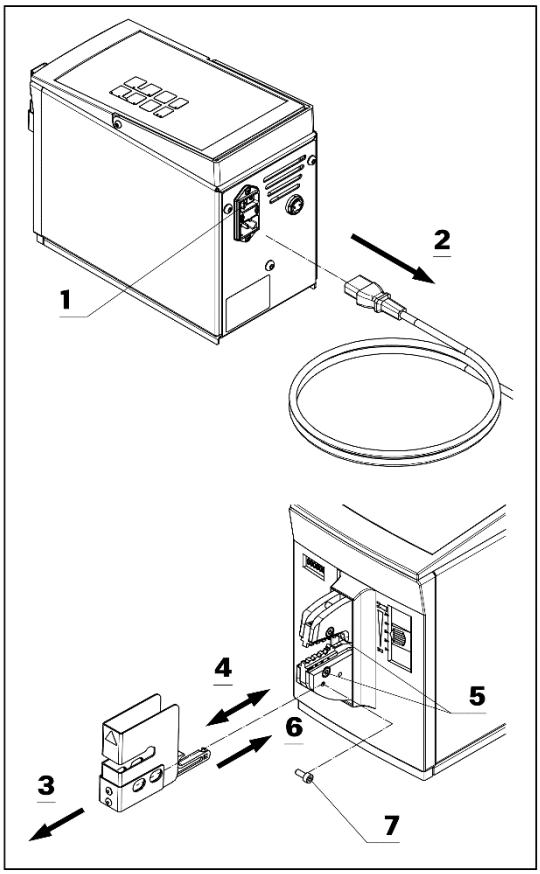
- Press  + 

simultaneously (1).
-  +  flash (2).
- Push force range adjusting slide (3) to position 1.
- Press the foot switch (4) and keep it pressed.
- The crimp die (5) closes slowly until it meets with a resistance and centres itself.
- Release the foot switch (6).

If the foot switch is released before the crimp die is closed, this opens automatically, the adjustment mode is ended and 

lights.

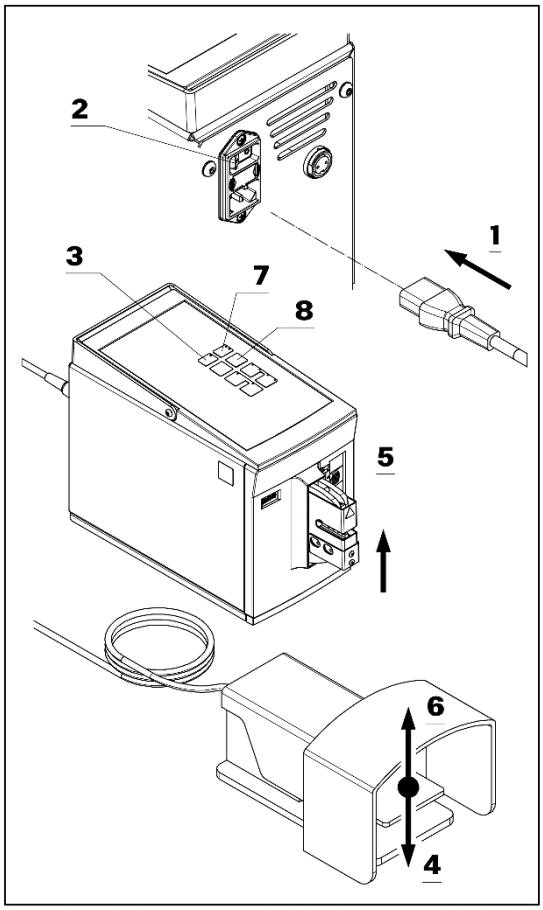
7. Adjusting the dies



The protective cover must be pulled off, pull out the mains plug!

- Switch off the EC 65 at the power switch (1) (press 0).
- Pull out the mains plug (2).
- Pull off the protective cover (3).
- Check the centring of the dies, adjust if necessary (4).
- Tighten the screw (5).
- Push on the protective cover (6) and tighten the screw (7).

8. Getting the device ready



- Connect the mains plug (1).
- Switch on the power switch (2) (press I).
- 

lights up (3).
- Press the foot switch (4).
- The crimp die (5) opens automatically, the foot switch (6) can be released.
- 

lights up (7).
- Press 

(8).
- The device is ready.

Mode 2  **is set.**
Check mode before using.

9. Set optimum force range



- Push force range adjusting slide to position 1.
-  Set mode 1.
- Perform crimping without crimp contact inserted by pressing the foot switch.
  If 

lights up, check the adjustment of the dies (see steps 6 and 7).
- Perform crimping with wire and crimp contact inserted.

Pay attention to correct cross section according to the company supplementary sheet.

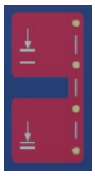
- If 

lights up, push up the slide one step and press 

.
  Repeat until 

no longer lights.
- To compensate for any material tolerances, push the setting slide up another step.

10. Set the optimum opening distance

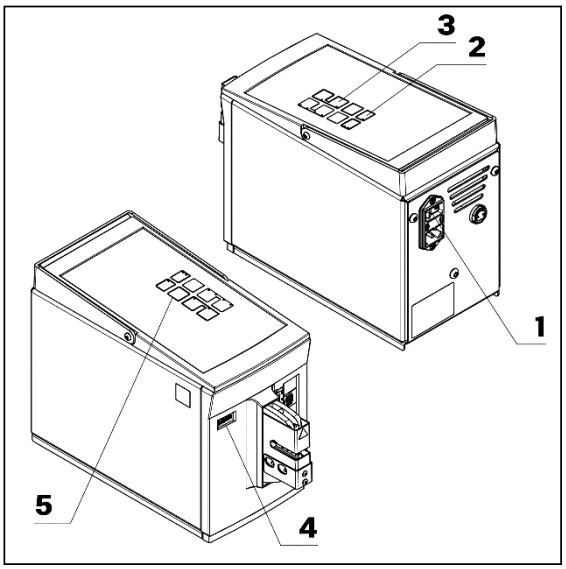


- Press the top button until all 4 LEDs light up.
  The maximum opening distance is set.
- Perform crimping.

Changes in the setting only become effective after the next crimping process.

- If the opening distance is too large press the bottom button (3 LEDs light up) and perform a new crimping.
- Repeat the process until the optimum opening distance is set.

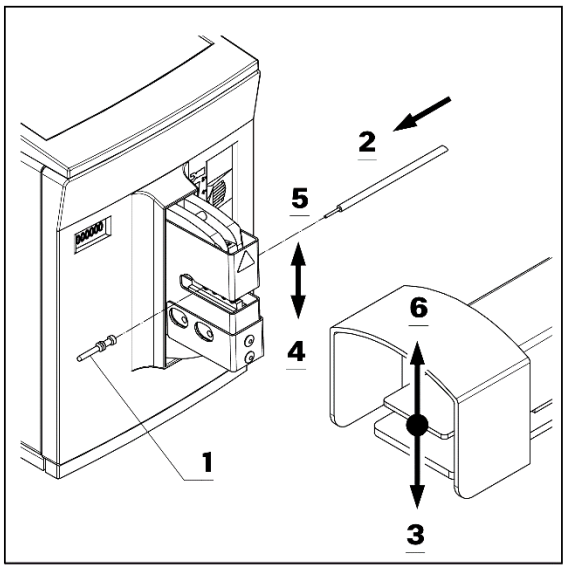
Operation



One-step crimping

1. Set mode 1

- Switch on the EC 65 at the power switch (1) (press I).
-  lights up (2).
-  Set mode 1 (3).
- Read counter (4) if necessary and reset to 0 with  (5).

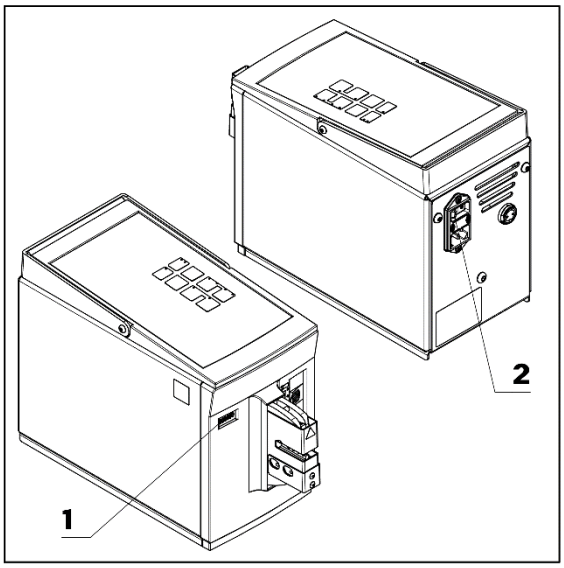


2. Crimp crimp contact

- Centre the crimp contact (1) on the bottom die.
- Insert wire (2) in the crimp contact.

Pay attention to correct cross section according to the company supplementary sheet!

- Press the foot switch (3) until the crimp die is fully closed (4).
- The crimp die (5) opens automatically, the foot switch (6) can be released.
- Remove the crimp contact with crimped wire (7).



 **lights up in the case of defective crimping. Consult the FAULTS chapter.**

3. Taking out of operation

- Read counter (1) if necessary.
- Switch off the EC 65 at the power switch (2) (press 0)

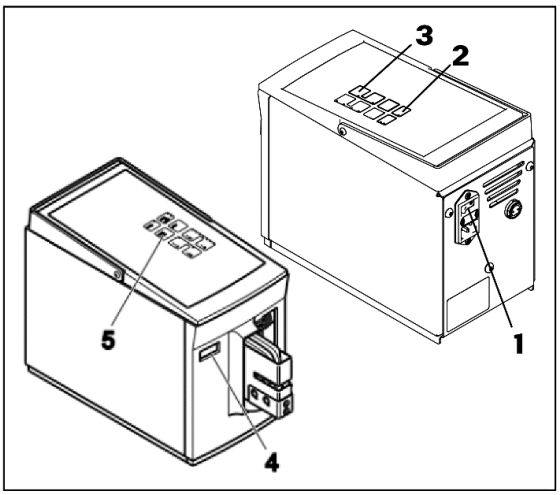
Two-step crimping

1. Set mode 2

- Switch on the EC 65 at the power switch (1) (press I).
- 

lights up (2).
-  Set mode 2 (3).
- Read counter (4) if necessary and reset to 0 with 

(5).

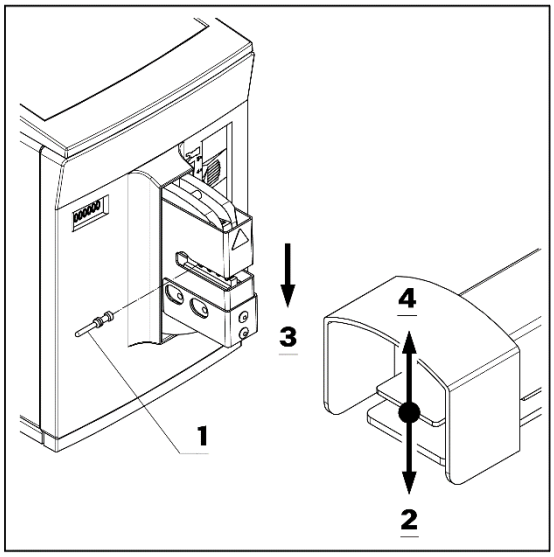


2. Clamp crimp contact

- Centre the crimp contact (1) on the bottom die.

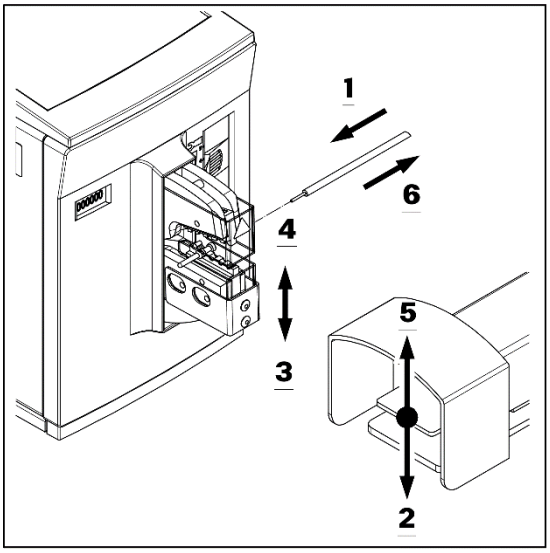
Pay attention to correct cross section according to the company supplementary sheet!

- Press the foot switch (2) until the crimp contact is clamped (3).
- Release the foot switch (4)



3. Crimp crimp contact

- Insert wire (1) in the crimp contact.
- Press the foot switch (2) until the crimp die is fully closed (3).
- The crimp die (4) opens automatically, the foot switch (5) can be released.
- Remove the crimp contact with crimped wire (6).





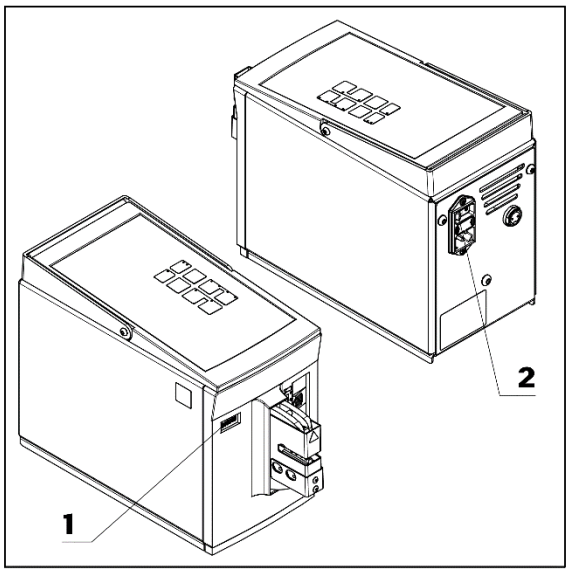
lights up in the case of.

defective crimping.

Consult the FAULTS chapter.

4. Taking out of operation

- Read counter (1) if necessary.
- Switch off the EC 65 at the power switch (2) (press 0)



Faults

LED-error  lights

This fault may be caused by:

1. Foot switch released too early

The crimp die opens immediately to the initial position when the foot switch is released too early.

- Press .
-  goes out.
- Repeat crimping.

2. Wrong cross section chosen

When inserting a too large crimp contact or other unsuitable objects the crimping process is aborted due to overloading and the crimp die opens immediately to the initial position.

- Press .
-  goes out.
- Repeat crimping with the right cross section according to the company supplementary sheet.

3. Incorrectly set force range

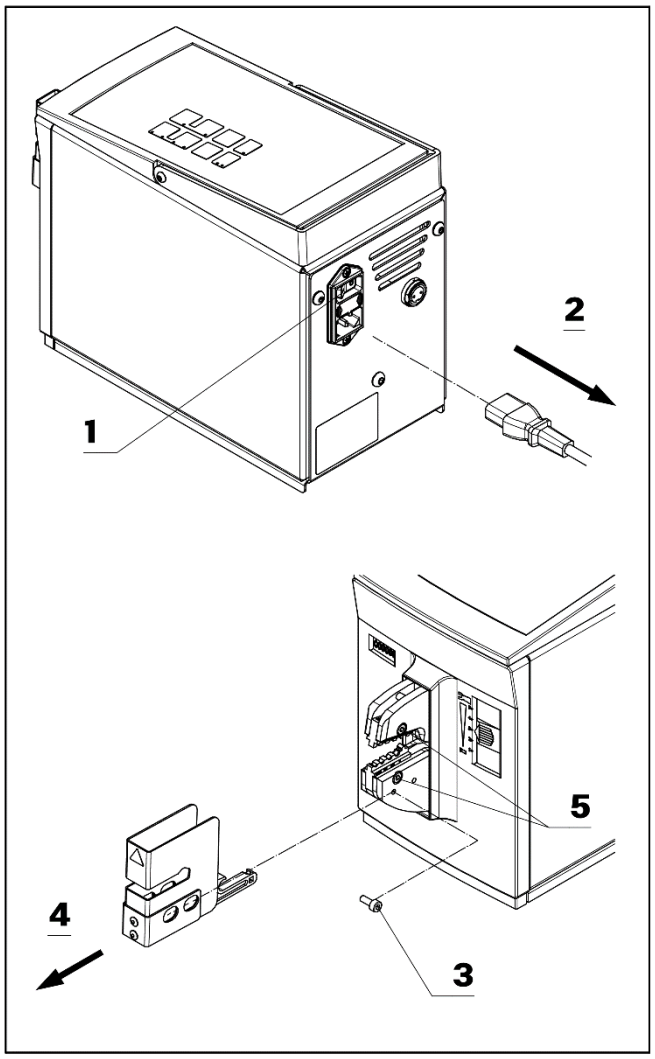
If the resistance reached in the crimping process exceeds the range set on the force range adjusting slide, the crimp die opens immediately to the initial position.

-  Push the force range adjusting slide up one step.
- Press .
-  goes out.
- Repeat the crimping process until the optimum force range is set.

4. Dies not adjusted correctly

The protective cover must be pulled off, pull out the mains plug!

- Switch off the EC 65 at the power switch (1) (press 0).
- Pull out the mains plug (2).
- Unscrew the screw (3).
- Pull off the protective cover (4).
- Loosen the screws (5).
- Perform steps 4 to 10 of the **COMMISSIONING**



LED-ready does not light / EC 65 cannot be switched on

This fault may be caused by:

1. No mains connection

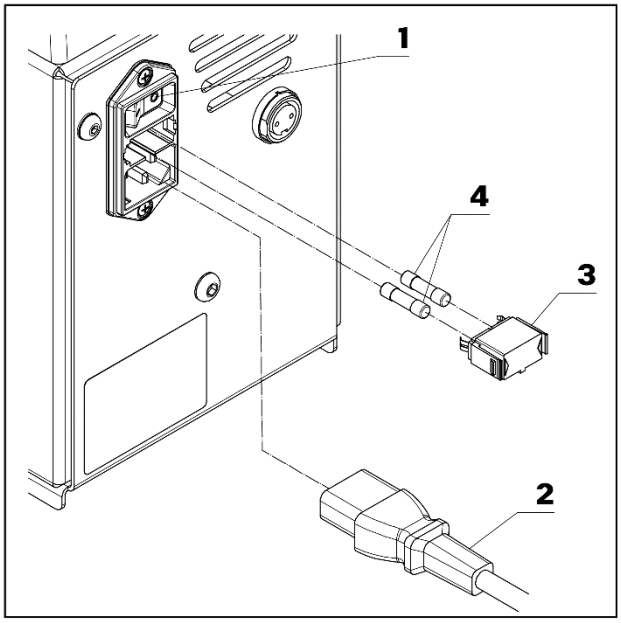
- Check whether the mains plug at the mains connection of the EC 65 and the shock-proof plug are connected to the mains socket.
- Make sure that the power supply at the mains socket is okay.

2. Mains fuse defective

The mains connection must be opened, pull out the mains plug!

- Switch off the EC 65 at the power switch (1) (press 0).
- Pull out the main plug (2).
- Pull out the fuse holder (3).
- Check the main fuses (4).
- Replace the mains fuse (see **SPARES** chapter for part numbers).
- Push in the fuse holder.

The fuse holder must snap in!

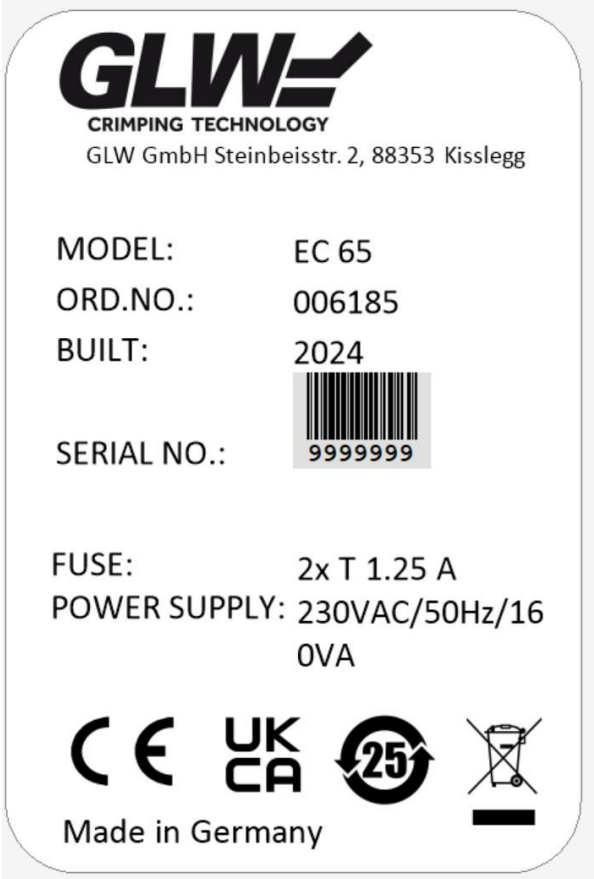


Technical appendix

Technical data

Mains connection	230 V/50 Hz (115 V / 60 Hz)
Power consumption	160 VA
Max. pressing force	10 kN
Pressing time	< 1 s
Counter	6-digit LCD, resettable
Dimensions (W x H x D)	140 mm x 222 mm x 320 mm
Weight of basic device	10 kg
Weight of foot switch	1,2 kg
Acoustic pressure emissions LpA	< 70 dB (A)

Rating plate



EU Declaration of Conformity

Manufacturer: GLW GmbH
Address: Steinbeisstrasse 2, 88353 Kisslegg, Germany

Product description:

EC 65
EC 65 US (120 V)

The above mentioned product is in line with the essential requirements of the below directive(s) and their modification directive(s):

Machinery (MD)	**2006/42/EG**
Electromagnetic compatibility (EMC)	**2014/30/EU**
Restriction of the use of certain hazardous substances (RoHS)	**2011/65/EU**

For evaluation of the conformity following relevant standards were consulted:

EN ISO 13854:2019	**EN ISO 12100:2010**	**EN ISO 13857:2019**
EN IEC 63000:2018	**EN 60204-1:2018**	**EN 55014-1:2018**
EN 55014-2:2016		

This declaration certifies the conformity with the essential requirements of the indicated directive(s), it does not, however, covenant any characteristics. The instructions for safety and installation of the enclosed product documentation have to be observed.

Kisslegg, 15.12.2022

Felix Weiland
Steinbeisstr. 2, 88353 Kisslegg, Germany
Managing Director
Head of Technical Documentation

UKCA Declaration of Conformity

Manufacturer: GLW GmbH
Address: Steinbeisstrasse 2, 88353 Kisslegg, Germany

Product description:

EC 65
EC 65 US (120 V)

The above mentioned product is in line with the essential requirements of the below directive(s) and their modification directive(s):

Supply of Machinery (Safety) Regulations	**2008**
Electromagnetic Compatibility Regulations	**2016**
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations	**2012**

For evaluation of the conformity following relevant standards were consulted:

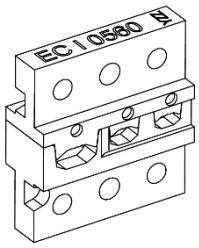
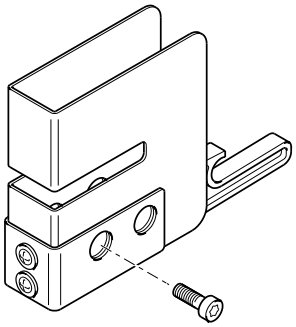
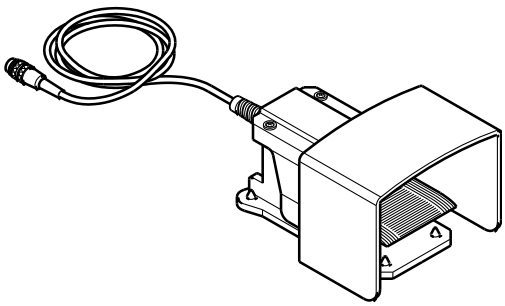
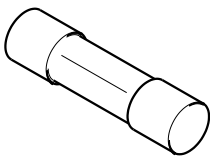
EN ISO 13854:2019	**EN ISO 12100:2010**	**EN ISO 13857:2019**
EN IEC 63000:2018	**EN 60204-1:2018**	**EN 55014-1:2018**
EN 55014-2:2016		

This declaration certifies the conformity with the essential requirements of the indicated directive(s), it does not, however, covenant any characteristics. The instructions for safety and installation of the enclosed product documentation have to be observed.

Kisslegg, 02.01.2023

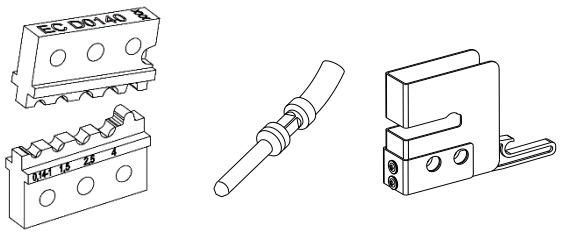
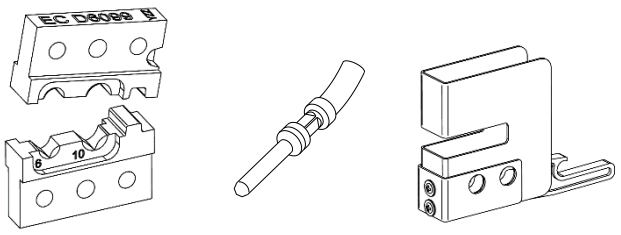
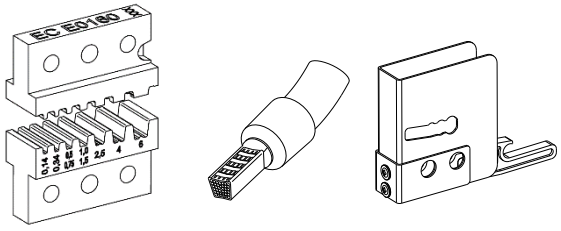
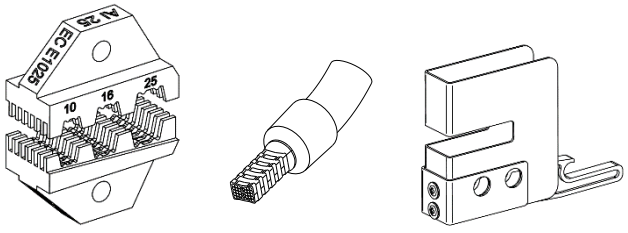
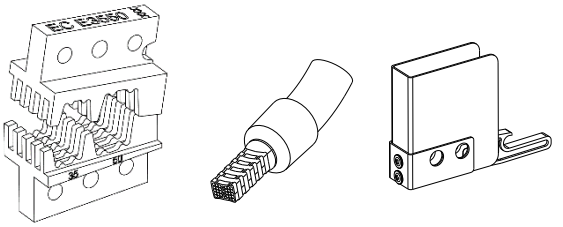
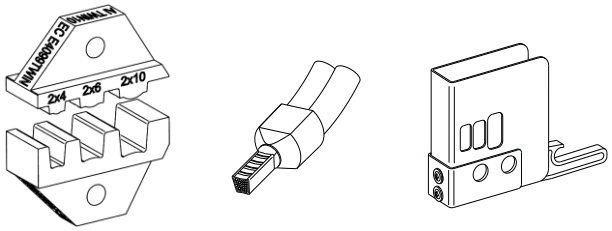
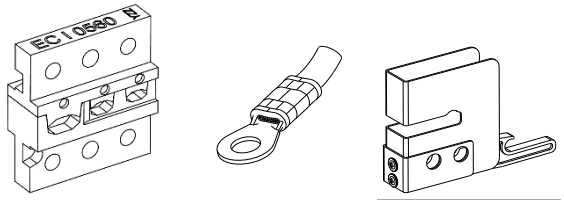
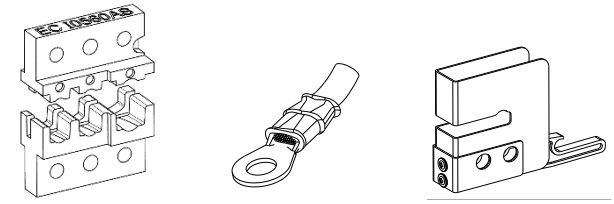
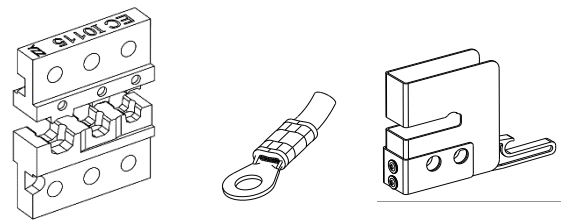
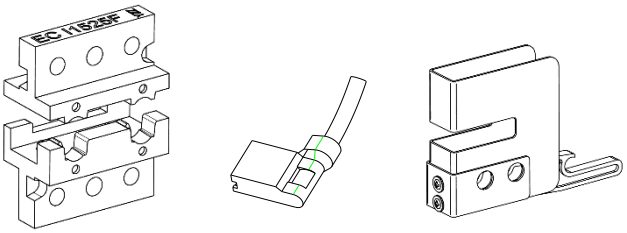
Felix Weiland
Steinbeisstr. 2, 88353 Kisslegg, Germany
Managing Director
Head of Technical Documentation

Spare parts

Part	Part-no.	Quantity
Dies 	Other crimping - dies see page 21-22 (Accessories) and **www.glw.de**	
Protective cover 	Other protective covers see page 21-22 (Accessories) and **www.glw.de**	
Foot switch 	005058	1 pc.
Mains fuse 230V T1.25A **Mains fuse 115V T2.50A** 	001805 001806	2 pcs.

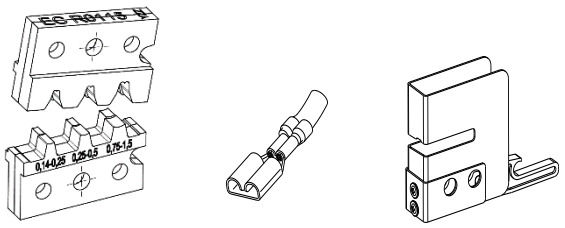
Accessories

Crimping Dies and Protective Covers

EC D0140 **EC PC06**  0,14-1,0 / 1,5 / 2,5 / 4 mm²	**EC D6099** **EC PC 04.1**  6 / 10 mm²
EC E0160 **EC PC05**  0,08-0,14/ 0,25-0,34/ 0,5-0,75/ 1-1,5/ 2,5 / 4 / 6 mm²	**EC E1025** **EC PC01**  10 / 16 / 25 mm²
EC E3550 **EC PC01**  35 / 50 mm²	**EC E4099TW** **EC PC07**  2x 4 / 2x 6 / 2x 10 mm² TWIN
EC I0560 **EC PC06**  0,5 – 6 mm²	**EC I0560AS** **EC PC06**  0,5 – 6 mm² asy.
EC I0115 **EC PC06**  0,10 – 1,5 mm²	**EC I1525F** **EC PC06.1**  1,5² - 2,5 mm²

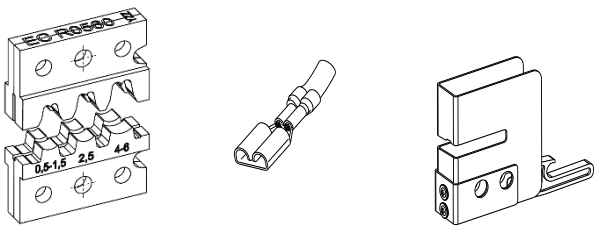
Other crimping – dies see www.glw.de

EC R0115 **EC PC02**



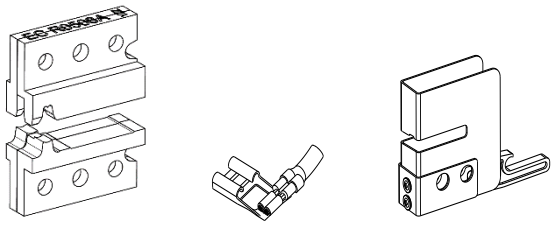
0,1-0,5 / 0,5-1 / 0,5-1,5 mm²

EC R0560 **EC PC02**



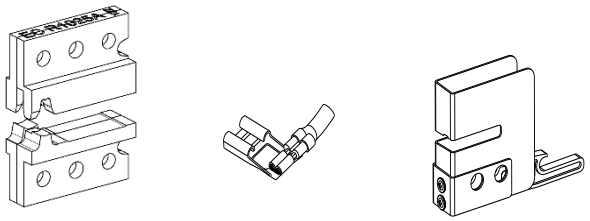
0,5-1,5 / 2,5 / 4-6 mm²

EC R0508A **EC PC02**



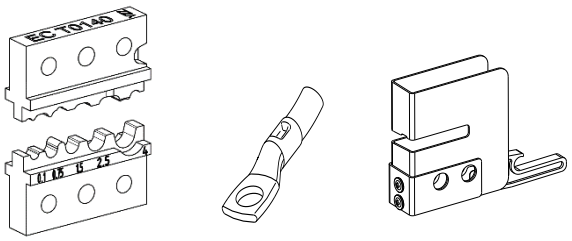
0,5 – 0,75 mm²

EC R1025A **EC PC02**



1,0 – 2,5 mm²

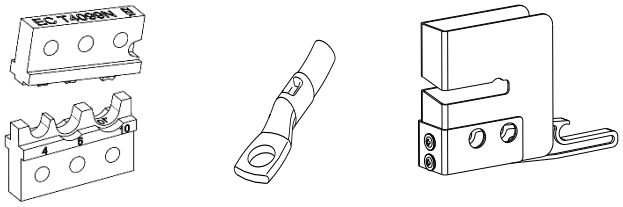
EC T0140 **EC PC04**



0,34-0,75 /1-1,5 / 2,5 mm²

EC T4099N øa/i 5/3 - 6,5/4,5 - 7/4,5 **EC PC03**

EC T4099E øa/i 5/3 - 6/4 - 8/5

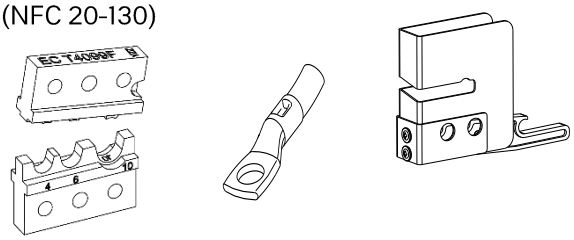


4 / 6 / 10 mm²

EC T4099P øa/i 5/3 - 5,5/3,8 - 8/5 **EC PC03**

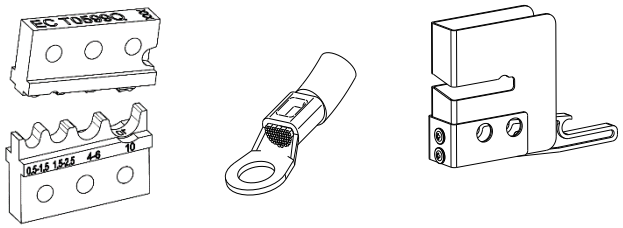
EC T4099F øa/i 5/2,7- 5,5/3,3- 6,8/4,2

(NFC 20-130)



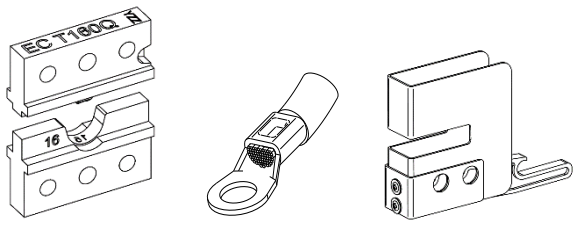
4 / 6 / 10 mm²

EC T0599Q **EC PC03**



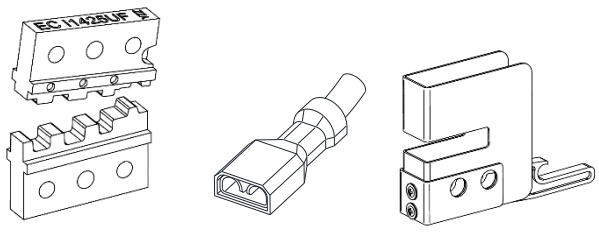
0,5 -1,5 / 1,5 - 2,5 / 4 - 6 / 10 mm²

EC T160Q **EC PC04.1**



16 mm²

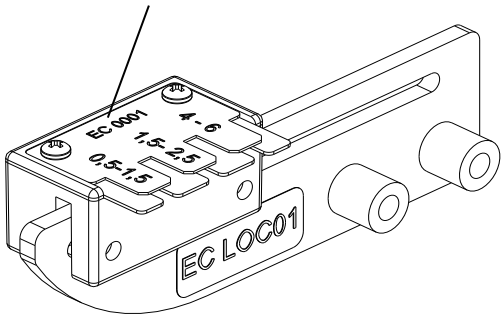
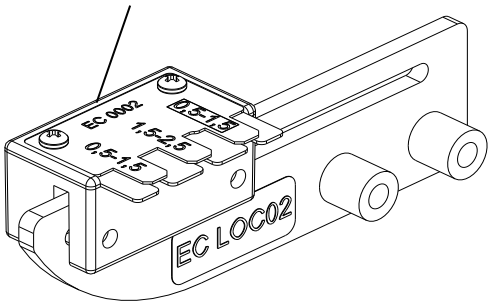
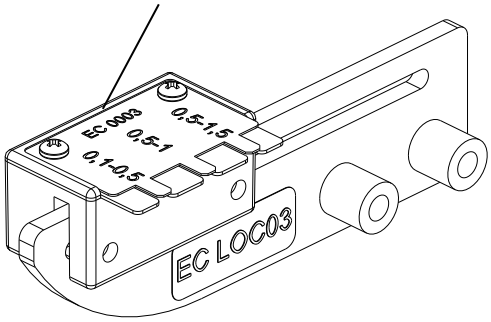
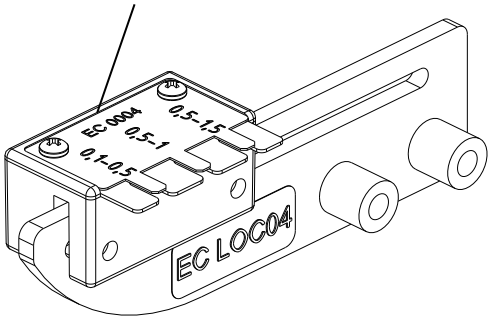
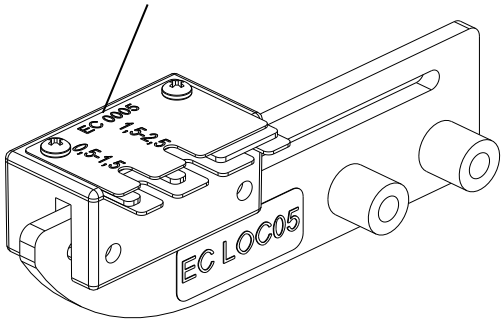
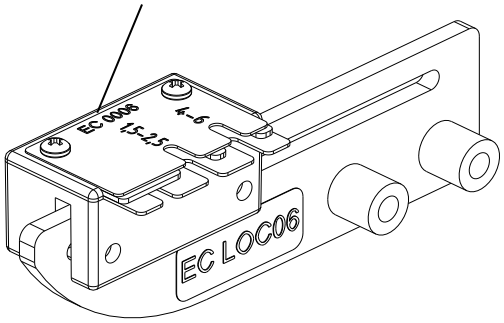
EC I1425UF **EC PC04.1**



0,14-0,5 / 0,5-1,5 / 1,5-2,5 mm²

Other crimping – dies see www.glw.de

Locator for Flat Tab Terminals (Open Barrel)

Locator	
Item No. EC LOC01 suitable for: > Female Terminals 6,3 DIN 46247 > Die EC R0560 > Protective Cover EC PC02 Spare part: Locator plate Item No. EC 0001 	**Item No. EC LOC02** suitable for: > Female Terminals 4,8 DIN 46247 > Dies EC R0115; EC R0560 > Protective Cover EC PC02 Spare part: Locator plate Item No. EC 0002 
Item No. EC LOC03 suitable for: > Female Terminals 2,8x5 DIN 4624 > Dies EC R0115 > Protective Cover EC PC02 Spare part: Locator plate Item No. EC 0003 	**Item No. EC LOC04** suitable for: > Female Terminals 2,8x6 DIN 46247 > Dies EC R0115 > Protective Cover EC PC02 Spare part: Locator plate Item No. EC 0004 
Item No. EC LOC05 suitable for: > Male Terminals 6,3 DIN 46247 > Dies EC R0560 > Protective Cover EC PC02 Spare part: Locator plate Item No. EC 0005 	**Item No. EC LOC06** suitable for: > Male Terminals 6,3 Typ HN DIN 46247 > Dies EC R0560 > Protective Cover EC PC02 Spare part: Locator plate Item No. EC 0006 

Other versions see www.glw.de

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