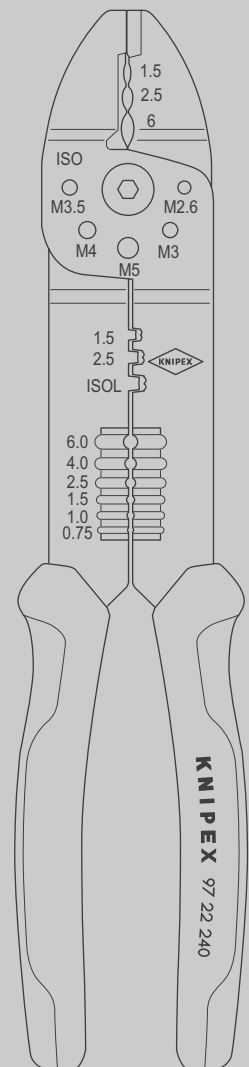


## Operating instructions

**EN Crimping Pliers**  
for insulated terminals/cable connectors and  
non-insulated open plug type connectors

97 22 240



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## 1 General

### 1.1 Notes on operating instructions

These operating instructions are designed to enable you to use your tool safely and efficiently.

The tool may only be used if it is in technically perfect condition.

As a consequence of technical developments, the illustrations and descriptions contained in these operating instructions may differ slightly from the tool actually delivered.

We do not accept any liability for damage caused by failure to observe these operating instructions.

### 1.2 Symbols

All safety instructions in these operating instructions are indicated by corresponding symbols. The signal words at the beginning of each safety instruction express the extent of the hazard.



**Danger!**

**Level 1 risk source**

This combination of symbol and signal word indicates an imminently hazardous situation that will result in death or serious injury if not avoided.



**Warning!**

**Level 2 risk source**

This combination of symbol and signal word indicates a possibly hazardous situation that may result in death or serious injury if not avoided.



**Caution!**

**Level 3 risk source**

This combination of symbol and signal word stands for important information that will assist in preventing damage to property or the environment.

### 1.3 Copyright

These operating instructions and all documentation supplied with this tool are protected by copyright and remain the property of KNIPEX.

The reprinting of these instructions, even in extract form, is only permitted with the written consent of C. Gustav Putsch KG.

### 1.4 Guarantee and warranty

The manufacturer grants a statutory warranty in accordance with the current sales and delivery conditions. No further warranties or assurances are granted.

Within the warranty period, the warranty covers the rectification of all defects that can be traced back to material faults or manufacturing errors.

Wearing parts are excluded from the warranty.

The repair or replacement of a tool shall not result in an extension of the warranty period. Tools shall only be repaired or replaced with "as new" parts, whose function corresponds to that of the old parts. All defective and hence replaced parts are the property of the manufacturer.

Warranty claims shall expire in particular if:

- Damage is caused through improper operation, use for purposes other than those specified by the manufacturer, or poor maintenance.
- Repairs or conversions are carried out by unauthorized persons.
- No original accessories or spare parts from KNIPEX are used.
- Defective components are not repaired immediately to minimise the extent of the damage and so as not to impair the safety of the tool (obligation to repair).

For the rest, reference is made to the liability and warranty regulations of the current sales and delivery conditions.

## 2 Safety

Observe the following safety instructions when handling the product.

### 2.1 Intended use

The tool is intended for the following uses:

- Cutting cables (up to 6 mm<sup>2</sup>)
- Stripping cables (0.75 to 6 mm<sup>2</sup>)
- Crimping insulated terminals and plug type connectors (0.5 to 6 mm<sup>2</sup>) on fine conductor cables
- Crimping unshielded, open plug type connectors (1.5 to 2.5 mm<sup>2</sup>) with connector width 6.3 mm on fine conductor cable
- Cutting copper and brass threaded bolts (M 2.6 to M 5) including recutting the thread

The tool must **not** be used for the following applications:

- Cutting steel threaded bolts

Any use beyond the intended purpose or any unauthorized modification shall be considered improper. The operator shall be liable for damages resulting from improper use.

Intended use also includes adhering to these operating instructions. They must be read in full before use.



#### **Warning!**

#### **Danger from sharp blades!**

Handling sharp blades is dangerous. For this reason, make sure to handle your tools with care when working.



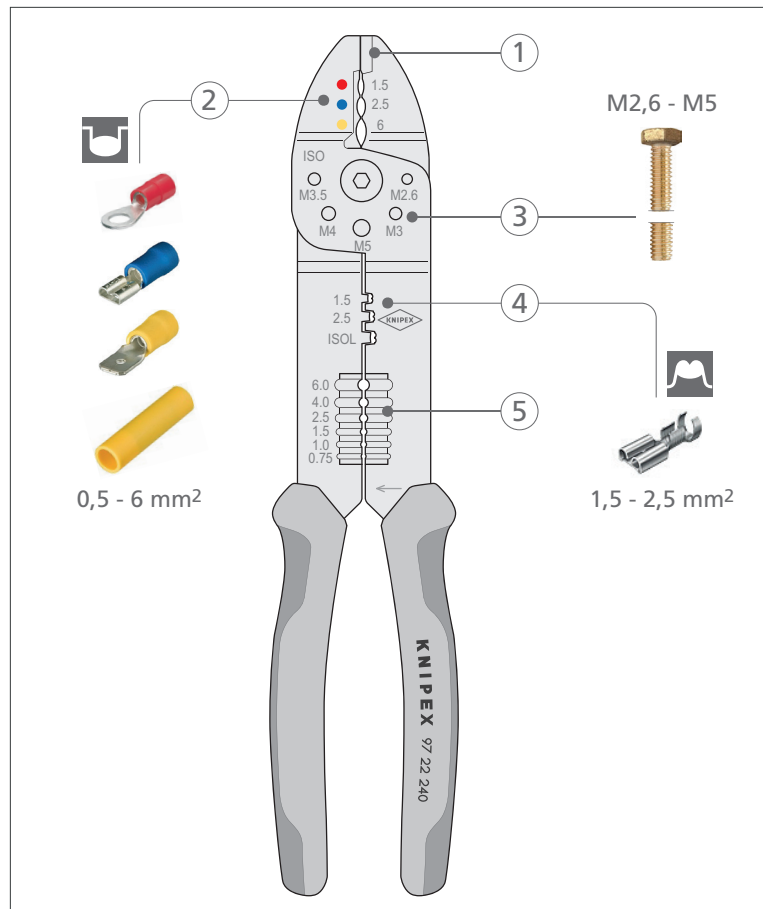
#### **Warning!**

#### **Risk of injury from flying parts!**

Wear protective goggles when cutting cables and threaded bolts!

### 3 Design and function

#### 3.1 Design



Design crimping pliers

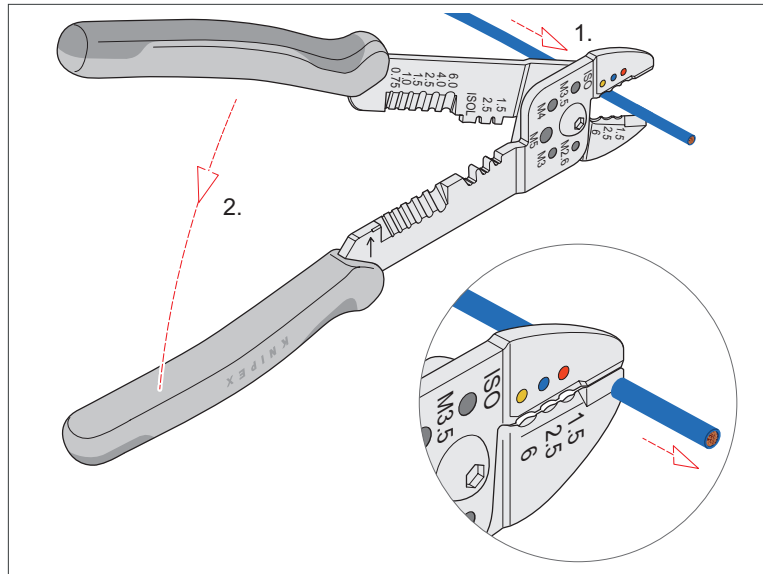
- 1 Cable cutter
- 2 Crimping points for oval crimp connections (insulated terminals and cable connectors)
- 3 Threaded holes for cutting copper or brass threaded bolts with M 2.6; M 3; M 3.5; M 4 and M 5
- 4 Crimping points for B-crimp connections
- 5 Blades for stripping cables

#### 3.2 Function

The crimping pliers can cut, strip and crimp cables, cut copper and brass threaded bolts and recut threads.

## 4 Operation

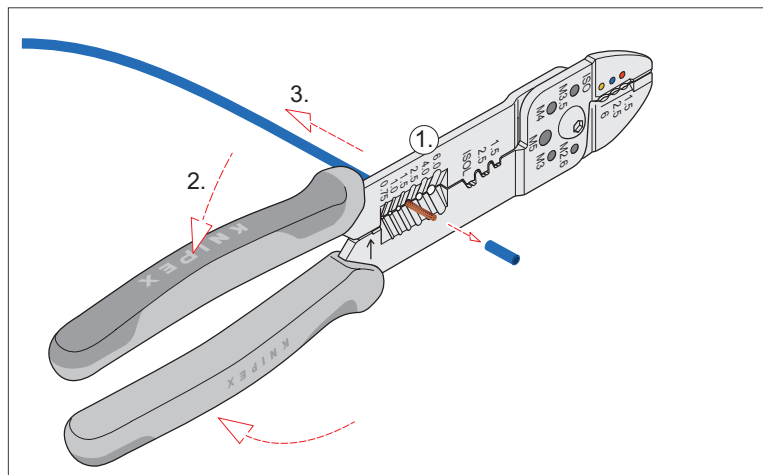
### 4.1 Shortening cables



Cutting cables

1. Insert the end of the cable to be shortened between the two blades of the cable cutter.
2. Press the crimping pliers closed.

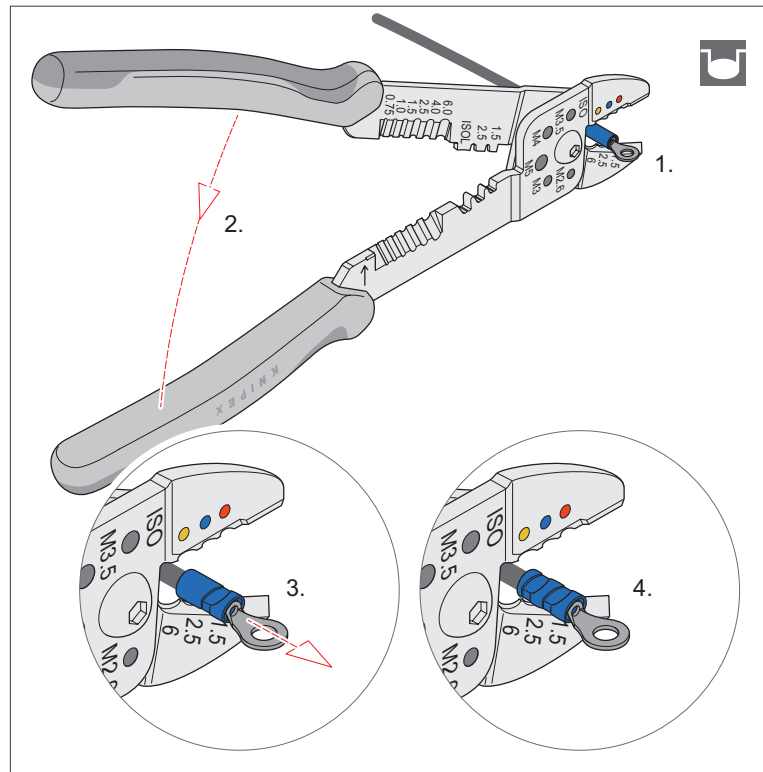
### 4.2 Stripping cables



Stripping cables

1. Select the stripping setting that matches the capacity of the cable (0.75 ... 6.0 mm<sup>2</sup>) on the tool and place the end of the cable between the two stripping blades.
2. Press the crimping pliers closed.
3. Pull the cable out of the pliers.

### 4.3 Making an oval crimp



Making an oval crimp

**Note:**

The conductor and connector must match each other in terms of their capacitance values. The stripping length and positioning of the conductors in the connector must meet the respective requirements of the different connectors.

1. Select a crimp profile that matches the (insulated) terminal/plug type connector (red = 0.5 ... 1.5 mm<sup>2</sup>, blue = 2.5 mm<sup>2</sup>, yellow = 4 ... 6 mm<sup>2</sup>).
2. Place the terminal / plug type connector in the selected crimp profile.
3. Insert the conductor into the terminal / plug type connector. Note the correct positioning.
4. First crimp the stripped area of the conductor by pressing the crimping pliers closed.
5. Next crimp the insulated area a second time.

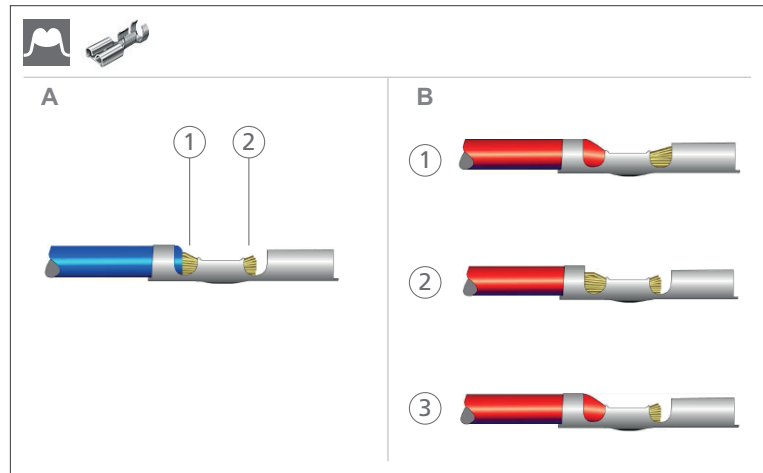


## 4.4 B-crimp connection

### 4.4.1 Make the B-crimp correctly

Standard DIN EN 60352-2:1994 + A1:1997 + A2:2002 specifies the properties that a qualitatively perfect crimp connection must satisfy.

The following figure shows the most important points to consider when making a B-crimp.



Notes on making a B-crimp connection

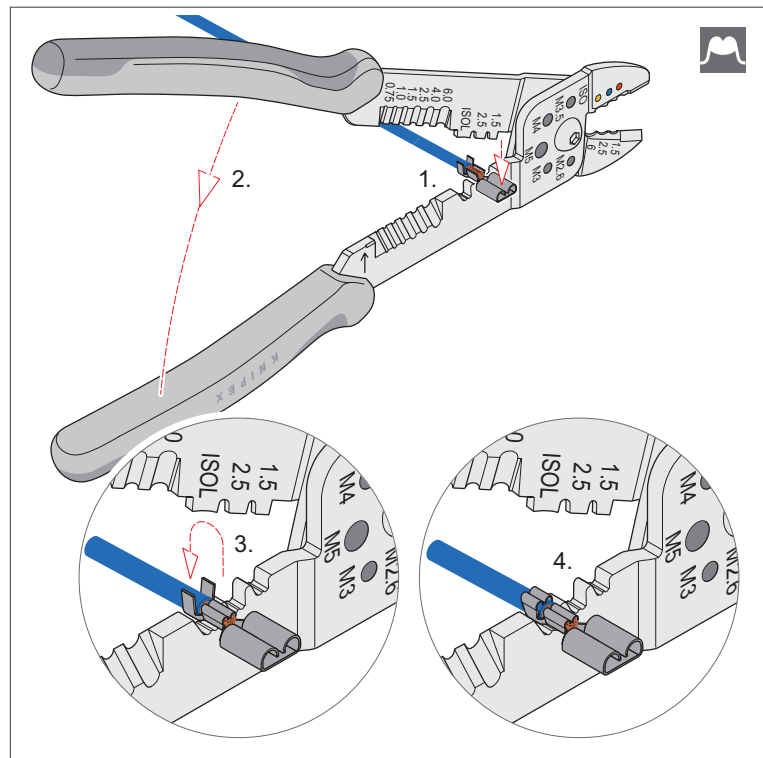
#### Correct crimp connection (A)

1. The conductor core and cable insulation must be visible.
2. The end of the conductor core must be visible.

#### Possible errors (B)

1. The stripped part of the cable is far too long and the cable is inserted too deep. The insulation support is ineffective.
2. The stripped part of the cable is too long and the insulation is not visible. The insulation support is not sufficiently strong.
3. Not enough of the cable has been stripped. The end of the conductor core is not visible. The crimp connection is faulty.

#### 4.4.2 Making a B-crimp



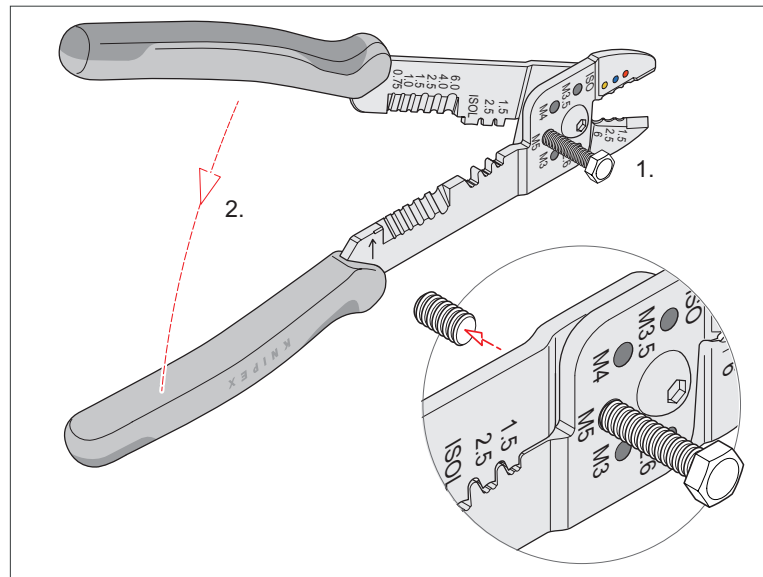
Making a B-crimp

**Note:**

The conductor and connector must match each other in terms of their capacitance values. The stripping length and positioning of the conductors in the connector must meet the respective requirements of the different connectors.

1. Select the crimp profile that matches the plug type connector (1.5 mm<sup>2</sup> or 2.5 mm<sup>2</sup>).
2. Place the plug type connector in the selected crimp profile.
3. Insert the conductor core into the plug type connector. Note the correct positioning.
4. First crimp the plug type connector with the wire strands by pressing the crimping pliers closed.
5. Next place the plug type connector in the ISOL crimp profile and crimp the connector with the cable insulation.

## 4.5 Cutting copper or brass threaded bolts



Cut off the threaded bolts

1. Select the appropriate threaded hole (M 2.6; M 3; M 3.5; M 4 or M 5) and open the tool until the threaded hole is completely accessible.
2. Screw the bolt into the threaded hole and let the part to be cut away protrude from the back.
3. Press the crimping pliers closed.
4. Unscrew the bolt from the threaded hole. The thread is then recut.

## 5 Maintenance

Oil the joint of the tool regularly.

## 6 Technical data

| Technical data | Unit            |   |
|----------------|-----------------|---|
| Article number | –               | 97 22 240   |
| Length         | mm              | 240   |
| Weight         | g               | 300   |
| Properties     | –               | Pliers black-lacquered, handles with multi-component grips  |
| Application    | –               | insulated terminals + cable connectors, non-insulated open plug type connectors (plug width 6.3 mm) |
| Capacity       | mm <sup>2</sup> | 0,5 ... 6,0   |

## 7 Disposal

The tool can be disposed of as household waste.



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