

Rittal – The System.

Faster – better – everywhere.

Crimping machine LD-I



4051.022

Operating instructions

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



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1 About this documentation

1 About this documentation

The warnings in this documentation are structured differently depending on the severity of danger.



Warning!

Possible danger to life!

Notices with the signal word "Warning" warn you about situations which could lead to fatal or severe injuries if you do not pay attention to the specified notices.



Caution!

Risk of injury!

Notices with the signal word "Caution" warn you about situations that could lead to injuries if you do not pay attention to the specified notices.

Attention!

Material damage!

Notices with the signal word "Attention" warn you about dangers which could result in damage to property.

The situation-related warnings can contain the following warning symbols:

Symbol	Meaning
	Warning: Dangerous voltage
	Warning: Injury to hands due to sharp blades
	Work may be performed only by a qualified electrician.
	Perform work only with personal protective equipment.
	Disconnect the mains plug.
	Documentation notes

Additional formatting used in the rest of the text has the following meaning:



Note:

This constitutes information not related to safety, but which provides important information regarding correct and effective work.

- This symbol indicates an "action point" and shows that you should perform an operation or work step.
- Enumerations are marked with dashes.

Operating instructions in other languages can be found on our website:



[Click here!](#)

2 Safety instructions

2.1 General

Only the intended use ensures the operational safety of the machine.



Read carefully through the operating manual before you switch on the machine.

When contacting the manufacturer for any information please have the machine type and fabrication number available (see type plate on the machine)!

2.2 Intended use

Stripping of insulated wires according to DIN EN 60228 VDE 0295:2005.

Cross-section: 4 – 6 mm²

Feeding-length: 28 mm + crimping length

Crimping of loose ferrules with insulating collar: **See tool list**

Crimp form: standard (trapeze)



Note:

The only wires that are considered processable are those that have been approved by the manufacturer. For a complete list, please contact your sales partner.

2.3 Disallowed use

- Use the machine without instruction.
 - Use outside of the intended limits.
 - Disabling safety systems.
 - Removal of information and warning labels.
 - Opening the machine during operation.
 - Modifications or conversions to the machine.
 - Use after misappropriation.
 - Use the machine with obviously recognizable damages or defects.
 - Use with accessories from other manufacturers without explicit consent.
- Abnormal use that is not known to the manufacturer.

2.4 Training of personnel

- Only trained and qualified personnel are allowed to handle the machine.
- The responsibilities of the personnel for operating, changing tools and maintaining must be well-defined.
- Only the manufacturer or authorized service workshops are entitled to repair these products.

2.5 Special obligations of the person in charge

- To write an operating instruction.
- To be familiar with local regulations relating to safety and accident prevention.
- To inform the manufacturer immediately if the machine and the application becomes unsafe.

2.6 Using risks



- Before changing spare parts remove the plug and disconnect the machine from the pneumatic supply system.

- Should the removal of the cover be necessary take care that the earth conductor is connected when re-closing the machine.

3 Transport

When transporting always use the complete original packaging.

For service and repair work the machine must be sent with all accessories.

4 Technical specifications

	Crimping machine LD-I
Drive	electropneumatic
Power supply	100 – 240 V, 50 / 60 Hz
Power consumption	185 VA
Fuse (filter module)	2 x T2AH250V
Operating pressure	5.5 bar
Air consumption	2 NL / limit stop
Filling quantity	min. 50 /max. 500 pcs.
Cycle time	approx. 2.5 – 3 s
Continuous sound level	<70 dB(A)
Dimensions (w x d x h)	550 x 415 x 440 mm
Colour	RAL 5012
Weight	40 kg
Operating environment	
Storage/transport temperature	-25 °C...+55 °C
Ambient temperature	+5 °C...+40 °C
Operating temperature	+10 °C...+45 °C
Max. operating altitude	2000 m above sea level
Humidity	50% at 40 °C (without condensation) 90% at 20 °C (without condensation)

5 Tool list

	Crimping machine LD-I	
Ferrules	4	6
Length	10 / 12	12
Wire cross-section [mm ²]	4	6
SF-Power	35 – 45 %	
Feeding bowl	4 / 1	6 / 1
Holding tongs cone	4 – 6	
Feeding tube – top part	4 – 6 / 10 – 12	
Singling unit with feeding tube	4 – 6 AWG 12 – 10	
Wire-holder	4 – 6	
Adjusting wheel	8 / 10 / 12 / 18	
Stripping blades V-Radius	3.49	
Blade spacer behind on both sides	0.5 mm	
Adjustment eccentric (guiding value)	4	
Ferrule centring jaws	4 ² / 6 ²	
Crimping tool	Trapezoidal	



Note:

- A parallel insulation stripping in two different lengths is not possible. The changes to the length to be machined must be set with the adjustment wheel (see section 9.4).

6 General view of the machine

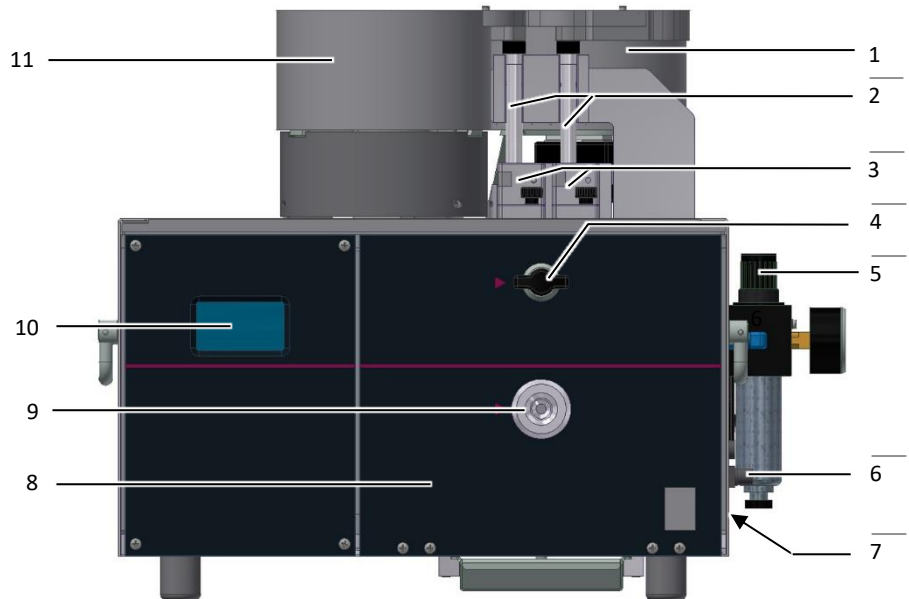


Fig. 1: General view

Legend

- 1 Vibrating conveyor 2
- 2 Feeding tube
- 3 Singling unit
- 4 Knob
- 5 Maintenance unit
- 6 Adjusting knob wire holding tong
- 7 Filter module
- 8 Front plate
- 9 Feeding funnel
- 10 Touch display
- 11 Vibrating conveyor 1

7 Operating instructions

7.1 Putting into operation

- Before commissioning the machine, read the operating instructions carefully.
- Use the machine only in dry spaces.

Caution!

The electrical data on the type plate must agree with the mains supply, otherwise damage to the machine can occur.



Warning!

Electrical shock caused by working on live components!

- Withdraw the mains plug and disconnect the machine from the pneumatic system.



Note:

- Clean lubricants (e.g. talcum powder) from the stranded-wires before processing.

The machine is provided with a pneumatic maintenance unit (filter and controller) and can be connected with the compressed-air supply.

- Connect the mains cable to the machine and the electrical supply.

7.2 Starting the machine

- Adjust the pressure at the maintenance unit to 5.5 bar according to the technical data. Pull the adjusting knob upwards, adjust the pressure and then lock it again.
- Fill the ferrules into the corresponding feeding bowl. Filling quantity: min. 50 / max. 500 pcs.
- Actuate the main switch on the filter module. The machine drives into starting position.
- If the feeding tube is empty the vibrating conveyor starts automatically.
- Menu 1 appears on the display.

Following expiry of the set number in the "Service" field, "Service" flashes the next time the machine is started.

The message can be accepted with the E button.



Note:

To retain operational capability of the automatic machine as long as possible, you should observe the prescribed service interval:

- Service after 1,000,000 work cycles or after 2 years
- Contact your responsible Rittal country representative.

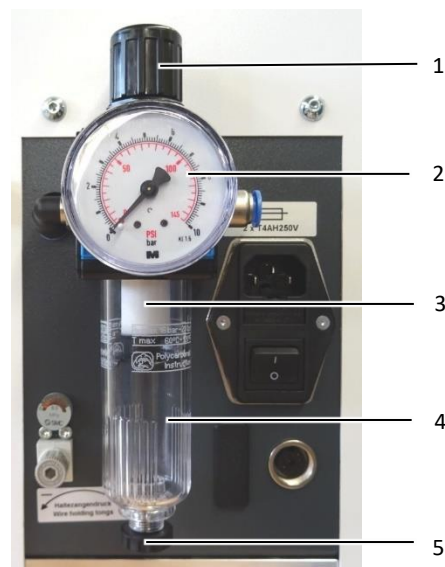


Fig. 2: Maintenance unit

Legend

- 1 Adjusting knob
- 2 Pressure gauge
- 3 Filter
- 4 Tank
- 5 Drain screw

7.3 Starting conditions

- Starting position
- No error message

7.4 Stand-alone mode

If the machine is working on the fully automatic machine, "External" is shown on the display.

This means that the machine works exclusively via the interface.

If the machine is to be used as a "stand alone" variant:

- Disconnect from the interface
- Switch to the setup mode
- Change to menu 3. Press the E key so that the cursor flashes. Use the arrow key up to change to the required number value and confirm with E, the cursor flashes at the second digit.
Perform this procedure for all 4 digits. After confirming the 4 digits with E and entering the correct password, the corresponding user level is activate
- Password: 1212
- Switch external communication to "0"
- Change to menu 9. Press the E key in subitem 14 "Ex.Com." so that the cursor flashes. Change the value to "0" with the down arrow key.
- Press E, the cursor stops blinking
- Restart the machine

The machine can then be used independently.

7 Operating instructions

EN

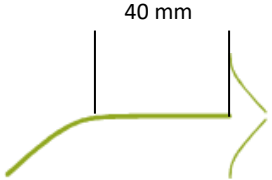







7.5 Wire feeding / wire cutting

The wire triggers the working cycle when inserted into the feeding funnel.



Note:

The wire has to be cut off straight and may not have any bends or bows.

 <p>40 mm</p> <p>correct</p>	correct	incorrect	
			oblique cut
 <p>incorrect</p>			deformed wire
			wires sticking out
			squeezed wire
			wires standing back

Tab. 1: Wire feeding / wire cutting



8 Menus

8.1 Menu structure

Selection menu	C
1. Production menue A, B	
2. Setting menu A, B	
3. Operator password A, B	
4. Bowl Setup B	
5. Program menu B	
6. Operating data menu B	
7. Test inputs B	
8. Test outputs B	
9. General data	
10. Step time	
11. Light barriers	
12. PC data B	
13. Language B	


8.2 Access rights

- A Operator: Menu 1 and 3 operate
- B Setter: Menu 1 – 8, 12- 13 operate; Menu 1 – 13 read

-   Navigate up and down through the menu or change value
- E Selection key, C Leave menu

8.3 Menu

Select screen

- Tap  in the production menu to enter the selection menu.

Select the bowl by touching

- White background = selected.
- 3 s press on field
- S = stripping / cutting
- No S = stripping and crimping

Status display

- Ready / Strip / Crimp / Ready
- DP = Daily piece counter

8.3.1 Production menu (1)

Bowl 1 Vibrating conveyor power	Settings
Bowl 2 Vibrating conveyor power	Settings
Error messages / Ready / Crimp / VC / DP	
Step: 1 / 23 (Step) VC 0 = off, VC 1 = on	

8.3.2 Setting menu (2)

0	Stripping and crimping
1	only stripping bowl 1
2	only stripping bowl 2
1 and 2	only stripping both bowls

After switching on the machine, option 0 = stripping and crimping is set.

8.3.3 Operator password (3)

Registration as installer with password (1212) possible.
From here on menu operation only possible as setter.

8.3.4 Bowl setup (4)

Display	Bowls with current program Settings
Select bowl	Press on the text field of the desired bowl. It is surrounded by bars. Confirm with E.
Edit	Press E. Use the arrow keys to select program. Settings appear in the bottom line.

8.3.5 Program menu (5)

Display	Program 1
Edit	Press E, select program, press E.
Selection	<ol style="list-style-type: none"> 1. Cross section: 4 / 6 mm² 2. Length: 8 / 10 / 12 / 18 mm 3. VC-power: 1 – 99% Press E, change with arrow keys, press E <ol style="list-style-type: none"> 4. Contacts tube: number of contacts in tube Save with E.



Note:

An incorrect setting of the SF power can cause various problems, such as jamming, canting or slowed feeding of the ferrules.

8.3.6 Operating data menu (6)

tcounter	Total piece number
Cycle	Operating time of one cycle

8.3.7 Test inputs (7)

No., status	1 or 0
Name of the assembly part	

8.3.8 Test outputs (8)

No., status	I or 0
Name of component	
Simulate:	By pressing E status = 1, Output is active By pressing E again status = 0, Output is inactive

8.3.9 General data (9)

8.3.10 Step time (10)

8.3.11 Light barriers (11)

Teach-in	Press E 3 s – Clear light barrier, press E – Contact in light barrier, press E – Teach-in finished, press E
----------	--

8.3.12 PC data (12)

8.3.13 Language (13)

- 1: German
- 2: English

9 Tools

- Open the front panel by the knob (all the valves are depressurized).
- After closing the front panel the machine drives into the starting position.

9.1 Ferrule feeding

Feeding bowl

Singling unit with feeding tube

- Release the screw in the middle of the feeding bowl and lift off the feeding bowl.
- Loosen the knurled screw at the singling unit.
- Take off singling unit with feeding tube.
- Empty the feeding tube.
- Fit in reverse order.

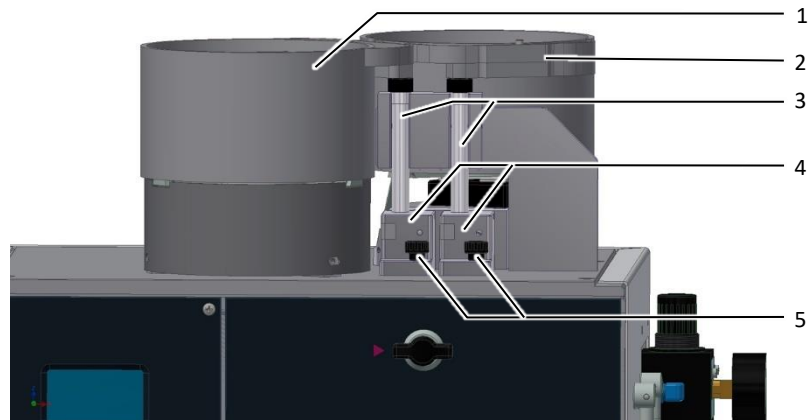


Fig. 3: Feeding unit

Legend

- 1 Feeding bowl 1
- 2 Feeding bowl 2
- 3 Feeding tube
- 4 Singling unit
- 5 Screw

9.2 Wire holder

- Tool unit in starting position.
- Release the fixing-screw of the wire holder.
- Remove the wire holder and replace it.

9.3 Eccentrics

- Tool unit in starting position.
- Release the screws of the eccentrics.
- Adjust the eccentrics to the desired size (approximate value).
- Tighten the screws.

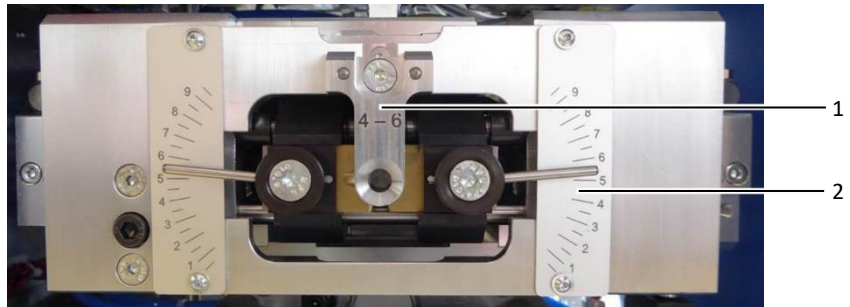


Fig. 4: Stripping unit

Legend

- 1 Wire holder
- 2 Eccentrics

9.4 Adjusting wheel

The set length is at the top.

- Press the tool unit on the tool slide backwards, swing it down and pull it forward again.
- Push the wheel backwards, turn it and let it engage at the desired setting.

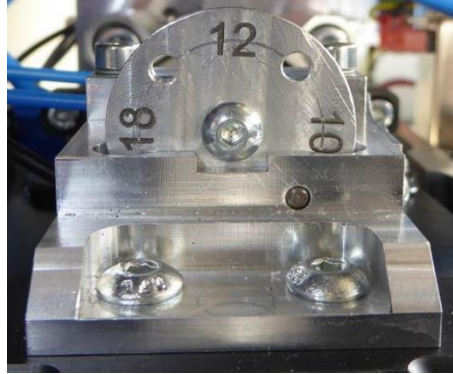


Fig. 5: Adjusting wheel

9.5 Ferrule holder

- Push the tool unit backwards on the tool slide, swing it down and pull it forwards again.
- Loosen the fastening screws (fig. 6, item 1).
- Remove the ferrule centring jaws (fig. 6, item 3).
- Use the knurled screw (fig. 8, item 2) to remove the ferrule nests (fig. 8, item 1).
- Pay attention to the guide pins (fig. 8, item 3) during removal and installation.

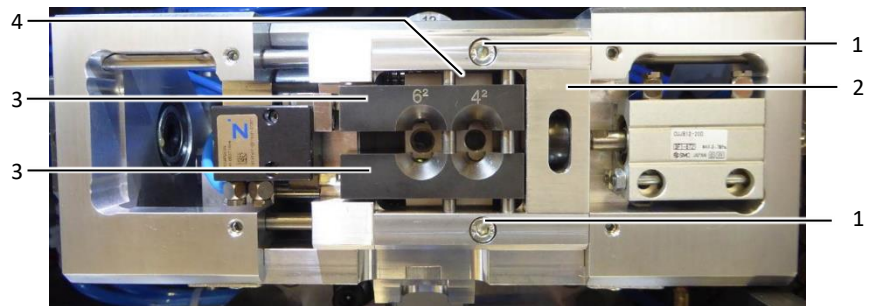


Fig. 6: Ferrule centring jaws

Legend

- 1 Fastening screws
- 2 Carriage
- 3 Ferrule centring jaws
- 4 Ferrule nests



Fig. 7: Knurled screw

Legend

- 1 Knurled screw

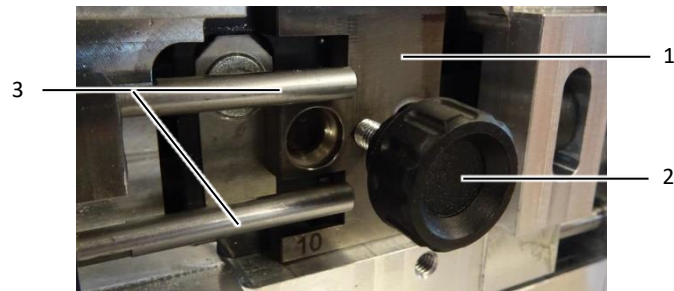


Fig. 8: Ferrule nests with guide pins

Legend

- 1 Ferrule nests
2 Knurled screw
3 Guide pins

9.6 Crimping tool

The crimping tool consists of die and anvil.

- Remove the ferrule holder (see section 9.5 "Ferrule holder").
- Loosen the fastening screws (fig. 9, item 4) of the two retaining plates (fig. 9, item 1). Move the carriage (fig. 6, item 2) to the right or left.
- Remove the holding plates.
- Remove die and anvil (fig. 9, item 2 and 3).
- Installation in reverse order.

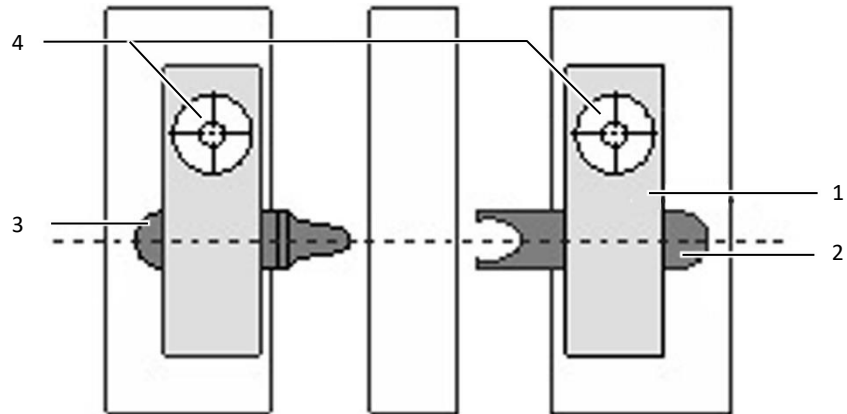


Fig. 9: Crimping tool

Legend

- 1 Holding plate
- 2 Anvil
- 3 Die
- 4 Fastening screws

9.7 Stripping blades



Caution!

There is risk of finger injuries from the insulation-stripping blades.

- Do not touch the blades.

- Tool unit in starting position.
- Release the screws of the eccentrics.
- Remove the eccentrics.
- Remove the blades and replace with new ones.
- Mount the blades and the spacers.
- Adjust the eccentrics and tighten the screws. Do not mix up the eccentrics!

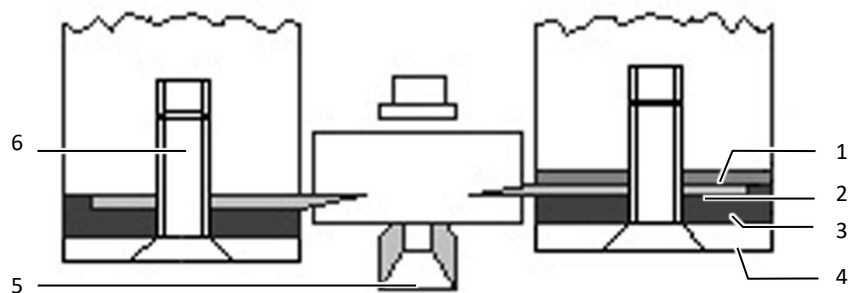


Fig. 10: Stripping blades

Legend

- 1 Blade spacer
- 2 V-Radius blade
- 3 Blade fastener
- 4 Eccentrics
- 5 Wire holder
- 6 Fastening screw

9.8 Tool unit

- Tool unit (fig. 11, item 6) in starting position.
- Loosen the clamping screw (fig. 11, item 2) by approx. 5 turns.
- Push the tool unit on the tool slide to the back, turn it downwards and pull it to the front again.
- Loosen the fixing screws (fig. 11, item 3) and remove the tool unit.
- Check the position of the 4 O-rings (fig. 12, item 1) on the fixing parts (fig. 11, item 1).
- Push the two crimping tools and the stripping blades to the outside.
- The axis of the turning cylinder must be horizontal.
- Insert the tool unit and fix it with fixing-screws (starting position down).
- Turn the tool unit upwards and fix the locking screw. The tool unit has to turn downwards by its own weight. Check by hand whether the turning cylinder is correctly engaged.

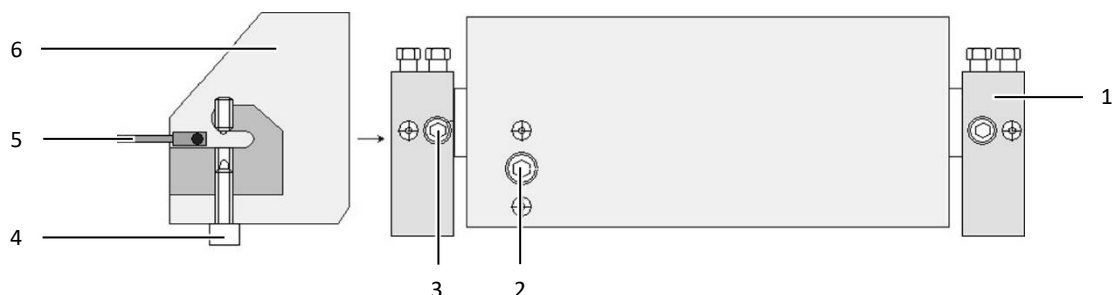


Fig. 11: Tool unit starting position

Legend

- 1 Fixing part
- 2 Locking screw
- 3 Fastening screw
- 4 Locking screw
- 5 Turning cylinder
- 6 Tool unit

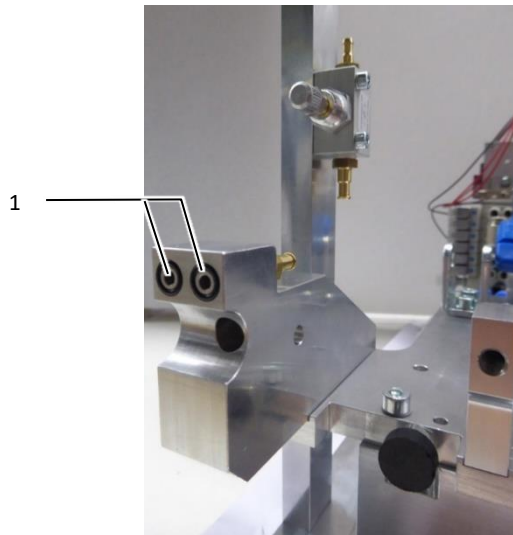


Fig. 12: O-rings at the fixing part

Legend

1 O-rings

10 Maintenance



Warning!

Electrical shock caused by working on live components!



■ Withdraw the mains plug and disconnect the machine from the pneumatic system.

10.1 Maintenance instructions



Note:

- Do not clean the interior of the machine with compressed air.
- Do not use spray oil or spray grease.
- If possible use PTFE-oil (Teflon-oil).
- Use grease, which is applicable for bearings and sliding surfaces.
- The display and touch screen are made of plastic and they must not come into contact with hard objects. The surface of the touch screen can be cleaned with a soft cloth without the use of solvents.

10.2 Daily maintenance

Clean out stripping waste container

- Pull out the container, which is situated on the lower side of the machine, to the front.
- Empty it.
- Reinsert.

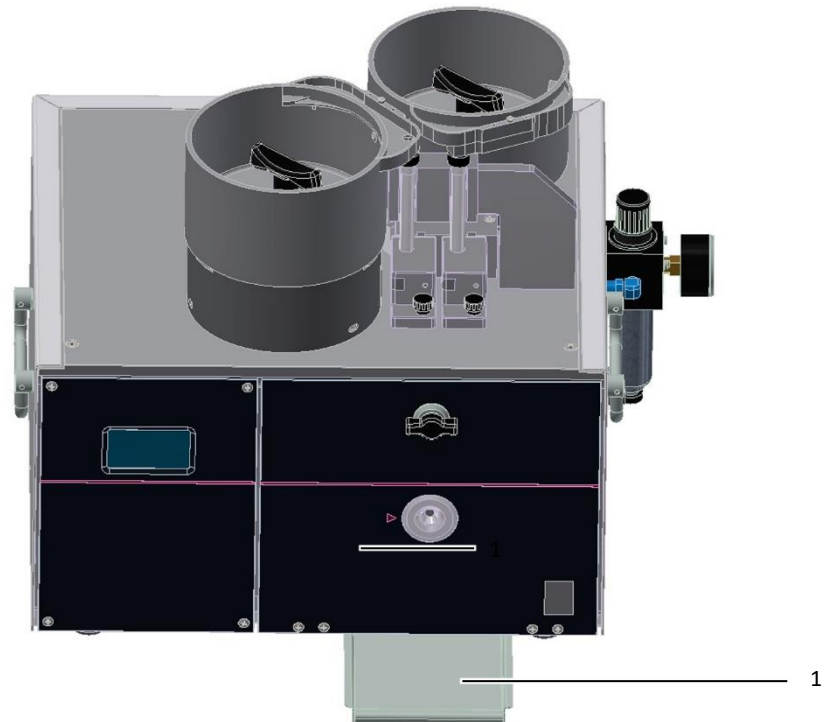


Fig. 13: Stripping waste container

Legend

- 1 Stripping waste container

10.3 Weekly maintenance

Blow out feeding bowl

- Remove the feeding bowl to the upper side by unscrewing the handle.
- Empty the feeding bowl.
- Blow feeding bowl out carefully.
- Set bowl back on the machine and tighten the handle.

Clean feeding tube and singling unit

- Release the screw in the middle of the feeding bowl, and lift off the feeding bowl.
- Loosen the knurled screw at the singling unit.
- Take off singling unit with feeding tube.
- Clean by using a soft, applicable brush (e.g. pipecleaner) and ethyl alcohol.
- Fit in reverse order.

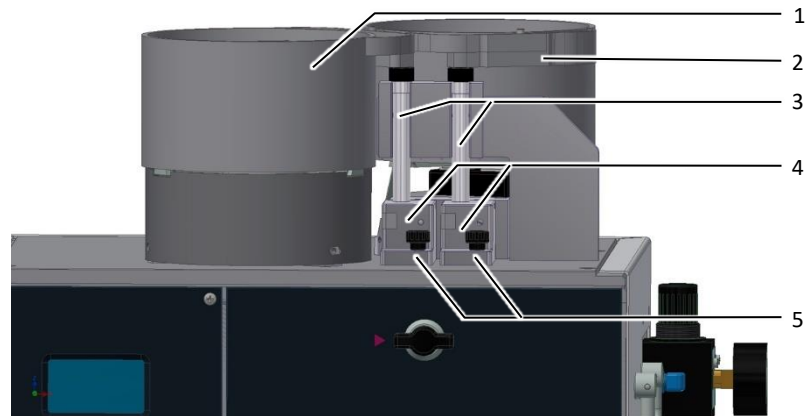


Fig. 14: Feeding bowl, feeding tube and singling unit

Legend

- 1 Feeding bowl 1
- 2 Feeding bowl 2
- 3 Feeding tube
- 4 Singling unit
- 5 Screw

Control stripping blades



Caution!

There is risk of finger injuries from the insulation-stripping blades.

- Do not touch the blades.

- Tool unit in starting position.
- Check the control blades visually for signs of abrasion or damage.

Clean ferrule centring jaws

- Push the tool unit on the tool slide to the back, turn it downwards and pull it to the front again.
- Loosen the 2 screws, see section 9.5.
- Remove the ferrule centring jaws.
- Clean ferrule centring jaws using a paint brush and ethyl alcohol.
- Lubricate the guiding pins and guiding screws lightly with oil.

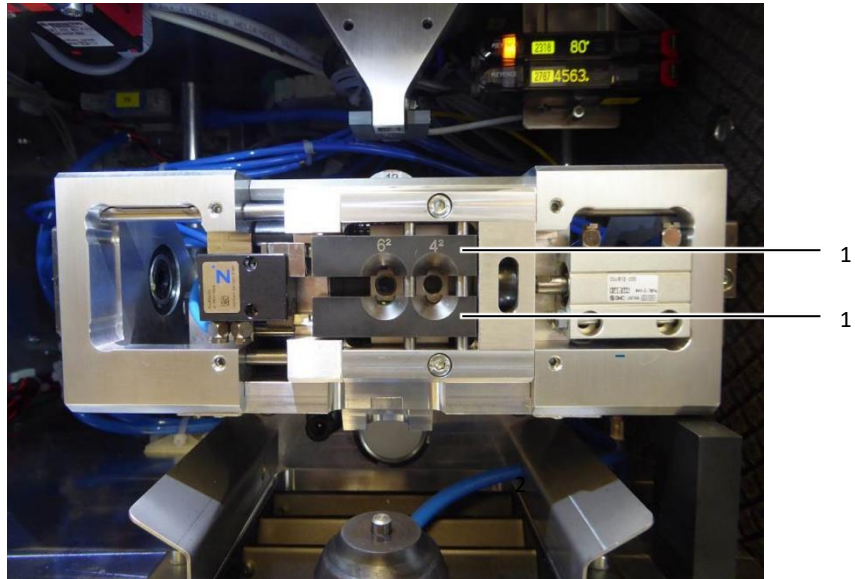


Fig. 15: Ferrule centring jaws

Legend

1 Ferrule centring jaws

Clean holding tongs

■ Open front panel.

Holding pliers can be found on the front panel.

■ Clean holding tongs using a paint brush.

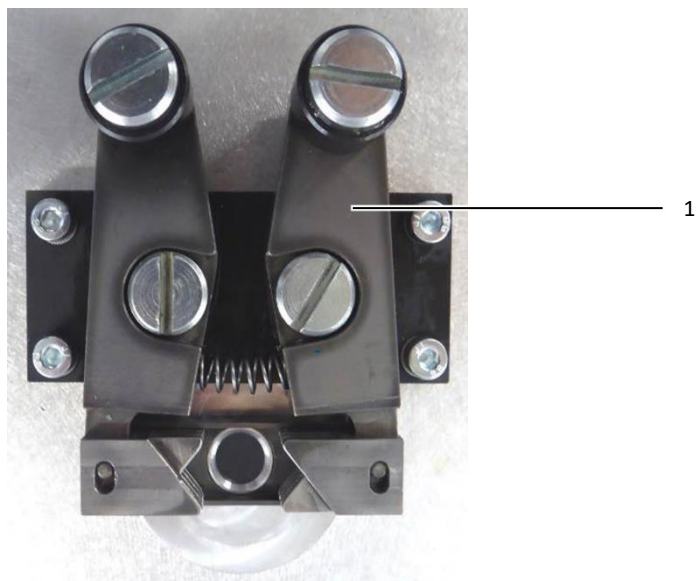


Fig. 16: Holding tongs

Legend

1 Holding tongs

Clean crimping zone

■ Tool unit in starting position, see section 9.8.

■ Release the locking-screw by approximately 5 rotations.

■ Push the tool unit on the tool slide to the back, turn it downwards and pull it to the front again.

■ Release the fixing-screws and remove the tool unit.

■ Check the position of the 4 O-rings in the fixing parts.

■ Clean crimping zone with a paint brush.

- Lubricate the stripping and crimping flanges with grease.
- Place the tool unit and lock the fixing-screws (starting position down).
- Turn the tool unit upwards.
- Lock turning cylinder.
- Fix the locking-screw. The tool unit has to turn downwards by it's own weight.
- Check by turning manually, if the turning cylinder is correctly locked.

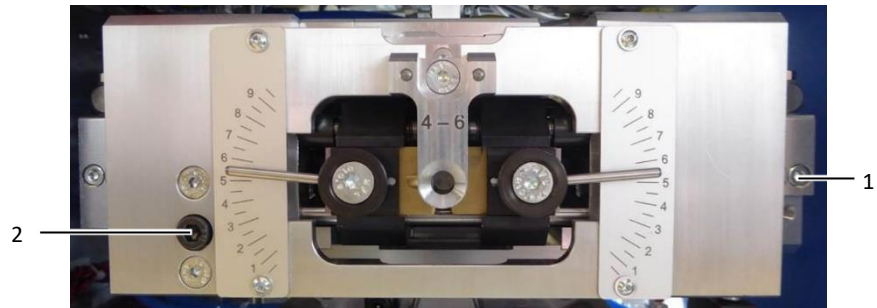


Fig. 17: Tool unit front view

Legend

- 1 Fastening screw
- 2 Locking screw

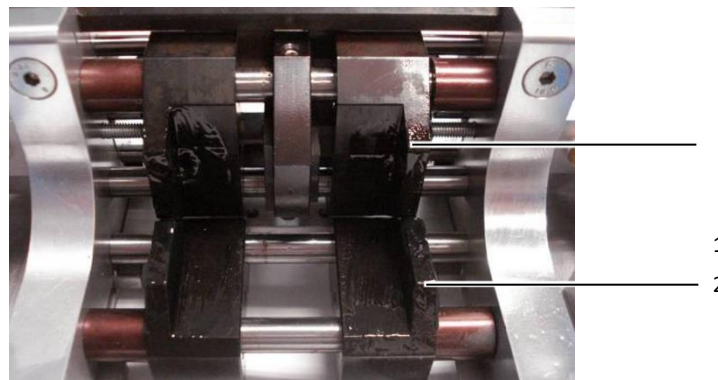


Fig. 18: Tool unit back view

Legend

- 1 Crimping flange
- 2 Stripping flange

10.4 Half-yearly maintenance

Drive link

- Remove the screws of the case.
- Carefully take off the cover upwards.
- Lubricate the drive link at the pivot point on the upper and lower side with grease.
- Fit the case and tighten the screws.
- Take care that the earth conductor is connected before closing the machine again.

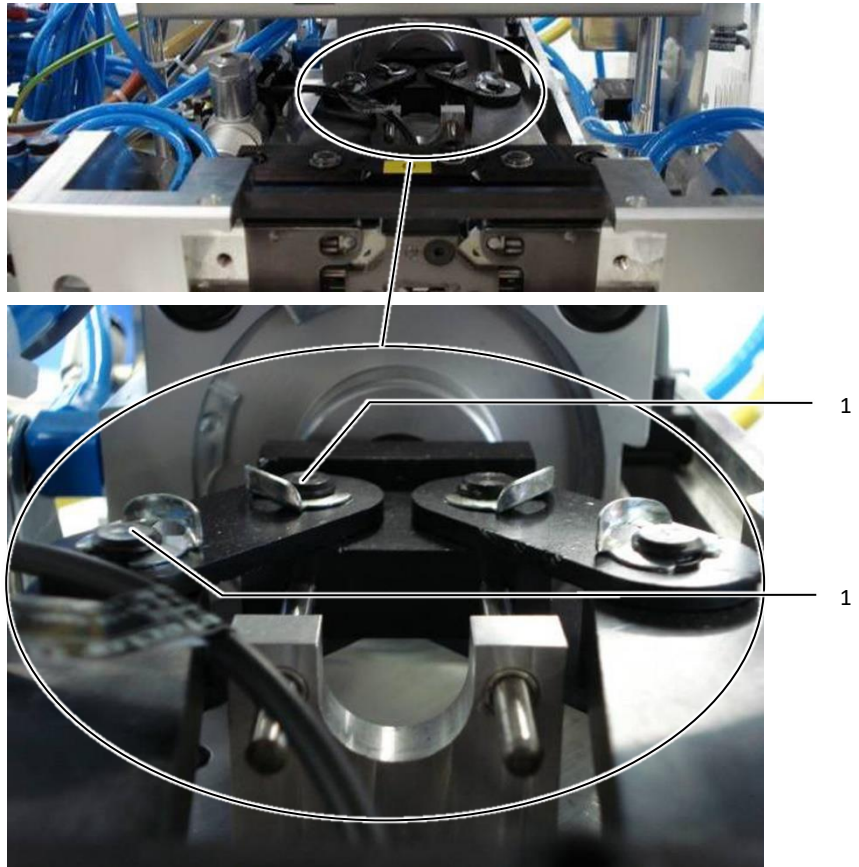


Fig. 19: Drive link

Legend

1 Pivot point

10.5 Maintenance as needed

Pneumatic maintenance unit

- Drain the condensed water regularly. To do this remove drain screw.
- The tank can be cleaned with water. To remove the tank, disconnect the air-supply.



Attention:
Clean tank only with water.

- The filter element can be unscrewed for cleaning. Put it into purifying agent (benzine or petroleum) wash it out and dry it.

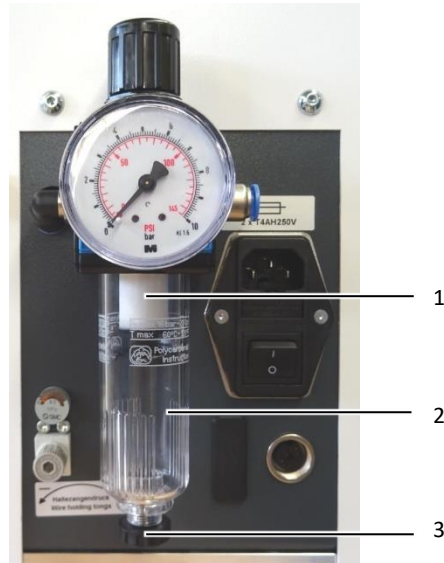


Fig. 20: Pneumatic maintenance unit

Legend

- 1 Filter
- 2 Tank
- 3 Drain screw

11 Troubleshooting

11.1 The machine does not start

The electrical supply is disturbed.

- Check the mains cable and the fuses.

11.2 Increasing waste

The stripping blades are damaged or incorrectly mounted.

- Correct or change the blades.

The stripping waste container is full.

- Empty the stripping waste container.

The ferrule centring jaws do not close correctly.

- Clean the surfaces of the ferrule centring jaws.

The ferrule centring jaws are damaged.

- Change the ferrule centring jaws.

A second ferrule is located between the ferrule centring jaws.

- Remove the ferrule.

The wire is pulled in.

- Increase the pressure of the wire holding tongs.

Damage at the insulation.

- Decrease the pressure of the wire holding tongs.

11.3 Error messages

The error messages are shown on the display. By pressing the "E" key the error message is deleted.

"no op.voltage +15"

- Operating voltage +15V failed

"no op.voltage +24V"

- Operating voltage +24V failed

"inp.24V short c."

- Short-circuit fault + 24V

"A1 / 2 -short c."

- Short-circuit output 1 or 2

"A3 / 4 -short c."

- Short-circuit output 3 or 4

"A5 / 6 -short c."

- short-circuit output 5 or 6

"A7 / 8 -short c. "

- Short-circuit output 7 or 8

"A9 / 10 -short c."

- Short-circuit output 9 or 10

"A11 / 12 -short c."

- Short-circuit output 11 or 12

"VC-err.amplifier"

- AUSF_02 amplifier-error

"VC-alert tempr."

- AUSF_02 warning temperature on limit range

"VC-error tempr."

- AUSF_02 shut down, temperature to high

"VC-RS485 Tim.Out"

- AUSF_02 time out, check interface

"VC-error 230V"

- Check mains voltage
- AUSF_02 230V missed

"VC-error 115V"

- Check mains voltage
- AUSF_02 115V missed

"VC-reserve"

- AUSF_02 reserve

"VC-not ready"
– AUSF_02 not ready, error present

"Error frontpl. K1"
– Switch S 6 faulty
– Error on closing the front panel
– Press the "Enter key" for 4 s.

"Error frontpl. K2"
– Switch S 6 faulty
– Error on closing the front panel
– Press the "Enter key" for 4 s.

"frontplate open"
– Close the front plate

"feeding error"
– Feeding VC disturbed
– Control feeding tube

"S1-start = 0"
– S1 faulty

"S1-start = 1"
– S1 faulty

"S2-Crimp.clos.= 0"
– Check S2 and Y2

"S2-Crimp.clos.= 1"
– Check S2 and Y2

"S3-stripposit.= 0"
– Check S3 and Y3

"S3-stripposit.= 1"
– Check S3 and Y3

"S4-Toolslide front = 0"
– Check S4 and Y1

"S4-Toolslide front = 1"
– Check S4 and Y1

"S5-Toolslide back = 0"
– Check S5 and Y1

"S5-Toolslide back = 1"
– Check S5 and Y1

"S9-crimpposit.=0"
– Check S9 and Y3

"S9-crimpposit.=1"

- Check S9 and Y3

"ex.start n. ready "

- External start not ready

"tube empty "

- Feeding bowl is empty.
- Feeding velocity is too low.
- A ferrule blockades the feeding tube.

"error data vers"

- Incorrect data version by data transmission with PC

"error USB-cable"

- USB-cable not plugged

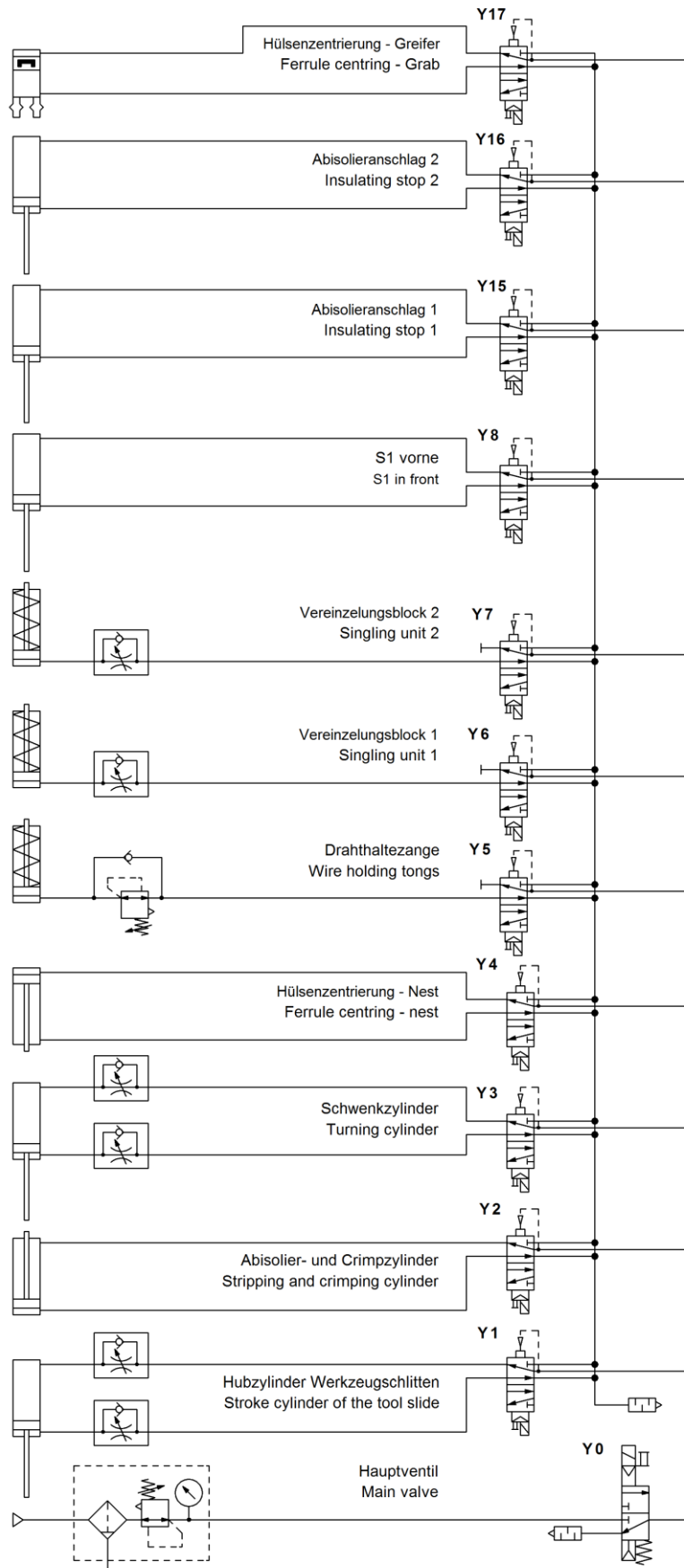
"Remove wire!"

- Remove wire

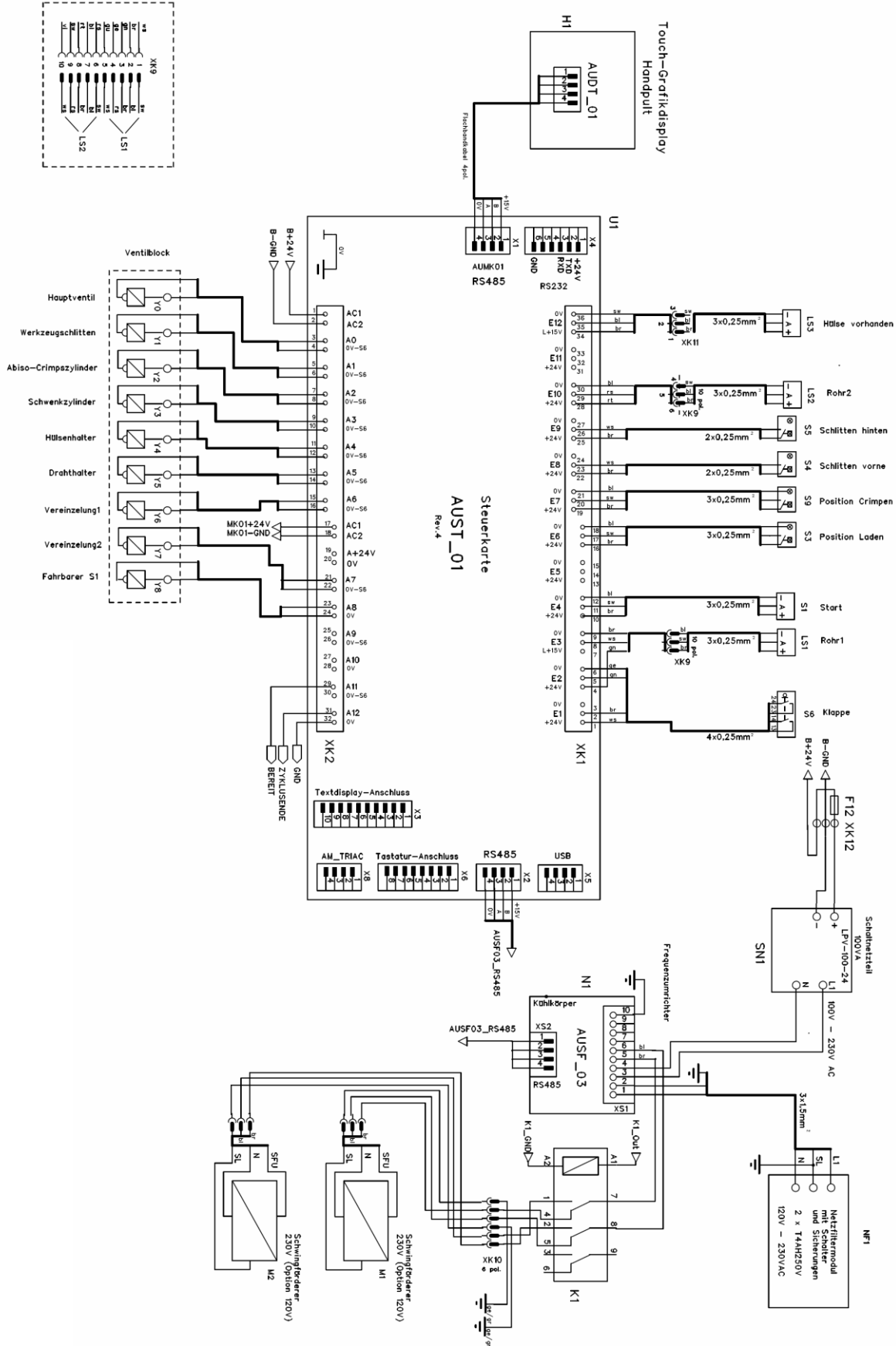
"S8-Wire control"

- Remove wire, check S8

12 Pneumatic diagram

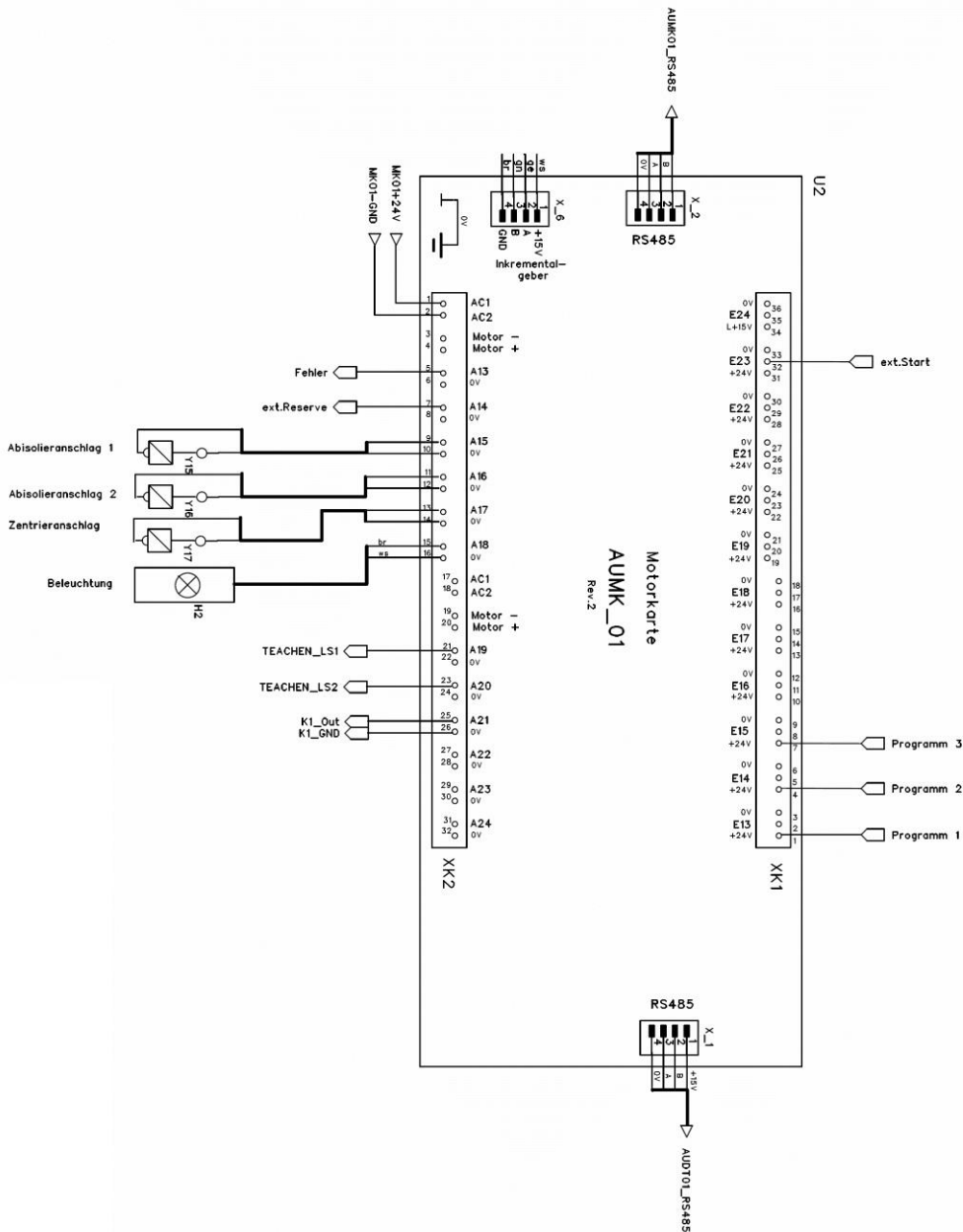


13 Electric diagram



13 Electric diagram

EN



14 Spare parts

Designation	Rittal Model No.
Oscillating conveyor LD-I 4,0 mm ²	5051.697
Oscillating conveyor LD-I 6,0 mm ²	5051.698
Separation block LD-I 4,0 – 6,0 mm ²	5051.677
Ferrule pick-up LD-I 4,0 – 6,0 mm ²	5051.678
S 1 Initiator LD-I	5051.679
S 2 Limit switch LD-I	5051.680
S 3 Limit switch LD-I	5051.681
S 4 Limit switch LD-I	5051.682
S 5 Limit switch LD-I	5051.683
S 6 Safety switch LD-I	5051.684
S 9 Proximity switch LD-I	5051.685
Light barrier LD-I	5051.686
Evaluation unit LD-I	5051.687
Shock absorber LD-I 20 x 1,5	5051.688
Shock absorber LD-I 14 x 1,5	5051.689
V-Radius blade set LD-I 3,49 mm	5051.690



Note:

- When ordering state serial number of the machine.
- Custom-designed parts see tool list.

15 Disposal

- Switch off the machine at the mains switch.
- Disconnect the machine from the mains power.



The machine must not be disposed of with domestic waste. The machine must be disposed of environmental-conform and correctly. The local waste regulations as well as the statutory requirements for disposal must be observed.

16 Conformity

Vereinfachte EU-Konformitätserklärung / Simplified EU Declaration of Conformity



Wir
We

Rittal GmbH & Co. KG, Auf dem Stützelberg, 35745 Herborn

erklären hiermit, dass die Produkte
hereby declare that the products

Crimppautomat LD-I – Crimp machine LD-I AS 4051.022

(Artikel gemäß dieser Anleitung /
Types referenced in this manual)

folgenden Richtlinien entsprechen:
conform to the following directives:

2006/42/EG Maschinenrichtlinie – 2006/42/EC Machinery Directive
2014/30/EU EMV-Richtlinie – 2014/30/EU EMC Directive
2011/65/EU RoHS-Richtlinie – 2011/65/EU RoHS Directive

Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese EU-Konformitätserklärung ihre Gültigkeit.
This EU declaration of conformity shall become null and void when the assembly is subjected to any modification that has not met with our approval.

Die vollständige und unterschriebene EU-Konformitätserklärung erhalten Sie auf der Produktseite der Rittal Homepage www.rittal.com.
The complete and signed EU declaration of conformity is available at the product site of Rittal homepage www.rittal.com.

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11.2021 / D-0100-00000339-01-EN

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