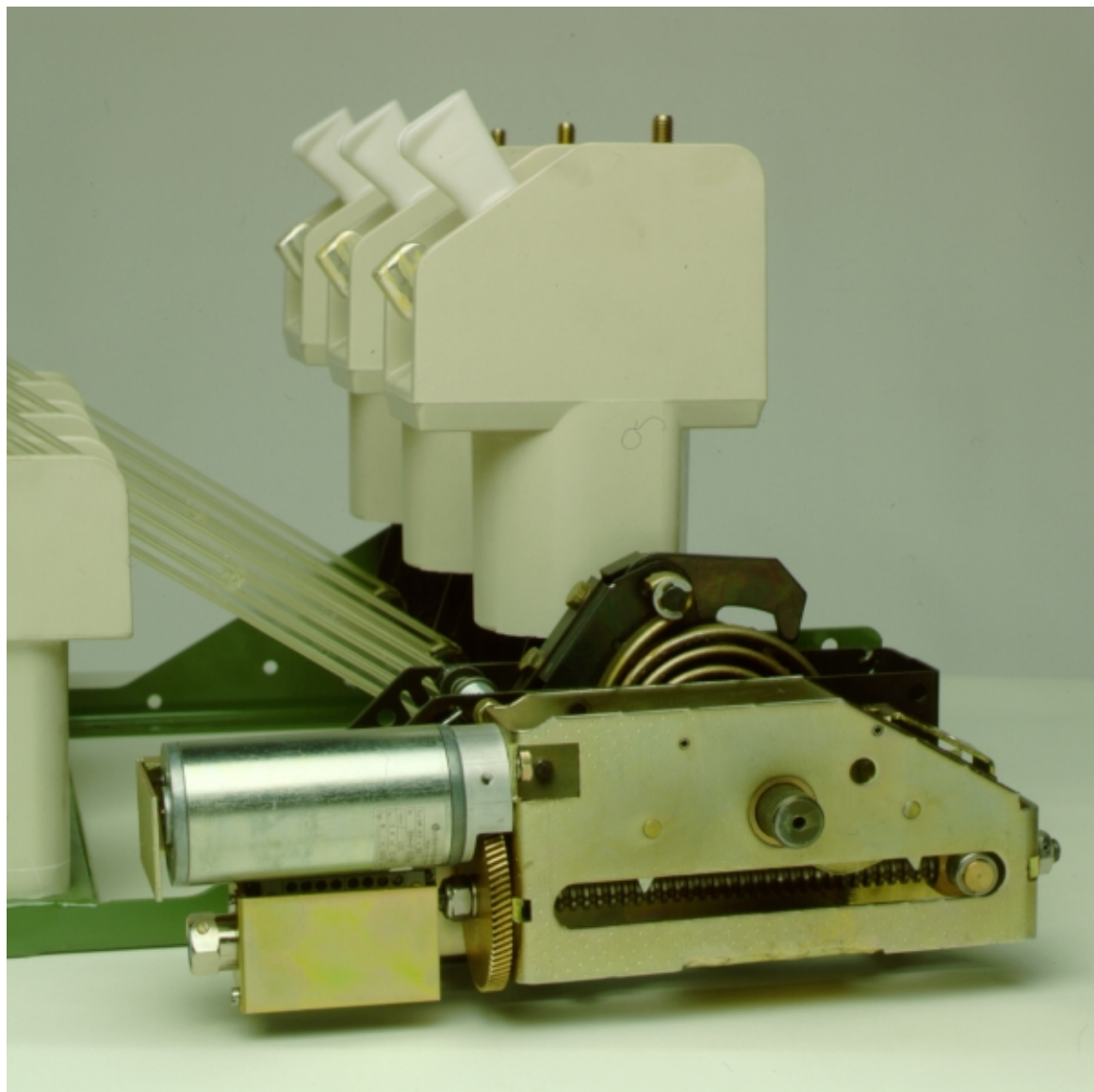


Installation-, operating- and recycling guide



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## 1. General

This motor operating device is mainly intended for operating NAL and NALF disconnectors. The motor operating device can be mounted directly on the frame of the disconnector, or on the side of the cubicle. The same motor operating device can be used to operate disconnectors with both K- and A-mechanisms.

The motor operating device will disengage from the disconnector after each operation so that it is possible to operate the disconnector directly from the disconnectors axle, extension axle or with a separate manual operating device.

For disconnectors with KS-mechanism refer to motor operating device UEMC 40 A\_ and UEMC 40 D\_, installation- and operating guide 34 UEMC 36 GB.

## 2. Standards

The motor operating device complies with the following standards:

- IEC 265
- voltage test 2 kV, 50 Hz, 1 min, except for the motor 1.5 kV

## 3. Transport and storage

The motor operating device is delivered complete in a cardboard box. The type number is marked on the box. If the device is to be stored for a long period, it should be stored indoors in a dry place.

## 4. Construction

The motor operating device comprises of a motor, gear wheel, a screw gear and a lifting arm mechanism.

The motor A-2 drives gear wheels A-3 and A-4. Gear wheel A-4 rotates screw A-6 which pulls nut A-5. The nut turns the lifting arm A-1, but disengages from the arm after operation so that it is possible to manually operate the disconnector directly from the disconnectors axle. Position limit switches A-S1 and A-S2, break the motor current and stop the operating device performing the operation.

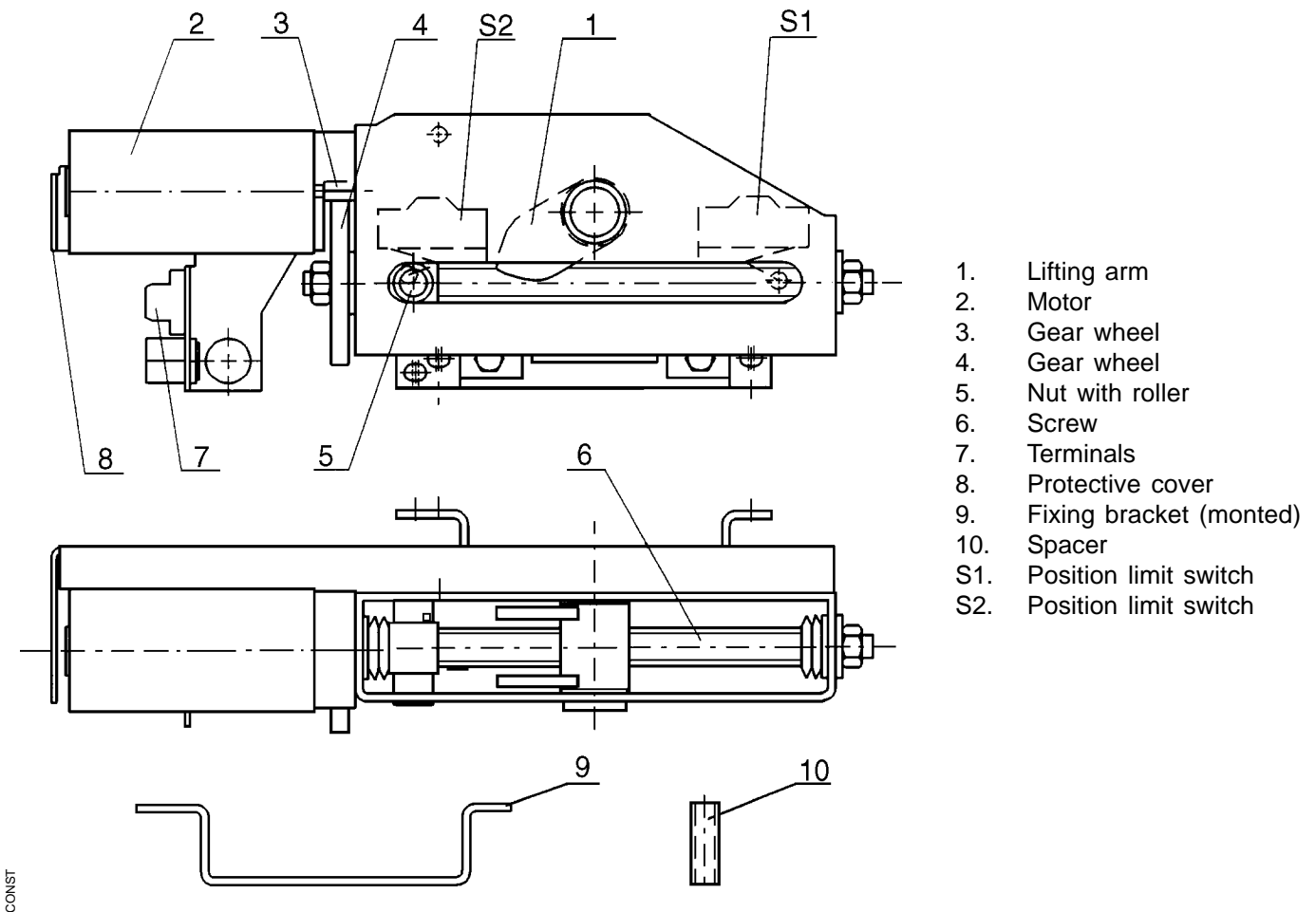


Fig. A

## 5. Alternative methods of mounting

### ALT.A

Motor operating device mounting side to left.

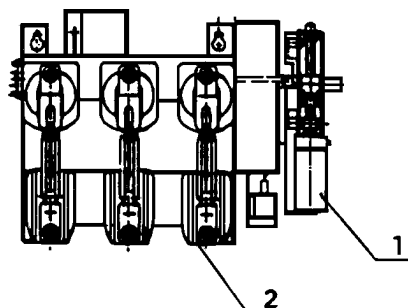


Fig. B

### ALT.A1

Motor operating device on right hand side of disconnector (fixed on the spring device).

1. Operating device UEMC 40 K3\_
2. Disconnector NAL\_, NALF

ALTA1

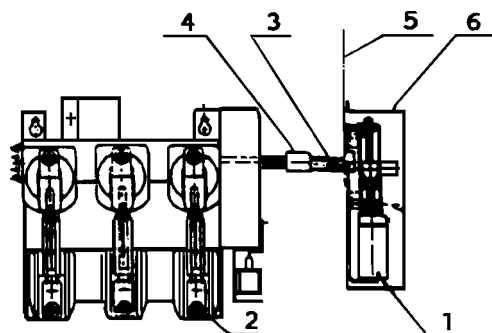


Fig. C

### ALT.A2

Motor operating device on right hand outer wall of cubicle.

1. Operating device UEMC 40 K3\_
2. Disconnector NAL\_, NALF
3. Extension axle
4. Extension bushing
5. Cubicle wall
6. Protective cover (not included)

ALTA2

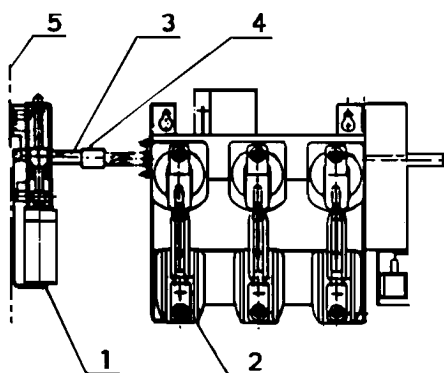


Fig. D

### ALT.A3

Motor operating device on left inner wall of cubicle.

1. Motor operating device UEMC 40 K3\_
2. Disconnector NAL\_, NALF
3. Extension axle
4. Extension bushing
5. Cubicle wall

ALTA3

### Note

The motor operating device can be rotated around the axle for ALT.A2 and ALT.A3 for installation in the intermediate positions (e.g. motor upwards).

## ALT.B

Motor operating device mounting side to right.

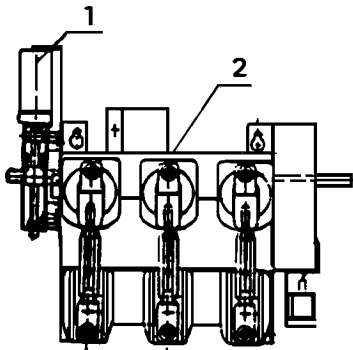


Fig. E

### ALT.B1

Operating device on left hand side of disconnector (fixed to disconnector frame).

1. Motor operating device UEMC 40 K3\_
2. Disconnector NAL\_, NALF

ALTB1

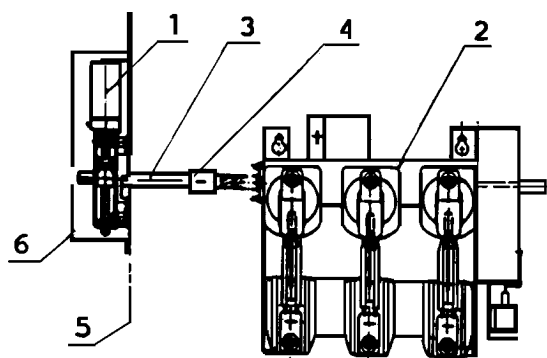


Fig. F

### ALT.B2

Operating device on left hand outer wall of cubicle

1. Operating device UEMC 40 K3\_
2. Disconnector NAL\_, NALF
3. Extension axle
4. Extension bushing
5. Cubicle wall
6. Protective cover (not included)

ALTB2

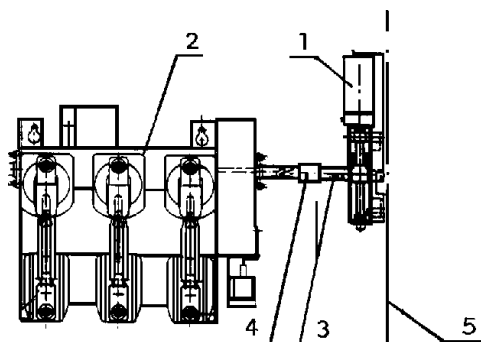


Fig. G

### ALT.B3

Operating device on right hand inside wall of cubicle.

1. Motor operating device UEMC 40 K3\_
2. Disconnector NAL\_, NALF
3. Extension axle
4. Extension bushing
5. Cubicle wall

ALTB3

### Note

The motor operating device can be rotated around the axle in ALT.B2 and ALT.B3 for installation in the intermediate positions (e.g. motor downwards).

## 6. Installation

### Note

Pay special attention to the fact that any sudden movement of the disconnecter may cause personal injuries.

### A. ALT.A

Applicable to alternative mounting methods A1, A2 and A3. See point 5.

1. For ALT.A1 mount the device using 2 M8 x 20 bolts with washers and nuts included in the set of parts.
2. For ALT.A2 and ALT.A3 use spacer bushing and M8 x 60 bolts included in the set of parts.
3. ALT.A for disconnecters with an A-mechanism.
  - Disconnecter in open position and spring uncharged.
  - Turn the operating axle in the direction of the arrow until the slack is taken up.
  - Mount the operating device in such a manner that the lifting arm tip is pointing from the motor and the tip is in line with, or a small distance from the edge of the screw track. See fig. H.
4. ALT.A for disconnecters with a K-mechanism
  - Disconnecter in open position.
  - Turn the operating axle in the direction of the arrow until the slack is taken up.
  - Mount the operating device in such a manner that the lifting arm tip is pointing towards the motor and the tip is in line with, or a small distance from the edge of the screw track. See fig. I
5. Test operate manually with the hand crank and check that:
  - a) the disconnecter will open and close.
  - b) a gap at the opening and closing position exists. Make a note of the lifting arms position along the track at the open and closed position. With mechanism A, the opening point is when the charging catch latches.
6. Loosen the operating mechanism if required, and position the lifting arm on another spline. By turning the lifting arm around, a half tooth advantage can be gained from the spline pitch.
7. Make the electrical connections to the motor operating device taking into account the electrical regulations for wiring in high voltage cubicles. Refer also to point 7, electrical connections.
8. Check the electrical operation of the device.

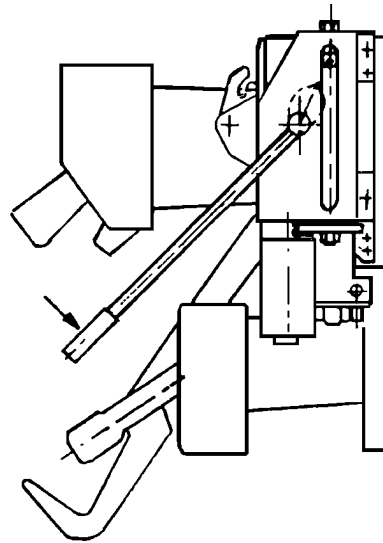


Fig. H

FIG H

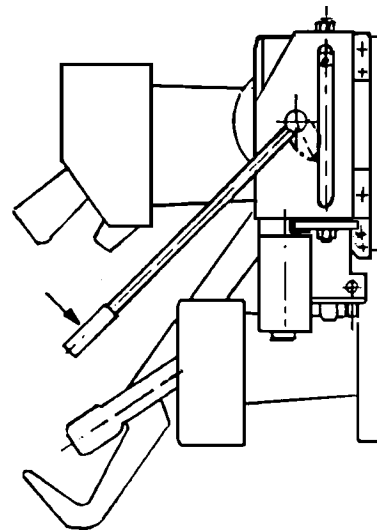


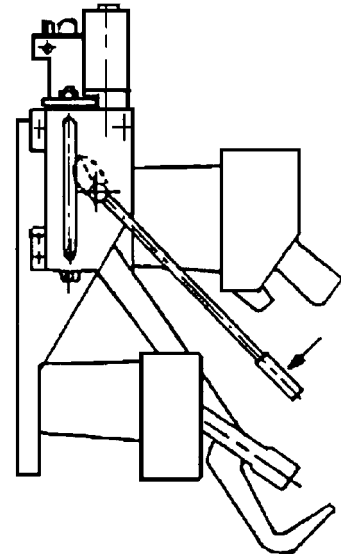
Fig. I

FIG I

## B. ALT.B

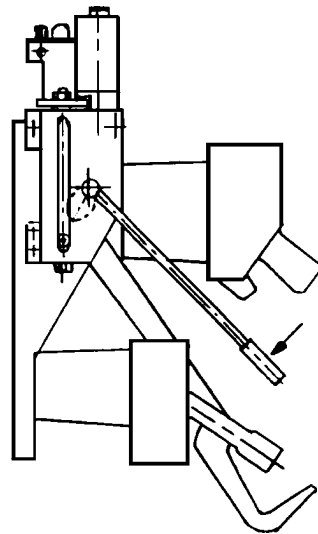
Applicable to alternative mounting methods B1, B2 and B3. See point 5.

1. For ALT.B1 mount the device using 2 M8 x 20 bolts with washers and nuts included the set of parts.
2. For ALT.B2 and ALT.B3 use spacing bushing and M8 x 60 bolts in the set of parts.
3. ALT.B for disconnectors with an A-mechanism.
  - Disconnector in open position and spring uncharged.
  - Turn the operating axle in the direction of the arrow until the slack is taken up.
  - Mount the operating device in such a manner that the lifting arm tip is pointing towards the motor and the tip is in line with, or a small distance from the edge of the screw track. See fig. J.
4. ALT.B for disconnectors with a K-mechanism
  - Disconnector in open position.
  - Turn the operating axle in the direction of the arrow until the slack is taken up.
  - Mount the operating device in such a manner that the lifting arm tip is pointing from the motor and the tip is in line with, or a small distance from the edge of the screw track. Fig. K.
5. Test operate manually with the hand crank and check that:
  - a) the disconnector will open and close.
  - b) a gap at the opening and closing position exists. Make a note of the lifting arms position along the track at the open and closed position. With mechanism A, the opening point is when the charging catches latches.
6. Loosen the operating mechanism if required, and position the lifting arm on another spline. By turning the lifting arm around, a half tooth advantage can be gained from the spline pitch.
7. Make the electrical connections to the motor operating device, taking into account the electrical regulations for wiring in high voltage cubicles. Refer also to point 7, electrical connections.
8. Check the electrical operation of the device.



FIGJ

Fig. J



FIGK

Fig. K

## 7. Electrical connection

### Motor operating device

Type: UEMC 40 K3  
Circuit diagram: 31 UEMC 134

The motor operating device can be connected to a operating box or a control unit. Refer to points 9 and 16.

### Protective m.c.b

The use of a protective m.c.b. in the supply circuit to the motor operating device is recommended. In order that the mcb will protect the motor against overload, the type is to be chosen for the respective voltage as detailed in point 9.

### Alarm circuit

Refer to suggested alarm unit, circuit diagram no. 31 UEMC 151...154.

During normal operation the alarm points are under voltage.

Alarm condition: When voltage disappears from the circuit.

Reason for alarm: – F1 has tripped  
– S6 is open  
– voltage to control unit broken

An alternative alarm circuit can be coupled from the auxiliary contact of the m.c.b. Refer to accessories, point 9.

### Separation of motor and control circuit

If the motor circuit is to be separated from the control circuit, wire X1:1-3 and X1:2-4 is to be disconnected, and a separate DC-voltage is to be applied between X1:3 and X1:4 in order to operate the unit.

Note that this could effect the operation of the alarm circuit and m.b.c.

## System connection

Examples for connection of motor operating device to disconnecter:

Note the direction of control (ALT.A or ALT.B) is defined by the alternative methods of mounting, see point 5.

Control unit: ALT.A: 31 UEMC 151  
ALT.B: 31 UEMC 152

Operating box: ALT.A: 31 UEMC 153  
ALT.B: 31 UEMC 154

### Control unit

Two types of control units are available with the same electrical connection, but with different dimensions. See point 9.

Control units: UEZJ 1-  
UEZJ 1-/2

### Connection of operating device to a disconnecter with an A-mechanism

The opening time for the A-mechanism operated with the motor operating device is about 1 second. If a quicker opening time is required, the A-mechanism is to be fitted with a tripping coil.

The tripping coil can be connected in parallel with the opening circuit of the motor operating device which gives:

- quick opening with tripping coil.
- the motor operating device will start at the same time as the tripping coil.
- the motor operating device will be in the correct position for the following closing operation.
- the disconnecter will be in the correct position for earthing.
- position indication lamps will give both the disconnectors and the motor operating devices position.

## 8. Operation

### a) Manual control

The motor operating device is mechanically disengaged in both the open and closed positions. Manual operation is by direct turning of the disconnectors axle, or extension axle, or by using a special type of manual operating device. If a manual operating device is to be used, it should be of the type that does not automatically lock the position of the device in end positions.

### b) Motor control

The motor operating device can be electrically operated with the I- and O- push buttons. After being manually operated, the motor operating device will not be in sync with the disconnector, which means that it must be operated twice to synchronize, for example open – close.

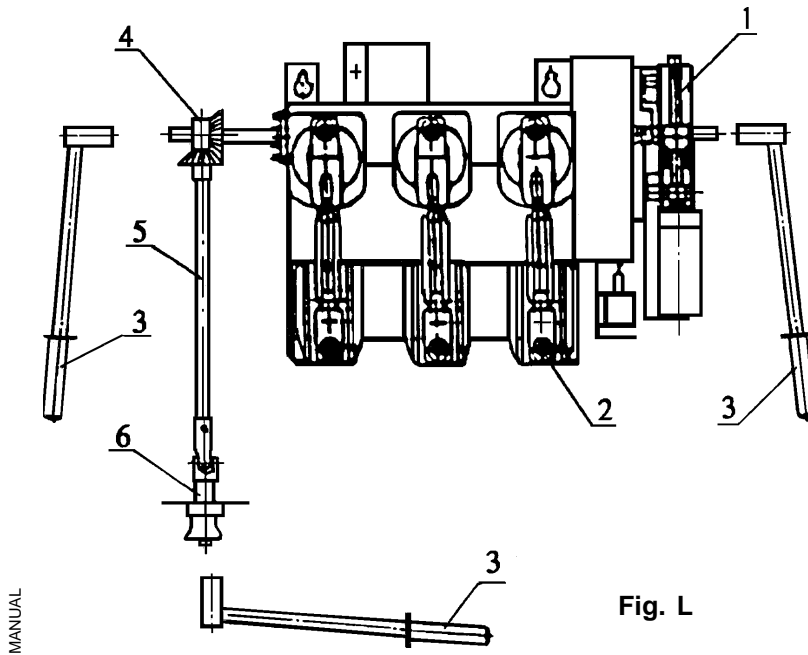


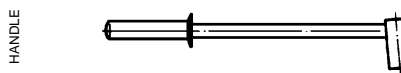
Fig. L

1. Motor operating device
2. Disconnector
3. Operating handle (shown in alternative operating positions)
4. Beveled gear wheel
5. Transmission tube
6. Front unit without automatic locking

## 9. Accessories

### Operating handle **UEKO-ZK 1 or HE 53235**

The operating handle is insulated and fitted with an insulated grip.



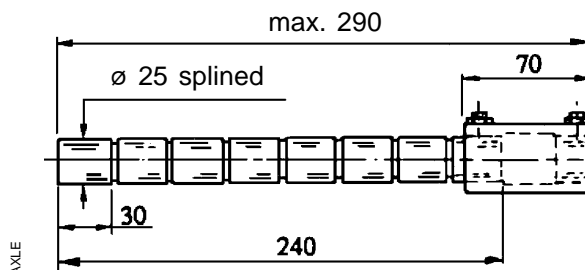
### Extension shaft **UEMC -ZL 24**

Includes:

- shaft 240 mm (splined)
- extension socket 70 mm (splines to splines)

The shaft have cutting grooves at regular intervals.

∅ 25 splined / ∅ 25 splined

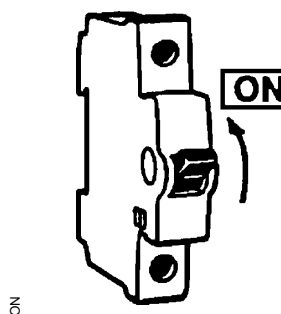


### Protective m.c.b.

Used to connect the supply circuit and protect the motor against overloading.

Motor voltage	Miniature circuit breaker type
24 VDC	- STO S272 K8
48 VDC	- STO S272 K4
60 VDC	- STO S272 K4
110 VDC	- STO S272 K2
125 VDC	- STO S272 K2
110 VAC	- STO S272 K2
220 VDC	- STO S282 UCK 1
230 VAC	- STO S272 K1

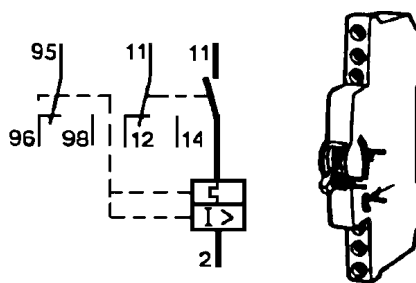
PRO01.TBL



### Auxiliary contact for m.c.b.

- STO S 2-S/H

Includes 2 pcs. change-over contacts.



BBC

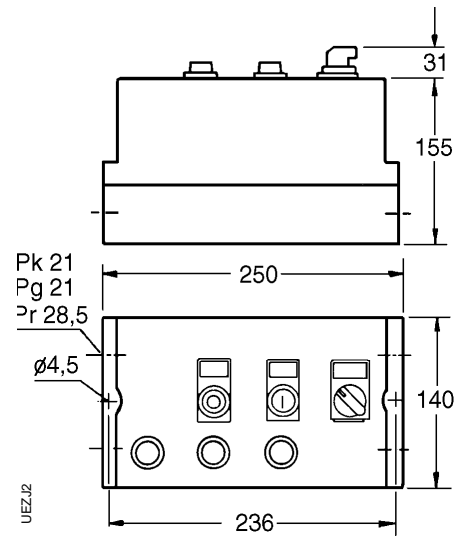
## Operating box

## UEZJ 2-

Type	Circuit diagram
UEZJ 2 - 12 VDC	31 UEMC 148
UEZJ 2 - 24 VDC	"
UEZJ 2 - 48 VDC	"
UEZJ 2 - 60 VDC	"
UEZJ 2 - 110 VDC	"
UEZJ 2 - 125 VDC	"
UEZJ 2 - 220 VDC	"
UEZJ 2 - 110 VAC	"
UEZJ 2 - 230 VAC	"
UEZJ 2 - UU (1)	31 UEMC 149

CONTR1.TBL

(1) Type UEZJ 2-UU is to be ordered when different motor and auxiliary voltages are to be used. Please give details of the voltages when ordering.



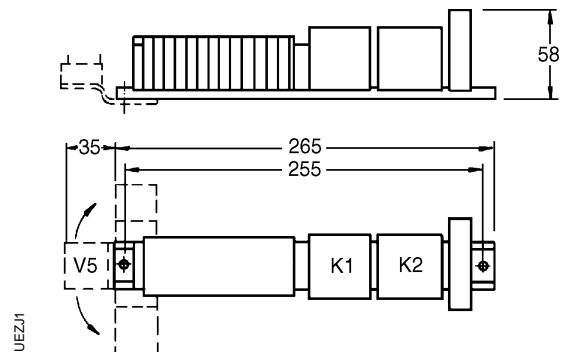
## Control unit

## UEZJ 1-

Type	Circuit diagram
UEZJ 1 - 12 VDC	31 UEMC 141
UEZJ 1 - 24 VDC	"
UEZJ 1 - 48 VDC	"
UEZJ 1 - 60 VDC	"
UEZJ 1 - 110 VDC	"
UEZJ 1 - 125 VDC	"
UEZJ 1 - 220 VDC	"
UEZJ 1 - 110 VAC	"
UEZJ 1 - 230 VAC	"
UEZJ 1 - UU (1)	31 UEMC 142

CONTR2.TBL

(1) Type UEZJ 1-UU is to be ordered when different motor and auxiliary voltages are to be used. Please give details of the voltages when ordering.



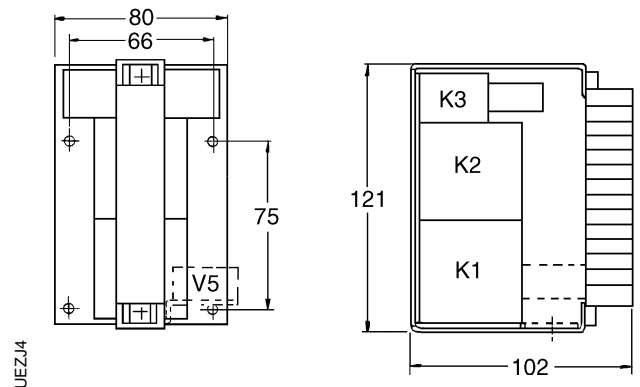
## Control unit

## UEZJ 1-/2

Type	Circuit diagram
UEZJ 1 - 12 VDC/2	31 UEMC 141
UEZJ 1 - 24 VDC/2	"
UEZJ 1 - 48 VDC/2	"
UEZJ 1 - 60 VDC/2	"
UEZJ 1 - 110 VDC/2	"
UEZJ 1 - 125 VDC/2	"
UEZJ 1 - 220 VDC/2	"
UEZJ 1 - 110 VAC/2	"
UEZJ 1 - 230 VAC/2	"
UEZJ 1 - UU/2 (1)	31 UEMC 142

CONTR3.TBL

(1) Type UEZJ 1-UU is to be ordered when different motor and auxiliary voltages are to be used. Please give details of the voltages when ordering.



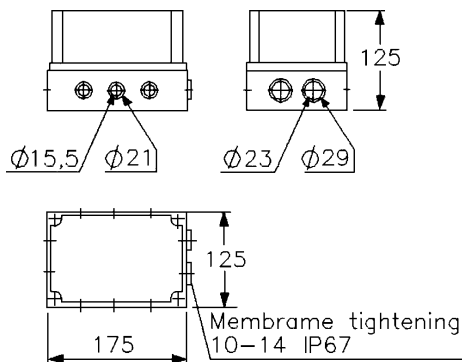
## Box

## UEMZ 480

Includes:

- grey polycarbonat box, IP 67
- bracket
- screws

The box is suitable for control unit UEZJ 1-/2

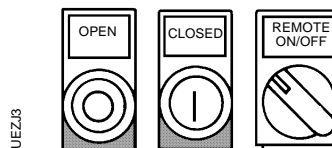


## Control push buttons

## UEZJ 3

Includes:

- I -button, with text: CLOSE
- O -button, with text: OPEN
- On/Off selector switch, with text: REMOTE ON/OFF



## Set of indicator lamps

## UEZJ 4

- Type: UEZJ 4 - 24 V  
- 48 V  
- 60 V  
- 110 V  
- 125 V  
- 220 VDC  
- 230 VAC



Includes: red, green and yellow lamps.  
The same type for both DC and AC.

## 10. Service

The following details of the motor operating device is to be greased every 5 years, or after 1000 operations:

- screw A-6
- gear wheels A-3 and A-4
- lifting arm sliding surfaces A-1
- structure slides

Grease: **ISOFLEX TOPAS NCA 52**

If other types of lubrication are used, they must be of good quality, and suitable for use in the same range of temperatures as the operation device.

## 11. Spare parts and repairs

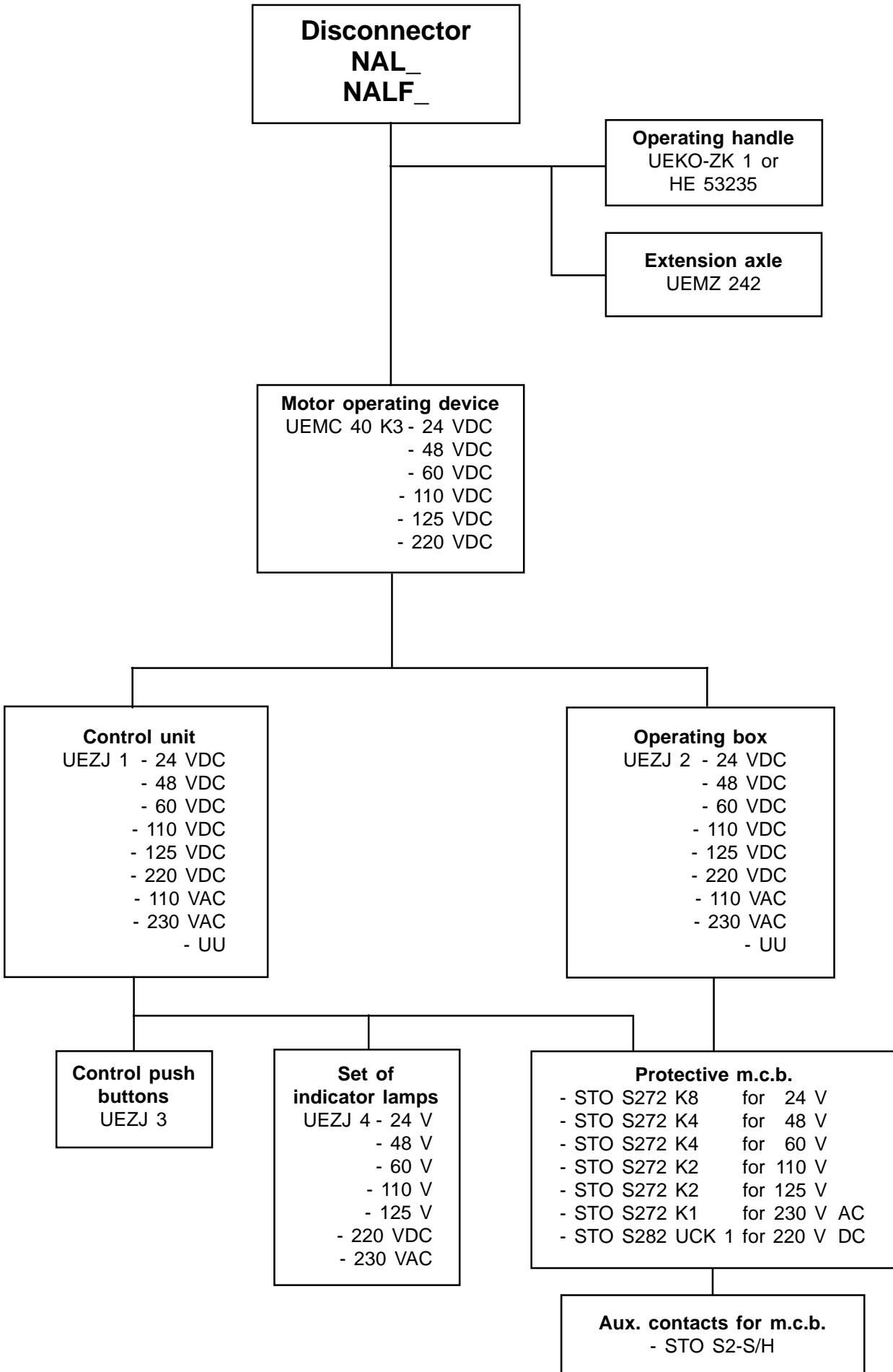
When repairing the motor operating device ensure that the wiring is protected from high voltages under the cover A-8. The motor should be mounted so that its wiring is protected under the same cover plate.

Typical spare parts:

Spare parts	Type	Remarks
Motor	UEZM 5/U	U = Voltage
Control unit for UniSwitch	UEZJ 1-U	U = Voltage
Diode V1, V2	SK 1/16	
Rectifier V5, V6	- REC 36 MB 160 A	
Limit switch. S1, S2	- OMR 2-15GW22-B7	
Contacteur K1, K2	- ABB VBC6-30-01/U	U = Voltage
Relay K3	- RFI 40.52.9.048	

SPAR1GB

## 12. Range of models



### 13. Technical details

Weight	6 kg
Operating time	opening 3,5 s
	closing 3,5 s
	A-mec 1 s
Operating angle	150°
Contactors power requirement	3 W
Shortest control pulse	0,1 s
Operating voltage range	0,85...1,1 x U <sub>n</sub>
Operating temperature range	-40...+55 °C
Terminal block size	6 mm <sup>2</sup>
Motor	Rectified DC, permanent magnet type

TECHGB

Motor operating device	Rated current <sup>*)</sup>	Max. current <sup>**)</sup>	Protective mcb type
UEMC 40 K3 - 24 VDC	20 A	40 A	- STO S272 K8
- 48 VDC	10 A	20 A	- STO S272 K4
- 60 VDC	9 A	17 A	- STO S272 K4
- 110 VDC	5 A	9 A	- STO S272 K2
- 125 VDC	5 A	9 A	- STO S272 K2
- 220 VDC	2 A	4.5 A	- STO S282 UCK1

For AC supplies, use rectified motor current. Rated current are the same as for a corresponding DC motor.

<sup>\*)</sup> Rated current is the current under normal working conditions.

<sup>\*\*)</sup> Max. current is the current for a stalled load from the motor operating device.

## 14. Instruction for recycling the product

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### 14.1. Introduction

This document includes instructions for recycling the product UEMC 40 K3. The document includes which material that are used in the products and handling instructions when the product is taking out of use.

The environment regulation varies from country to country and develops fast. Due to this it is recommended to contact the local customers and inform them about how to handle when the product is taking out of use.

Together with this document it should be given information to the local customers about returning of the product that is taking out of use.

ABB Transmit Oy can give more information.

Information that is in this document is not part of an extract or deal, it supposes to be the most correct and trustful and can be changed without notice. The publisher will not take any responsibility for the consequences.

### 14.2. The products casing

The product is cased in card, paper and foampiastic. The card and the paper can be recycled normally. The foampiastic can be i.e. used for energy production in a facility build for this purpose.

To avoid pollution when making unnecessary transports the manufacturer will not accept used package. Recycling has to be arranged locally according to local instructions. Recycling is recommended when it saves rawmaterial and reduces the waste.

### 14.3. Material of the product

Information about the construction and main parts of the operating device can be found in point 12, construction figure A. The steel parts are normally surface treated (electrical gaivanized). This does not affect the recycling.

#### 14.3.1 Material of the main parts

Part	Description	Material
1.	Lifting arm	Steel
2.	Motor	Several *)
3.	Gear wheel	Bronze
4.	Gear wheel	Bronze
5.	Nut	Bronze
6.	Screw	Stainless steel
7.	Terminals	Several
8.	Protective cover	Steel
9.	Fixing bracket	Steel
10.	Spacer	Steel
S1.	Limit switch	Several
S2.	Limit switch	Several

\*) The motors are mainly made of materials that are easily to recycle, such as iron, copper and sink. Their recycling is also economically.

## Power transfer mechanism

Total weight without motor	4,5 kg
Steel	3,6 kg
Stainless steel	0,4 kg
Bronze	0,4 kg
Motor weight	1,7 kg

The weight for the really light parts are not printed, the operating device also contains screws, nuts, washes and rivets of steel and also some parts that not are important when recycling.

Over 70 % of the weight of the product are big metal parts, which are easy to recycle (3.1 metal parts and box). The motor is about 28 % of the weight and it is also easy to recycle. Also some of the accessories are metal parts that are easy to recycle.

### 14.3.2 Material of the accessories

Part	Description	Material	Weight
1.	Operating handle	Steel	0,9 kg
2.	Transmission tube	Steel	2,5 kg/m
3.	Extension shaft	Steel	1, 1 kg
4.	M.c.b	Several	
5.	Operating box	Several	
6.	Relay unit	Several	
7.	Box UEMZ 480	Polycarbonat	
8.	Control push buttons	Several	
9.	Set of indication lights	Several	
10.	Diode	Several	
11.	Relay K3	Several	
12.	Rectifier	Several	
13.	Contactore	Several	

## 14.4. Recycling the product

To deal with junk requires in most countries permission and you have to get permission for your own company. Information about local junkyards can be obtained from the agency of environment.

A product that is not in use anymore can be taking care of in two alternatively ways. The product can be manually demolished or be crushed mechanically.

Before the process all parts that are containing problem waste have to be removed and send to a facility made for this purpose.

Information about the facilities can be obtained from the local agency of environment.

## 14.4.1 Manual demolition

The product can be demolished manually and the parts are sorted depending of what material they are containing according this table:

- steel\*
- bronze\*
- plastic
- cablejunk\*
- other

The metal parts are easy to recycle the others according to locally arrangements. No especially tools are needed for the demolition.

\* More information, see 14.4.3.1 Directory over eventual damaging material and problem waste.

## 14.4.2 Mechanical crushing

In this process the whole product will be crushed to small metal pieces and will be sorted automatically. Components containing dangerous material must be removed before the crushing (for more information see 14.4.3.1 Directory over eventual damaging material and problem waste).

## 14.4.3 Eventual damaging material and problem waste

Definition and regulation for damaging material varies from country to country and changes all the time. Materials used in the manufacturing are typical for electrically- and electronically products. Some are classed as problem waste, if they can be found in ministry of environments waste- and problem waste catalogue. It is based on the EU regulations. The directory over different parts material content is based on EACEM (European Association of Consumer Electronics Manufacturers) directory and problem waste catalogue. In the note column it is marked if the part is problem waste.

### 14.4.3.1 Directory over eventual damaging material and problem waste

Part	Damaging material	Note
Plastic	No	
Steel	Grease *)	Problem waste
Bronze	Grease *)	Problem waste
Cables	PVC **)	
Other	No	

\*) Parts mentioned under point 10 service are greased with grease (Isoflex NCA 52).

\*\*\*) Does not inhibit granulating in suitable facility.

More information about the grease can be ordered from the manufacturer:

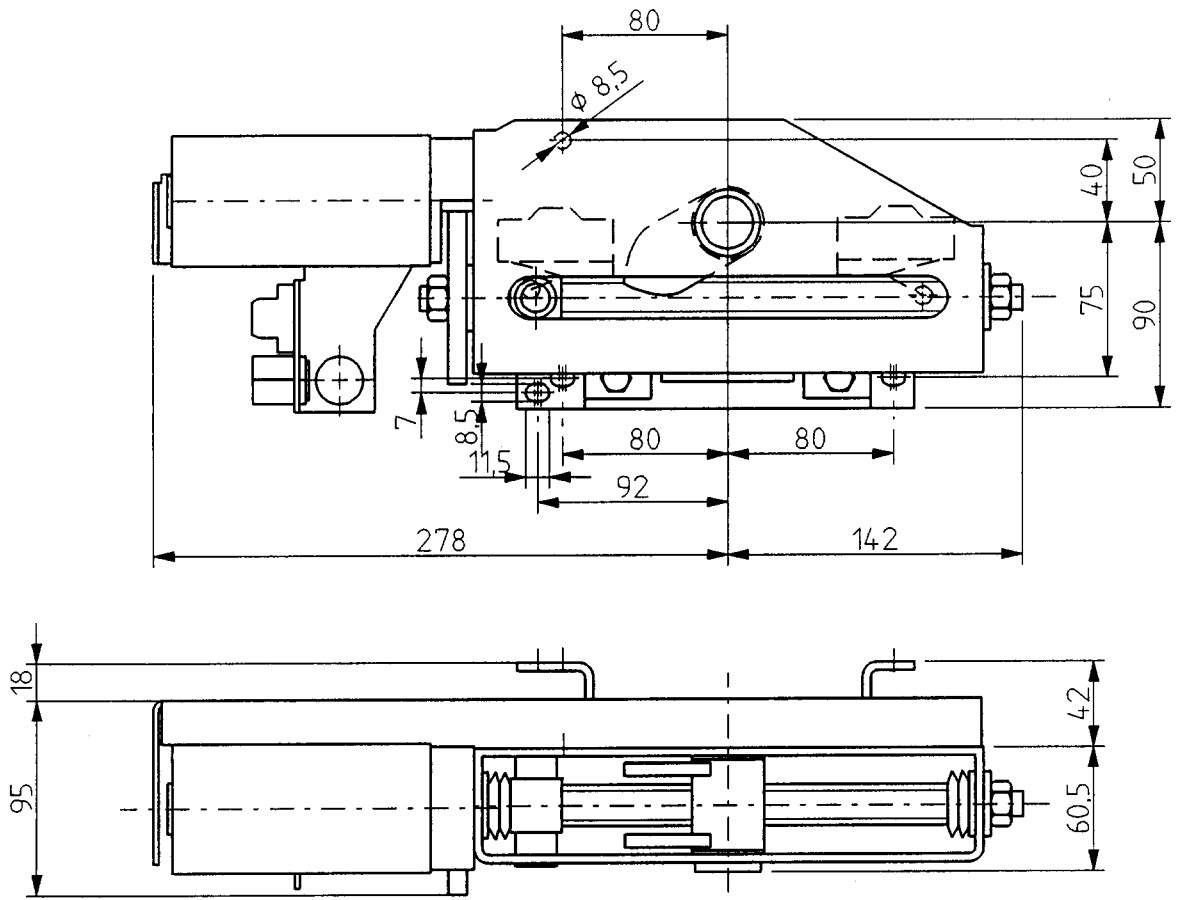
Klüber Lubrication München KG  
Geisenhausenerstrasse 7  
D-81379 München  
Phone: +49 89 7876-0  
Fax: +49 89 7876-333  
Internet: [www.klueber.com](http://www.klueber.com)

### 14.4.4. Possible recycling method

The mentioned way to recycle is one possible method but there are also many other methods:

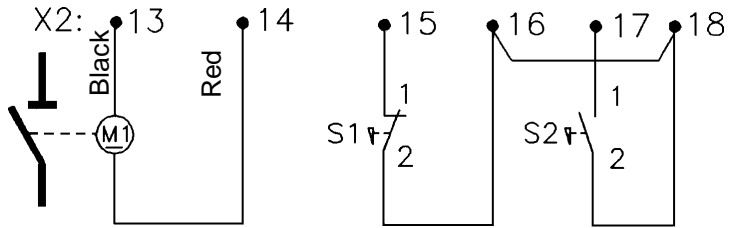
- steel      recycles as material
- bronze    recycles as material
- plastic    burns for energy production
- cables    to cable granulating facility
- other      burns or is transported to a dumping ground

135 UEMC 12 C



U12

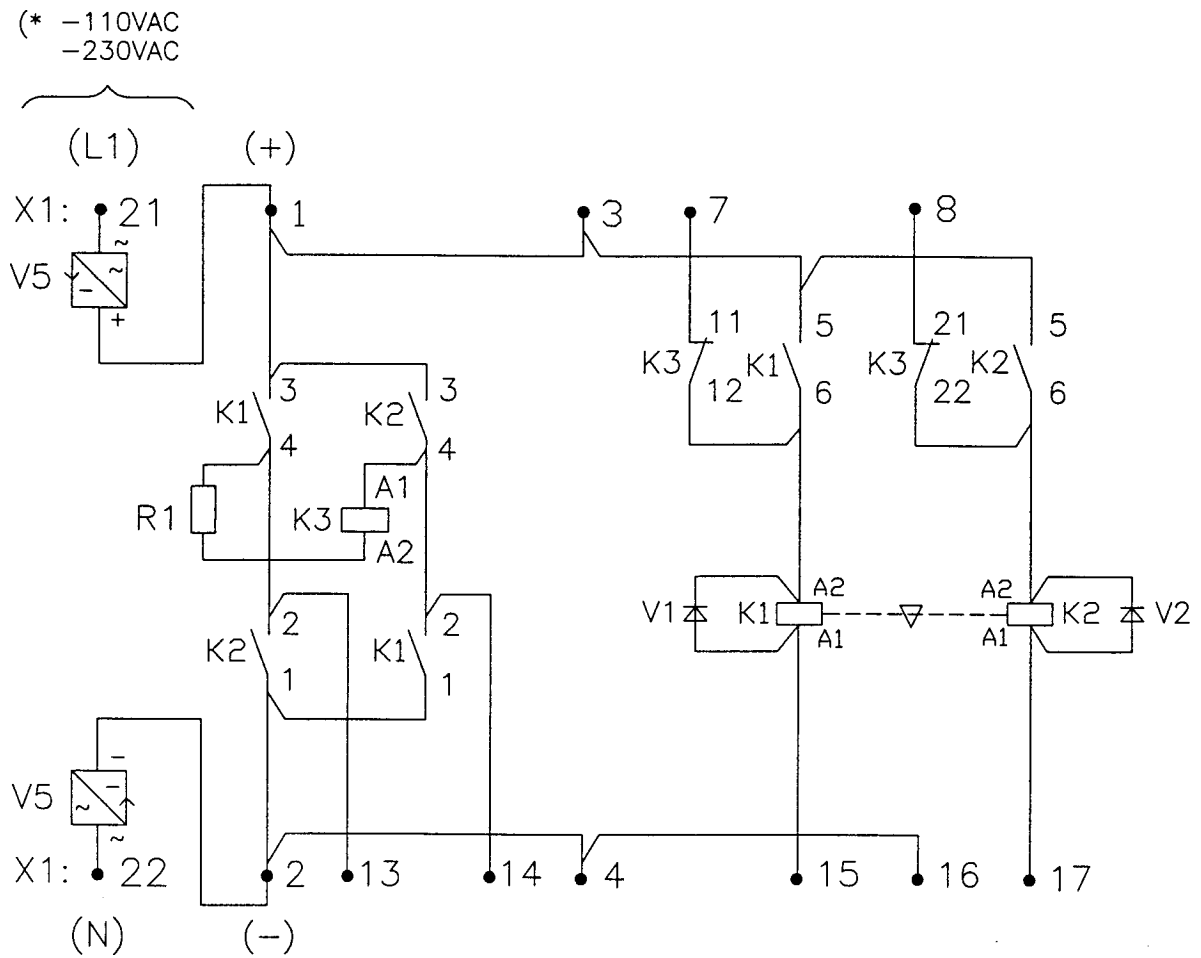
## 31 UEMC 134 E



For types: UEMC 40 K3 - 24 VDC  
- 48 VDC  
- 60 VDC  
- 110 VDC  
- 125 VDC  
- 220 VDC

M1 = Motor  
S1, S2 = Limit switches

31 UEMC 141 E

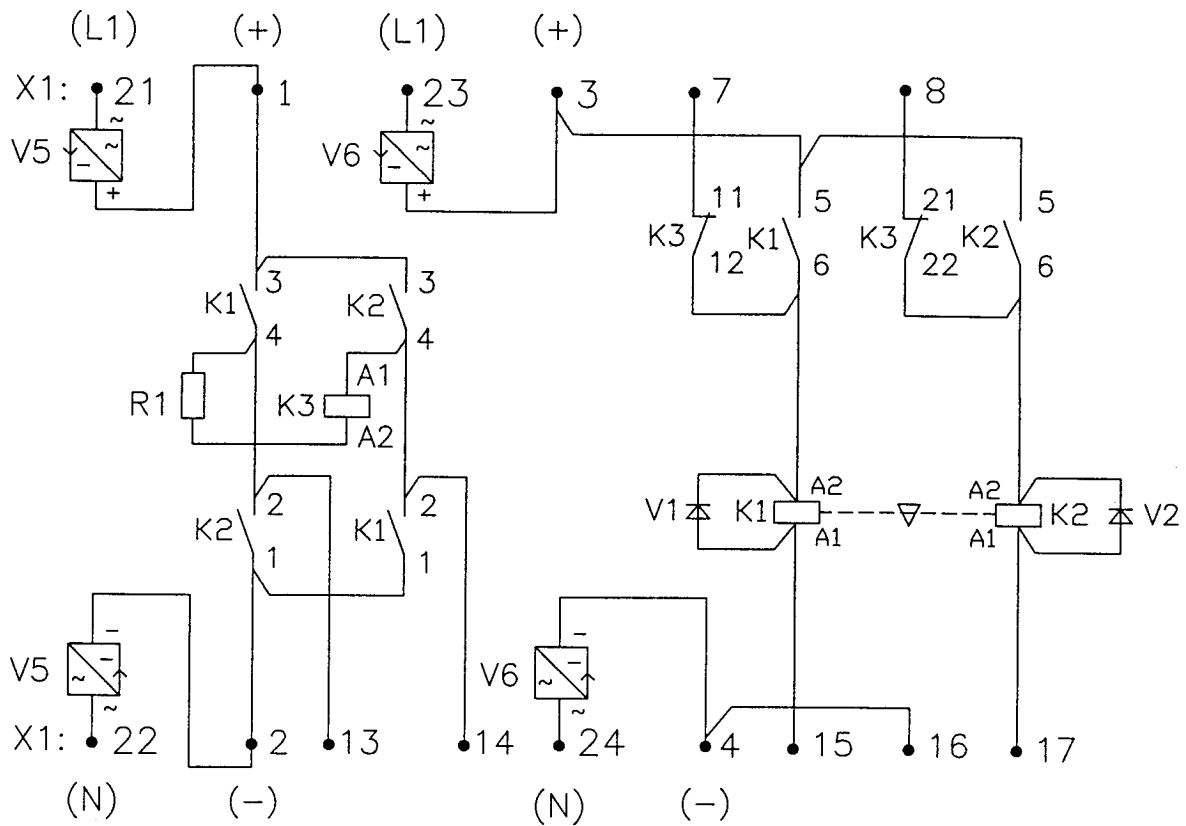


For types: UEZJ 1- 12 VDC  
 - 24 VDC  
 - 48 VDC  
 - 60 VDC  
 - 110 VDC  
 - 125 VDC  
 - 220 VDC  
 - 110 VAC (\*  
 - 230 VAC (\*

For types: UEZJ 1- 24 VDC/2  
 - 48 VDC/2  
 - 60 VDC/2  
 - 110 VDC/2  
 - 125 VDC/2  
 - 220 VDC/2  
 - 110 VAC/2 (\*  
 - 230 VAC/2 (\*

K1, K2 = Operating contactors  
 K3 = Relay for 48-230 V  
 V1, V2 = Diodes  
 V5 = Rectifier only for AC  
 R1 = Resistor for 110-230 V

31 UEMC 142 D

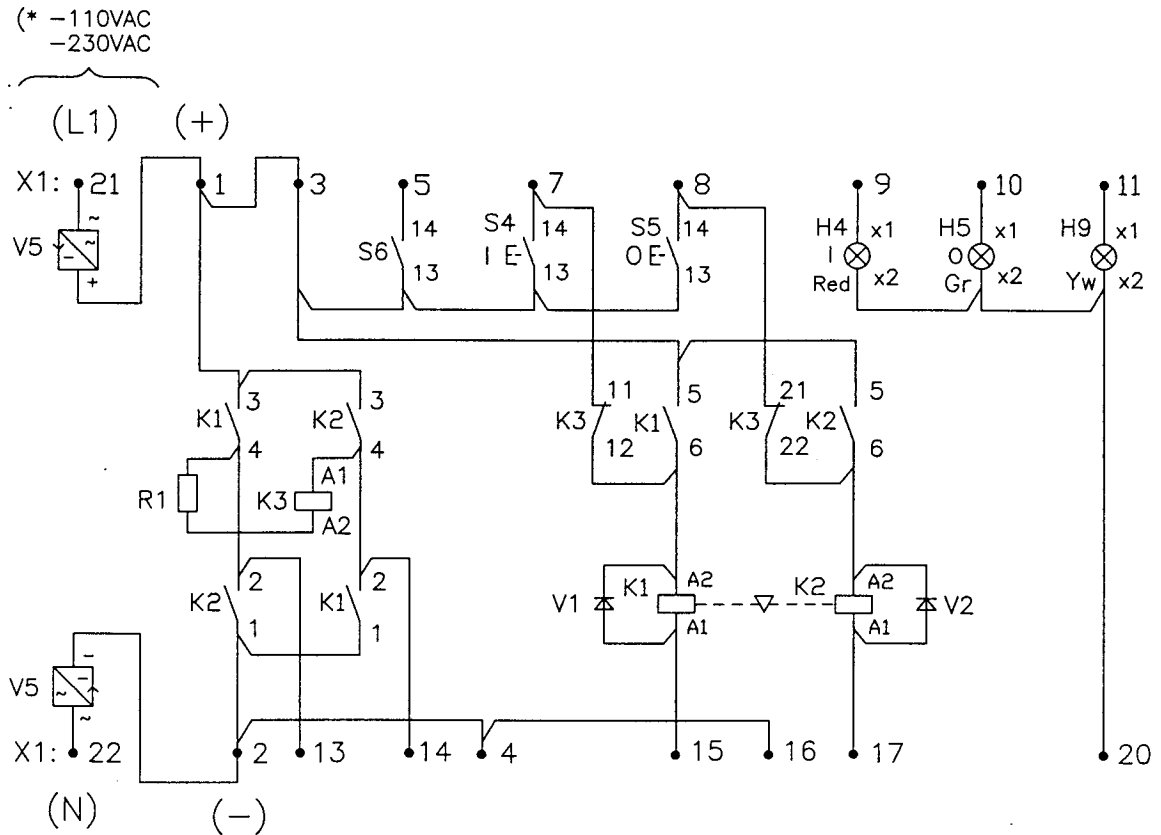


For types: UEZJ 1\_ UU  
UEZJ 1-UU/2

Note. DC-contactors

- K1, K2 = Operating contactors
- K3 = Relay for 48-230 V
- V1, V2 = Diodes
- V5, V6 = Rectifier only for AC
- R1 = Resistor for 110-230 V

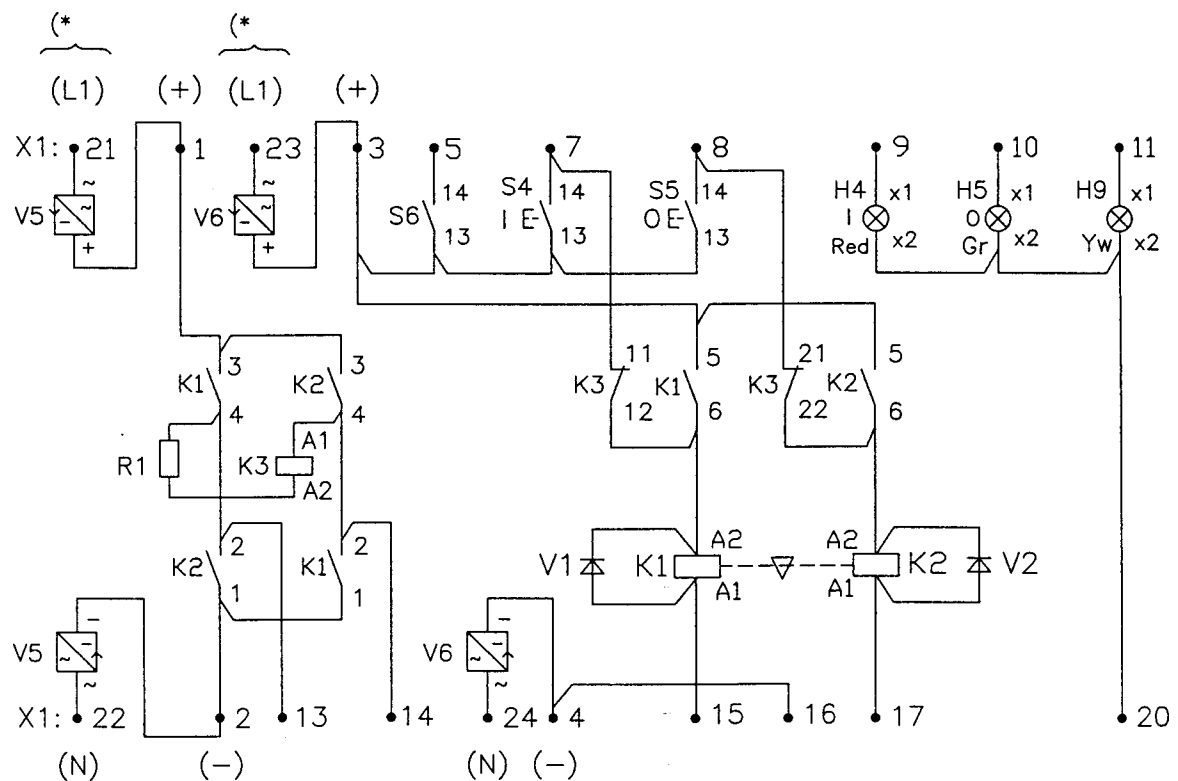
31 UEMC 148 D



For types: UEZJ 2- 24 VDC  
 - 48 VDC  
 - 60 VDC  
 - 110 VDC  
 - 125 VDC  
 - 220 VDC  
 - 110 VAC  
 - 220 VAC  
 - 110 VAC (\*)  
 - 230 VAC (\*)

K1, K2 = Operating contactors  
 S1, S2 = Push buttons  
 S6 = Remote control selector  
 K3 = Relay for 48-230 V  
 R1 = Resistor for 110-230 V  
 V1, V2 = Diodes  
 H4 = Position indicator, closed, red  
 H5 = Position indicator, open, green  
 H9 = Indicator for fuse tripping, yellow  
 V5 = Rectifier only for AC

## 31 UEMC 149 E

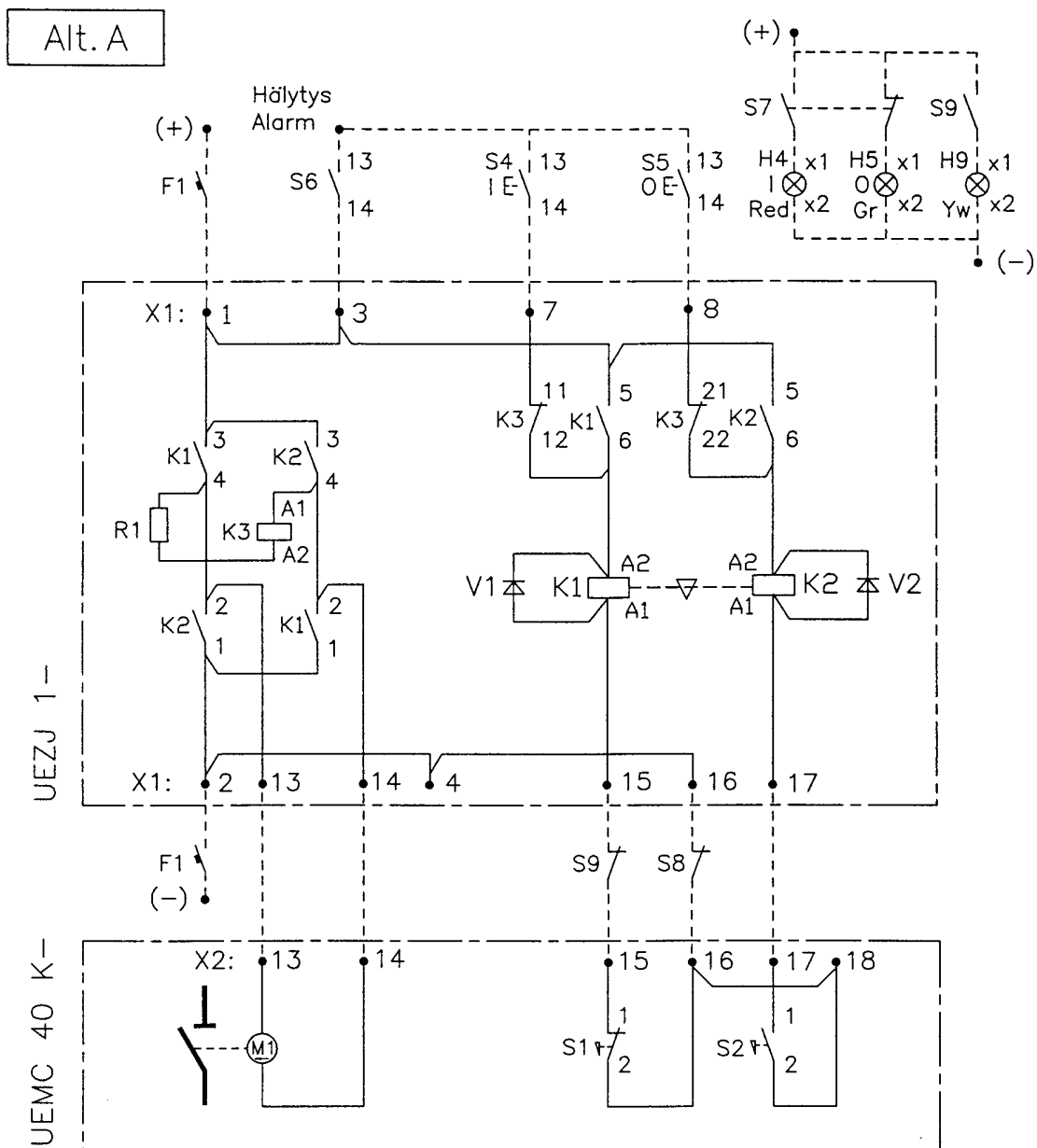


For types: UEZJ 2 - UU

\*) Only for AC

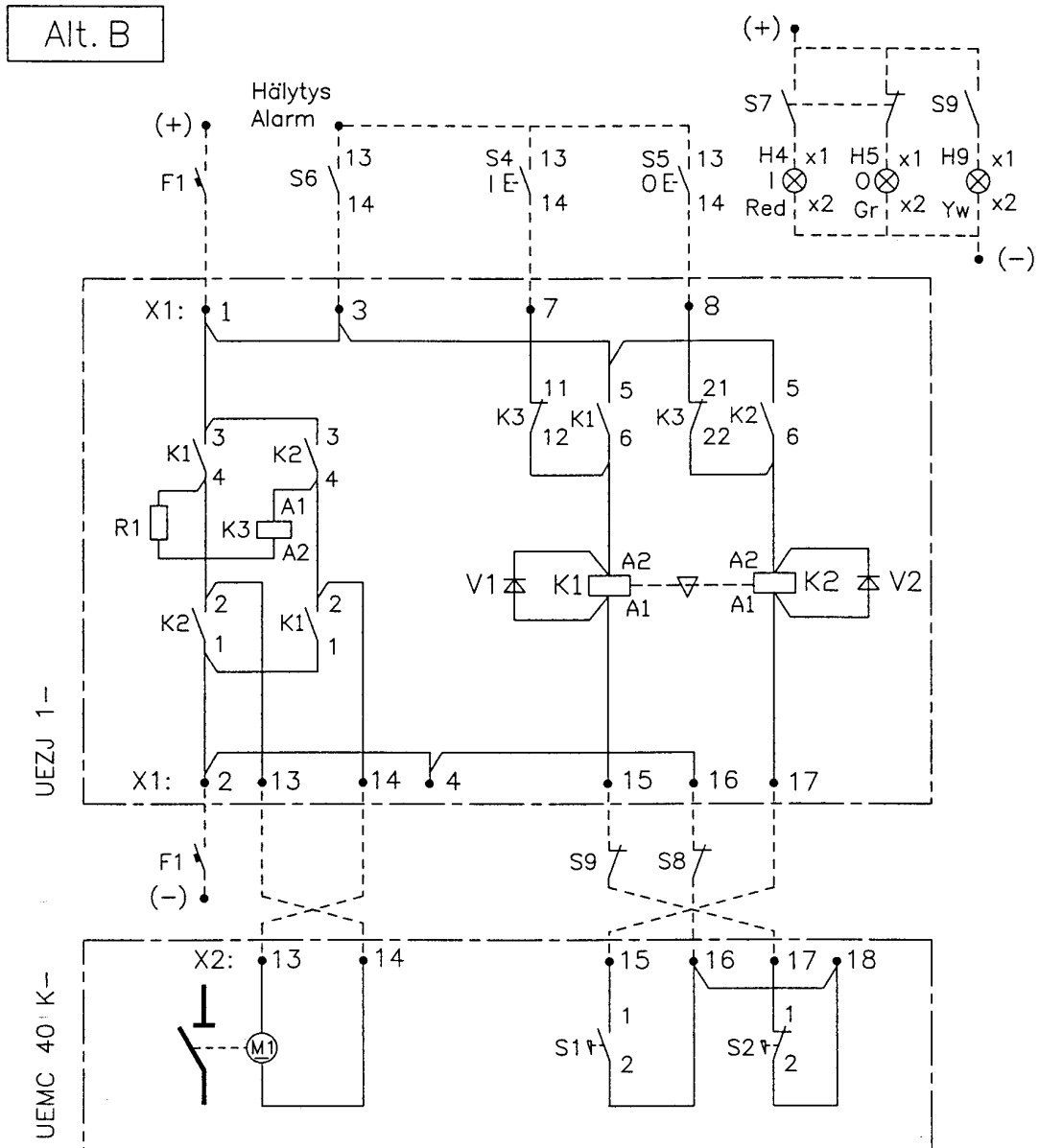
K1, K2 = Operating contactors  
 S1, S2 = Push buttons  
 S6 = Remote control selector  
 K3 = Relay for 48-230 V  
 R1 = Resistor for 110-230 V  
 V1, V2 = Diodes  
 H4 = Position indicator, closed, red  
 H5 = Position indicator, open, green  
 H9 = Indicator for fuse tripping, yellow  
 V5, V6 = Rectifier only for AC

31 UEMC 151 F



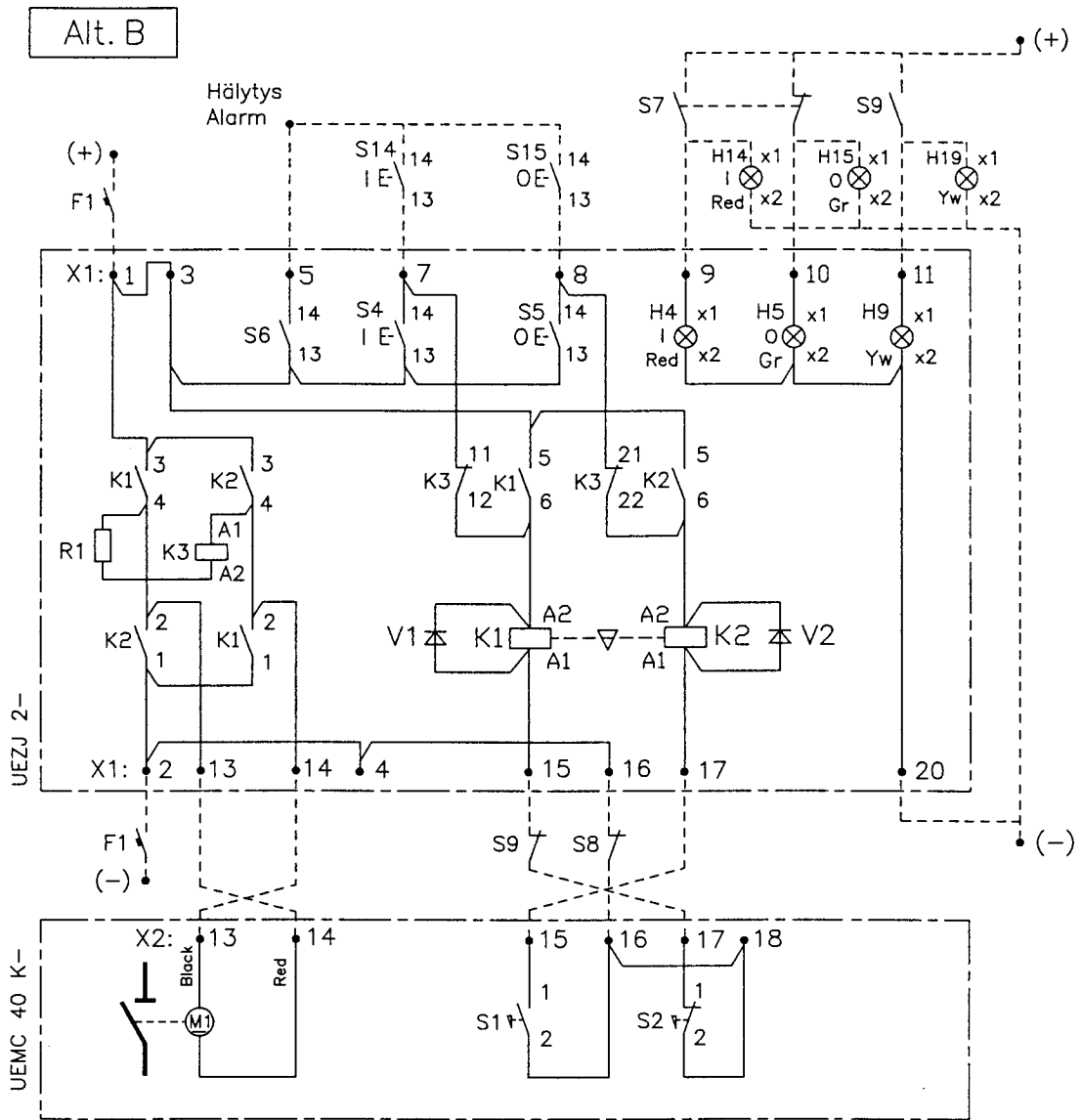
- F1 = M.c.b.
- S4, S5 = Push buttons
- S6 = Remote control selector
- S7 = Aux. contact for disconn.
- S8 = Aux. contact for earthing switch
- S9 = Aux. contact for fuse tripping
- H4 = Position indicator, closed, red
- H5 = Position indicator, open, green
- H9 = Indicator for fuse tripping, yellow

31 UEMC 152 E



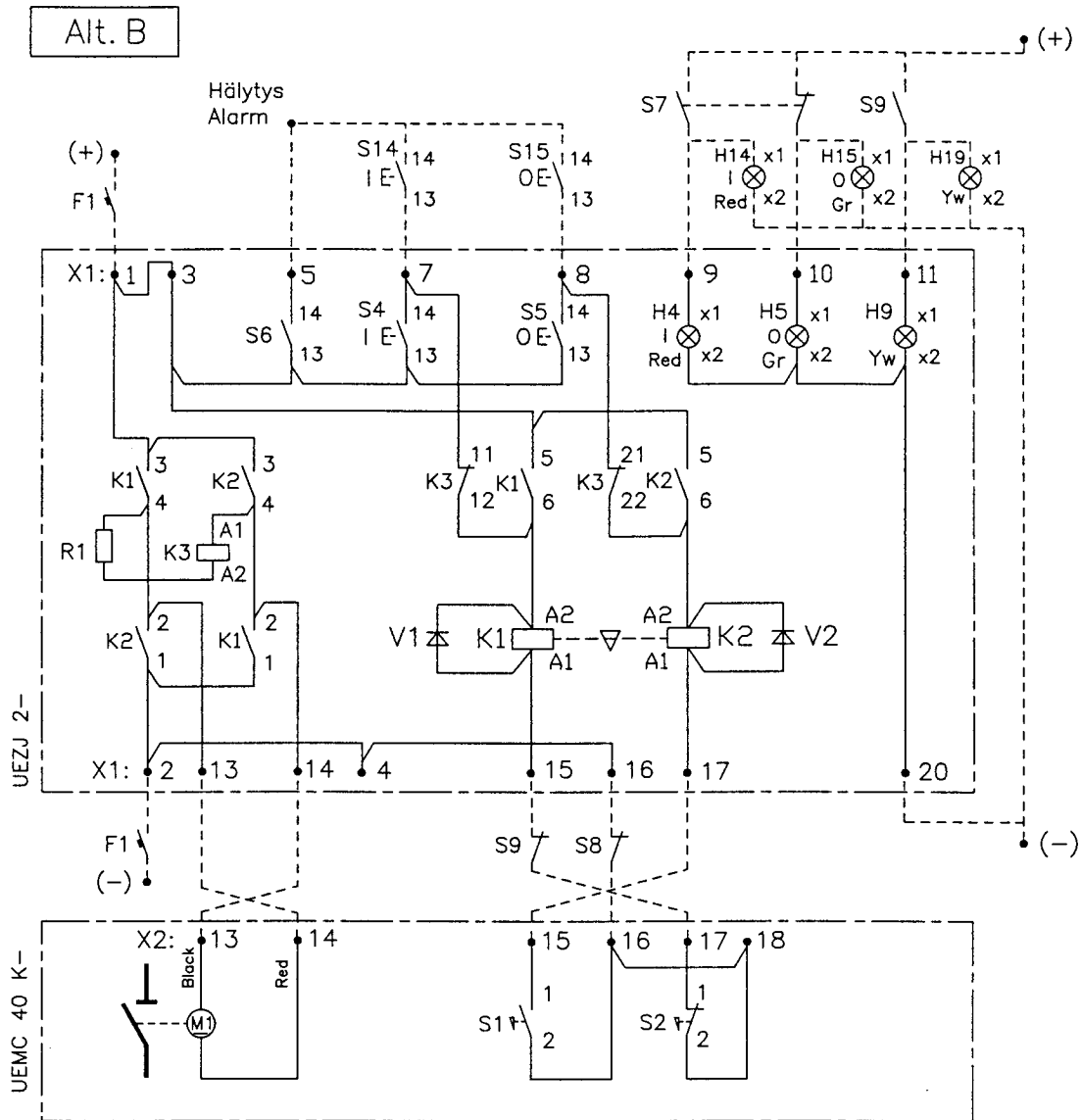
- F1 = M.c.b.
- S14, S15 = Push buttons
- S6 = Remote control selector
- S7 = Aux. contact for disconn.
- S8 = Aux. contact for eathing switch
- S9 = Aux. contact for fuse tripping
- H4 = Position indicator, closed, red
- H5 = Position indicator, open, green
- H9 = Indicator for fuse tripping, yellow

31 UEMC 153 D



- F1 = M.c.b.
- S14, S15 = Push buttons
- S6 = Remote control selector
- S7 = Aux. contact for disconn.
- S8 = Aux. contact for eathing switch
- S9 = Aux. contact for fuse tripping
- H4 = Position indicator, closed, red
- H5 = Position indicator, open, green
- H9 = Indicator for fuse tripping, yellow

31 UEMC 154 D



- F1 = M.c.b.
- S14, S15 = Push buttons
- S6 = Remote control selector
- S7 = Aux. contact for disconn.
- S8 = Aux. contact for eathing switch
- S9 = Aux. contact for fuse tripping
- H4 = Position indicator, closed, red
- H5 = Position indicator, open, green
- H9 = Indicator for fuse tripping, yellow





**ABB Sp. z o.o.**

ul. Bitwy Warszawskiej 1920r. nr 18

**Division ZWAR in Przasnysz**

**address: 59, Leszno Str.**

**06 - 300 Przasnysz**

**Phone: +48 22 51 52 838**

**+48 22 51 52 831**

**Fax: +48 22 51 52 659**

e-mail: [export.plzwa@pl.abb.com](mailto:export.plzwa@pl.abb.com)

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