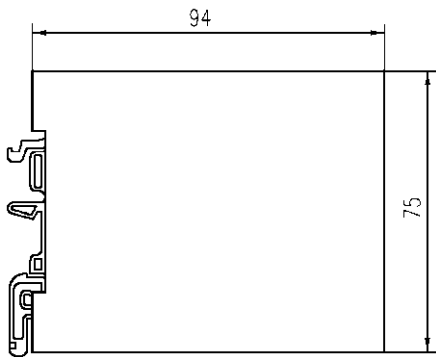
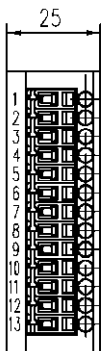
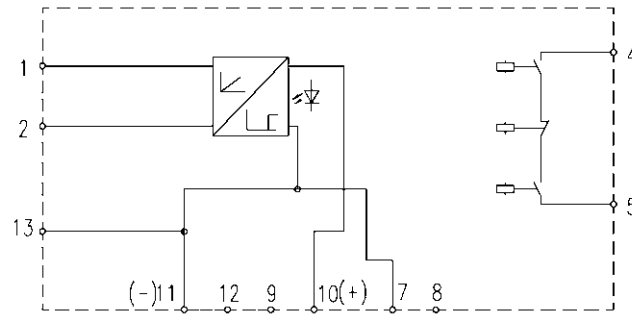


463 121
463 121 01
463 121 10
463 121 10L
463 121 E1
463 123
463 124

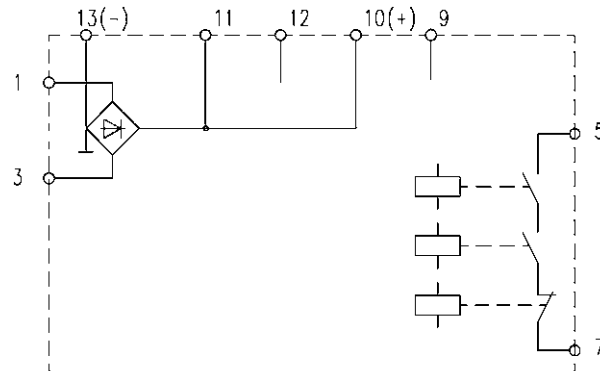
- (D)** Betriebsanleitung
Auswerteeinheit
- (GB)** Operating instructions
Control unit
- (F)** Notice d'utilisation
Unité de contrôle
- (I)** Istruzioni d'impiego
Unità di controllo



463 121 E1



463 121, 463 121 01, 463 121 10, 463 121 10L, 463 123, 463 124



1 Technical data

1.1 Terminal assignment

A sensor is connected directly to the control unit.

If more sensors are to be connected, elobau recommends using interface 363 098.

Models 463 121, 463 121 01, 463 121 10, 463 121 10L, 463 123, 463 124

Terminal	Assignment
1, 3	Operating voltage
5, 7	Safety output contact maker, floating
9, 10	Input sensor's contact breaker
11, 12	Input sensor's contact maker
13	Optional: Interface 363 098
2, 4, 6, 8	Not assigned

Model 463 121 E1

Terminal	Assignment
1, 2	Operating voltage
4, 5	Safety output contact maker, floating
7, 8	External contactor (to be bridged, if not needed)
9, 10	Input sensor's contact breaker
11, 12	Input sensor's contact maker
13	Optional: Interface 363 098
3, 6	Not assigned

1.2 Type denomination/Variants

The following example and table are given to explain the type denomination of the control units.

Example:

463 121 10L

4ab cde fgh

Placeholder	Characteristic		Meaning
4ab	Housing type and housing width	463	Housing width 25 mm
cd	Specification safety input	12	Control unit for contact makers/ breakers for sensors
e	Operating voltage	1	24 V
		2	48 V
		3	110 V
		4	230 V
fgh	Other	01	Cooling-off period 900 ms
		10L	
		10	Cooling-off period 300 ms
		E1	Category 3 according to EN 954-1, cooling-off period 300 ms
		E1U	Category 3 according to EN 954-1, no cooling-off period

To cover all models in these operating instructions, the placeholders will be used in the text as well.

1.3 Electrical and mechanical data

The control unit in a deenergized state is depicted on the circuit diagram of the fold-out page.

General

Back-up fuse for operating voltage	1.0 A
Fuse, safety output	3.0 A
Max. switching current	3.0 A
Max. switching power	750 V/A AC; 90 W DC
Operating temperature	0 ... +55 °C
Transport and storage temperature	-25 ... +85 °C
Vibration and shock resistance	Vibration: 10 ... 55 Hz, 1 mm Shock: 30 g / 11 ms Continuous shock: 10 g / 16 ms
International protection - housing	IP 40
International protection - terminals	IP 20

Models

Operating voltage

Type	Operating voltage
463 121 fgh	24 V AC/DC; $\pm 10\%$
463 122 fgh	48 V DC; $\pm 10\%$
463 123 fgh	110 V AC; $\pm 10\%$
463 124 fgh	230 V AC; - 10 % ... + 6 %

Power consumption

Type	Power consumption
463 12f egh	75 mA
463 121 fgh	50 mA
463 122 fgh	30 mA
463 123 fgh	20 mA
463 124 fgh	10 mA

Max. switching voltage

Type	Switching voltage
463 121 E1	250 V AC; 30 V DC
463 121 fgh 463 123 fgh 463 124 fgh	250 V AC; 125 V DC

Cooling-off period

The cooling-off period is the maximum time permitted on a sensor between the closing of the contact maker and the opening of the contact breaker.

Type	Cooling-off period
463 121 E1U	None
463 121 01 463 121 10L	900 ms
463 12e 463 121 10 463 121 E1	300 ms

LED display (Model 463 121 E1)

LED at terminal	Meaning when LED is lit
3	Safety output switched through

2 Appropriate use

The control unit is intended for use exclusively to protect against hazards.

2.1 Norms and guidelines

The control unit complies with the following European guidelines:

- 73/23/EEC (low voltage guideline)
- 89/336/EEC (EMC guideline)
- 98/37/EC (machinery guideline)

The construction of the control unit conforms to the norms listed below:

General

Norm	Content
EN 60 204	Electrical equipment of industrial machines
IEC 664-1	Insulation co-ordinates in low-voltage switch gear
IEC 68	Basic environmental test procedures
EN 61000-6-4	Electromagnetic compatibility, interference in industrial environments
EN 61000-6-2	Electromagnetic compatibility, interference immunity for the industrial sector

Model 463 121 E1

Norm	Content
EN 954-1/category 3	Safety of machines

Models 463 121, 463 121 01, 463 121 10, 463 121 10L, 463 123, 463 124

Norm	Content
EN 954-1/category 1	Safety of machines

2.2 Safety/Dangers

- Ensure that the control unit is only installed and put into operation by specially-trained authorised personnel.
- Ensure that the appropriate corresponding fuses (see Technical data) are used. Never bridge or repair fuses.
- Only operate the control unit when it's in an undamaged condition.
- Ensure that the control unit is only used for protection against dangers.
- Ensure that all safety requirements applying for the machine in question are observed.
- Ensure that all European guidelines and national laws/guidelines applying are observed.

3 Function

Models 463 121, 463 121 01, 463 121 10, 463 121 10L, 463 123, 463 124

The control unit monitors sensors connected to it, which are equipped with a contact maker and a contact breaker each. The control unit safety output will be open or closed according to the position of the connected sensors.

The control unit switches off the safety output in the following situations:

- The contact maker of a connected sensor is opened.
- The contact breaker of a connected sensor is closed.
- A fault has been detected (control unit or connected sensor is defective).

Model 463 121 E1

The control unit switches the safety output and the LED off in the following situations:

- The contact maker of a connected sensor is opened.
- The contact breaker of a connected sensor is closed.
- A fault has been detected (control unit or connected sensor is defective).
- The contact between the terminals of external contactor connected is interrupted.
- The supply voltage drops below 21 V.

4 Installation



Danger

▶ **Danger of electrocution!**

Ensure that the control unit is only installed and put into operation by specially-trained authorised personnel.

- Snap the control unit onto a mounting rail (DIN 50 022) in the switch cabinet. The control unit is attached.
- Connect control unit, see Technical data.
- Ensure that the prescribed fuses are used, see Technical data.
- Ensure that in the connected sensors the contact maker is operated before the contact breaker.

5 Putting into operation



Danger

▶ **Danger of electrocution!**

Ensure that the control unit is only installed and put into operation by specially-trained authorised personnel.

Models 463 121, 463 121 01, 463 121 10L, 463 123, 463 124

- Apply operating voltage.
- Open contact at the contact maker input.
- Close contact at the contact breaker input.
- Close contact at the contact maker input.
- Open contact at the sensor contact breaker within the cooling-off period.

The control unit will perform an internal test.

As soon as the test has been finished successfully, the control unit switches through the safety output.

The control unit is ready for operation.

Model 463 121 10

- Apply operating voltage.
- Close contact at the sensor contact maker input.
- Open contact at the sensor contact breaker input within the cooling-off period.

The control unit will perform an internal test.

As soon as the test has been finished successfully, the control unit switches through the safety output.

The control unit is ready for operation.

Model 463 121 E1

- Apply operating voltage.
- Close contact at the sensor contact maker input.
- Open contact at the sensor contact breaker input within the cooling-off period.

The control unit will perform an internal test.

As soon as the test has been finished successfully, the control unit switches through the safety output. The green LED at terminal 3 lights up.

The control unit is ready for operation.

6 Troubleshooting

6.1 Restoring device to a state of readiness for operation

If the safety output was switched off by a sensor contact firing:

- Ensure that the contactor connected has powered off.
- Ensure that the contact maker is open, and the contact breaker closed, at the sensor concerned.
- Close contact at the sensor contact maker input.
- Open contact at the sensor contact breaker input within the cooling-off period.

The control unit will perform an internal test.

As soon as the test has been finished successfully, the control unit switches through the safety output.

The control unit is ready for operation.

6.2 Safety output remains switched off

- Check connections at inputs and outputs:
 - Operating voltage
 - Sensors connected
 - Contactor connected
- Connections at inputs and outputs are OK:
Replace control unit.

7 Maintenance

The control unit is maintenance-free.

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