

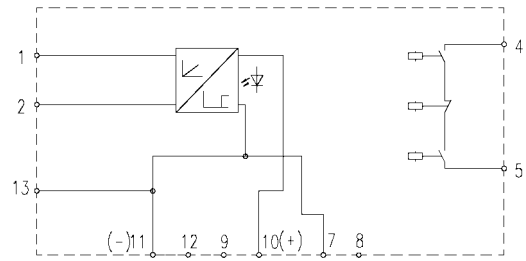


**463 121**  
**463 121 01**  
**463 121 10**  
**463 121 10L**  
**463 121 E1**  
**463 123**  
**463 124**

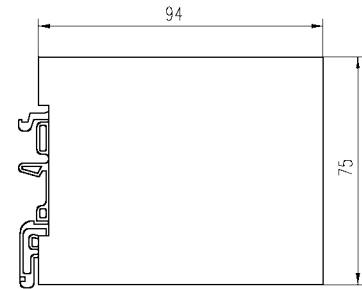
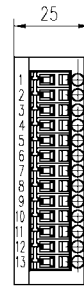
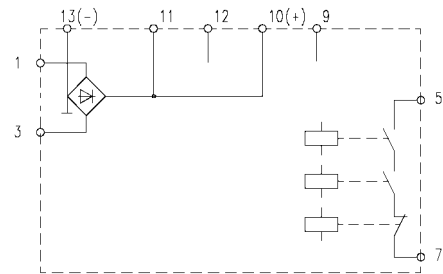
- (D)** Betriebsanleitung  
MSS-Zentraleinheit
- (GB)** Operating instructions  
MSS central processing unit
- (F)** Notice d'utilisation  
Unité centrale MSS
- (I)** Istruzioni d'impiego  
Unità centrale MSS



**463 121 E1**



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



# 1 Technical Specification

## 1.1 Terminal assignment

A sensor is connected directly to the machine safety switch central processing unit (MSS central processing unit).  
If several 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**

<i>Terminal</i>	<i>Assignment</i>
1, 3	Supply voltage
5, 7	Safety output make contact, floating
9, 10	Input sensor contact breaker
11, 12	Input sensor contact maker
13	Optional: interface 363 098
2, 4, 6, 8	Not assigned

### Model 463 121 E1

<i>Terminal</i>	<i>Assignment</i>
1,2	Supply voltage
4, 5	Safety output make contact, floating
7, 8	external contactor (to be bridged if not needed)

<i>Terminal</i>	<i>Assignment</i>
9, 10	Input sensor contact breaker
11, 12	Input sensor contact maker
13	Optional: Interface 363 098
3, 6	Not assigned

## 1.2 Type Name/Models

The following example and table shall explain the type names of the MSS central processing unit:

- Example:
- 463 121 10L
- 4ab cde fgh

<i>Wild card</i>	<i>Characteristic</i>		<i>Meaning</i>
4ab	Housing type and housing width	462	Housing width 47 mm
		463	Housing width 25 mm
cd	Specification safety input	12	Central processing unit for contact breaker/maker sensors
e	Supply voltage	1	24 V AC/DC; $\pm 10\%$
		2	48 V DC; $\pm 10\%$
		3	110 V AC; $\pm 10\%$
		4	230 V AC; -10 % ... +6 %

<i>Wild card</i>	<i>Characteristic</i>		<i>Meaning</i>
fgh	Others	01 10L	Cooling-off period 900 ms
		10	Cooling-off period 300 ms
		E1	Class 3 according to EN 954-1; cooling-off period 300 ms
		E1U	Class 3 according to EN 954-1; any cooling-off period

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

### 1.3 Electrical and mechanical data

In the circuit diagram on the foldout page, the MSS central processing unit is shown without any voltage applied.

Supply voltage back-up fuse	1.0 A
Safety output fuse	3,0 A
Maximum switching current	3.0 A
Maximum switching power	750 V/A AC; 90 W DC
Operating temperature	0° ... +55° C
Transportation and storage temperature	-25° ... +85° C

Vibration and shock resistance	Oscillation: 10 ... 55 Hz, 1 mm Shock: 30 g / 11 ms Continuous shock: 10 g / 16 ms
Housing protection	IP 40
Terminal protection	IP 20

### Supply voltage

<i>Type name</i>	<i>Supply voltage</i>
463 121 fgh	24 V AC/DC; $\pm 10\%$ FELF (single-end grounding)
463 122 fgh	48 V DC; $\pm 10\%$ FELF (single-end grounding)
463 123 fgh	110 V AC; $\pm 10\%$
463 124 fgh	230 V AC; -10 % ... +6 %

## Power input

<i>Type name</i>	<i>Power input</i>
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

## Maximum switching voltage

<i>Type name</i>	<i>Maximum switching voltage</i>
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 interval to elapse at a sensor, between:

- ➔ the contact maker closing and
- ➔ the contact breaker opening.

<i>Type name</i>	<i>Cooling-off period</i>
463 121 E1U	any

<i>Type name</i>	<i>Cooling-off period</i>
463 121 01 463 121 10L	900 ms
463 12e 463 121 10 463 121 E1	300 ms

### LED displays (model 463 121 E1)

<i>LED at terminal</i>	<i>Colour</i>	<i>Meaning</i>
3	green	Safety output switched through

## 2 Intended use

- ⇒ The MSS central processing unit is intended for use exclusively to protect against hazards.

### 2.1 Standards and Guidelines

The MSS central processing unit complies with the following European Directives:

- 73/23/EEC (Low Voltage Directive)
- 89/336/EEC (Electromagnetic Compatibility Directive)
- 98/37/EC (Machine Directive)

The MSS central processing unit is designed in accordance with the below standards.

**General**

<b><i>Standard</i></b>	<b><i>Content</i></b>
EN 60 204	Electrical equipment of industrial machines
IEC 664-1	Insulation coordinates in low-voltage systems
IEC 68	Basic environmental test procedures
EN 50081-2	EMC emission in industrial environments
EN 50082-2	EMC emission resistance in industrial environments

**Model 463 121 E1**

<b><i>Standard</i></b>	<b><i>Content</i></b>
EN 954-1/ category 3	Safety of machines

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

<b><i>Standard</i></b>	<b><i>Content</i></b>
EN 954-1/ category 1	Safety of machines

## 2.2 Safety/hazards

- Ensure that the MSS central processing unit is only installed and commissioned by specially trained and authorised personnel.
- Ensure that the respective fuses are used (see Technical Specification).
- Only operate MSS central processing unit if intact.
- Ensure that MSS central processing unit is only used as a safeguard against hazards.
- Ensure that all applicable safety regulations of the respective machine are adhered to.
- Ensure that all applicable European Directives and national statutory requirements/guidelines are complied with.

## 3 Function

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

The MSS central processing unit monitors sensors connected to it, which are equipped with a contact maker and a contact breaker each. The MSS central processing unit switches its safety output according to the status of the sensors connected.

In the following situations, the MSS central processing unit switches off the safety output:

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

## Model 463 121 E1

In the following situations, the MSS central processing unit switches off the safety output and the LED:

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

## 4 Assembly



### Danger of electrocution

- ⊕ Ensure that the MSS central processing unit is only installed and commissioned by specially trained and authorised personnel.

- ⊕ Snap MSS central processing unit onto a DIN rail (DIN 50 022) in control cabinet.

The MSS central processing unit is fixed.

- ⊕ Connect MSS central processing unit, see Technical Specification.
- ⊕ Ensure correct fuses are used, see Technical Specification.

## 5 Commissioning



**Danger**

### **Danger of electrocution**

- Ensure that the MSS central processing unit is only installed and commissioned by specially trained and authorised personnel.

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

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

The MSS central processing unit performs an internal test. As soon as test has been finished successfully, the MSS central processing unit connects through the safety output.

The MSS central processing unit is operational.

### **Model 463 121 10**

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

The MSS central processing unit performs an internal test. As soon as test has been finished successfully, the MSS central processing unit connects through the safety output.

The MSS central processing unit is operational.

### **Model 463 121 E1**

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

The MSS central processing unit performs an internal test. As soon as test has been finished successfully, the MSS central processing unit connects through the safety output. The green LED at terminal 3 lights up.

The MSS central processing unit is operational.

## 5.1 Making ready for operation

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

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

The MSS central processing unit performs an internal test. As soon as test has been finished successfully, the MSS central processing unit connects through the safety output.

The MSS central processing unit is operational.

## 5.2 Safety output remains switched off

- Check connections at input and output terminals:
  - supply voltage,
  - sensor connections,
  - contactor connected.
- Connections at input and output terminals OK:  
Replace MSS central processing unit.

## 6 Maintenance

The MSS central processing unit is maintenance-free.

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 0123