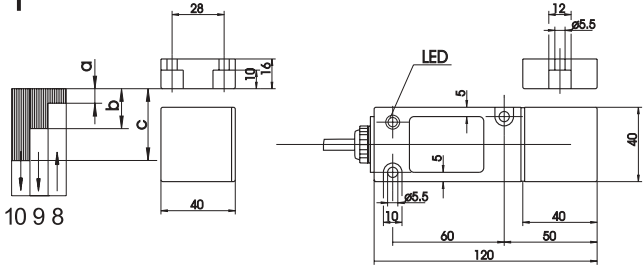


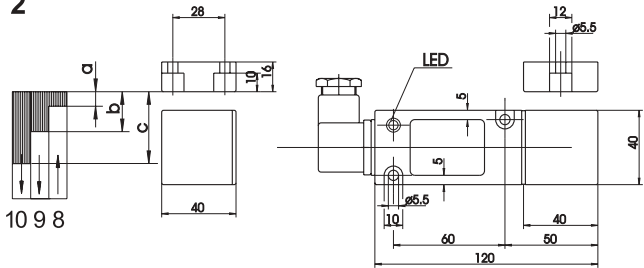


117 x11
117 x12
117 x13
117 x14
117 x11 E1
117 x13 E1
117 x14 E1
117 x11 H1
117 x21
117 x22
117 x23
117 x24
117 x21 E1
117 x23 E1
117 x24 E1
117 x21 H1

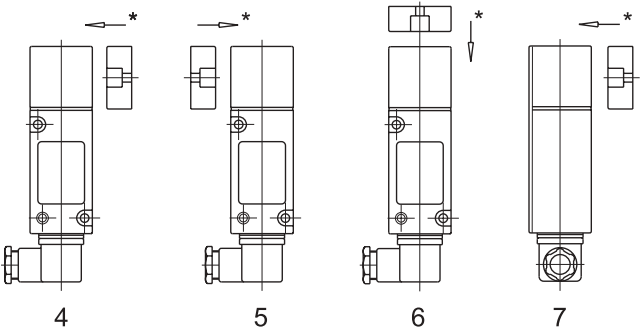
- (D)** Betriebsanleitung
Kompaktsystem
- (GB)** Operating instructions
Compact system
- (F)** Notice d'utilisation
Système compact
- (I)** Istruzioni d'impiego
Sistema compatto

1

10 9 8

2

10 9 8

3

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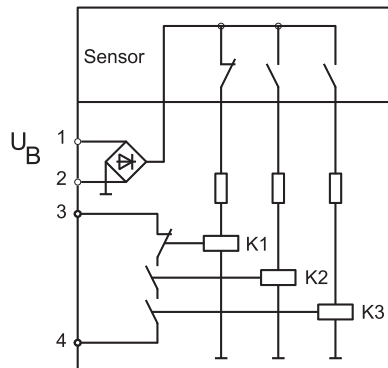
5

6

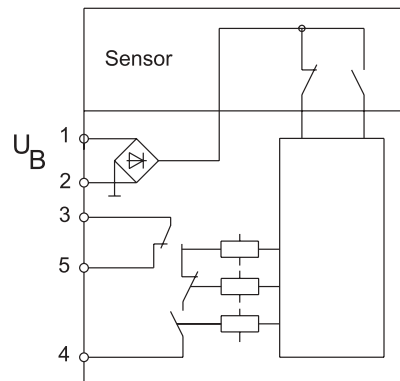
7

Datum: 23.09.2004

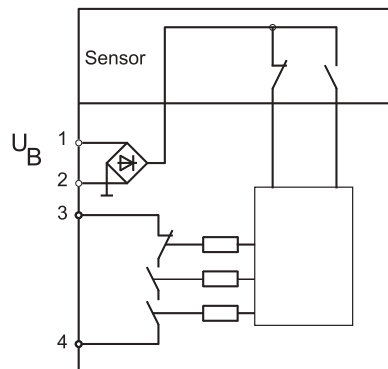
117 x11, 117 x12, 117 x13, 117 x14, 117 x21,
117 x22, 117 x23, 117 x24



117 x11 H1, 117 x11 E1, 117 x13 E1, 117 x14 E1



117 x21 H1, 117 x21 E1, 117 x23 E1, 117 x24 E1



1 Technical Specification

1.1 Legend

Technical drawings and schematics of the coded magnet approach modes for different models are shown on the fold-out page.

Technical drawing

1. Drawing 117 x1x, 117 x1x E1, 117 x1x H1
2. Drawing 117 x2x, 117 x2x E1, 117 x2x H1

Possible approach modes

3. Drawing of possible approach modes
(* Direction of approach of the coded magnet)

Position of the magnet system in relation to the switch

4. right (only for 117 41. E1, 117 41.H1, 117 42. E1, 117 42.H1)
5. left
6. on the face
7. top face

Switching functions

8. ON
9. OFF
10. OFF (both contacts changed state, allowing re-start)

The different features of the basic models are described in these instructions. For customer-specific models, additional data sheets are available, on request, from elobau.

1.2 Terminal assignment

General

The compact system consists of a sensor and a control unit in a single housing.

Models 117 x11, 117 x12, 117 x13, 117 x14

<i>Cable</i>	<i>Assignment</i>
1, 2	Supply voltage
3, 4	Safety output

Models 117 x11 E1, 117 x13 E1, 117 x14 E1, 117 x11 H1

<i>Cable</i>	<i>Assignment</i>
1, 2	Supply voltage
3	common terminal for outputs
4	Safety output
5	Control output

Models 117 x21, 117 x22, 117 x23, 117 x24, 117 x21 H1

<i>Plug</i>	<i>Assignment</i>
1, 2	Supply voltage
3, 4	Safety output

Models 117 x21 E1, 117 x23 E1, 117 x24 E1

<i>Plug</i>	<i>Assignment</i>
1, 2	Supply voltage
3	common terminal for outputs
4	Safety output

1.3 Model Numbering System

The following example and table demonstrates the numbering system used for the elobau compact system:

- Example:
- 117 x21 E1
- 117 abc de

Notation	Characteristic		Meaning
a)	Position of the coded magnet in relation to the housing	4	right
		5	left
		6	on the face
		7	top side
b)	Connection	1	Cable
		2	Plug
c	Supply voltage	1	24 V AC/DC $\pm 10\%$
		2	48 V AC/DC $\pm 10\%$
		3	115 V AC $\pm 10\%$
		4	230 V AC $\pm 10\%$
d	Others	E	Cat. 3 acc. to EN 954-1
		H	Cat. 4 acc. to EN 954-1
		0	customer-specific
		2	customer-specific

<i>Notation</i>	<i>Characteristic</i>		<i>Meaning</i>
e	Others	0	customer-specific
		1	customer-specific
		2	customer-specific

1.4 Electrical and mechanical specifications

In the circuit diagram shown on the foldout page, the compact system is shown without power applied.

General

maximum switching voltage	250 V AC / 30 V DC
maximum switching current	5/3 A
maximum switching power	750 VA / 90 W
Safety output	Contact maker, floating
Fuse for safety output	3 A
Supply voltage fuse	1 A
Operating temperature	-10° ... 50°C
Transport and storage temperature	-25° ... 85°C
Vibration and shock resistance	Oscillations: 10 ... 55 Hz, 0.35 mm Shock: 30 g /11 ms Continuous shock: 10 g /16 ms

Material	PA
Protection class	IEC 529 IP 67
Operating Magnet	304 271 02

Supply voltage

(see Model Numbering System)

Current input

<i>Type</i>	<i>Current input</i>
117 x11 117 x12 117 x13 117 x14 117 x11 E1 117 x13 E1 117 x14 E1 117 x21 117 x22 117 x23 117 x24 117 x21 E1 117 x23 E1 117 x24 E1	50 mA at 24 V DC
117 x11 H1 117 x22 H1	100 mA at 24 V DC

Air gap (switching distance, in mm) for safe switching function:

	MIN.	ON	OFF	OFF *
Base models	0,5	4	min. 11	min. 16

* Both contacts changed state

MIN. Minimum air gap

LED display

The red LED on the compact system illuminates when the sensor has power applied but is not operated.

2 Intended use

- The compact system should only be used for protection against hazards.

2.1 Standards and Directives

The compact system complies with the following European directives:

- ➔ 73/23/EEC (low-voltage directive)
- ➔ 89/336/EEC (electromagnetic compatibility directive)
- ➔ 89/392/EC (Machine directive)

The design of the compact system conforms with the following standards:

General

<i>Standard</i>	<i>Subject</i>
EN 292	Safety of machines
EN 60 204	Electrical equipment of industrial machinery
IEC 68, part 2	Environmental testing
EN 50 082	EMC emission & immunity in industrial environments
EN 55 011	Radio interference suppression of industrial electrical equipment and systems
IEC 801	Electromagnetic tolerance

Models 117 x11, 117 x12, 117 x13, 117 x14, 117 x21, 117 x22, 117 x23, 117 x24

<i>Standard</i>	<i>Subject</i>
VDE 0660 / 209	Safety of machines
EN 954-1/ class 1	Safety of machines, basic concepts

Models 117 x11 E1, 117 x13 E1, 117 x14 E1, 117 x21 E1, 117 x23 E1, 117 x24 E1

<i>Standard</i>	<i>Subject</i>
EN 954-1/ class 3	Safety of machines, basic concepts

Models 117 x11 H1, 117 x21 H1

<i>Standard</i>	<i>Subject</i>
EN 954-1/ class 4	Safety of machines, basic concepts

2.2 Safety/hazards

- Ensure that the compact system is only installed and commissioned by qualified and authorized personnel.
- Ensure that correct fuses are used (see Technical Specification).
- Operate the compact system only if it is completely undamaged.
- Ensure that the compact system is only used for protection against safety hazards.
- Ensure that all relevant safety instructions and regulations for the machine concerned are always followed.
- Ensure that all applicable European Directives and National statutory requirements/directives are followed.
- Ensure that the control output is only used for displaying the operating condition of the compact system.

3 Function

Models 117 x11, 117 x12, 117 x13, 117 x14, 117 x21, 117 x22, 117 x23, 117 x24

The compact system monitors an integral sensor having two Normally Open contacts and one Normally Closed contact.

The compact system switches off and the red LED illuminates when:

- ➔ one Normally Open contact is opened or the Normally Closed contact is closed.
- ➔ there is a fault (compact system defective).

Models 117 x11 E1, 117 x13 E1, 117 x14 E1, 117 x21 E1, 117 x23 E1, 117 x24 E1, 117 x11 H1, 117 x21 H1

The compact system monitors an integral sensor having one Normally Open contact and one Normally Closed contact.

The compact system switches off and the red LED illuminates when:

- ➔ the Normally Open contact is opened or the Normally Closed contact is closed.
- ➔ there is a fault (compact system defective).

4 Mounting



Danger

Danger of fatal electrocution

- ⦿ Ensure that the compact system is only installed and commissioned by qualified and authorized personnel.

- ⦿ Ensure that the compact system and the magnet are installed in positions exactly facing each other.
- ⦿ Do not install the compact system and magnet directly onto ferrous material. If necessary, use washer 350 006.
- ⦿ Do not install the compact system in strong magnetic fields.
- ⦿ Do not use the compact system or the magnet as end stops.
- ⦿ Keep away from ferrous swarf.
- ⦿ Mount the compact system on the fixed part of the guard or machine.
- ⦿ Mount the magnet on the moveable part of the same guard or cover.
- ⦿ Connect the compact system (see Technical Specification).
- ⦿ Ensure that the correct fuses are fitted (see Technical Specification).

5 Commissioning



Danger of fatal electric shock

- Ensure that the compact system is only installed and commissioned by qualified and authorized personnel.

- Ensure that the coded magnet and the compact system are correctly aligned with each other.
- Apply the supply voltage.

The compact system safety output closes.
The compact system is ready for operation.

5.1 System Reset

Models 117 x11, 117 x12, 117 x13, 117 x14, 117 x21, 117 x22, 117 x23, 117 x24

- Move the coded magnet completely away from the compact system to ensure all contacts change state and then return the magnet to the operating position.

The compact system safety output closes.
The red LED goes off.
The compact system is ready for operation.

Models 117 x11 E1, 117 x13 E1, 117 x14 E1, 117 x21 E1, 117 x23 E1, 117 x24 E1, 117 x11 H1, 117 x21 H1

- Move the coded magnet completely away from the compact system to ensure all contacts change state and then return the magnet to the operating position.

The compact system safety output closes.
The red LED goes off.
The compact system is ready for operation.

5.2 The safety output remains open

- Check connections at input and output terminals.
 - Supply voltage
 - Safety output
 - Control output

Terminals OK

- Replace the compact system.

6 Maintenance

6.1 Measures

The compact system is a maintenance-free product.

6.2 Disposal

- Dispose of used parts and unwanted packaging in accordance with the regulations of the country in which the device is installed.

Datum: 23.09.2004

elobau 

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