

BRIEF INSTRUCTIONS

SLC-A-UE410-2R04/ SLC-A-UE410-4R04

SafeLogic compact Output modules

EN

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1 About this document

These brief instructions are original brief instructions.

These brief instructions apply only in combination with the corresponding operating instructions as defined in the following table.

Corresponding operating instructions

Operating instructions with revision status

Brief instructions	Operating instructions
R911334400 (This documentation)	R911332746 IndraControl SafeLogic compact Hardware

2 On safety

This chapter deals with your own safety and the safety of the equipment operators.

➤ Please read this chapter carefully before beginning with the mounting work.

2.1 Qualified safety personnel

The modular safety controller SafeLogic compact must only be installed by qualified safety personnel.

Qualified safety personnel are defined as persons who ...

- have undergone the appropriate technical training **and**
- have been instructed by the responsible machine operator in the operation of the machine and the current valid safety guidelines **and**
- have access to the operating instructions for the modular safety controller SafeLogic compact and have read and familiarised themselves with them **and**
- have access to the operating instructions for the protective devices (e.g. Safety Light Curtain) connected to the safety controller and have read and familiarised themselves with them

2.2 Applications of the device

The SafeLogic compact modular safety controller is a control system for safety applications.

Depending on the external circuit, the design of the wiring, the contact load and the switching frequency, Performance Level PL e as per EN ISO 13849-1, SIL3 as per IEC 61508 or SILCL3 as per EN 62061 can be achieved.

2.3 Correct use

The SafeLogic compact modular safety controller may only be used as intended in section 2.2 "Applications of the device". It may only be used by qualified personnel and only at the machine at which it was mounted and initially commissioned by qualified safety personnel in accordance with the operating instructions.

Bosch Rexroth accepts no claims for liability if the equipment is used in any other way or if modifications are made to the device, even in the context of mounting and installation.

2.4 General safety notes and protective measures



Observe the safety notes and protective measures!

Please observe the following items in order to ensure proper use of the SafeLogic compact safety controller system.

- When mounting, installing and using the SafeLogic compact, observe the standards and directives applicable in your country
- The national/international rules and regulations apply to the installation, use and periodic technical inspection of the SafeLogic compact safety controller system, in particular:
 - Machinery Directive 2006/42/EC
 - EMC directive 2014/30/EU
 - Low Voltage Directive 2014/35/EC
 - Provision and Use of Work Equipment Directive 2009/104/EC
 - Work safety regulations/safety rules
- Manufacturers and owners of the machine on which a SafeLogic compact is used are responsible for obtaining and observing all applicable safety regulations and rules
- The notes, in particular the test notes (such as on the use, mounting, installation or integration into the existing machine control system) in chapter "Commissioning" of the operating instructions must be observed
- The tests must be carried out by qualified safety personnel or specially qualified and authorised personnel and must be recorded and documented to ensure that the tests can be reconstructed and retraced at any time by third parties
- The operating instructions must be made available to the user of the machine where a SafeLogic compact is fitted. The machine operator is to be instructed in the use of the device by qualified safety personnel and must be instructed to read the operating instructions

- The modules of the SafeLogic compact system conform to Class A, Group 1, in accordance with EN 55011

Group 1 encompasses all the ISM devices in which intentionally generated and/or used conductor-bound RF energy that is required for the inner function of the device itself occurs

- The SafeLogic compact safety controller system fulfils the EMC requirements in accordance with the basic specification EN 61000-6-2 for industrial use

2.5 Disposal

Disposal of unusable or irreparable devices should always occur in accordance with the applicable country-specific waste-disposal regulations (e.g. European Waste Code 16 02 14).

3 Product description

The SLC-A-UE410-2R04/4R04 output modules make contact-based outputs with positive-action relay contacts available.

The output modules may only be operated in a system combination with SafeLogic compact.

A maximum of four SLC-A-UE410-4R04 or eight SLC-A-UE410-2R04 can be connected to a SafeLogic compact.

The SLC-A-UE410-2R04/SLC-A-UE410-4R04 output modules consist of one or two independent redundant switch-off paths.

- Two safe contact-based enabling current paths
- One non-isolated safe enabling current path
- One NC EDM contact for each

Each safe enabling current path consists of the series-connected relay contacts of two redundantly operating positive-action relays.

The slot for an output module in a SafeLogic compact is on the extreme right.

3.1 SLC-A-UE410-2R04/4R04 displays

Display	Meaning
PWR (green)	Supply voltage via safety bus is applied
K1/K2 (green)	Relay K1/K2 — safety contacts closed
K3/K4 (green)	Relay K3/K4 — safety contacts closed

3.2 SLC-A-UE410-2R04/4R04 terminal assignment

Assignment	Description
B1	Circuiting relay K1/K2
B2	Circuiting relay K3/K4
13/14 and 23/24	Safety contacts for switch-off circuit outputs K1/K2
33/34 and 43/44	Safety contacts for switch-off circuit outputs K3/K4
Y1/Y2	Feedback EDM K1/K2 NC contact
Y3/Y4	Feedback EDM K3/K4 NC contact
Y14	N/O contact safety contact K1/K2, current-limited (see "Technical Data")
Y24	N/O contact safety contact K3/K4, current-limited (see "Technical Data")

4 Mounting



The SafeLogic compact system is only suitable for mounting in a control cabinet or a assembly casing with at least protection class IP 54.

- Mounting in accordance with EN 50274
- The modules are located in a 22.5 mm wide modular system for 35 mm DIN rails to EN 60715
- Ensure that the earthing spring contact is positioned correctly. The earthing spring contact of the module must contact the DIN rail securely and electrically conductively

5 Electrical Installation



Switch the entire system off line!

The system can start up unexpectedly while you are connecting the devices.

- For installation in environments with overvoltage category III, external protection elements must be used. The required level of protection as per EN 62305-1 can be achieved using an external snubber circuit. The protection elements (SPD – surge protective devices) must comply with the requirements as per EN 61643-11
- The voltage supply must satisfy the regulations for extra-low voltages with safe isolation (SELV, EN 61140) as per EN 60664 and EN 50178
- To ensure full electromagnetic compatibility (EMC), the mounting rail has to be connected to functional earthing (FE)
- You must connect the SafeLogic compact to the same voltage supply as the connected protective devices
- The voltage supply of the devices must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1
- All connected sensors and downstream controllers and wiring/installation must correspond to the required category in accordance with EN ISO 13849-1 and to the SILCL in accordance with EN 62061 (e.g. protected installation, single sheath line with shielding etc.)
- In order to protect the safety outputs and to increase the service life, the external loads have to be equipped with, for example, varistors, RC elements Take into account that the response times may increase, depending on the type of protective circuit
- The safety inputs (B1/B2) and the external device monitoring (EDM) have to be connected within the control cabinet

6 Configuration



Check the configuration for the protective device after every change!

If you change the configuration, you must check the effectiveness of the protective device. Please observe the test notes in the operating instructions of the connected protective device.

7 Commissioning



Do not commission without a check by qualified safety personnel!

Before the initial commissioning of the system in which you are using a SafeLogic compact modular safety controller, it must be checked and released by qualified safety personnel.



Check the hazardous area!

You must ensure that no one is located in the hazardous area before commissioning.

Check the hazardous area and secure it against being entered by people (e.g. set up warning signs, attach blocking ropes or similar). Observe the relevant laws and local regulations.

7.1 Regular inspection of the protective devices by qualified safety personnel

- Check the system at the inspection intervals specified in the national rules and regulations. This procedure ensures that any changes on the machine or manipulations of the protective device are detected before use/re-use
- Each safety application must be checked at a time interval specified by you. The effectiveness of the protective device must be checked by authorised commissioned persons
- If any modifications have been made to the machine or the protective device, or if the safety controller system has been changed or repaired, the system must be checked

8 Diagnostics

8.1 In the event of faults or errors



Cease operation if the cause of the malfunction has not been clearly identified!

Stop the machine if you cannot clearly identify or allocate the error and if you cannot safely remedy the malfunction.



Complete functional test after malfunction remedying!

Carry out a full functional test after a malfunction has been remedied.

9 Ordering information

Device type	Part	Part no.
SLC-A-UE410-2R04	Output module 2 N/O contacts and 1 24 V DC alarm signal two-tier tension spring terminals	R911172293
SLC-A-UE410-4R04	Output module 4 N/O contacts and 2 24 V DC alarm signals two-tier tension spring terminals	R911172294

10 Technical Data

Please refer to the "IndraControl SafeLogic compact Hardware" operating instructions.

11 Approvals

- TÜV
- cTÜVus

12 Conformity

Please refer to the "IndraControl SafeLogic compact Hardware" operating instructions.