

# Sipha Control Units

Catalog Numbers 440N-S32013, 440N-S32021, 440N-S32052

## Summary of Changes

This publication contains new [Installation](#) and updated [Declaration of Conformity](#) sections on [page 3](#).

## Introduction

Suitably competent personnel must install the Sipha™ Control Units in accordance with the following steps and specifications. Adherence to the recommended maintenance instructions forms part of the warranty.



**WARNING:** Do not defeat, tamper, remove, or bypass this unit. Severe injury to personnel could result.

## Approximate Dimensions

Figure 1 - Sipha 1 and 2 [mm (in.)]

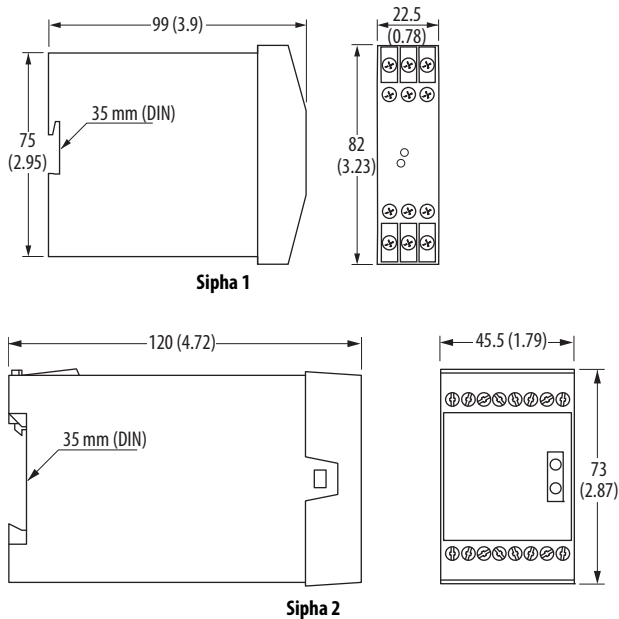
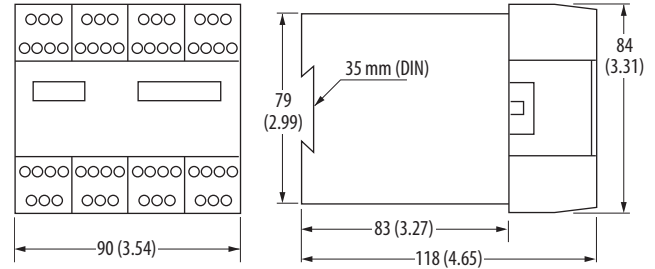
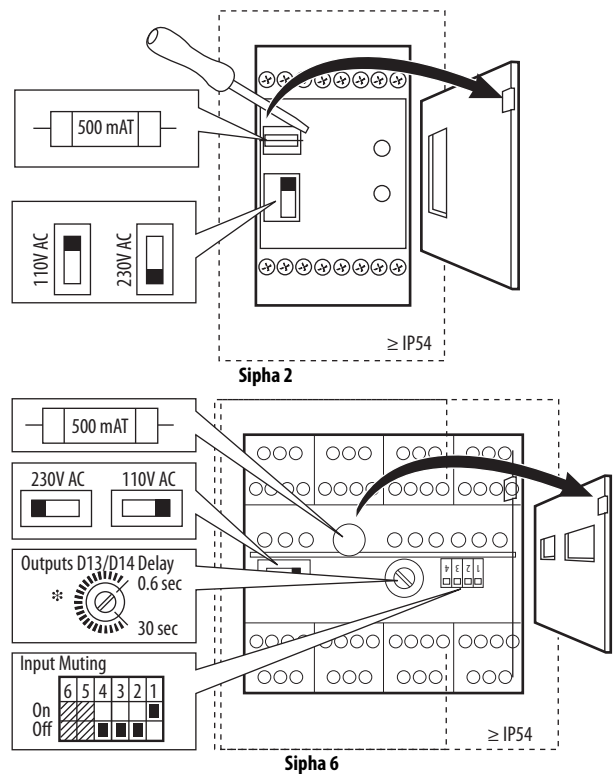


Figure 2 - Sipha 6 [mm (in.)]

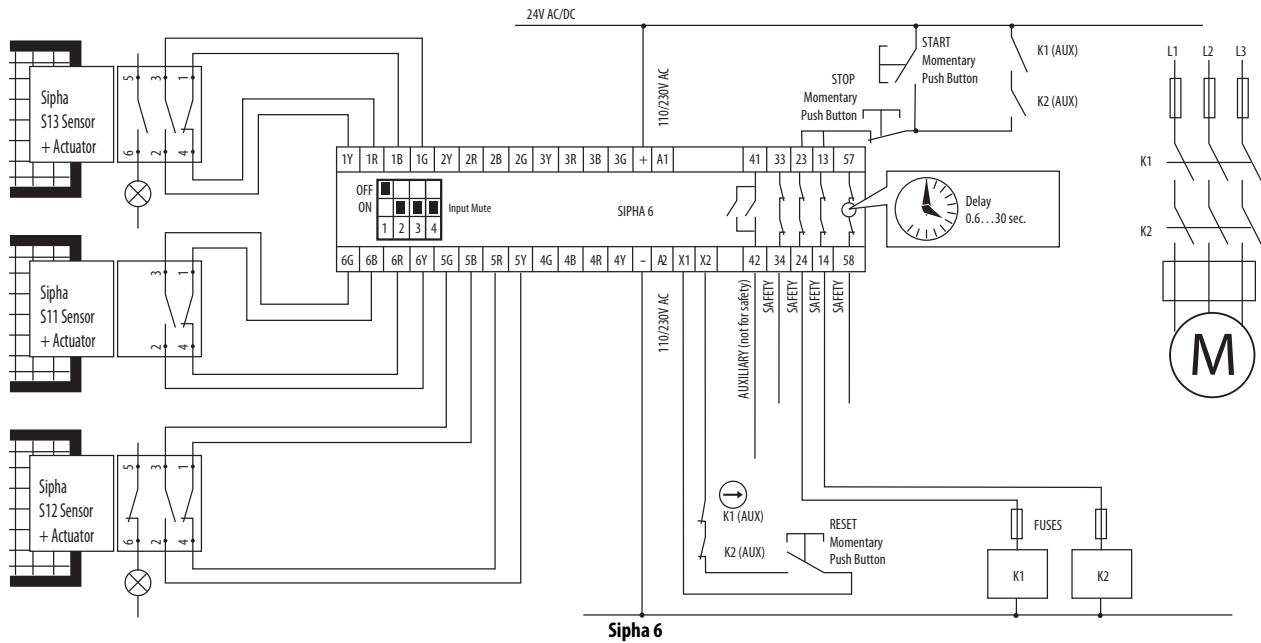
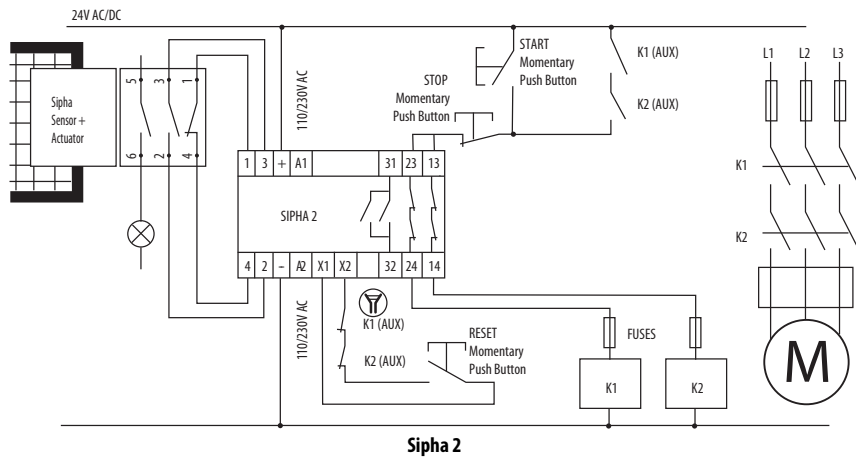
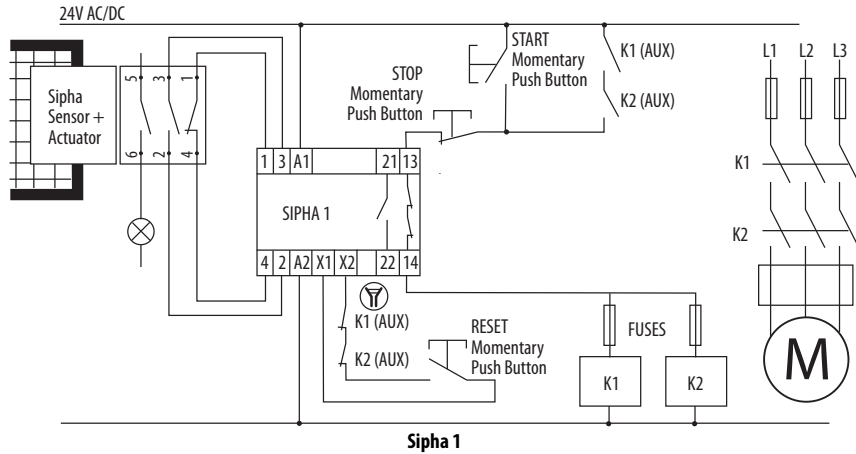


## Sipha Settings



**IMPORTANT** To energize outputs, at least one input must be closed after delay has expired.

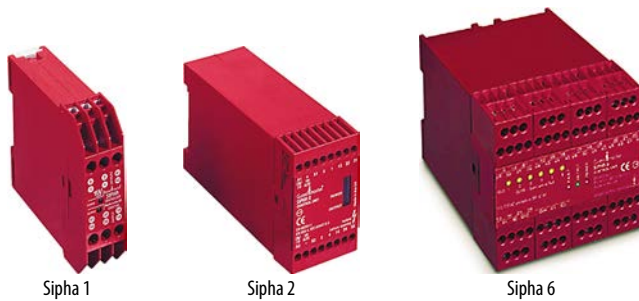
## Application Wiring Diagrams



Whenever the interlocked guard door is open, check that the machine is isolated and stopped.

**IMPORTANT** After installation and commissioning, the actuator, switch, and switch lid mounting screws must be coated with tamper evident varnish or a similar compound.

## Installation



Sipha 1

Sipha 2

Sipha 6

Each Sipha controller requires four Sipha switch inputs to operate properly. The Sipha 1 and Sipha 2 accommodate one switch, while the Sipha 6 controller allows up to six Sipha 6 safety switches to be connected to the Sipha 6 controller. Installation of all coded non-contact proximity switches and associated control units must be in accordance with a risk assessment for the individual application.

After installation, always check each switch function by opening and closing each guard individually and verify that the switch and the Sipha control unit function as expected. Confirm that the machine stops and cannot be restarted when each switch is open.

The coded non-contact proximity switches in combination with a control unit form a PDDb (proximity device with defined behavior under fault conditions) in accordance with EN 60947-5-3 and comply with the requirements of Category 4, PLe, and SIL 3 in accordance with EN ISO 13849-1 and EN 62061/EN 61508.

In PLe applications with Category 3 or Category 4 according to IEC 13849-1 or SIL 3 according to IEC 62061 and ISO 14119 with HFT (hardware fault tolerance) = 1 in which operational processes do not confirm that the safety function is demanded regularly ( $\geq 1$ /month), organizational measures must be taken to verify that it is tested manually at least once per month.

## Maintenance

At least every month, isolate all power. Check the actuator to sensor target alignment. Check the terminal connections. Check the wiring for signs of damage. Check that the unit locks out when one fault occurs by placing a link across control unit terminals 1 and 4. Verify that the interlocked guard door is closed. Reinstate power to the Sipha control unit only, press the Reset button (if fitted), and open the guard door. Check that the unit locks out. Remove the link, disconnect the yellow wire at terminal two, and repeat the test. If there are multiple sensors that are connected to the control unit, repeat these tests for each sensor in turn. During tests, check that the status indicators are operating correctly. If the system operates correctly during tests, reinstate the connections and power. Before allowing normal machine operation, check that the machine stops when the guard door is opened.

## Repair

If there is any malfunction or damage, do not attempt to repair the unit. Replace the unit before machine operation is allowed.

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**IMPORTANT** Do not dismantle the unit.

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## UL508 Information

When used in elevated ambients, temperature rating of field wiring cannot be less than ambient.

Attribute	440N-S32013, 440N-S32021, 440N-S32052
Electrical rating	B300
Current, max	<ul style="list-style-type: none"> <li>• 250V AC / 4 A</li> <li>• 30V DC / 2 A</li> </ul>

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**IMPORTANT** Use copper conductors only. Use polymeric conduit only. Use one conduit entrance for field connections.

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## Declaration of Conformity

This section is to declare that the products that are shown on this document conform with the Essential Health and Safety Requirements (EHSRs) of the European Machinery Directive (2006/42/EC), the relevant requirements of the Low Voltage Directive 2014/30/EU. These products also conform to IEC 60947-5-3: 2013 and IEC 60947-5-2: 2012 (in extracts) and ISO 14119: 2013. Additionally, ISO 13849-1, and IEC 62061: 2015.

EN ISO 13849-1			
Parameter	Sipha 1	Sipha 2	Sipha 6
MTTFd	452 a (high)	5250 a (high)	168 a (high)
DCavg	99% (high)	99% (high)	99% (high)
CCF	65	80	80
EN 62061			
Parameter	Sipha 1	Sipha 2	Sipha 6
PFHD	5.50E-09	4.5 E-09	2.8 E-08
SIL CL	3	3	3

The products comply with the requirements of Cat. 4/PLe according to EN ISO 13849-1 and SIL 3 according to IEC 62061/IEC 61508 and can be used in safety-related applications up to these safety levels.

The delayed contacts of Sipha 6 comply with Category 3, PLe

Visit [rok.auto/certifications](http://rok.auto/certifications) for full certificate.

## Specifications

<b>Attribute</b>	<b>440N-S32013, 440N-S32021, 440N-S32052</b>	
Designation/Utilization Category	B300 / AC-15 (Ue/Ie) 250V / 4 A P300 / DC-15 (Ue/Ie) 30V / 2 A	
Power supply	Sipha 1	24V AC/DC ± 15%
	Sipha 2, Sipha 6	24V AC/DC or 110/230V AC selectable
Safety relay output	Sipha 1	1 N.O. immediate
	Sipha 2	2 N.O. immediate
	Sipha 6	2 N.O. immediate + 1 N.O. delay
Auxiliary output	Sipha 1	1 N.C. Phot MOS (not for safety use) ON resistance typ. 36 Ω
	Sipha 2, Sipha 6	1 N.C. (not for safety use)
Drop out time, max	25 ms	
Operating temperature	-10...+55 °C (14...131 °F)	
Ingress protection rating	Control unit	IP40 DIN 0470
	Terminal isolation	IP20 DIN 0470
Mechanical life	10 x 10 <sup>6</sup>	

**IMPORTANT** The safety contacts of these products are described as normally closed (N.C.), that is, with the guard closed, actuator in place (where relevant) and the machine able to be started.

## Waste Electrical and Electronic Equipment (WEEE)



At the End of Life, this equipment should be collected separately from any unsorted municipal waste.

## Rockwell Automation Support

Use the following resources to access support information.

<b>Technical Support Center</b>	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	<a href="https://rockwellautomation.custhelp.com/">https://rockwellautomation.custhelp.com/</a>
<b>Local Technical Support Phone Numbers</b>	Locate the phone number for your country.	<a href="http://www.rockwellautomation.com/global/support/get-support-now.page">http://www.rockwellautomation.com/global/support/get-support-now.page</a>
<b>Direct Dial Codes</b>	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	<a href="http://www.rockwellautomation.com/global/support/direct-dial.page">http://www.rockwellautomation.com/global/support/direct-dial.page</a>
<b>Literature Library</b>	Installation Instructions, Manuals, Brochures, and Technical Data.	<a href="http://www.rockwellautomation.com/global/literature-library/overview.page">http://www.rockwellautomation.com/global/literature-library/overview.page</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Get help determining how products interact, check features and capabilities, and find associated firmware.	<a href="http://www.rockwellautomation.com/global/support/pcdc.page">http://www.rockwellautomation.com/global/support/pcdc.page</a>

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Publication 440N-IN001B-EN-P - September 2019

Supersedes Publication 440N-IN001A-EN-P - May 2012

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