Sipha™ Control Units

Description

With the increasing speed and complexity of applications a simple magnetic switch may be insufficient to meet the increased risks, therefore Sipha's design incorporates several magnetically sensitive elements which must be triggered in a particular sequence to operate correctly. The Sipha sensor, designed to operate with its own actuator, helps prevent defeatability by a simple magnet.

The control unit is available in three types. The Sipha 1 control unit operates on 24V AC/DC and offers one normally open safety output and one normally closed solid-state auxiliary output. The Sipha 2 control unit operates on either 24V AC/DC, 110V AC or 230V AC and offers two normally open safety outputs and one normally closed auxiliary output. The Sipha 6 has wiring terminals for up to six sensors, a delayed output for Category 1 stops and offers the same wide range of power supply capability as the Sipha 2 control unit. Between two and six Sipha sensors can be directly connected to the Sipha 6 control unit. An internal DIP switch mutes the unused connections to sensors 1, 2, 3 and 4. This allows for individual monitoring to each interlock and provides enhanced safety integrity when compared to six interlocks running off a single Sipha 2 control unit.

The Sipha control units are designed to operate with the Sipha sensors and actuators. The controllers have automatic reset.

Features

- Noncontact actuation
- Magnetic coded sensing
- Control unit acts as safety relay
- Four types of switches

LED Indicators

Green LED	Power on
Green LED	Output Closed

Specifications

Safety Ratings	
Standards	EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, IEC/EN60947-5-1, ANSI B11.19, AS4024.1
Safety Classification	Sipha 1 & 2: Cat. 3 per EN954-1 Sipha 6: Cat. 4 per EN954-1
Certifications	CE Marked for all applicable directives, cULus, and TÜV
Power Supply	
Input Power Entry	Sipha 1: 24V AC/DC; Sipha 2 & 6: 24V AC/DC and 115/230V AC
Power Consumption	Sipha 1: <2VA Sipha 2 & 6: <4VA
Inputs	
Safety Inputs	Sipha 1: 1 N.C. & 1 N.O. Sipha 2 & 6: 6 x (1 N.C. & 1 N.O.)
Input Resistance, Max.	Terminals 1...4: 200 Ω Terminals 2...3: 150 Ω
Outputs	
Safety Contacts	Sipha 1: 1 N.O. Sipha 2: 2 N.O. Sipha 6: 2 N.O. + 1 N.O. Delayed (0.6...30 sec.)
Auxiliary Contacts	1 N.C.
Rated Impulse withstand Voltage	2500V
Switching Current @ Voltage, Min.	10 mA @ 10V
Fuses, Output	External 5 A quick blow AC, 3 A quick blow DC
Electrical Life (Operations)	220V AC/4 A/880VA cosϕ = 0.35...0.1 M 220V AC/1.7 A375VA cosϕ = 0.6...0.5 M 30V DC/2 A/60 W = 1 M 10V DC/0.01 A/0.1 W = 2 M
Mechanical Life	2,000,000 operations
Environmental and Physical Characteristics	
Operating Temperature [C (F)]	-10...+55° (+14...+131°)
Vibration	1 mm, 10...55 Hz
Shock	30 g, 11 ms half-sine
Mounting	35 mm DIN Rail
Weight [g (lb)]	Sipha 1: 140 (0.31) Sipha 2: 410 (0.90) Sipha 6: 675 (1.49)
Conductor Size, Max.	0.2...2.5 mm2 (24...14 AWG)

⋆ Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the following assumptions:
- Mission time/Proof test interval of 20 years
- Functional test at least once within six-month period

Product Selection

Housing	Supply Voltage	Safety Contacts	Auxiliary Contacts	Housing	Type	Cat. No.
	24V AC/DC	1 N.O.	1 N.C. Solid State	22.5 mm	Control Unit 1	440N-S32013
	24V AC/DC; 115/230V AC	2 N.O.	1 N.C.	45 mm	Control Unit 2	440N-S32021
	24V AC/DC; 115/230V AC	3 N.O. 1 N.O. Delayed	1 N.C.	90 mm	Sipha 6	440N-S32052

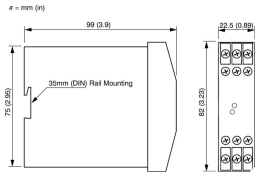
Accessories

Description	Cat. No.
Replacement Fuse, 500 mA	440R-A31562

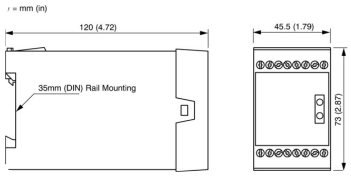
Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.

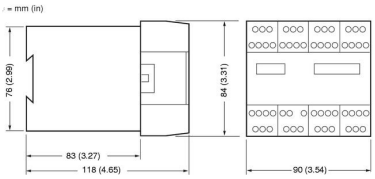
Sipha Control Unit Type 1



Sipha Control Unit Type 2

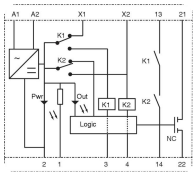


Sipha 6 Control Unit

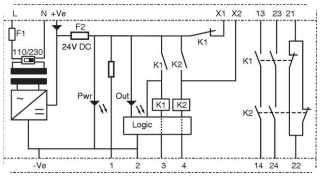


Block Diagrams

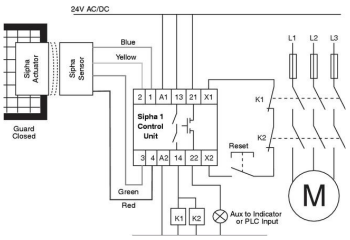
Sipha 1



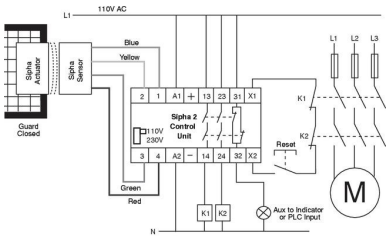
Sipha 2



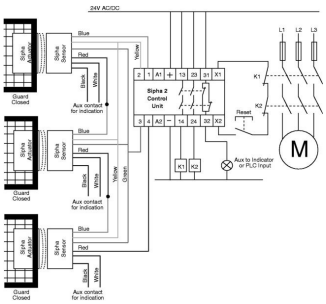
Typical Wiring Diagrams



Single Sipha Sensor, 24V Supply, Dual Channel Output, Manual Reset, Monitored Output



Single Sipha Sensor, 110V Supply, Dual Channel Output, Manual Reset, Monitored Output



Multiple Sipha Sensor, Manual Reset, Dual Channel Output, Monitored Output