

## Interlock Switches

# Non contact Switches

## 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 1 N.O. safety output and 1 N.C. solid state auxiliary output. The Sipha 2 control unit operates on either 24V AC/DC, 110V AC or 230V AC and offers 2 N.O. safety outputs and 1 N.C. auxiliary output. The Sipha 6 has wiring terminals for up to 6 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 2 and 6 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

- Non contact actuation
- Magnetic coded sensing
- Control Unit acts as safety relay
- Four types of switches




### Specifications

Standards	EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, IEC60947-5-1, ANSI B11.19, AS4024.1
Category	Sipha 1 & 2 Sipha 6 Cat. 3 per EN954-1 Cat. 4 per EN954-1
Approvals	CE marked for all applicable directives, cULus and TÜV
Power Supply	Sipha 1 Sipha 2 & 6 24V AC/DC 24V AC/DC and 110/230V AC
Power Consumption	Sipha 1 Sipha 2 & 6 <2VA <4VA

### Specifications (continued)

Safety Inputs	Sipha 1 Sipha 2 & 6	1 N.C. & 1 N.O. 6 x (1 N.C. & 1 N.O.)
Maximum Input Resistance	Terminals 1 – 4 Terminals 2 – 3	200Ω 150Ω
Minimum Approach Speed		17mm/s (0.67in/s)
Safety Outputs	Sipha 1 Sipha 1 Sipha 6	1 N.O. 2 N.O. 2 N.O. + 1 N.O. Delayed (0.6 to 30sec)
Output Rating		B300, AC-15, 4A/250V AC P300, DC-15, 2A/30V DC
Minimum Switched Current/ Voltage		10mA/10V
Maximum Recommended Output Fuse		5A quick blow AC, 3A quick blow DC
Auxiliary Outputs (not for safety use)	Sipha 1 Sipha 2 & 6	1 N.C. Photovoltaic MOSFET (on resistance typically 36Ω) 1 N.C.
Auxiliary Output Switching Capability	Sipha 1 Sipha 2 & 6	100mA/230V AC, 100mA/24V DC 2A/230 V AC, 2A/24 V DC
Indication LEDs		Green LED = Power on Green LED = Output closed
Impulse Withstand Voltage		2500V
Installation Group		C in accordance with VDE 0110
Pollution Degree		3
Operating Temperature		-10°C to +55°C (+14° to +131°F)
Humidity		90% RH
Torque Settings— Terminal Screws		1N·m (8.85lb-in)
Conductor Size		0.2-2.5mm <sup>2</sup> (24-14AWG)
Case Material		Red Polycarbonate
Mounting		35mm DIN Rail
Weight	Sipha 1 Sipha 2 Sipha 6	140g (0.31lbs) 410g (0.90lbs) 675g (1.49lbs)
Electrical Life	220V AC/4A880VA cosφ=.35 220V AC/1.7A375VA/ cosφ=.6 30V DC/2A60W 10V DC/0.01A/0.1W	100,000 operations 500,000 operations 1,000,000 operations 2,000,000 operations
Mechanical Life		2,000,000 operations
Vibration		1mm, 10 to 55Hz
Shock		30g, 11ms half-sine

**Product Selection**

Housing	Supply Voltage	Safety Contacts	Auxiliary Contacts	Housing	Type	Catalogue Number
	24V AC/DC	1 N.O.	1 N.C. Solid State	22.5mm	Control Unit 1	440N-S32013
	24V AC/DC 110V/230V AC	2 N.O.	1 N.C.	45mm	Control Unit 2	440N-S32021
	24V AC/DC 110/230V AC	2 N.O. 1 N.O. Delayed	1 N.C.	90mm	Sipha 6	440N-S32052

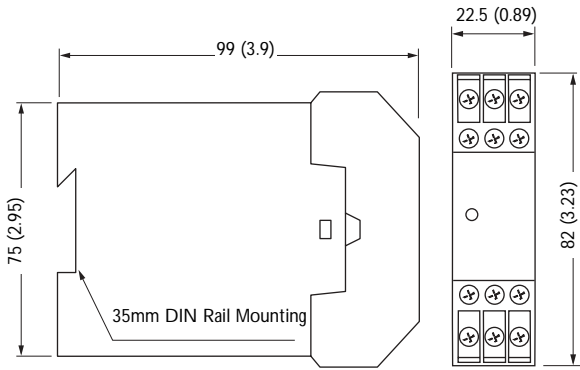
**Accessories**

Housing	Page Number	Catalogue Number
Replacement Fuse, 500mA	14-6	440R-A31562

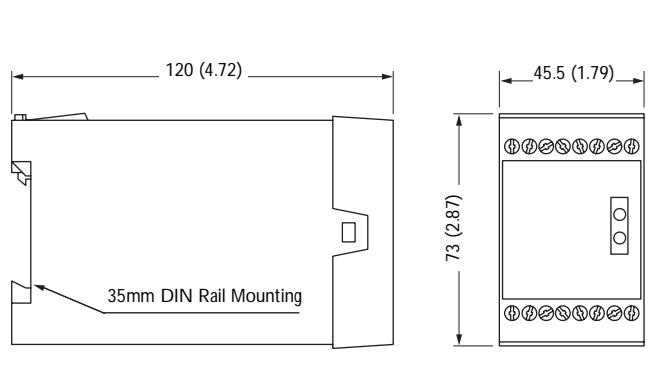
**Approximate Dimensions—mm (inches)**

*Dimensions are not intended to be used for installation purposes.*

Sipha Control Unit Type 1



Sipha Control Unit Type 2



Sipha 6 Control Unit

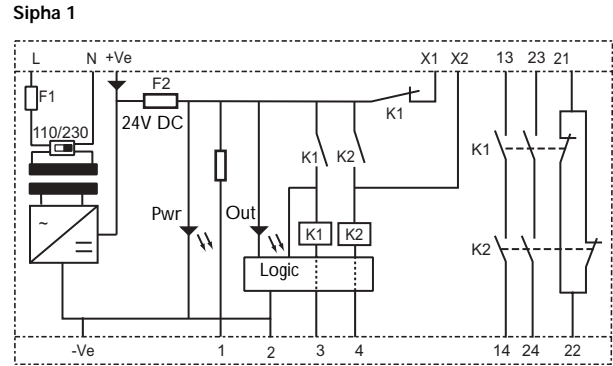
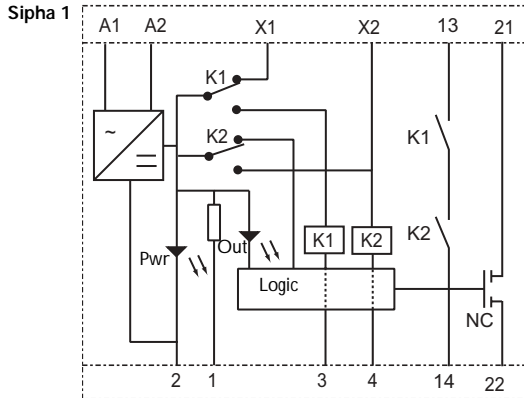


Interlock Switches

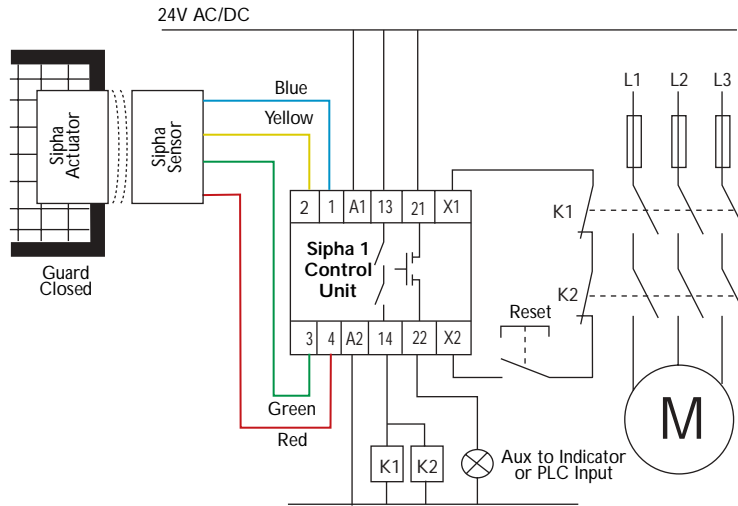
**Non contact Switches**

**Sipha Control Units**

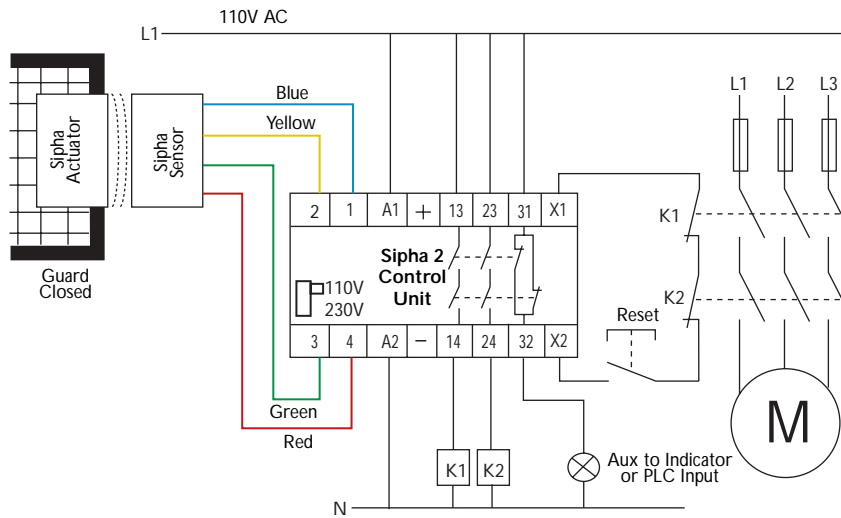
**Block Diagrams**



**Typical Wiring Diagrams**

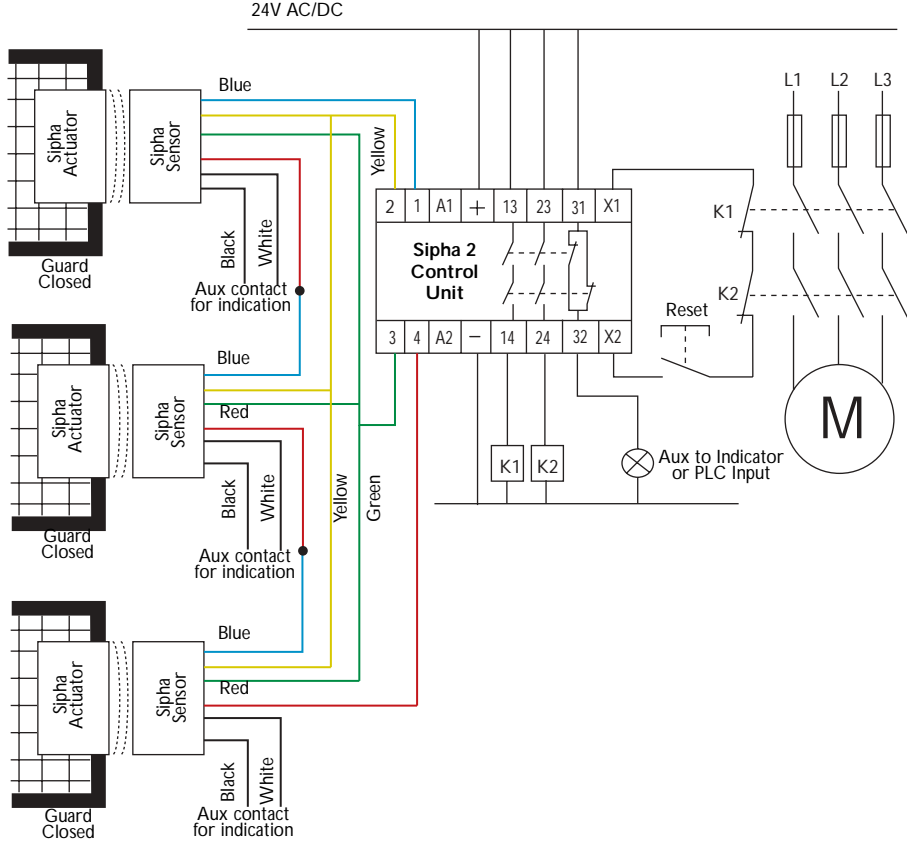


*Single Sipa Sensor, 24V Supply, Dual Channel Output, Manual Reset, Monitored Output*



*Single Sipa Sensor, 110V AC Supply, Dual Channel Output, Manual Reset, Monitored Output*

**Typical Wiring Diagrams (continued)**



*Multiple Sipa Sensor, Manual Reset,  
 Dual Channel Output, Monitored Output*

**Application Details**

See page 3-62 for application details.