

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 ² (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

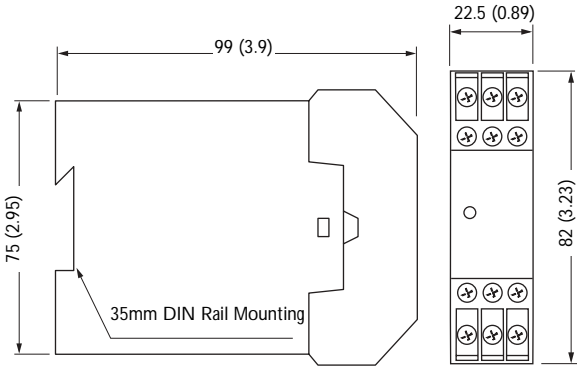
Accessories

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

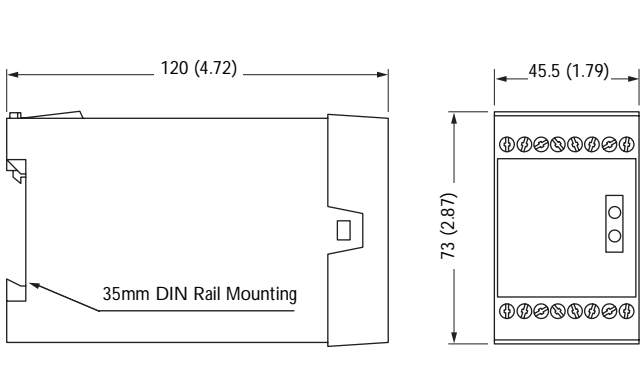
Approximate Dimensions—mm (inches)

Dimensions are not intended to be used for installation purposes.

Sipha Control Unit Type 1



Sipha Control Unit Type 2



Sipha 6 Control Unit

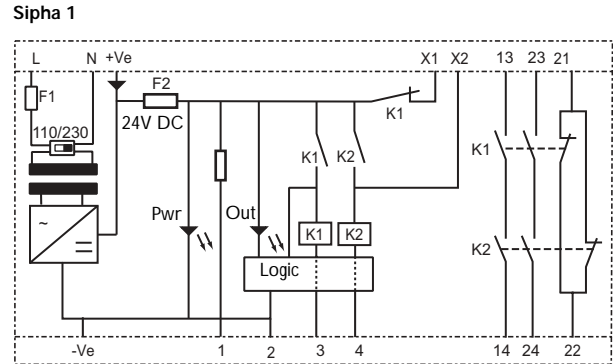
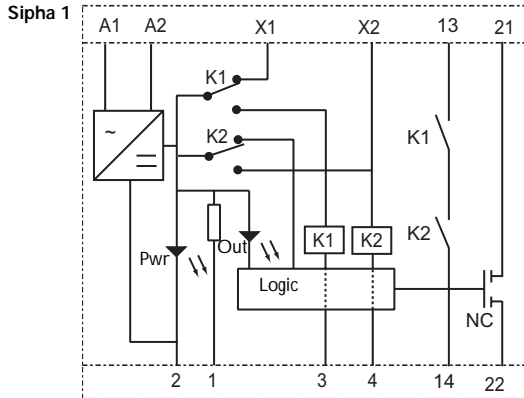


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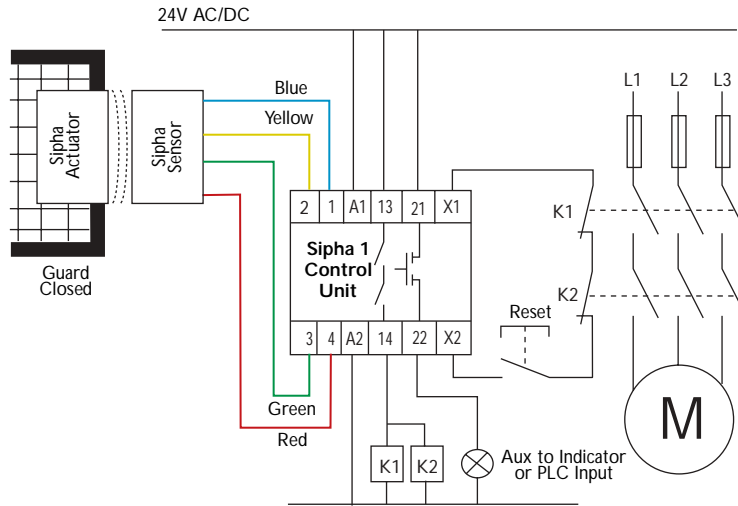
Non contact Switches

Sipha Control Units

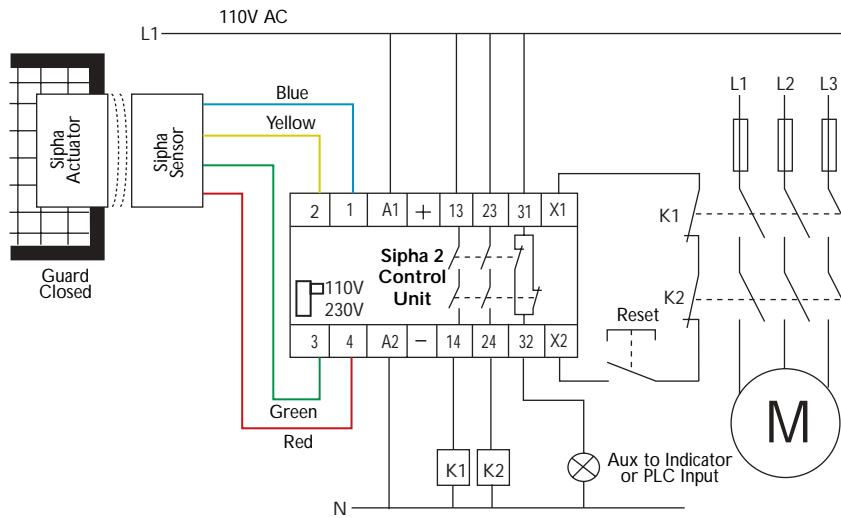
Block Diagrams



Typical Wiring Diagrams

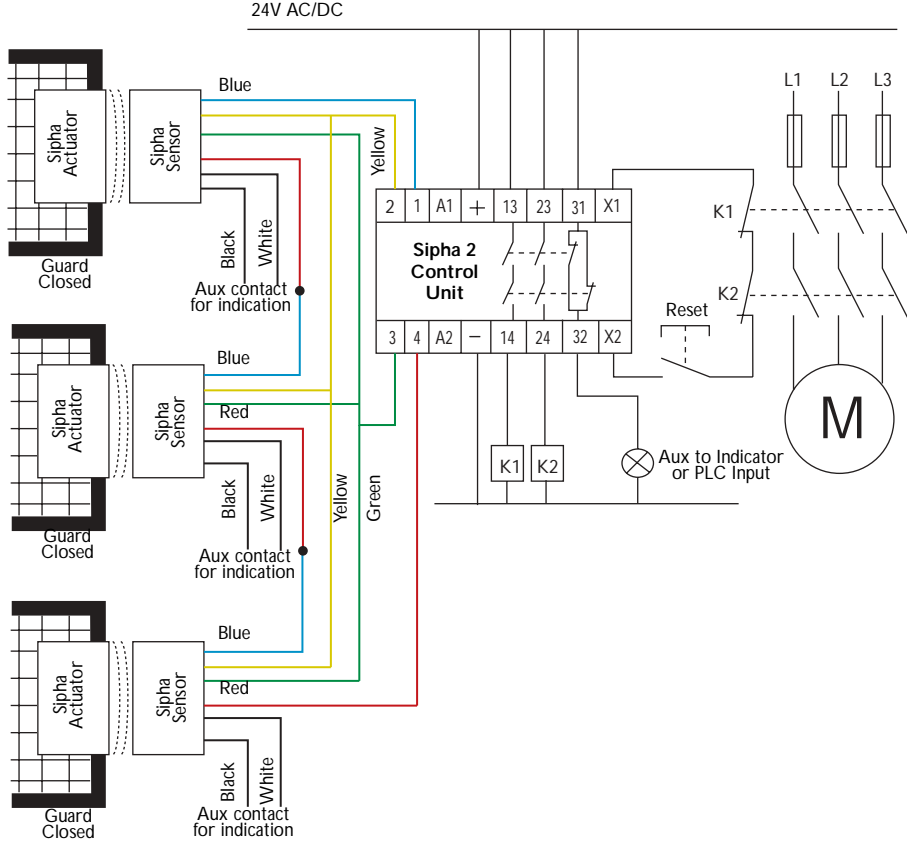


Single Sipha Sensor, 24V Supply, Dual Channel Output, Manual Reset, Monitored Output



Single Sipha 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.