

Safety Mat / Edge Controller

Single-Channel Safety Mat / Edge Controller

for use with UMA Safety Mats, Safety Edges
and Safety Bumpers

- Power requirements: 120 AC or 24V AC/DC input power in one unit.
- Monitored manual or automatic reset modes.
- Two safety outputs and 1 auxiliary output for signaling.
- Delayed Auxiliary Output - Delayed opening of the auxiliary output for reversal of a door or gate may be selected.
- External Device Monitoring - EDM is standard.



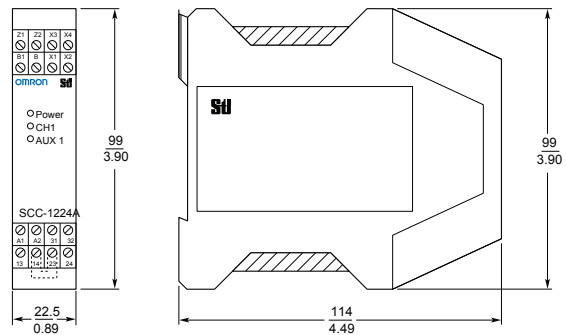
Ordering

Model No.	Description
SCC-1224A	Single-Channel Safety Edge DIN-Mount Controller for use with UMA Safety Mat, safety edges, 120 VAC, 24 VAC or 24 VDC operation

Description

Presence sensing mats and the SCC-1224A controller are used where perimeter access guarding is required, such as around robots, manufacturing work cells, food processing equipment and automated assembly equipment. The SCC-1224A controller is designed to work in conjunction with a two-wire or four-wire, normally open OMRON UMA series safety mats, edges, and bumpers.

Dimensions

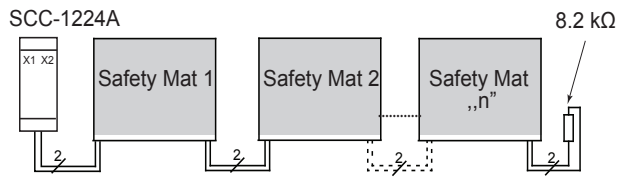


Specifications

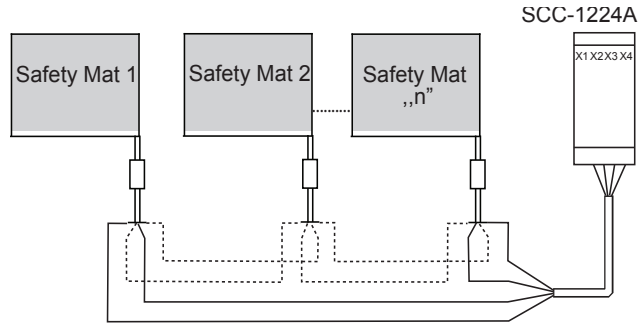
Power Input		
Power supply voltage (Terminals A1 and A2)	120V AC 50/60Hz	
Power supply voltage (Terminals B1 and B2)	24V AC 50/60Hz or 24V DC	
Operating voltage range	- 10% to +10% of rated power supply voltage	
Power consumption (with sensors connected)	120 VAC: 3.8 VA max. 50 Hz, 3.5 VA max. 60 Hz 24 VAC: 1.2 VA max., 24 VDC: 1.5 W max.	
* Select either Terminals A1 and A2 or Terminals B1 and B2 according to the power supply voltage applied. Never apply both voltages simultaneously.		
Inputs		
Sensor input	UMA Safety Mat: A maximum of 10 mats can be connected in series. SGE Safety Edge: A maximum of 5 edges can be connected in series. Maximum wire length: 25 m max.	
Contacts		
Safety output	230 VAC 3 A, 24 VDC 3 A (resistive load) 230 VAC 1 A (AC-15), 24 VDC 2 A (DC-13) (inductive load)	
Auxiliary output	24 VAC/DC 2A (resistive load)	
Auxiliary Output Contacts		
Switching current	2A (30V AC/DC)	
Activation delay (S2 in ON)	<10 ms	
Activation delay (S2 is OFF)	0.5 s	
Activation duration (S2 is OFF)	3s	
Terminating Resistor - Sensor		
Operating	8.2k Ω \pm 500 Ω	
Maximum without fault	<12.0k Ω	
Minimum without fault	>5.0k Ω	
General Specifications		
Startup time *1	300 ms max.	
Operating time (Open to closed) *2	550 ms.max.	
Response time (Closed to open) *3	13 ms. max.	
Maximum wire length	25 m max.	
Vibration resistance	10 to 55 Hz, Sinus, 0.15 mm amplitude, 10 cycles	
Shock resistance	Malfunction: 147 m/s ²	
Durability	Mechanical	1,000,000 cycles min.
	Electrical	AC-15: 800,000 cycles min. (230 VAC, 1 A) DC-13: 250,000 cycles min. (24 VDC, 2 A)
Ambient operating temperature	-20 to 55 °C (-4 to 131°F) with no icing or condensation	
Ambient operating humidity	0% to 90%	
Pollution degree	IP20	
Material (Housing)	Polyamide PA6.6, self-extinguishing according to UL 94-V2	
Protection type	Class II (protective insulation)	
Pollution degree	2	
Overvoltage category (IEC/EN 60664-1)	III	
Rated insulated voltage	250 V	
Rated impulse voltage resistance	4 kv	
Dielectric strength	1.5 kVAC	
Terminal tightening torque	0.5 to 0.6N* m	
Weight	approx. 210 g (7.4 oz)	
Performance Level	PLe	
Conformity	Conforming to Standards	EN ISO 13856-2, EN ISO 13849-1:2015, EN 61000-6-2, EN 61000-6-3, ANSI/UL 508, CSA C22.2 No. 14
	PFHd	6.5x10 ⁻⁹ (Nop 17,520)
	MTTFd	195 years
	DC	99% (Nop 17,520)
*1. The startup time is the delay time from power-on to when the SCC-1224A Safety Mat/Edge Controller is ready to operate.		
*2. The operating time is the time it takes for the safety output contacts to be closed after the sensor is deactivated and the manual reset input contacts are closed. The contact bounce time is not included.		
*3. The response time is the time it takes for the safety output contacts to open after the sensor is activated. Contact bounce time is		

Connection Example

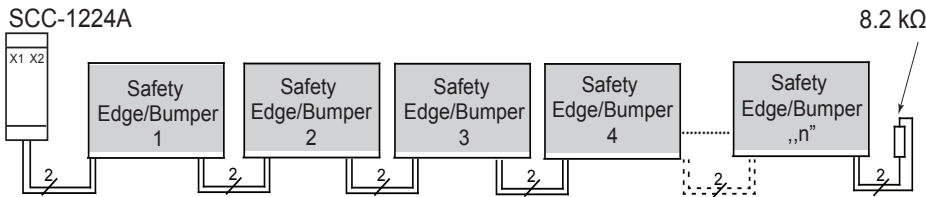
Connection Example for 2-wire mat



Connection Example for 4-wire mat



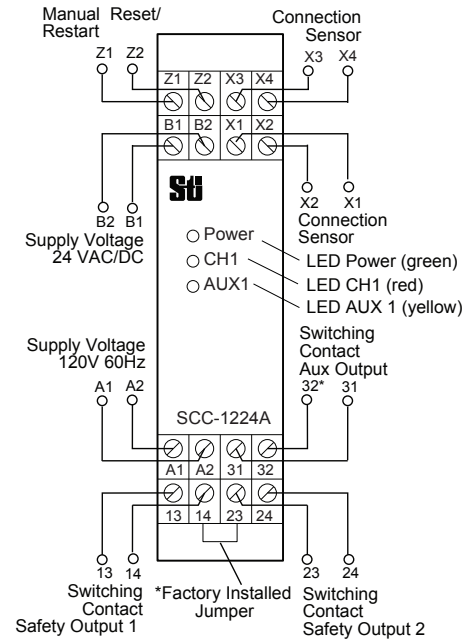
Connection Example for Safety Edge/Bumper



Indicators

Signal Indicators	Name	Status	Description
Power (Green)	Power LED	ON	Operating State
		Flashing	Fault Alarm*
Chi1 (Red)	Sensor Input LED	ON	Sensor activated (Safety Output OFF)
		Fast flashing* (approx. 4 Hz)	Sensor faulty*
		Slow flashing* (approx. 1 Hz)	Waiting for reset switch input* (Safety output OFF)
		OFF	Released from interlocked state (Safety output ON)
AUX 1 (Yellow)		ON	Auxiliary output contact closed
		OFF	Auxiliary output contact open

* Refer to User Manual for more information.



DIP Switch

DIP switch for configuring the operating mode	
1	"ON" - Automatic reset (factory setting)
	"OFF" - Manual reset, EDM monitoring
2	"ON" - Auxiliary signal without delay (factory setting)
	"OFF" - Auxiliary signal delayed

*Remove the factory installed jumper between terminals 14 and 23 if safety outputs 1 and 2 are not connected in series.

OMRON AUTOMATION AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • automation.omron.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • automation.omron.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE

Ciudad de México • 52.55.5901.4300 • 01.800.386.6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

San Pedro Garza García, N.L. • 81.12.53.7392 • 01.800.386.6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

Eugenio Garza Sada, León, Gto • 01.800.386.6766 • mela@omron.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE

São Paulo, SP, Brasil • 55 11 5171-8920 • automation.omron.com

OMRON ARGENTINA • SALES OFFICE

Buenos Aires, Argentina • +54.11.4521.8630 • +54.11.4523.8483
mela@omron.com

OTHER OMRON LATIN AMERICA SALES

+54.11.4521.8630 • +54.11.4523.8483 • mela@omron.com

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