| S SERIES
HIGH VOLTAGE RELAYS

The S series relay was developed for the high voltage ATE market, where printed circuit board space is at a premium.

The S series high voltage relay offers a 3kV or 5kV* isolation performance in a 30mm package.

Low contact resistance, through the use of Rhodium contact reed switches, makes the S series suitable for many high voltage applications at DC and low frequency, where performance and reliability are paramount.

Features

- Compact footprint
- Designed specifically for High Voltage ATE
- Rhodium contacts for Low Contact Resistance
- 3kV or 5kV* Isolation between contacts and 5kV isolation between contacts and coil
- Excellent lifetime characteristics

SPECIFICATIONS

Contact	Unit	Condition	3kV SPNO			5kV SPNO		
Contact Material			Rhodium			Rhodium		
Isolation Across Contacts	kV	DC or AC peak	3			5*		
Switching Power Max.	W		10			10		
Switching Voltage Max.	V	DC or AC peak	20			20		
Switching Current Max.	A	DC or AC peak	0.5			0.5		
Carry Current Max	A	DC or AC peak	1.5			1.5		
Capacitance Across Contacts	pF	coil to screen grounded	<0.1			<0.1		
Lifetime Operations	dry switching		10^9			10^9		
	10W switching		10^6			10^6		
Contact Resistance	mΩ max (typical)		80 (30)			80 (30)		
Insulation Resistance	Ω min (typical)		10^{10} (10^{13})			10^{10} (10^{13})		
***DC only, Pin 3 at high voltage**								
Coil Specification at 20°C			**5V**	**12V**	**24V**	**5V**	**12V**	**24V**
Must Operate Voltage	V	DC	3.7	9	20	3.7	9	20
Must Release Voltage	V	DC	0.5	1.25	4	0.5	1.25	4
Operate Time	ms	diode fitted	1.0	1.0	1.0	1.0	1.0	1.0
Release Time	ms	diode fitted	0.5	0.5	0.5	0.5	0.5	0.5
Resistance	Ω		140	600	1000	140	600	1000

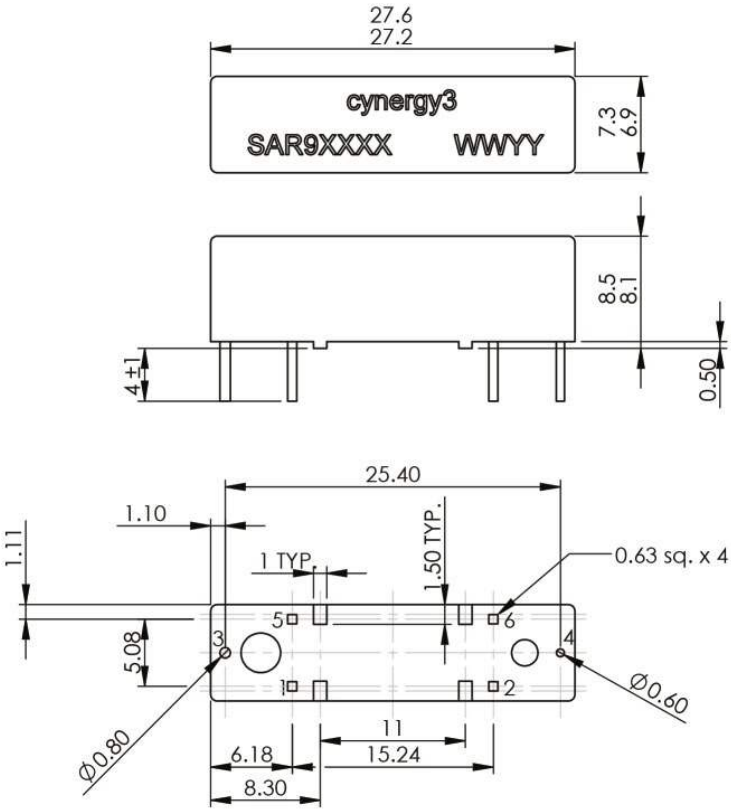
Note. The operate / release voltage and coil resistance will change at a rate of 0.4% per degree C. Values are stated at room temperature (20 degrees C)

Relay	Unit	Condition	3kV SPNO	5kV SPNO
Isolation Contact/Coil	kV		5	5
Insulation Resistance Contact to all Terminals	Ω min (typical)		10^{10} (10^{13})	10^{10} (10^{13})
Environmental Conditions				
Operating Temperature Range	°C		-20 to +70	-20 to +70
Weight	gm		3.1	3.1

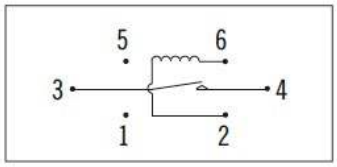
Please refer to this document for circuit design notes:
https://www.cynergy3.com/blog/reed-relay-application-notes

DIMENSIONS

All dimensions are in millimeters.



Relay Circuit Diagram



(Viewed from Underside)

Pin 1 is top left, when viewed from above, with respect to part marking

ORDERING OPTIONS

Example : SAR91205

S	A	R	9	12	05

Reed Switch Size

Contact Form

A = SPNO

Contact Material

R = Rhodium

Moulding Ref. No.

Coil Voltage

05 = 5Vdc
12 = 12Vdc
24 = 24Vdc

Isolation Between Contacts

3 = 3kV
5 = 5kV

CONTACT US

+44 (0)1202 897969
c3w_sales@sensata.com
Cynergy3 Components Ltd.
7 Cobham Road,
Ferndown Industrial Estate,
Wimborne, Dorset,
BH21 7PE, United Kingdom