



| 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

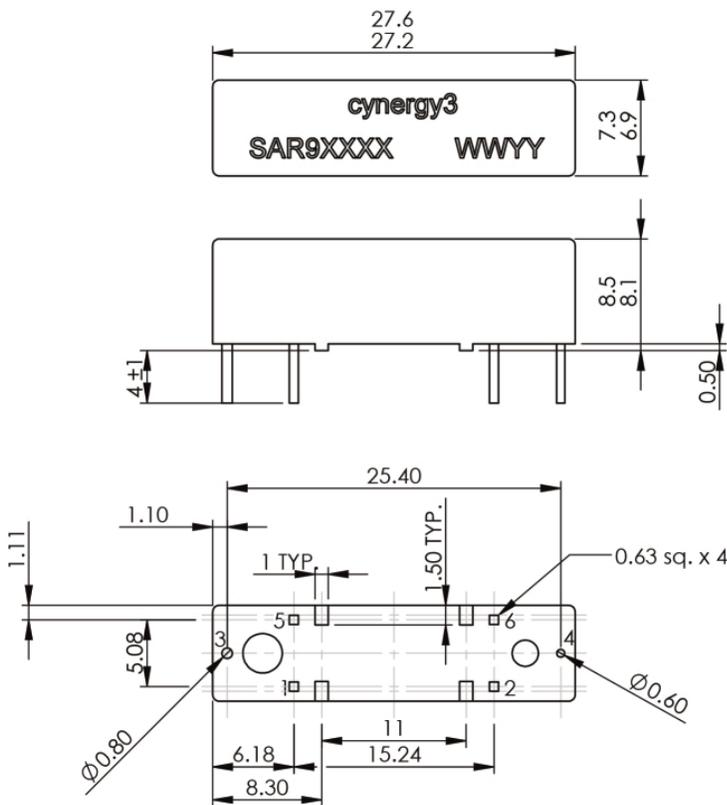
Note. The operate / release voltage and coil resistance will change at a rate of 0.4% per degree C. Values are stated at room temperature (20 degrees C)

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	$^{\circ}\text{C}$		-20 to +70	-20 to +70
Weight	gm		3.1	3.1

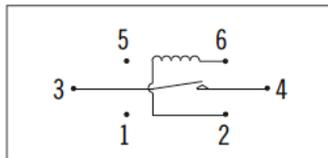
Please refer to this document for circuit design notes:
<https://www.cynergy3.com/blog/reed-relay-application-notes>

DIMENSIONS

All dimensions are in millimeters.



Relay Circuit Diagram

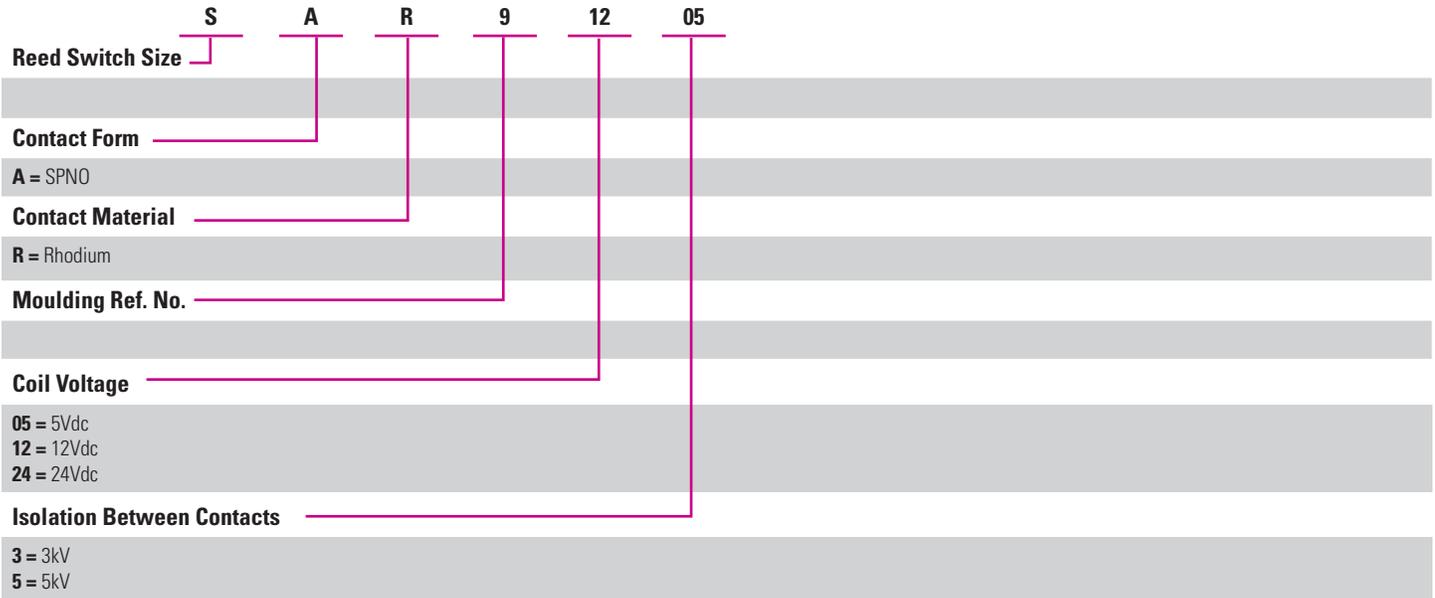


(Viewed from Underside)

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

ORDERING OPTIONS

Example : SAR91205



Made in the UK

Datasheets provided by Sensata Technologies, Inc., its subsidiaries and/or affiliates ("Sensata") are solely intended to assist third parties ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, valuation, and judgment in designing Buyer's systems and products. Sensata datasheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular datasheet. Sensata may make corrections, enhancements, improvements, and other changes to its datasheets or components without notice.

Buyers are authorized to use Sensata datasheets with the Sensata component(s) identified in each particular datasheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATASHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATASHEETS OR USE OF THE DATASHEETS, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATASHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at www.sensata.com. SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY, AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA

CONTACT US

Sensata Technologies
 Jan Tinbergenstraat 80
 7559 SP Hengelo
 The Netherlands
 1-508-236-3800
 +44 (0)1202 897969
cynergy3.enquiries@sensata.com