

# Greenwich Electronics, Inc.

## AR1 Series

- Standard automotive type relay
- Plug-in and PCB mounting
- Heavy-duty silver alloy contacts
- Coil paralleled diode or resistor
- Various bracket options, skirted, sealed versions
- Applications: automotive, industrial machinery, motor controls, general purpose



### COIL DATA

Nominal Voltage (DC)	Nominal Coil Current (mA) (± 10% at 20°C)	Coil Resistance (Ω) (± 10% at 20°C)
6	273	22
12	133	90
24	73	330

Pick-up Voltage	≤60% nominal
Drop-out Voltage	≥10% nominal
Max. Coil Voltage	168% nominal
Coil Consumption	Approx. 1.6W

### Contact

Configuration	<b>A:</b> 1 form A (SPST-NO), <b>C:</b> 1 form C (SPDT)
Material	Silver (Ag) alloy
Rated Load	<b>NO:</b> 40A@14VDC <b>NC:</b> 30A@14VDC
Initial Voltage Drop	SPST: 100mV@10A SPDT-NO: 250mV@10A; SPDT-NC: 200mV@10A
Max. Carry Current	<b>NO:</b> 60A <b>NC:</b> 40A
Max. Switching Voltage	75VDC
Max. Switching Current	<b>NO:</b> 120A (lamp load) <b>NC:</b> 45A (lamp load)
Max. Switching Power	50 - 500W (application dependent)

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## CHARACTERISTICS

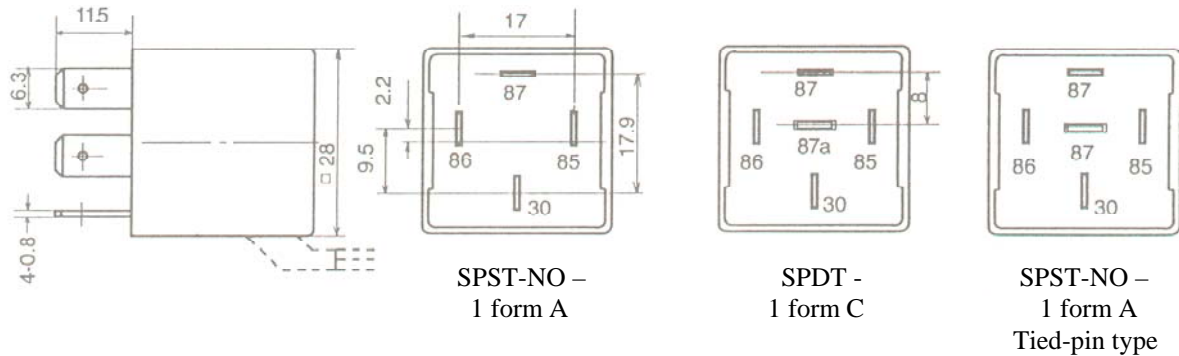
Contact Resistance	Max. 50mΩ
Operate Time	≤7ms
Release Time	≤2ms
Insulation Resistance	100MΩ (@500VDC, 50%RH)
Dielectric Strength:	
• Between coil and contacts	500VRMS / one minute
• Between open contacts	500VRMS / one minute
Vibration Resistance	10-18Hz, 1.5mm, single amplitude; 18-60Hz, 40m/s <sup>2</sup>
Shock Resistance	20g, 11msec.
Ambient Temperature	
• Storage	-40°C to 125°C
• Operate	-40°C to 155°C
Relative Humidity	95% @40°C
Life Expectancy:	
• Mechanical	1 x 10 <sup>7</sup>
• Electrical	1 x 10 <sup>5</sup> (at rated load)
Weight	Approx. 34 grams (dependent upon mounting type)

## ORDERING INFORMATION

<u>AR1</u>	-	<u>012</u>	-	<u>C</u>	<u>2</u>	<u>1</u>	<u>RK</u>	<u>S</u>
I		II		III	IV	V	VI	VII
I.	Series			<b>AR1</b>	- Standard model			
II.	Coil Voltage (VDC)			<b>006, 012, 024</b>				
III.	Contact configuration			<b>A</b>	- 1 form A (SPST-NO), <b>C</b> - 1 form C (SPDT)			
IV.	Coil Paralleled Component			<b>0</b>	- No component, <b>1</b> - Resistor, <b>2</b> - Diode			
V.	Connection Type			<b>1</b>	- Plug-in, <b>2</b> - PCB			
VI.	Mounting Type			<b>N</b>	- No bracket, <b>M</b> - Molded bracket, <b>R</b> - Removable metal bracket, <b>K</b> - Outer locking skirt, <b>K1</b> - Inner locking skirt			
VII.	Package Type			<b>nil</b>	- dust cover, <b>S</b> - Sealed			

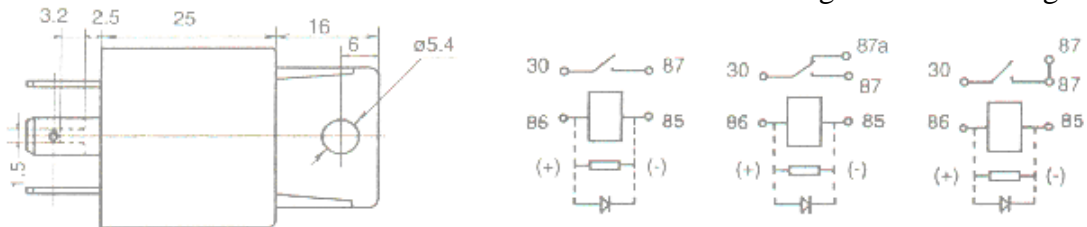
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## AR1 Series Dimensions and Schematics (in mm)



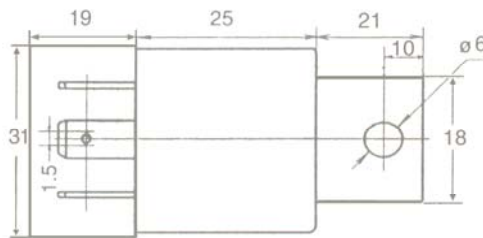
### AR1 - 1M type (plug-in with molded bracket)

#### Terminal arrangement and wiring diagram



Resistor or diode if used

### AR1 - 1RK type (plug-in with removable bracket and skirt)



### AR1 - 2 type (PCB)

