



Features

1. Using ceramic brazing technology, the contact part is filled with mainly hydrogen gas to effectively prevent contact oxidation and burnout. The contact resistance is low and stable, and the contact part can meet the IP67 protection grade.
2. 20A 85°C long time current carrying capacity.
3. The insulation resistance reaches 100MΩ (1,000VDC), and the withstand voltage between the contact and the coil is 4kV.
4. Compliant with IEC 60664-1, GB/T14048.1 and GB/T14048.4 requirements.
5. Compliant with RoHS (2015/863/EC) and REACH (1907/2006/EC) requirements.
6. Safety certificate: CE, RoHS.

Main Contact Specification

Contact Arrangement	1K (1NO)
Contact Polarity	Nonpolarity
Contact Resistance	≤0.5mΩ (at 20A)
Max. Switching Voltage	750VDC
Max. Breaking Current	200A (450VDC) 1 Ops
Electrical Endurance	100,000 Ops (450VDC, 20A)
	75,000 Ops (750VDC, 20A)
Mechanical Endurance	200,000 Ops
Withstand Current	20A, Continuous
	30A, 1h
	40A, 20min
	80A, 30S
	120A, 10S
	200A, 0.6S
Dimension	78x39.6x46.1mm
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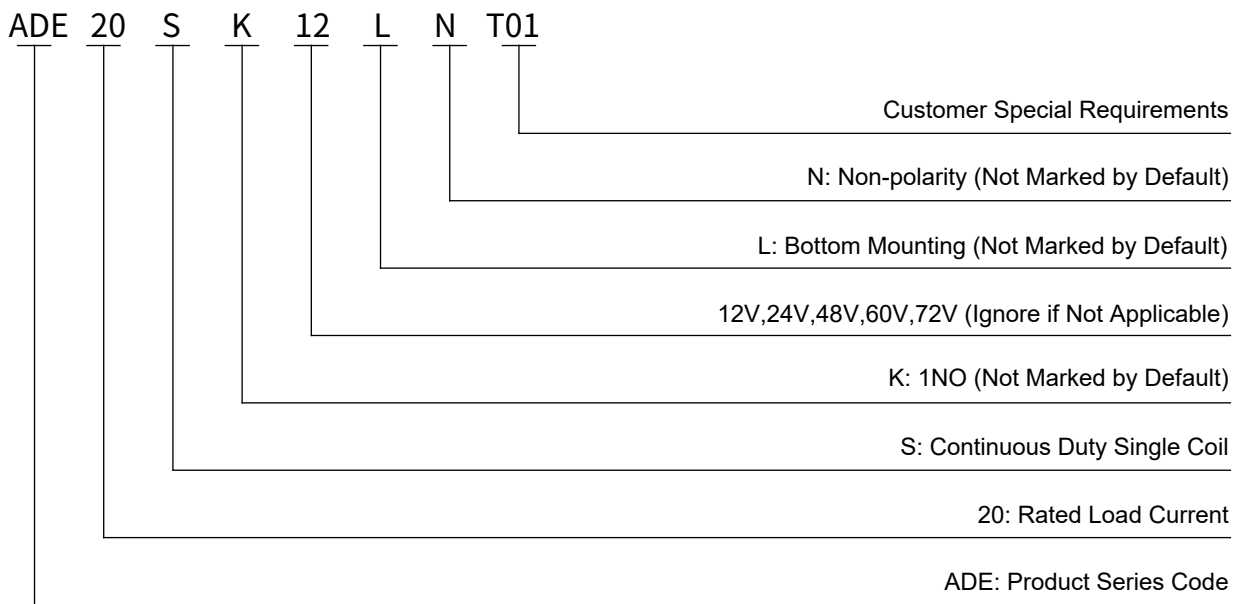
Performance Parameter (at 23 °C)

Pickup Voltage	≤75%Us	
Dropout Voltage	≥8%Us	
Pickup Time	≤30ms	
Contact Bounce Period	≤5ms	
Dropout Time	≤10ms	
Dielectric Strength	Between Main Contacts	3,000VDC 1min
	Between Main Contact and Coil	4,000VDC 1min
Insulation Resistance	Initial State	100MΩ 1min
	After Electrical Life	50MΩ 1min
Shock	Stability	20g (Power On)
	Strength	50g
Vibration	5g, 10~500Hz, 1/2 Sine Wave (Power On)	
Relative Humidity	5%~85%RH	
Temperature	-40°C~ 85°C	
Load Terminal	QC Terminal	
Weight	About 150g	

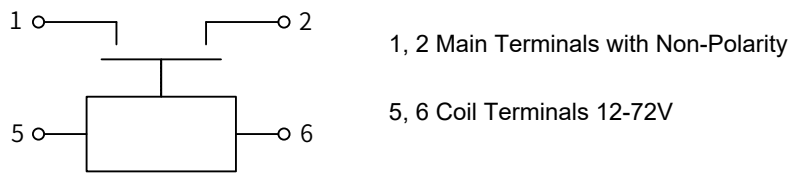
ADE20 Coil Parameter

Coil Voltage	Pickup Voltage VDC	Dropout Voltage VDC	Coil Resistance	Coil Power Consumption
12V	$\leq 75\%U_s$	$\geq 8\%U_s$	$48\Omega \pm 10\%$	$3W \pm 10\%$
24V	$\leq 75\%U_s$	$\geq 8\%U_s$	$192\Omega \pm 10\%$	$3W \pm 10\%$
48V	$\leq 75\%U_s$	$\geq 8\%U_s$	$761\Omega \pm 10\%$	$3W \pm 10\%$
60V	$\leq 75\%U_s$	$\geq 8\%U_s$	$1200\Omega \pm 10\%$	$3W \pm 10\%$
72V	$\leq 75\%U_s$	$\geq 8\%U_s$	$1728\Omega \pm 10\%$	$3W \pm 10\%$

Model Coding

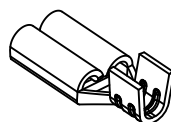


Wiring Diagram

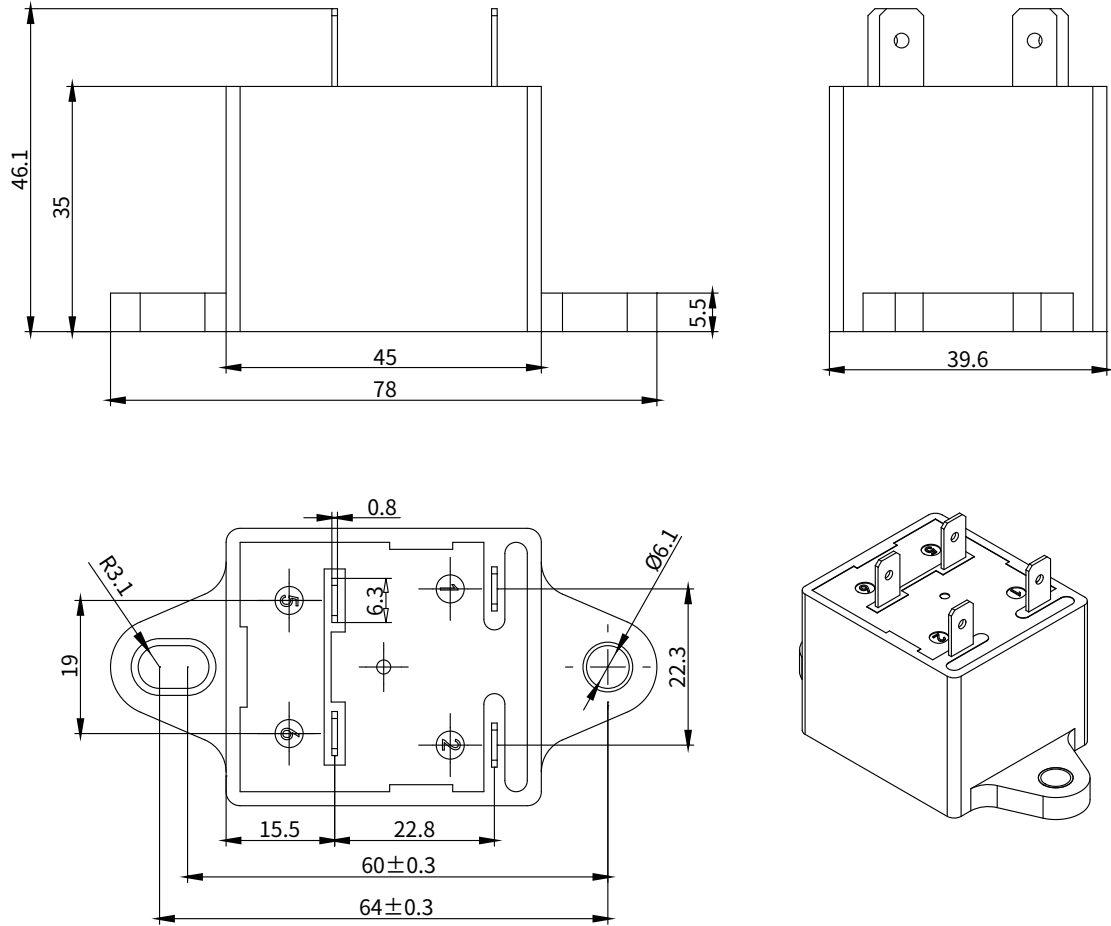


Wiring Diagram

9-160583-X
9-160313-X



Outline Installation Dimension Drawing



Usage Cautions

1. This document is only for customer selection reference, ATO has tried the best to ensure the accuracy of the information in this document. Product specifications and parameters may be changed due to product improvement etc., they may be inconsistent because of not updated in time. For the specific parameters and performance of each product, please refer to the samples provided by ATO and the corresponding signed and controlled specification.
2. Regarding the application of this product, please select the matching product according to your specific use conditions and environmental requirements when selecting the product. If the requirements are not clearly specified, please contact ATO to obtain more technical support.
3. When installing and using this product, regardless of wiring or fixed installation, it is required to use anti-loose spring washers.
4. The torque for installing fasteners should be within the standard range required by this specification. It may cause the unstable installation or damaging the product if the torque is lower than the minimum torque or higher than the maximum torque.
5. Do not install the contactor in places with strong magnetic fields (such as transformers or strong magnets), or close to objects with thermal radiation. It is recommended to use it with a cooling fan.
6. It is forbidden to use the product that have been dropped from a high place (height $\geq 30\text{cm}$).
7. It is forbidden to use the product in an environment with oil pollution, especially before wiring, it will seriously affect the main terminals conductivity if they are polluted by oil pollution, and affect the product life.
8. It is forbidden to use the product beyond the rated electrical life. When the rated electrical life is reached, although the product can continue to work, there is a risk of failure, explosion, and burning because of non-breaking.
9. This product cannot be used as a protector, and the circuit must be connected with a protector in series when using.
10. ATO only does the resistive electrical life verification and quality assurance. When the product is used in an environment with inductive load or capacitive load, it is recommended that the circuit should be connected in parallel with a surge protection device.
11. After continuous work, restarting immediately after disconnection will affect the pull-in voltage because the product is in a hot state, and the pull-in voltage will increase, which is a reasonable phenomenon.
12. It is strictly prohibited to wiring when power on.