

Products loading / Belastbarkeit der Produkte

We are more exactly making clear the problem with load and good choice of relay contact according to existing load, what is switched by mentioned product. Mostly problem is in wrong choice of load (wrong choice of relay for the load), what makes permanent switching on or the damage of contacts - it makes for the non-functional product.

What kind of load could be?

Exact types load expression according to standard ČSN-EN 60947 are in below mentioned charts - applications categories.

Application category	Typical application	ČSN-EN
Alternating current, $\cos \varphi = P/S$ (-)		
AC-1	<u>Non-inductive or low-inductive loads, resistive furnace</u> Includes all appliances supplied by AC and power factor ($\cos \varphi$) ≥ 0.95 . Examples of using: resistive furnace, industry loads	60947-4
AC-3	<u>Squirrel-cage motors, alive motors switching</u> This category is for switchin off the squirrel-cage motors alive. By switching the contactor switched current, what is from 5 to 7 multiple of nominal motor current. By switching off is nominal motor current off. Examples of using: all common squirrel-cage motors, lifts, escalators, elevators, compressors, pupms, air-conditionings, mortar mixers ,...	60947-4
AC-5a	<u>Switching of electric discharge tubes</u>	60947-4
AC-5b	<u>Bulbs switching</u> Allows low contact loading, because of multiplicity lower resistance of cold filament, than warm filament.	60947-4
AC-6a	<u>Transformer switching</u>	60947-4
AC-6b	<u>Capacitor switching</u>	60947-4
AC-12	<u>Resistive loads and solid loads with optoelectronic element insulation controlling</u>	60947-5
AC-15	<u>Controlling of alternation electro-magnetic loads</u> Inductive load switching on with supply in close electro-magnetic main higher than 72 VA Using: switching of contactors coils	60947-5
AC-20	<u>Connections and disconnections in non-loaded conditions</u>	60947-3
AC-21	<u>Resistive loads switching including low loads</u>	60947-3
AC-22	<u>Switching of miscellaneous resistive and inductive loads, including low over-load</u>	60947-3
AC-23	<u>Switching of motors loads or other hight inductive loads</u>	60947-3
Notes.: Appliance categor AC 15 replaces previously used category AC 11.		
Direct current, $t = I/R$ (s)		
DC-1	<u>Non-inductive or low-inductive loads, resistive furnaces</u>	60947-4
DC-6	<u>Non-inductive or low-inductive loads, resistive furnaces</u>	60947-4
DC-12	<u>Controlling of resistive load and solid loads with opto-electronic element insulation</u>	60947-5
DC-23	<u>Switching by hight inductive load (serial motors)</u>	60947-3

How to find, for what load is your product (relay)?

You can find this information on our product, in catalogue, manual and other advertising and technical materials (web-sites,...).

Very important is to know, that is impossible to exactly provide the type of load, for example because of unknowing of device (user doesn't know how to measure $\cos \varphi$) or because of device parameters changeability.

Producer of relays indicatives of guaranteed parameters always in ideal conditions, what are according the norm (temperature, pressure, humidity,...) and practise could be many a time other.

Appliance category existing relay is intended by material of input contacts.

Basic materials types, which are using for contact production of power relays are:

- AgCd** - for ohmic loads (because of Cd malignity is this contact on recess)
- AgNi** - for resistive loads, good switches and transfers (no oxidizes) low currents/voltages, is not for peak currents and loads wiht inductive factors
- AgSn or AgSnO** - for switching the loads with inductive part, not good for low currents/voltages, has the better immunity for peak currents, good for switching DC, not so good for switching the ohmic loads
- Wf (tungsten)** - special contact for switching peak currents with inductive factors
- gold admixture (AgNi/Au)** - for the "better" contact for low currents/voltages, antioxidize

Our company uses relays with contacts AgNi a AgSnO.