

This is a low-current, polarized, two-position, bistable, distance relay with twelve change-over contacts; designed for switching DC&AC electrical circuits with frequency of 5-1500 Hz; manufactured according to GOST 16121-86, GOST ВД 16121-86 and Бр0.425.001 ТУ.

Environmental ratings: temperate, cold and tropical (humid) climate.

Models for general industry purposes and space and defense business are also available.



Ordering data:

Relay DP12 12 PC4.521.901 Бр0.425.001 ТУ

Technical Parameters

Model	Contact Resistance, Ohm, not more	Coil Resistance, I...IV, Ohm	Voltage non-reversing, V, not more	Operate Voltage, V, not more	Rated Voltage, V
PC4.521.901 PC4.521.903	2 0,25	420±63	10	18	27 ⁺⁵ ₋₃
PC4.521.902 PC4.521.904	0,25 2	75±11,25	4	8	12 ⁺² _{-1,2}
PC4.521.905 PC4.521.906	2 0,25	420±63	10	17	27 ⁺⁷ ₋₅

Technical Specifications

Operate Time, ms, not more	12
Electrical Insulation Strength between Current Carrying Circuits and between Current Carrying Circuits and Package (effective value), V: at normal ambient temperature in conditions of high humidity at low air pressure	500 300 180
Insulation Resistance between Current Carrying Circuits and between Current Carrying Circuits and Package, mOhm, not less: at normal ambient temperature at max. operating temperature in conditions of high humidity	200 20 10
Weight, g	220

Switching Modes

Models	Switching Range		Type of Load	Current Type	Switching Frequency Hz, not more	Number of Switching Cycles	
	I, A	U, V				Σ	$t^{\circ}=80^{\circ}\text{C}$
PC4.521.901 PC4.521.904	$0,8 \cdot 10^{-1} - 2,0$	6 - 34	Active	const	3,0	10^4	$0,25 \cdot 10^4$
	5,0-10,0	6 - 32			*	100 make switch	25 make switch
	0,5-1,0	12 - 115	Inductive. $\tau \leq 15$ ms	var 50-400 Hz	0,5	10^4	$0,25 \cdot 10^4$
	$0,4 \cdot 10^{-1} - 0,15$	6 - 34		const	3,0		
	0,15-1,0			1,0			
$0,5 \cdot 10^{-1} - 0,5$	12 - 115	Inductive $\cos \varphi \geq 0.3$	var 50-400 Hz	1,0	$0,5 \cdot 10^4$ 10^4	$0,125 \cdot 10^4$ $0,25 \cdot 10^4$	
		Active	3,0				
PC4.521.902	$0,5 \cdot 10^{-5} - 0,1 \cdot 10^{-2}$	0,05 - 10^{**}	Active	const & var 50-400 Hz	3,0	10^4	$0,25 \cdot 10^4$
	$0,1 \cdot 10^{-2} - 0,1 \cdot 10^{-1}$	3 - 34		const			
	$0,1 \cdot 10^{-2} - 0,5 \cdot 10^{-1}$	5 - 115		var 50-400 Hz			
	$0,1 \cdot 10^{-1} - 0,1$	10 - 34		const			
PC4.521.903	$0,5 \cdot 10^{-5} - 0,1 \cdot 10^{-2}$	0,05 - 10^{**}	Active	Const & var 50-400 Hz	3,0	10^4	$0,25 \cdot 10^4$
	$0,1 \cdot 10^{-2} - 0,1 \cdot 10^{-1}$	3 - 32		const			
	$0,1 \cdot 10^{-2} - 0,5 \cdot 10^{-1}$	5 - 115		var 50-400 Hz			
	$0,1 \cdot 10^{-1} - 0,1$	10 - 32		const			
PC4.521.905	$0,8 \cdot 10^{-1} - 2,0$	6 - 34	Active	const	****	10^4	$0,25 \cdot 10^4$
	5 - 10				*	100 make switch	25 make switch
	$0,5 \cdot 10^{-1} - 1,0$	12 - 115			var 50-400 Hz	****	10^4
	0,1 - $0,5^{***}$	30 - 80	Inductive	var 1500 Hz	****		
	$0,4 \cdot 10^{-1} - 0,15$	6 - 34	Inductive $\tau \leq 15$ ms	const	3,0	10^4	$0,25 \cdot 10^4$
	0,15-1,0				1,0		
	$0,5 \cdot 10^{-1} - 0,5$	12-115	Inductive $\cos \varphi \geq 0.3$	var 50-400 Hz	1,0	$0,5 \cdot 10^4$	$0,125 \cdot 10^4$
PC4.521.906	$0,5 \cdot 10^{-5} - 0,1 \cdot 10^{-2}$	0,05- 10^{**}	Active	Const & var 50-400 Hz	*****	10^4	$0,25 \cdot 10^4$
	$0,1 \cdot 10^{-2} - 0,1 \cdot 10^{-1}$	3 - 34		const			
	$0,1 \cdot 10^{-2} - 0,5 \cdot 10^{-1}$	5 - 115		Var 50-400 Hz			
	$0,1 \cdot 10^{-1} - 0,1$	10 - 34		const			

* The make switch duration is 50 – 100 ms. Closed break switch is not allowed.

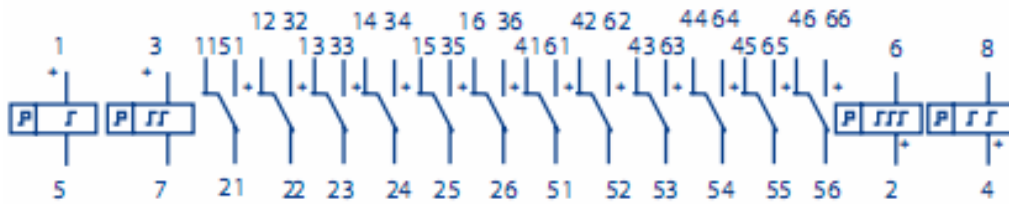
** The load resistance shall be within the limits of 5-500 kOhm.

*** The toroidal transformer coil is OA32/50-10 $\cos \varphi = 0,8$.

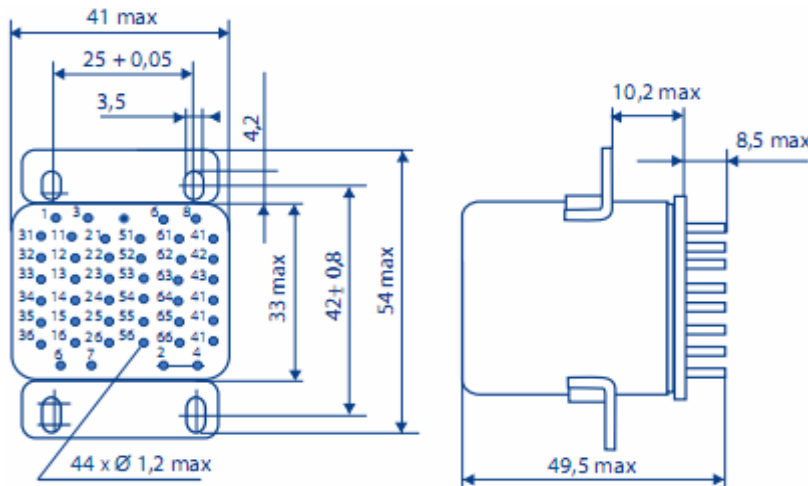
**** The Coil power supply is pulsing with pulse duration of $(0,25 \pm 0,05)$ sec, relative pulse duration should be not less than 100.

***** The time of continuous live coil standing should be 0,05-5 sec when relative pulse duration (cycling switches) is not less than 5.

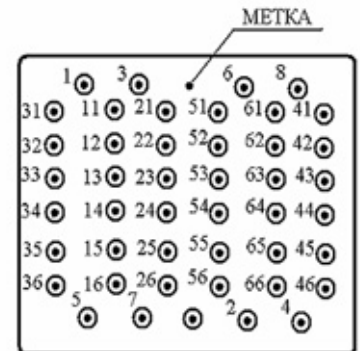
Schematic Circuit Diagram



External and Mounting Dimensions



Terminal Position



Operating Conditions

Ambient Temperature, °C	from minus 60 to plus 80
Air Pressure, Pa, (mm of Mercury)	from $1,3 \cdot 10^{-4}$ to $1,06 \cdot 10^5$ (from 5 to 800)
Relative Humidity at $t \leq 35^\circ\text{C}$, %	to 98
Shock Resistance : single shocks multiple shocks	30 shocks with acceleration to 1500 m/sec^2 (150g) 4000 shocks with acceleration to 500 m/sec^2 (50g) or 10 000 with acceleration to 120 m/sec^2 (12g)
Vibration Loads over 5 to 50 Hz over 50 to 1500 Hz	with amplitude 1,5 mm with acceleration to 100 m/sec^2
Shock Resistance	30 shocks with acceleration to 750 /sec^2 (75g)
Linear Loads	to 250 m/sec^2 (25g)