

This is a static time relay in hermetically sealed metal-can package with one NOC terminal; designed to switch DC electrical circuits with fixed time intervals from 0,05 to 7200 seconds; manufactured according to GOST 16120-86 and ЯЛ4.544.003 ТУ; applied in control engineering and supervision systems for special and general industrial purposes.



Environmental ratings: humidity conditions.

Ordering data: **Time Relay RDV 11 ЯЛ4.544.003-01 ЯЛ4.544.003 ТУ**

Technical Parameters

Package Type	155.15-2
Dimension (with terminals), mm L x W x H	30x20x5(13)
Switching Current, A	0,4
Switching Voltage, V	4,5 – 80
Residual Voltage on the Unsealed Relay (at -60°C), V, not more than	0,8 (1,5)
Leakage Current of an Unsealed Relay (at 85°C),mA, not more than	0,2 (1,5)
Operating Voltage, V	27^{+7}_{-4}
Consumption Current, mA, not more than	15
Recovery Time, ms , not more than	50
Delay Time, sec.	0,05;0,1;0,2;0,3;0,35;0,5;0,75;1;1,5;2;3;4;5;7;8;10;20;30;40;45;50;60;90;120;150;180;240;300;360;480;600;900;960;1200;1800;1920;2400;3600;7200
Time-to failure, h Derating Operation ($T \leq 55^{\circ}\text{C}$, $I \leq 0,2\text{A}$, $U \leq 40\text{V}$),	25000 50000
Temperature, °C	From minus 60 to plus 85
Humidity, %	98 at 35°C
Pressure, Pa	$1,03 \cdot 10^2 \div 3 \cdot 10^5$
Vibration Loads, Hz/g	1 - 3000/20
Shock Resistance, g	500
Weight, g, not more than	12



Models

Model	Delay Time, sec.	Model	Delay Time, sec.	Model	Delay Time, sec.
1	2	3	4	5	6
ЯЛ4.544.003	0,05	ЯЛ4.544.003 - 19	45	ЯЛ4.544.003 - 32	1800
ЯЛ4.544.003 - 01	0,1	ЯЛ4.544.003 - 20	60	ЯЛ4.544.003 - 33	1920
ЯЛ4.544.003 - 02	0,2	ЯЛ4.544.003 - 21	90	ЯЛ4.544.003 - 34	2400
ЯЛ4.544.003 - 03	0,3	ЯЛ4.544.003 - 22	120	ЯЛ4.544.003 - 35	3600
ЯЛ4.544.003 - 04	0,5	ЯЛ4.544.003 - 23	180	ЯЛ4.544.003 - 36	7200
ЯЛ4.544.003 - 05	1	ЯЛ4.544.003 - 24	240	ЯЛ4.544.003 - 37	150
ЯЛ4.544.003 - 06	2	ЯЛ4.544.003 - 25	300	ЯЛ4.544.003 - 38	0,35
ЯЛ4.544.003 - 07	3	ЯЛ4.544.003 - 26	360	ЯЛ4.544.003 - 39	1,5
ЯЛ4.544.003 - 08	5	ЯЛ4.544.003 - 27	480	ЯЛ4.544.003 - 40	4,0
ЯЛ4.544.003 - 09	10	ЯЛ4.544.003 - 28	600	ЯЛ4.544.003 - 41	7,0
ЯЛ4.544.003 - 16	20	ЯЛ4.544.003 - 29	900	ЯЛ4.544.003 - 42	8,0
ЯЛ4.544.003 - 17	30	ЯЛ4.544.003 - 30	960	ЯЛ4.544.003 - 43	0.75
ЯЛ4.544.003 - 18	40	ЯЛ4.544.003 - 31	1200	ЯЛ4.544.003 - 44	50

Technical Specifications

Operating Voltage, V	27 (+7– 4)
Consumption Current, mA, not more than	15
Residual Voltage at "On"-position, V, not more than	1,5
Leakage Current of an Output Circuit at "Off"-position, mA :	
- at 25 C°	0,2
- at 85 C°	1,5
Switching Voltage, V	4,5–80
Maximal Switching Current, A	0,4
Operation Time Tolerance, %:	
from 15 to 35 C°	±3
from -60 to +15°C, from 35 to 85°C	±10
Weight, g not more than	12

Electric Strength and Insulation Resistance

Test Conditions	Test Voltage, V	Insulation Resistance, mOhm, not less
Normal Ambient Temperature	180	200
Maximal Operating Temperature	-	20
Low Air Pressure	110	-
High Humidity, Silver Thaw and Dew, Salt Fog, Mold & Fungi, Static Dust	110	10

Reliability

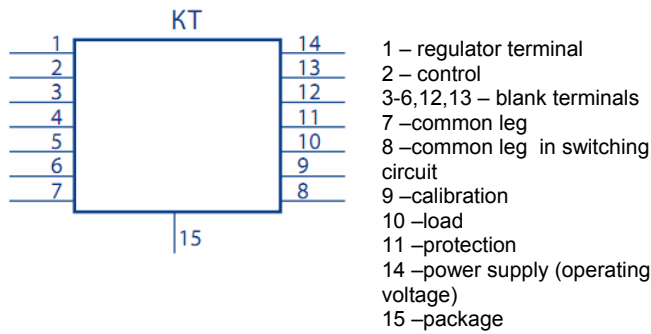
Minimal operating time during life limit is not less than 25000 hours; at derating operation conditions not less than 50000 hours.

Minimal storage time in a heated storehouse, as well as being mounted in insulated equipment or in protected SPTA (spare parts, tools and accessories) not less than 15 years.

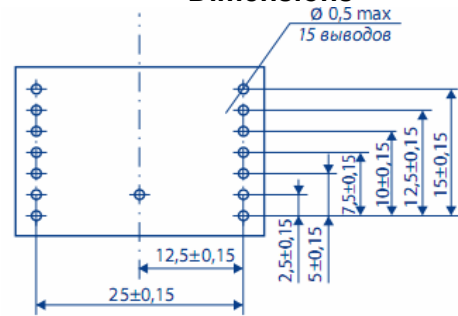
Minimal operating life limit is not less than 15 years.

Reference value of 95% gamma-percentile life is not less than 40000 hours, in derating operation conditions not less than 80000 hours.

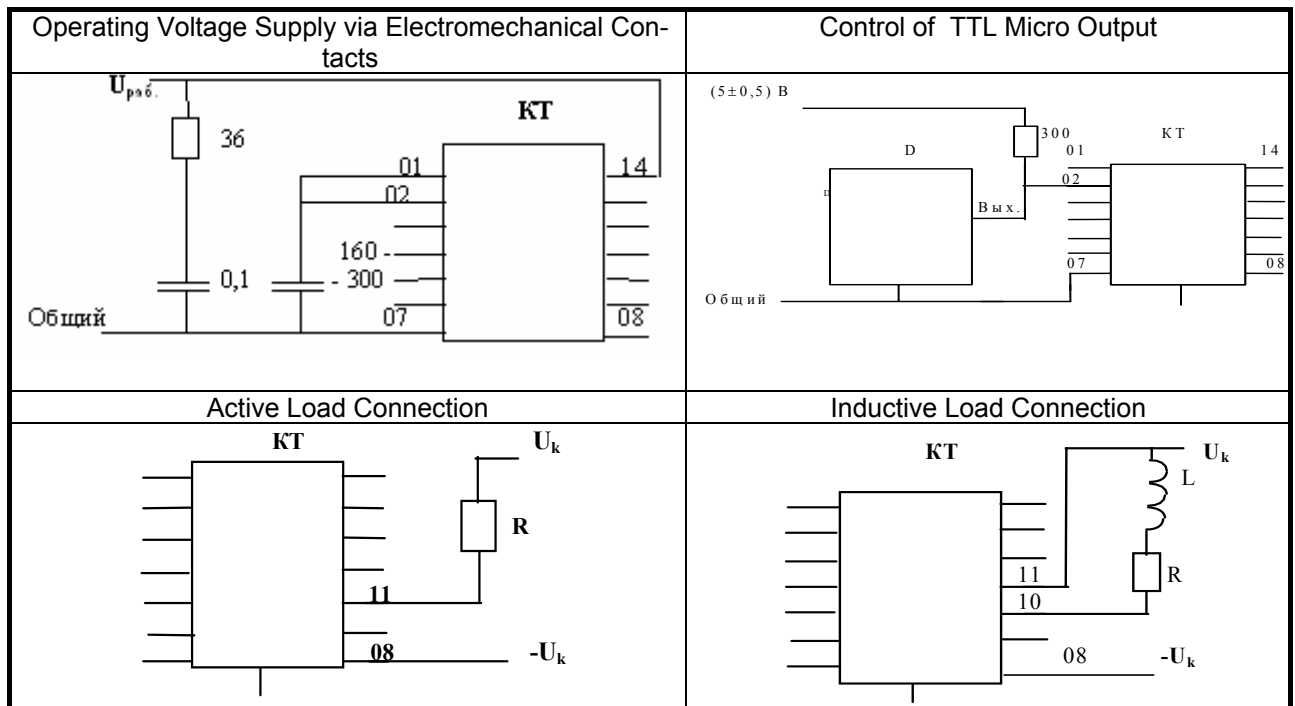
Terminals Function and Position



Mounting View and Mounting Dimensions



Connection Diagram





Operating Conditions

Operating Temperature Range, °C	From minus 60 to plus 85
Sinusoidal Vibration : frequency range, Hz acceleration amplitude, m/sec ² (g)	1 - 3000 200 (20)
Single Mechanical Shock : shock acceleration peak value, m/sec ² (g) duration of shock acceleration, ms	5000 (500) 0,1 - 2,0
Multiple Mechanical Shocks : shock acceleration peak value, m/sec ² (g) duration of shock acceleration, ms	750 (75) 1 - 5
Linear Acceleration, m/sec ² (g)	1500 (150)
Acoustic Noise : frequency range, Hz sound pressure level, dB	50 - 10000 130
Low Air Pressure, Pa, (mm of Mercury)	$1,3 \cdot 10^{-4}$ (10^{-6})
High Air Pressure, kgf/cm ²	3
High Relative Humidity at 35°C, %	98
Static Dust, Salt Fog, Mold & Fungi, Silver Thaw and Dew.	According to GOST 16120-86