Power PCB Relay RT1 Inrush Power

- **1 pole 16A, 1 form A (NO) contact (W pre-make contact + $AgSnO_2$)**
- **10A/250VAC making and breaking capacity acc. to IEC 60669-1**
- **165A/20ms inrush peak current**
- **Mono- or bistable coil**
- **5kV/10mm coil-contact**
- **Reinforced insulation**
- **Test tab (manual operator) optional**

Typical applications
Lighting systems, movement sensors, filament and incandescent lamp loads, motors

Approvals

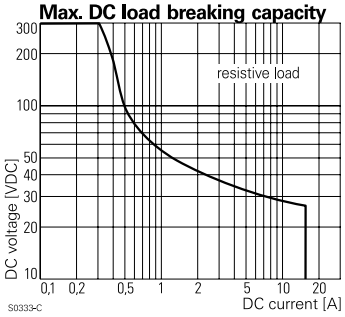
VDE REG.-Nr. 6106,cULus E214025, cCSAus 14385
Technical data of approved types on request

Contact Data	RT.3T	RTS3L
Contact arrangement	1 form A (NO) contact	
Rated voltage	250VAC	
Max. switching voltage	400VAC	
Rated current	16A	
Limiting continuous current	16A, UL: 20A (RTS3L)	
Limiting making current,		
max. 20ms (incand. lamps)	165A	120A
max. 200µs (flourescent lamps)	800A	-
Breaking capacity max.	4000VA	
Contact material	W (pre-make cont.) +$AgSnO_2$	$AgSnO_2$
Contact style	pre-make contact	single contact
Frequency of operation, with/without load	360/3600h^{-1}	
Operate/release time max., DC coil	10/5ms	
Operate/Reset time max., bistable version	10/10ms	
Bounce time max.	4ms	

Contact ratings

Type	Contact	Load	Cycles
IEC 61810			
RTS3L	A (NO)	20A, 250VAC resistive, 70°C	20x10^3
RTS3L monostable	A (NO)	16A, 250VAC resistive, 85°C	100x10^3
RTS3T	A (NO)	16A, 250VAC resistive, 85°C	5x10^3
UL 508			
RTS3L	A (NO)	20A, 250VAC, general purpose, 70°C	20x10^3
RTS3L	A (NO)	16A, 250VAC, resistive, 85°C	50x10^3
RTS3L	A (NO)	TV8, 240VAC, 40°C	25x10^3
RTS3L	A (NO)	1.5hp, 240VAC, 70°C	30x10^3
RTS3T	A (NO)	1200W Tungsten, 120VAC/277VAC, 60Hz, 50°C	6x10^3
RTS3T	A (NO)	620W Discharge lamps (standard ballast), 120VAC/277VAC, 60Hz, 50°C	6x10^3

Max. DC load breaking capacity



Contact Data (continued)

Mechanical endurance		
DC coil	>5x10^6 ops.	>10x10^6 ops.
bistable version	>3x10^6 ops.	>5x10^6 ops.
tab manually operated	>1x10^3 ops.	-

Coil Data, monostable DC coil

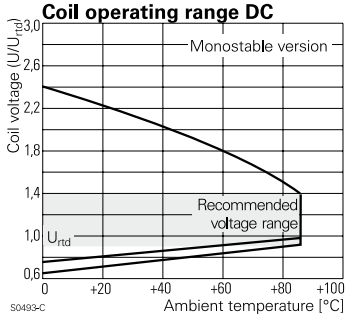
Coil voltage range	5 to 110VDC
Operative range, IEC 61810	2
Coil insulation system according UL1446	class F

Coil versions, monostable DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%[1)]	Rated coil power mW
005	5	3.5	0.5	62	403
006	6	4.2	0.6	90	400
012	12	8.4	1.2	360	400
024	24	16.8	2.4	1440	400
048	48	33.6	4.8	5520	417
060	60	42.0	6.0	8570[1)]	420
110	110	77.0	11.0	28800[1)]	420

1) Coil resistance ±12%.
All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

Coil operating range DC



Coil Data, bistable coils	1 coil	2 coils
Magnetic system	polarized, bistable	
Coil voltage range	3 to 24VDC	
Operative range, IEC 61810	2	
Limiting voltage, % of rated coil voltage	120%	150%
Min./Max. energization duration	30ms/1min at <10% duty factor	
Coil insulation system according UL1446	class F	

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Coil Data (continued)

Coil versions, bistable

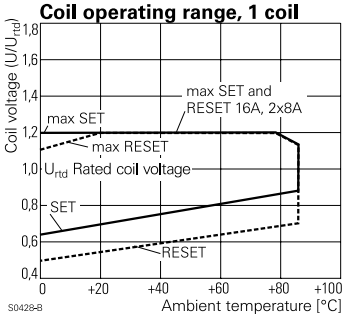
Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Rated coil power mW
Coil versions, bistable 1 coil					
A03	3	2.1	1.7	21	429
A12	12	8.4	6.6	360	400
A24	24	16.8	13.2	1440	400
Coil versions, bistable 2 coils					
F03	3	2.1	1.7	15	600
F12	12	8.4	6.6	240	600
F24	24	16.8	13.2	886	650

All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

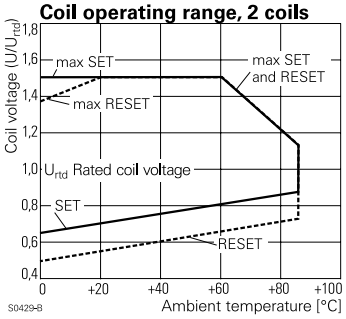
Bistable coils - operation

Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Operate	+	-		+	-
Reset	-	+	-	+	
Contact position not defined at delivery					

Coil operating range, 1 coil



Coil operating range, 2 coils



Insulation Data

Initial dielectric strength	
between open contacts	1250V_{rms}
between contact and coil	5000V_{rms}
Clearance/creepage	
between contact and coil	≥10/10mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250V

Other Data

	RT.3T	RTS3L
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.tycoelectronics.com/customersupport/rohssupportcenter		
Ambient temperature		
monostable DC coil	-40 to 85°C	
bistable 1 coil	-10 to 85°C	
bistable 2 coils	-40 to 85°C	
Category of environmental protection		
IEC 61810	RTII - flux proof	
Vibration resistance (functional),		
monostable version	10g	20g
Shock resistance (destructive)	100g	
Terminal type	PCB-THT, plug-in[2)]	
Weight, without / with test tab	14/16g	14g/-
Resistance to soldering heat THT		
IEC 60068-2-20	270°C/10s	
Packaging/unit		
without test tab	tube/20 pcs., box/500 pcs.	tube/20 pcs., box/500 pcs.
with test tab	tray/25 pcs., box/100 pcs.	- -

2) RTT3T or bistable 2 coil version: pcb mounting only. See Accessories

Accessories RTS3.

For details see datasheet Accessories Industrial Power Relay RT

Socket available for 1 coil version only.

NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

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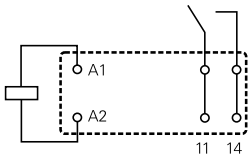
Terminal assignment
Bottom view on solder pins

monostable version



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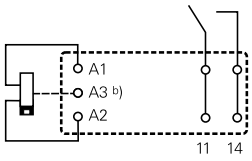
bistable version



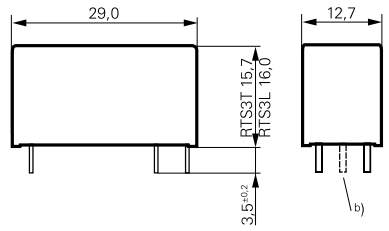
S0163DPS

a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

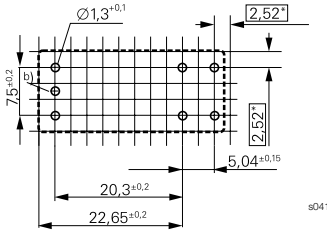
Dimensions / PCB layout

version without test tab



S0272-BW S0272-BC

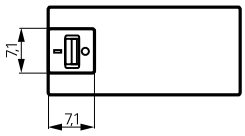
16A, pinning 5mm



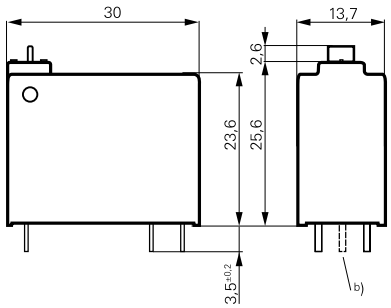
s0418-CV

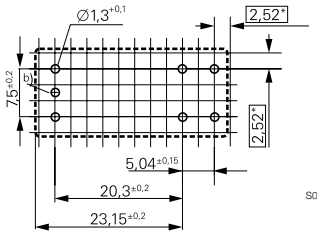
b) for 2 coil version only

version with test tab



S0491-B





S0492-CU

*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

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Power PCB Relay RT1 Inrush Power (Continued)

Product code structure — Typical product code: **RT S 3 T A12**

Type
RT Power PCB Relay RT1 Inrush Power

Version
S Without test tab
T With test tab (manual operator) for contact material ‚T' and bistable coil only

Contact configuration
3 1 form A (NO) contact

Contact material
L $AgSnO_2$
T Tungsten (W) pre-make + $AgSnO_2$

Coil
Coil code: please refer to coil versions table

Product code	Version	Contacts	Contact material	Coil version	Coil	Part number
RTS3L005	Without test tab, 16mm high	1 form A (NO) contact	$AgSnO_2$	Monostable	5VDC	1-1415898-8
RTS3L006					6VDC	4-1415898-4
RTS3L012					12VDC	1-1415898-9
RTS3L024					24VDC	1-1415898-4
RTS3LA12				Bistable, 1 coil	12VDC	2-1415898-3
RTS3LF12				Bistable, 2 coils		2-1415898-5
RTS3T005	Without test tab, 15.7mm high		W pre-make + $AgSnO_2$	Monostable	5VDC	1-1415898-6
RTS3T012					12VDC	1415898
RTS3T024					24VDC	1415898-1
RTS3T048					48VDC	1-1415898-1
RTS3T060					60VDC	1-1415898-2
RTS3TA05				Bistable, 1 coil	5VDC	1-1415898-5
RTS3TA06					6VDC	3-1415898-1
RTS3TA12					12VDC	1415898-2
RTS3TF03				Bistable, 2 coils	3VDC	1415898-4
RTS3TF12					12VDC	1415898-5
RTS3TF24					24VDC	1415898-6
RTT3TA12	With test tab, 23.6mm high			Bistable, 1 coil	12VDC	1415898-7
RTT3TF24				Bistable, 2 coils	24VDC	1-1415898-0

This list represents the most common types and does not show all variants covered by this datasheet.
Other types on request

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