Power PCB Relay RT Inrush Power

- ■ **1 pole 16A, 1 form A (NO) contact (AgSnO$_2$ or W pre-make contact + AgSnO$_2$)**
- ■ **Mono- or bistable coil**
- ■ **5kV/10mm coil-contact**
- ■ **Reinforced insulation**
- ■ **Test tab (manual operator) optional for RTT3T bistable versions**
- ■ **WG version: product in accordance to IEC60335-1**
- ■ **RTS3T: Electronic ballast UL508/NEMA 410 rated**
- ■ **RTSET: 8A Electronic ballast rated**

Typical applications
LED lighting systems, filament and incandescent lamp loads, movement detectors, light sensors, intelligent wall sockets, motors (RTS3L), bus system actuators.

Approvals

VDE Cert. No. 40007571,UL E214025, cCSAus 1142018

Technical data of approved types on request.

Contact Data	RT.3T / RTSET	RTS3L
Contact arrangement	1 form A (NO) contact	
Rated voltage	250VAC	
Max. switching voltage	480VAC	
Rated current	16A	
Limiting continuous current	16A	20A
Limiting making current,		
max. 20ms (incand. lamps)	165A peak	120A peak
max. 200µs	800A peak	
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
In process:			

Type	Contact	Load	Cycles
RTSET	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)	2A, 480VAC, magnetic ballast, 80°C	10x10^{3*}
RTS3T	A (NO)	2A, 480VAC, electronic ballast, 80°C	10x10^{3*}
RTS3T	A (NO)	3A, 277VAC, electronic ballast, 80°C	15x10^3
RTS3T	A (NO)	5A, 120VAC, electronic ballast, 80°C	15x10^3
RTS3T	A (NO)	5A, 277VAC, electronic ballast, 85°C	10x10^3
RTS3T	A (NO)	5A, 347VAC, electronic ballast, 105°C with z.c	10x10^{3*}
RTS3T	A (NO)	5A, 347VAC, magnetic ballast, 105°C	10x10^3
RTS3T	A (NO)	3A, 480VAC, magnetic ballast, 105°C	10x10^{3*}
RTSET	A (NO)	16A, 250VAC, general purpose, 85°C	5x10^3
RTSET	A (NO)	8A, 277VAC, electronic ballast, 85°C	6x10^3
RTSET	A (NO)	5A, 277VAC, electronic ballast, 85°C	10x10^3
RTSET	A (NO)	3A, 277VAC, electronic ballast, 85°C	20x10^3
RTSET	A (NO)	5A, 120VAC, electronic ballast, 85°C	20x10^3

* Special test conditions available on request

Max. DC load breaking capacity

resistive load

DC voltage [VDC]
DC current [A]
S0333-C
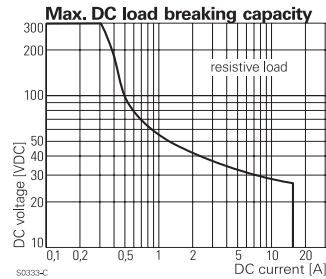
Contact Data (continued),

Mechanical endurance	RT.3T / RTSET	RTS3L
DC coil	>5x10^6 ops.	>10x10^6 ops.
bistable version	>3x10^6 / >1x10^6 ops.	>5x10^6 ops.
tab manually operated	>1x10^3 ops.	-

Coil Data, monostable DC coil

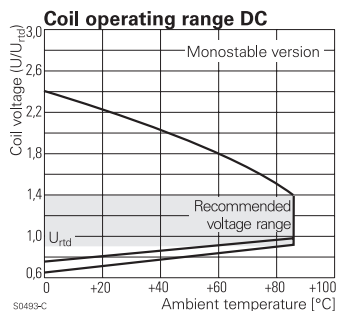|	RT.3T	RTSET	RTS3L
Coil voltage range	5 to 110VDC		
Operative range, IEC 61810	2		
Coil insulation system according UL1446	class F		

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
009	9	6.3	0.9	203	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

Monostable version
Coil voltage (U/U$_{rtd}$)
U$_{rtd}$
Recommended voltage range
Ambient temperature [°C]
S0493-C

Catalog and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

Catalog and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Catalog product data, 'Definitions' section, application notes and all specifications are subject to change.

Power PCB Relay RT Inrush Power (Continued)

Coil Data (continued),

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	

Coil Data — RT.3T / RTS3L

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.

Coil Data — RTSET

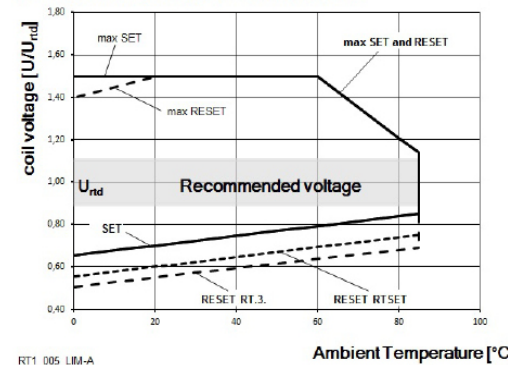| Coil versions, bistable					
Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Rated coil power mW
Coil versions, bistable 1 coil					
A03	3	2.1	1.8	21	429
A12	12	8.4	7.2	360	400
A24	24	16.8	14.4	1440	400
Coil versions, bistable 2 coils					
F03	3	2.1	1.8	15	600
F12	12	8.4	7.2	240	600
F24	24	16.8	14.4	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 bistable coil

RT1_004_LIM-A

Coil operating range: 2 bistable coils

RT1_005_LIM-A

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

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content
refer to the Product Compliance Support Center at
www.te.com/customersupport/rohssupportcenter

Ambient temperature RT.3T / RTS3L	
monostable DC coil	-40 to 105°C
bistable 1 coil	-10 to 105°C
bistable 2 coils	-40 to 105°C
Ambient temperature RTSET	
monostable DC coil	-40 to 85°C
bistable 1 coil	-10 to 85°C
bistable 2 coils	-40 to 85°C

	RT.3T / RTSET	RTS3L
Category of environmental protection IEC 61810	RTII - flux proof	
RTIII - wash tight available upon request		
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	

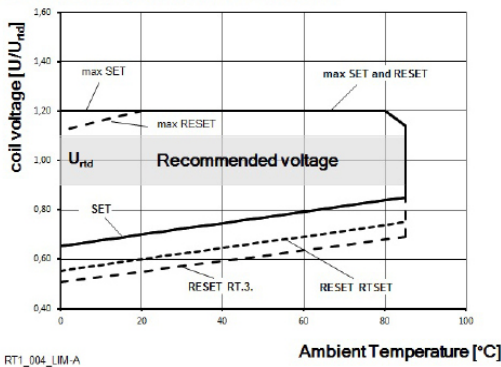|	RT.3T / RTSET	RTS3L
Packaging/unit		
without test tab	tube/20 pcs., box/500 pcs.	tube/20 pcs., box/500 pcs.
with test tab	tray/25 pcs., box/100 pcs.	- -

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

Accessories RTS.

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.

Catalog and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

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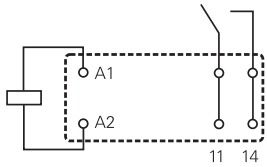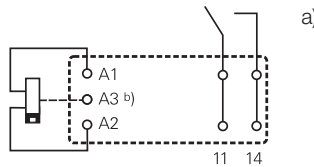
Power PCB Relay RT Inrush Power (Continued)

Terminal assignment
Bottom view on solder pins
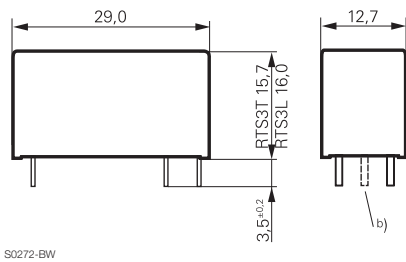
monostable version

bistable version

a)

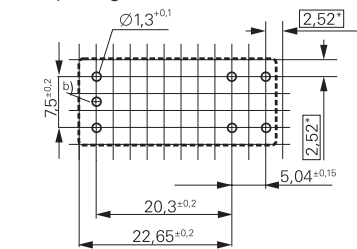a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

Dimensions / PCB layout

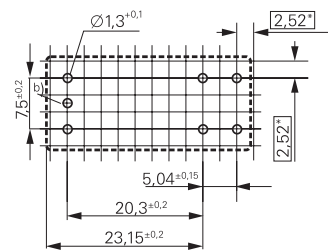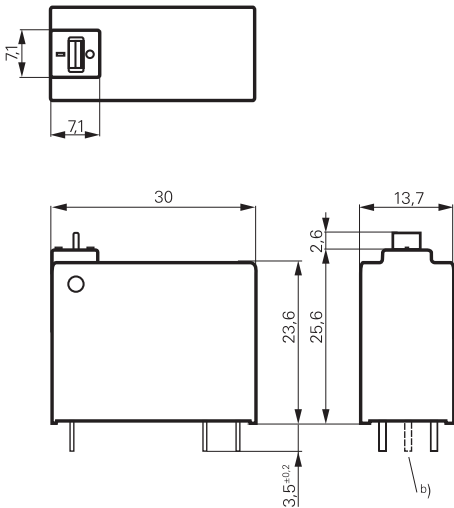version without test tab

S0272-BW

16A, pinning 5mm

b) for 2 coil version only

version with test tab

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

Power PCB Relay RT 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 version ‚RTT3T' bistable coil only

Contact configuration
3   1 form A (NO) contact

E   1 form A(NO) ‚electronic ballast' contact

Contact material
L   AgSnO₂

T   Tungsten (W) pre-make + AgSnO₂

Coil
Coil code: please refer to coil versions table

Version
Blank Standard Version
WG   Product in accordance to IEC 60335-1

Product code	Version	Contacts	Contact material	Coil version	Coil	Version	Part number
RTS3L005	Without test tab,	1 form A (NO)	AgSnO₂	Monostable	5VDC	Standard	1-1415898-8
RTS3L006	16mm high	contact			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	12VDC		2-1415898-5
RTS3LF24					24VDC		2-1415898-6
RTS3T005	Without test tab,		W pre-make + AgSnO₂	Monostable	5VDC		1-1415898-6
RTS3T012	15.7mm high				12VDC		1415898
RTS3T024					24VDC		1415898-1
RTS3L048					48VDC		2-1415898-1
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,			Bistable, 1 coil	12VDC		1415898-7
RTT3TF24	23.6mm high			Bistable, 2 coils	24VDC		1-1415898-0
RTS3L012WG	Without test tab,	1form A (NO)	AgSnO₂	Monostable	12VDC	IEC60335-1	2-1415898-7
RTS3L024WG	15.7 mm high	contact			24VDC	compliant	5-1415898-1
RTS3T012WG			W pre-make + AgSnO₂		12VDC		5-1415898-6
RTS3TA24WG				Bistable 1 coil	24VDC		4-1415898-7
RTSET005	Without test tab,	1 form A (NO)	W pre-make + AgSnO₂	Monostable	5VDC	Standard	7-1415898-7
RTSET012	15.7mm high	contact			12VDC		7-1415898-9
RTSET024					24VDC		8-1415898-0
RTSETA12				Bistable, 1 coil	12VDC		8-1415898-6
RTSETA24					24VDC		8-1415898-7
RTSETF12				Bistable, 2 coils	12VDC		9-1415898-1
RTSETF24					24VDC		9-1415898-3

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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