

Power PCB Relay RT1 Inrush

- 1 pole 16A, 1 form C (CO) or 1 form A (NO) contact
- For inrush peak currents up to 80A
- Mono- or bistable coil
- 5kV/10mm coil-contact
- Reinforced insulation
- Ambient temperature 85°C
- WG version: product in accordance to IEC 60335-1



F0177-C



Typical applications

Domestic appliances, heating control, lighting control

Approvals

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

Technical data of approved types on request

Contact Data

Contact arrangement	1 form C (CO) or 1 form A (NO)
Rated voltage	250VAC
Max. switching voltage	400VAC
Rated current	16A
Limiting continuous current	16A, UL: 20A (K-version)
Limiting making current, max. 4s, df 10%	30A
max. 20ms (incandescent lamps), RT33L version	80A
Breaking capacity max.	4000VA
Contact material	AgNi90/10, AgSnO
Frequency of operation, with/without load	360/72000h ⁻¹
Operate/release time max., DC coil	9/6ms
Operate/Reset time max., bistable version	10/10ms
Bounce time max., form A/form B	3/6ms

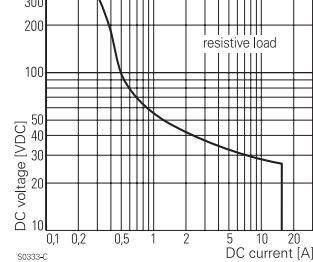
Contact ratings

Type	Contact	Load	Cycles
IEC 61810			
RT33L	A (NO)	16A, 250VAC resistive, 85°C	50x10 ³
RT33L	A (NO)	10A, 400VAC resistive, 85°C	10x10 ³
RT31	C (CO)	16A, 250VAC resistive, 85°C	6x10 ³
RT33K	A (NO)	16A, 250VAC resistive, 85°C	30x10 ³
UL 508			
RT33K	A (NO)	20A, 277VAC general purpose, 40°C	10x10 ³
RT33L	A (NO)	16A, 250VAC resistive, 85°C	50x10 ³
RT31	C (CO)	16A, 250VAC resistive, 85°C	6x10 ³
RT33L	A (NO)	1000W Tungsten, 120VAC, 60 Hz, 40°C	6x10 ³
RT33L	A (NO)	1000W standard ballast, 120VAC, 60 Hz, 40°C	6x10 ³

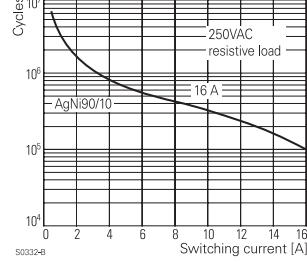
EN 60947-4-1

RT31L/RT33L A (NO)	250V/6A, AC-3	6.050
Mechanical endurance		
monostable version	>30x106 operations	
bistable version	>5x106 operations	

Max. DC load breaking capacity



Electrical endurance



Power PCB Relay RT1 Inrush (Continued)

Coil Data (continued)

Coil versions, bistable coil

Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance $\Omega \pm 10\%$	Rated coil power mW
bistable, 1 coil					
A05	5	3.5	2.8	62	403
A06	6	4.2	3.3	90	400
A12	12	8.4	6.6	360	400
A24	24	16.8	13.2	1440	400
bistable, 2 coils					
F05	5	3.5	2.8	42	595
F06	6	4.2	3.3	55	655
F12	12	8.4	6.6	240	600
F24	24	16.8	13.2	886	650

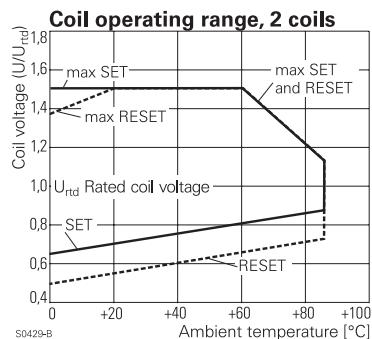
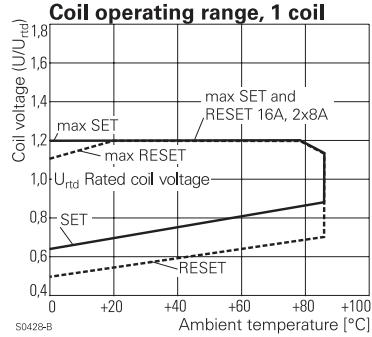
All figures are given for coil without pre-energization, at ambient temperature +23°C.

Other coil voltages on request.

Bistable coils - operation

Version	1 coil		2 coils	
Coil terminals	A1	A2	A1	A3
Operate	+	-	+	-
Reset	-	+	-	+

Contact position not defined at delivery



Insulation Data

Initial dielectric strength between open contacts	1000V _{rms}
between contact and coil	5000V _{rms}
Clearance/creepage between contact and coil	$\geq 10/10\text{mm}$
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250V

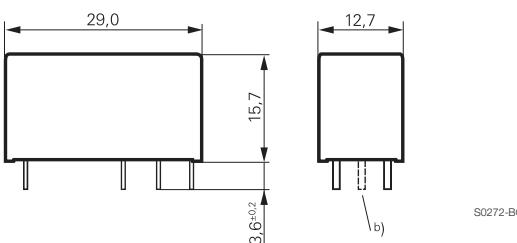
Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Resistance to heat and fire WG version	according EN60335-1
Ambient temperature	-40 to 85°C
Category of environmental protection IEC 61810	RTII - flux proof RTIII - sealed
Vibration resistance (functional), form A/form B contact, 30 to 500Hz	20/5g
Shock resistance (destructive)	100g
Terminal type	PCB-THT, plug-in ²⁾
Weight	14g
Resistance to soldering heat THT, IEC 60068-2-20	
RTII	270°C/10s
RTIII	260°C/5s
Packaging/unit	tube/20 pcs., box/500 pcs.
2) socket available for 1 coil version only, see Accessories	

Accessories

For details see datasheet	Accessories Industrial Power Relay RT²⁾
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.	

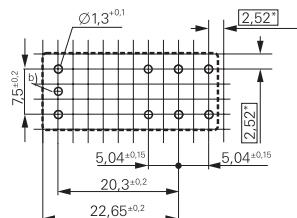
Dimensions



Power PCB Relay RT1 Inrush (Continued)
PCB layout / terminal assignment

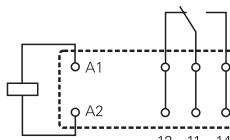
Bottom view on solder pins

16A, 1 form C (CO) contact, pinning 5mm



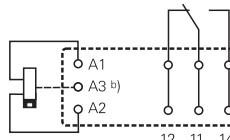
S0418-CM

monostable version



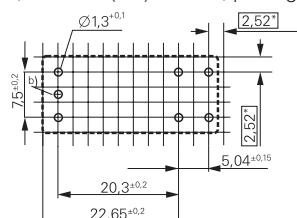
S0163-BE

bistable version a)



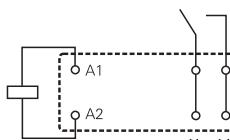
S0163-DI

16A, 1 form A (NO) contact, pinning 5mm



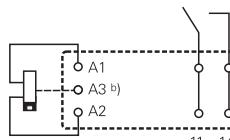
S0418-CV

monostable version



S0163-BF

bistable version a)

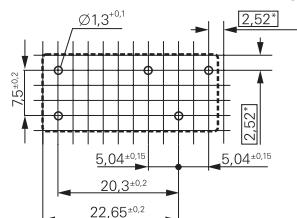


S0163DP

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

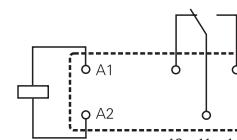
b) for 2 coil version only

12A, 1 form C (CO) contact, pinning 5mm



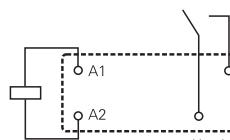
S0418-CN

monostable version, 1 form C (CO)



S0163-BC

monostable version, 1 form A (NO)

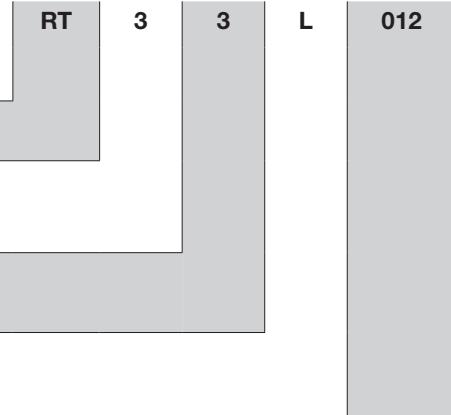


S0163-BD

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

Product code structure

Typical product code


Type

Power PCB Relay RT1 Inrush

Version
3 16A, pinning 5mm, flux proof
D 16A, pinning 5mm, sealed

Contact configuration
1 1 form C (CO) contact
3 1 form A (NO) contact

Contact material
K AgNi 90/10
L AgSnO₂
Coil

Coil code: please refer to coil versions table

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

Power PCB Relay RT1 Inrush (Continued)

Product code	Version	Contact material	Coil	Coil	Part Number
RT31L012	1 form C (CO)	AgSnO ₂	Monostable	12VDC	7-1393239-3
RT31L024	16A, pinning 5mm			24VDC	7-1393239-5
RT31L048	flux proof			48VDC	7-1393239-6
RT33K012	1 form A (NO)	AgNi 90/10		12VDC	2-1393240-3
RT33K024	16A, pinning 5mm			24VDC	2-1393240-4
RT33KF12	flux proof		Bistable 2 coils	12VDC	1-1415540-1
RT33L012		AgSnO ₂	Monostable		3-1393240-3
RT33L012WG					2-1415538-2
RT33L024				24VDC	3-1393240-5
RT33LA12			Bistable 1 coil	12VDC	2-1393240-7
RT33LA24				24VDC	3-1415379-1
RT33LF12			Bistable 2 coils	12VDC	2-1393240-8
RTD1L005	1 form C (CO)	AgSnO ₂	Monostable	5VDC	1-1415537-7
RTD1L012	16a, pinning 5mm			12VDC	5-1393238-6
RTD1L024	sealed			24VDC	8-1415398-1

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[3-1393240-1](#)