

**Power PCB Relay RT1 bifurcated**

- 1 pole 12/16A, 1 form C (CO) contact
- Sensitive DC coil, 200 or 400mW
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C

Typical applications  
Switching from dry circuit up to 16A, including arc-less switching, with extra high reliability



F0144-C



**Approvals**

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

**Contact Data**

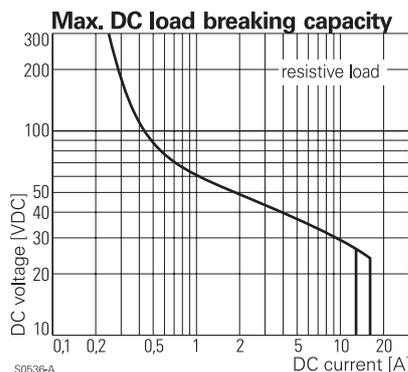
Contact arrangement	1 form C (CO) <sup>1)</sup>	
Rated voltage	250VAC	
Max. switching voltage	400VAC	
Rated current	12A <sup>2)</sup>	16A
Limiting making current, max. 4s, df 10%	16A	16A
Breaking capacity max.	3000VA	4000VA
Contact material	AgNi90/10	AgNi90/10
	gold plated	
Contact style	twin (bifurcated) contact	
Frequency of operation, with/without load	360/36000h <sup>-1</sup>	
Operate/release time max.	10/5ms	
Bounce time max., form A/form B	4/9ms	

**Contact ratings**

Type	Contact	Load	Cycles
<b>IEC 61810</b>			
RT31C	A (NO)	16A, 250VAC, resistive, 85°C	50x10 <sup>3</sup>
RTB7D	C (CO)	12A, 250VAC, resistive, 85°C	1x10 <sup>3</sup>
RTB7D	C (CO)	5A, 250VAC, resistive, 85°C	100x10 <sup>3</sup>
<b>UL 508</b>			
RT31C	A (NO)	16A, 250VAC, general purpose, 85°C	50x10 <sup>3</sup>
RT31C	C (CO)	16A, 250VAC, general purpose, 40°C	6x10 <sup>3</sup>
RTB7D	C (CO)	12A, 250VAC, general purpose, 40°C	6x10 <sup>3</sup>
RTB7D	A (NO)	5A, 250VAC, general purpose, 85°C	100x10 <sup>3</sup>

Mechanical endurance  
12A version >30x10<sup>6</sup> operations  
16A version >10x10<sup>6</sup> operations

- 1) 1 form A (NO) contact available on request
- 2) Recommended for switching load range ≤5A



**Coil Data**

Coil voltage range	5 to 60VDC
12A version	5 to 60VDC
16A version	5 to 110VDC
Operative range, IEC 61810	2
Coil insulation system according UL	class F

**Coil versions, 16A version**

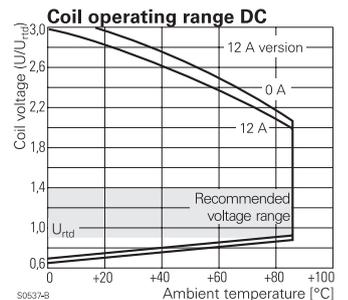
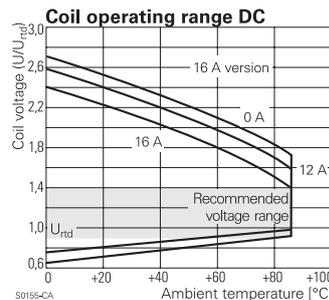
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10% <sup>3)</sup>	Rated coil power mW
005	5	3.5	0.5	62	403
006	6	4.2	0.6	90	400
012	12	8.4	1.2	360	400
024	24	16.8	2.4	1440	400
048	48	33.6	4.8	5520	417
060	60	42.0	6.0	8570 <sup>3)</sup>	420
110	110	77.0	11.0	28800 <sup>3)</sup>	420

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

**Coil versions, 12A version**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
005	5	3.5	0.5	125	200
006	6	4.2	0.6	190	190
012	12	8.4	1.2	690	210
024	24	16.8	2.4	2980	190
048	48	33.6	4.8	10470	220
060	60	42.0	6.0	16980	210

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



**Power PCB Relay RT1 bifurcated** (Continued)

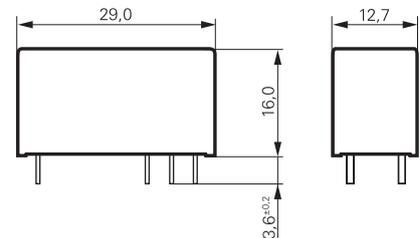
Insulation Data	
Initial dielectric strength	
between open contacts	1000V <sub>rms</sub>
between contact and coil	5000V <sub>rms</sub>
Clearance/creepage	
between contact and coil	≥10/10mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250V

Other data (continued)	
Terminal type	PCB-THT, plug-in
Mounting distance	≥5mm
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.

Other Data	
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a>	
Ambient temperature, DC coil	-40 to 85°C
Category of environmental protection, IEC 61810	
12A version	RTIII - wash tight
16A version	RTII - flux proof
Vibration resistance (functional), form A/form B contact, 30 to 500Hz	
12A version	15/3g
16A version	15/4g
Shock resistance (destructive)	100g

**Accessories**  
For details see datasheet [Accessories Industrial Power Relay RT](#)  
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**

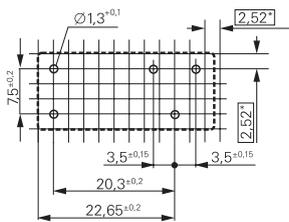


S0272-BV

**PCB layout / terminal assignment**

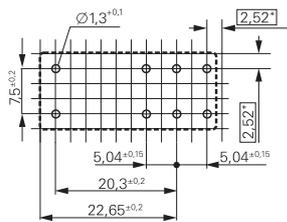
Bottom view on solder pins

12A, pinning 3.5mm



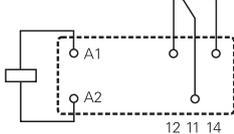
S0418-CB

16A, pinning 5mm



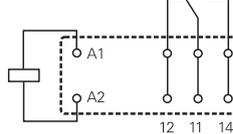
\*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

1 form C (CO) contact



S0163-BG

1 form C (CO) contact



S0418-CA

**Product code structure**

Typical product code **RT B 7 D 012**

Type	RT Power PCB Relay RT1 bifurcated
Version	<b>3</b> 16A, pinning 5mm, flux proof <b>B</b> 12A, pinning 3.5mm, wash tight
Configuration	<b>1</b> 1 form C (CO) contact, 16A, 400mW coil <b>7</b> 1 form C (CO) contact, 12A, 200mW coil
Contact material	<b>C</b> AgNi 90/10, 16A version <b>D</b> AgNi 90/10 gold plated, 12A version
Coil	Coil code: please refer to coil versions table Version with 1 form A (NO) contact available on request

Product code	Version	Contacts	Cont. material	Coil	Coil	Part number
RT31C012	16A, pinning 5mm	1 form C (CO)	AgNi 90/10	DC coil	12 VDC	1415900-2
RT31C024	flux proof	bifurcated contact			24 VDC	1415900-7
RTB7D012	12A, 3.5mm		AgNi 90/10		12 VDC	1415900-5
RTB7D024	wash tight		gold plated		24 VDC	1415900-6

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