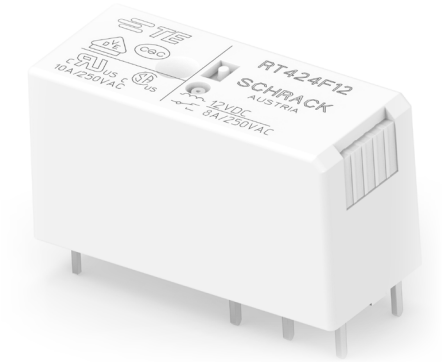
SCHRACK
POWER PCB RELAY RT2 BISTABLE

LOW POWER PCB RELAYS

INTRODUCTION

The Schrack RT2 Bistable Power PCB Relay by TE Connectivity is a compact, energy-efficient relay with 2 form C contacts, rated at 8A/250VAC. It supports 1-coil and 2-coil bistable versions with coil voltages from 3VDC to 48VDC, and offers 5000Vrms dielectric strength and reinforced insulation. Designed for industrial and battery-powered applications, it operates reliably from -10°C to +85°C.



FEATURES

- 2 pole 8A, 2 form C (CO) contacts
- Polarized bistable version with 1 or 2 coils
- 5kV/10mm coil-contact
- Reinforced insulation

APPLICATIONS

- Battery powered equipment or applications with “memory function”.

APPROVALS

- VDE Cert. No. 40007571
- UL E214025
- cCSAus 1142018
- CQC 18002197364

Technical data of approved types on request

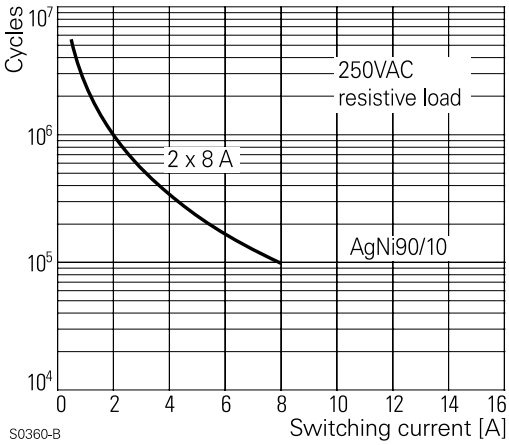
CONTACT DATA

Contact arrangement	2 form C (CO)
Rated voltage	250VAC
Max. switching voltage	400VAC
Rated current	8A, UL: 10A
Limiting continous current	8A, UL: 10A
Limiting making current max. 4s, duty factor 10%	15A
Breaking capacity max.	2000VA
Contact material	AgNi 90/10, AgSnO
Frequency of operation, with/without load	900/72000H^{-1}
Operate/Reset time max., DC coil	10/5ms
Bounce time max., DC coil, form A/form B	4/9ms

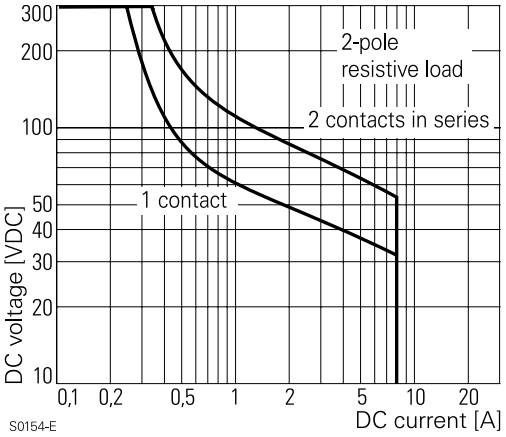
CONTACT RATINGS

Type	Contact	Load	Cycles
IEC 61810-1			
RT444	A (NO)	8A, 250VAC resistive, 85°C	100x10^3
RT424	C (CO)	8A, 250VAC resistive, 85°C	30x10^3
UL 61810-1 (former UL 508)			
RT424	A/B (NO/NC)	10A, 250VAC, general purpose, 85°C	20x10^3
RT424	A/B (NO/NC)	1/2hp, 240VAC ,85°C	1x10^3
RT424	A/B (NO/NC)	Pilot duty, B300, R300, 85°C	6x10^3
RT4/E	A/B (NO/NC)	10A/24VDC, general purpose, 85°C	5x10^3
RTE23	C (CO)	10A, 250VAC, general purpose, 40°C	6x10^3
EN60947-5-1			
RT424	A/B (NO/NC)	AC-15, 250VAC, 3A	6.050
Mechanical endurance		>2X10^6 operations	

ELECTRICAL ENDURANCE



MAX. DC LOAD BREAKING CAPACITY



COIL DATA

bistable coils	1 coil	2 coils
Magnetic system	polarized, bistable	
Coil voltage range	3 to 48VDC	
Operative range, IEC 61810-1	2	
Limiting voltage, % of rated coil voltage	120%	150%
Min./Max. energization duration	30ms/1min at <10% duty factor	
Coil insulation system according UL	class F	

COIL VERSIONS,BISTABLE COIL

Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Rated coil power mW
bistable 1 coil					
A03	3	2.1	1.7	21	429
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
A48	48	33.6	26.4	5520	417
bistable 2 coil					
F03	3	2.1	1.7	15	600
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
F48	48	33.6	26.4	3291	700

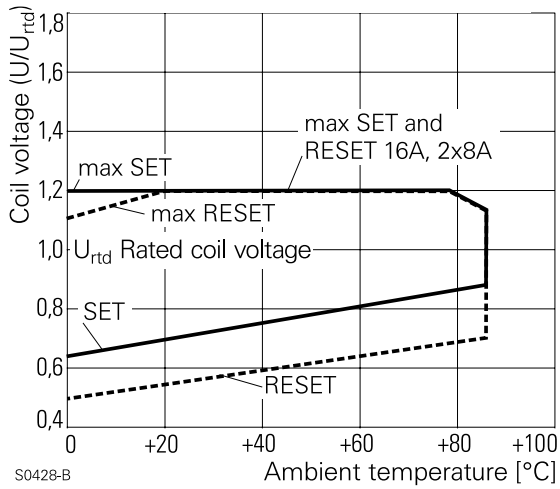
All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

BISTABLE COILS - OPERATION

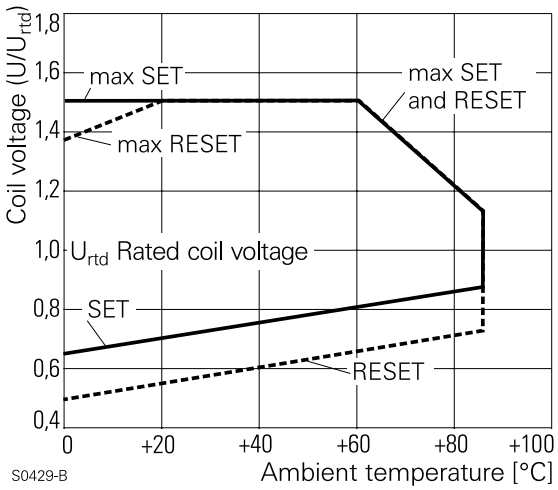
Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Operate	+	-		+	-
Rest	-	+	-	+	

Contacts are preferably in reset contact position leaving our production. During transportation and handling the position may change. Ensure reset position before any thermal processing (e.g. soldering).

COIL OPERATING RANGE, 1 COIL



COIL OPERATING RANGE, 2 COIL



INSULATION DATA

Initial dielectric strength	
between open contacts	1000V$_{rms}$
between contact and coil	5000V$_{rms}$
between adjacent contacts	2500V$_{rms}$
Clearance/creepage	
between contact and coil	≥10/10mm
between adjacent contacts	≥ 3/4mm
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 range	
bistable 1 coil	-10°C to 85°C
bistable 2 coils	-40°C to 85°C
Category of environmental protection	
IEC 61810	RTII - flux proof RTIII - wash tigth
Vibration/shock resistance (functional)	
opening B contact	3/5g
opening closed A contact	6/15g
Shock resistance (destructive)	100g
Terminal type	PCB-THT, plug-in1)
Weight	13g
Resistance to soldering heat THT	
IEC 60068-2-20	270°C/10s
Packaging/unit	tube/20 pcs., box/500 pcs.

1) socket available for 1 coil version only, see Accessories

ACCESSORIES

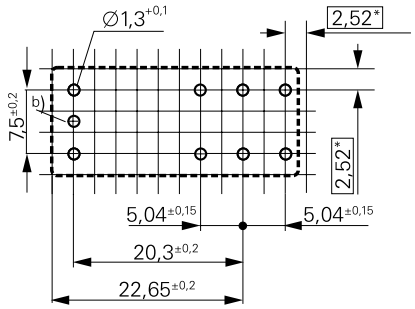
For 1 coil version details see datasheet	Accessories Industrial Power Relay RT

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.

PCB LAYOUT / TERMINAL ASSIGNMENT

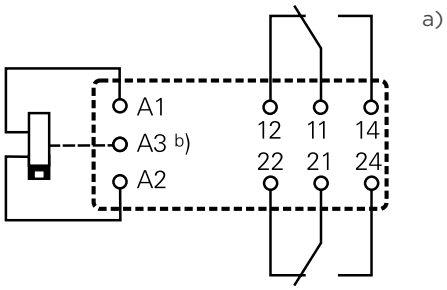
Bottom view on solder pins

8A, pinning 5mm

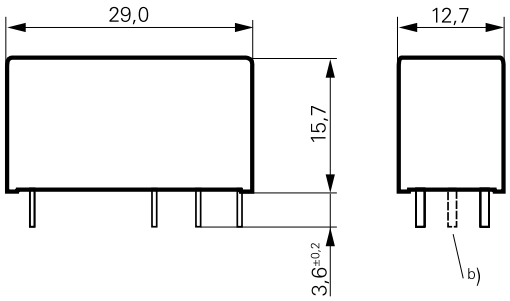


*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

2 form C (CO) contact



DIMENSIONS (Unit:mm)



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

b) For 2 coil version only

PRODUCT CODE STRUCTURE

Type

RT	Power PCB Relay RT2 bistable

Version

4	8A, pinning 5mm, flux proof
E	8A, pinning 5mm, wash tight

Contact configuration

2	2 form C (CO) contacts

Coil

Coil code	please refer to coil versions table

Contact material

4	AgNi 90/10
3	AgSnO

Other types on request.

PRODUCT INFORMATION

Product code	Version	Contacts	Contact material	Coil Version	Coil	Part Number
RT424A05	8A, pinning 5mm, flux proof	2 form C (CO)	AgNi 90/10	Bistable 1 coil	5VDC	4-1393243-4
RT424A12					12VDC	4-1393243-6
RT424F05				Bistable 2 coils	5VDC	5-1393243-2
RT424F12					12VDC	5-1393243-4
RT424F24					24VDC	5-1393243-6
RT424F48					48VDC	5-1393243-7
RTE24F24	8A pinning 5mm wash tight				24VDC	8-1415541-7
RTE24F06					6VDC	1-1415020-1
RTE24F12					12VDC	7-1415072-1
RTE23A05			AgSnO	Bistable 1 coil	5VDC	5-1415543-8

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

Notes:

1. Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.
2. Datasheets 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.
3. Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.

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