Miniature Power PCB Relay PB

- **1pole 10A, 1 form C (CO) or 1 form A (NO)**
- **Environmentally-friendly cadmium-free contacts**
- **Class F coil system standard**
- **Compact and simple design gives high process security**
- **Product in accordance to IEC 60335-1**

Typical applications
White goods, small home appliances, heating temperature controllers.

Approvals

VDE Cert. No. 40008364, UL E214025
Technical data of approved types on request.

Contact Data

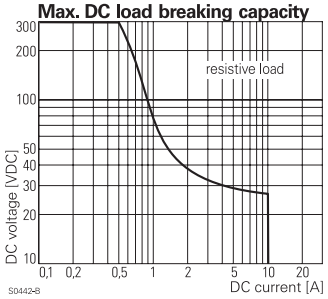
Contact arrangement	1 form C (CO) or 1 form A (NO)
Rated voltage	250VAC
Max. switching voltage	400VAC
Rated current	10A
Limiting making current, max 4 s, duty factor 10%	15A
Breaking capacity max.	2500VA
Contact material	AgNi 90/10, $AgSnO_2$
Frequency of operation, with/without load	360/36000h^{-1}
Operate/release time max.	10/20ms
Bounce time max., form A/form B	10/15ms

Contact ratings

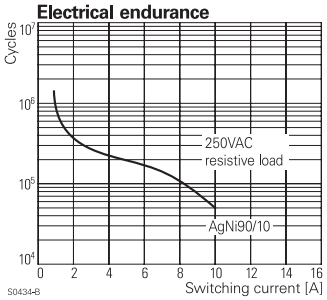
Type	Contact	Load	Cycles
IEC 61810			
PB114; PB113	A/B (NO/NC)	10A/3A, 250VAC, cosφ=1, 85°C	30x10^3
PB114; PB514	A of C	10A, 250VAC, cosφ=1, 85°C	30x10^3
PB134; PB133	A (NO)	10A, 250VAC, cosφ=1, 85°C	20x10^3
PB134	A (NO)	6.5A, 440VAC, cosφ=1, 85°C	50x10^3
PB634	A (NO)	10A, 250VAC, cosφ=1, 85°C	100x10^3
UL 61810-1 (UL508)			
PB1x4	A (NO)	10A, 250VAC, cosφ=1, 85°C	20x10^3
PB113	A (NO)	10A, 250VAC GP, 85°C	6x10^3
PB5x4	A (NO)	10A, 250VAC GP, 85°C	20x10^3
PB634	A (NO)	10A, 250VAC GP, 85°C	100x10^3

Mechanical endurance, DC coil 5x10^6 operations

Max. DC load breaking capacity



Electrical endurance



(typical values for PB134)

Coil Data

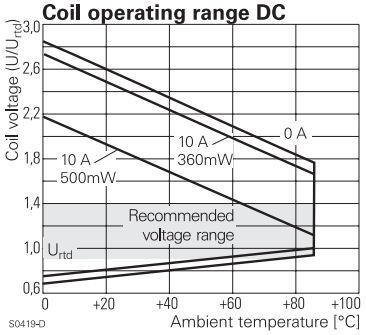
	PB1	PB5	PB6
Coil voltage range	5 to 48 VDC	5 to 24 VDC	5 to 36 VDC
Operative range, IEC 61810	2	2	2

Coil versions, DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
Coil versions, DC-coil, 360mW					
005	5	3.75	0.5	70	357
006	6	4.50	0.6	100	360
009	9	6.75	0.9	225	360
012	12	9.00	1.2	400	360
018	18	13.50	1.8	900	360
022	22	16.50	2.2	1344	360
024	24	18.00	2.4	1600	360
048	48	36.00	4.8	6400	360
Coil versions, DC-coil, 500mW					
005	5	3.75	0.5	48	521
006	6	4.5	0.6	69	522
012	12	9	1.2	274	526
024	24	18	2.4	1097	525
036	36	27	3.6	2592	500

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

Coil operating range DC



Other coil voltages on request.

Insulation Data

Initial dielectric strength	
between open contacts	1000Vrms
between contact and coil	2500Vrms
Clearance/creepage	
between contact and coil	
form C (CO) version	≥3/4mm
form A (NO) version	≥4/5mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI250

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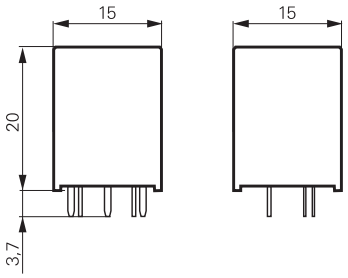
Miniature Power PCB Relay PB (Continued)

Other Data

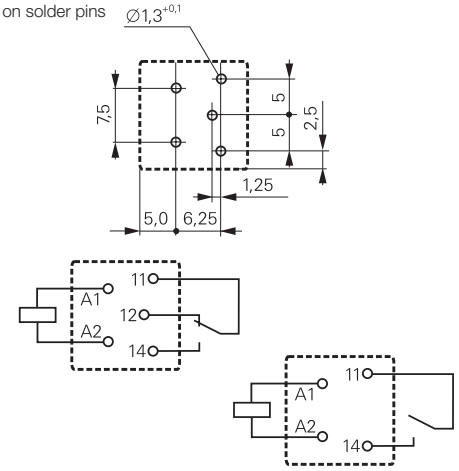
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Resistance to heat and fire version PB1, PB5	according EN60335, par.30
Ambient temperature, DC coil	-40 to +85°C
Category of environmental protection IEC 61810	RTII - flux proof
Vibration resistance (functional), form A/form B, 30 to 400Hz	
PB1, PB6	>10/4g
PB5	>10/6 g
Shock resistance (destructive)	>100g
Terminal type	PCB-THT
Weight	5.4g
Resistance to soldering heat THT IEC 60068-2-20	270°C/10s
Packaging/unit	tube/35 pcs., box/1050 pcs.

Dimensions



PCB layout[1] / terminal assignment

Bottom view on solder pins



[1] Layout note:
No openings (e.g. holes, slots, cutouts, unused pins, open through connections, etc.) allowed under the relay base. The relay base must be fully covered by the PCB, recommended minimum distance between the relay and the edge of the printed circuit board is 5 mm.
For more information, please contact our application support.

Product code structure

Typical product code: **PB 1 1 4 012**

Type
PB Miniature Power PCB Relay PB

Version
1 Standard version
5 500 mW version
6 High performance version (form A version only)

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

Contact material
3 $AgSnO_2$
4 AgNi 90/10

Coil
Coil code: please refer to coil versions table

Product code	Version	Contacts	Contact material	Coil	Part number
PB113009	Standard	1 form C	AgSnO	9VDC	6-1415535-8
PB113012	class F	1 CO contact		12VDC	6-1415535-9
PB113024				24VDC	2-1415543-0
PB114005			AgNi 90/10	5VDC	6-1415029-1
PB114006				6VDC	7-1415029-1
PB114012				12VDC	8-1415029-1
PB114024				24VDC	9-1415029-1
PB134005		1 form A		5VDC	1415030-1
PB134006		1 NO contact		6VDC	1-1415030-1
PB134012				12VDC	2-1415030-1
PB134024				24VDC	3-1415030-1
PB514012	500 mW	1 form C		12VDC	2-1415538-5
PB514024	version	1 CO contact		24VDC	5-1415535-6
PB634005	High	1 form A		5VDC	3-1415541-8
PB634006	performance	1 NO contact		6VDC	3-1415541-9
PB634009	version			9VDC	4-1415541-0
PB634012				12VDC	4-1415541-1
PB634024				24VDC	4-1415541-2
PB634036				36VDC	4-1415541-3

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