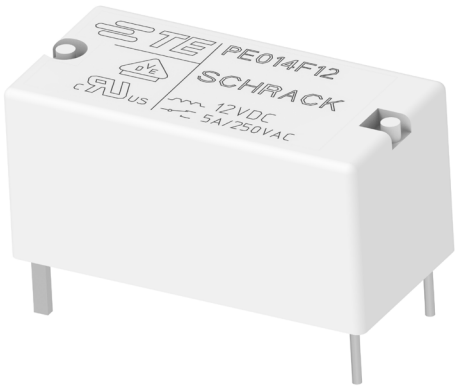
SCHRACK MINIATURE PCB RELAY PE BISTABLE

GENERAL PURPOSE
LOW POWER PCB RELAYS

INTRODUCTION

TE Connectivity (TE)'s Miniature Power PCB Relays PE bistable is general purpose relay designed for various types of loads (e.g., resistive, inductive) with low component height. The relay is designed as 1 pole 5A with contact variant 1 form C (CO) and as 1 pole 6A with contact variant 1 form A (NO). Bistable relays maintain their switching position after the energization or input voltage is disconnected.

Other advantages include: high initial dielectric strength, high temperature resistance and sensitive coil.



FEATURES

- Polarized bistable version
- 1 pole 5 A, 1 form C (CO) or 6A, 1 form A (NO) contact
- Sensitive version with 200mW coil
- Ambient temperature 70°C
- Low height 10.0mm
- Plastic materials according to IEC 60335-1 (domestic appliances)

APPLICATIONS

- Room thermostats
- Electricity meters
- Home automation
- White goods
- Battery powered controls

APPROVALS

- VDE Cert. No. 40011901 (for AgNi90/10 contacts only)
- UL E214025

Technical data of approved types on request

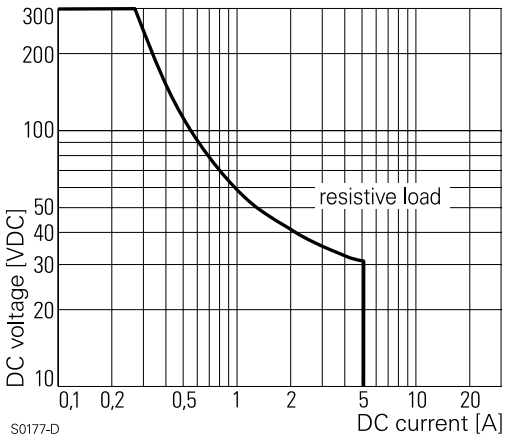
CONTACT DATA

Contact arrangement	1 form C (CO) or 1 form A (NO)
Rated voltage	250VAC
Max. switching voltage	400VAC
Rated current	5A (CO - types) 6A (NO - AgNi - types)
Breaking capacity max.	1250VA (CO - types) 1500VA (NO AgNi - types)
Contact material	AgNi 90/10, $AgSnO_2$ AgNi 90/10 HTV (gold plated)
Frequency of operation, with/without load	360/72000 ops/h
Set/reset time	typ. 8/8ms
Bounce time, form A/form B	4/7ms

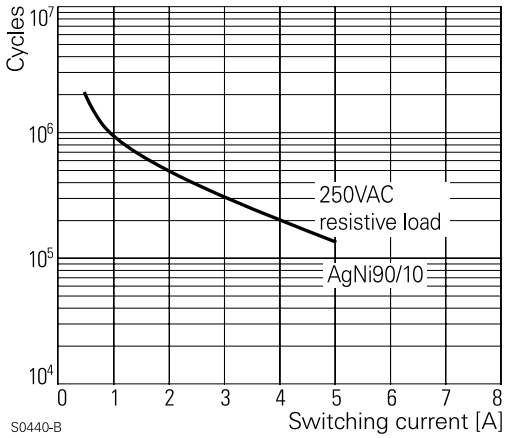
CONTACT RATINGS

Type	Contact	Load	Cycles
IEC 61810			
PE014	C (CO)	5A, 250VAC, cosφ=1, 85°C	100x10³
PE014	A (NO)	5A, 30VDC, 0 ms, 85°C	100x10³
PE034	NO	6A, 250VAC cosφ=1, 70°C	20x10³
UL61810-1 (UL 508)			
PE013	C (CO)	5A, 240VAC, resistive, 85°C	30x10³
PE014	NO (of CO)	B300	6.000
PE514	NO (of CO)	R300	6.000
PE514	C (CO)	5A, 250VAC, general purpose, 85°C	6.000
PE033	N (NO)	5A, 240VAC, resistive, 85°C	50x10³
PE014	C/A/B	5A, 250VAC, resistive, 85°C	100x10³
PE034	A (NO)	6A, 250VAC, resistive, 70°C	100x10³
Mechanical endurance		>5x10⁶ operations	

MAX. DC LOAD BREAKING CAPACITY



ELECTRICAL ENDURANCE



COIL DATA

Magnetic system	bistable, polarized
Coil voltage range	2.2 to 48VDC
Operative range, IEC 61810	2
Reset voltage max., % of rated coil voltage	120% at -40°C
Min./Max. energization duration	20ms[1)]/1min at <10% duty factor

1) Information on reduced pulse duration with higher energization voltages on demand.

COIL VERSIONS, DC COIL

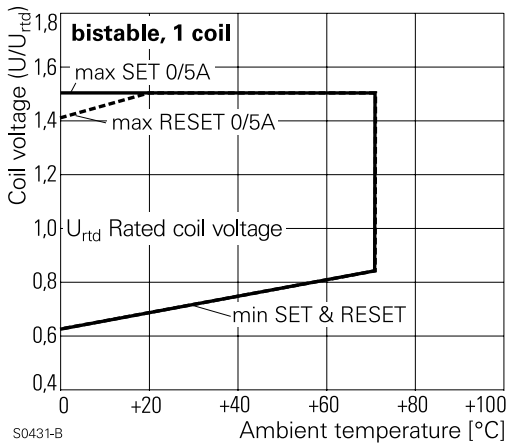
Coil code [2)]		Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Rated coil power mW
F02	H02	2.2	1.65	1.65	22	220
F03	H03	3	2.25	2.25	41	220
F05	H05	5	3.75	3.75	125	200
F06	H06	6	4.5	4.5	180	200
F12	H12	12	9.0	9.0	650	222
F24	H24	24	18.0	18.0	2750	209

2) Coil codes F.. and H..have opposite polarity; refer to coil operation table. All figures are given for coil without pre-energization, at ambient temperature +23°C. Other coil voltages on request.

COILS - OPERATION

Version	F..		H..	
Coil terminals	A1	A2	A1	A2
Operate	+	-	-	+
Reset	-	+	+	-
Contact position not defined at delivery				

COIL OPERATING RANGE



INSULATION DATA

Initial dielectric strength	
Between open contacts	$1000V_{rms}$
Between contact and coil	$4000V_{rms}$
Initial insulation resistance	
Open contact circuit	$>10x10^9\Omega$
Coil-contact circuit	$>10x10^9\Omega$
Clearance/creepage	
Between contact and coil	≥3.2/4mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI250V

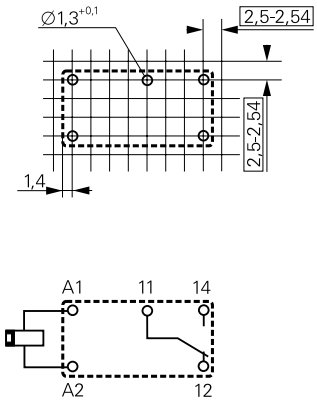
OTHER DATA

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	according EN60335, par.30
Ambient temperature	-40 to 85°C 70°C at 100% duty factor
Category of environmental protection	
IEC 61810	RTII - flux proof RTIII - wash tight on request
Shock resistance (destructive)	>100g
Shock resistance (functional/ 11ms), form A/ form B	>15/5g
Terminal type	PCB-THT
Weight	5g
Resistance to soldering heat THT	
IEC 60068-2-20	260°C/10s (flux proof version) 260°C/5s (wash tight version)
Packaging/unit	tube/25 pcs., box/500 pcs.

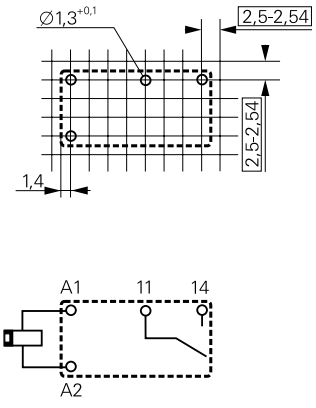
PCB LAYOUT / TERMINAL ASSIGNMENT

Bottom view on solder pins

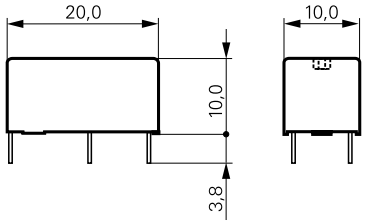
1 form C (CO) version



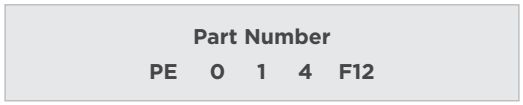
1 form A (NO) version



DIMENSIONS (UNIT: mm)



PRODUCT CODE STRUCTURE



Type

PE	Miniature PCB Relay PE bistable

Version

0	Flux proof
5	Wash tight (on request)

Contact arrangement

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

Coil

Coil code	please refer to coil versions table

Contact material

4	AgNi 90/10
3	$AgSnO_2$
5	AgNi 90/10 gold plated

PRODUCT INFORMATION

Product code	Version	Contacts	Contact material	Coil	TE Part Number
PE514F03	wash tight	1 form C 1 CO contact	AgNi 90/10	bistable polarity F	2-1415539-0
PE014F02	flux proof				9-1415389-1
PE014F03					1415390-1
PE014F05					1-1415390-1
PE014F06					2-1415390-1
PE014F12					3-1415390-1
PE014F24					5-1415390-1
PE014H02				bistable polarity H	7-1415390-1
PE014H03					8-1415390-1
PE014H05					9-1415390-1
PE014H06					1415391-1
PE014H12					1-1415391-1
PE014H24					2-1415391-1
PE015F05		1 form C	AgNi 90/10 HTV	bistablepolarity F	3-1415542-4
PE034F09		1 form A 1 NO contact	AgNi 90/10		1415543-7
PE034F12					1415544-4

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