Miniature PCB Relay PE bistable

- **1pole 5 A, polarized bistable version**
- **1 CO or 1 NO contact**
- **Sensitive version with 200 mW coil**
- **Ambient temperature 70°C**
- **Low height 10.0 mm**
- **Plastic materials according to IEC60335-1 (domestic appliances)**

F0221-B

Applications

Room thermostats, electricity meters, domotic devices, white goods, battery powered controls

Approvals

VDE REG.-Nr. 6656*, cULus E214025
Technical data of approved types on request
*VDE only for AgNi90/10 available

Contact data

Contact configuration	1 CO or 1 NO contact
Contact set	single contact
Type of interruption	micro disconnection
Rated voltage / max. switching voltage AC	250 / 400 VAC
Rated current	5 A
Maximum breaking capacity AC	1250 VA
Contact material	AgNi90/10 / $AgSnO_2$
Rated frequency of operation with / without load	6 / 1200 min^{-1}
Operate- / reset time	typ 8 / 8 ms
Bounce time NO / NC contact	typ 4 / 7 ms

Contact ratings

Type	Contact	Load	Ambient temp. [°C]	Cycles
IEC 61810				
PE014	CO	5 A, 250 VAC, cosφ=1,	85°C	$100x10^3$
PE014	NO	5 A, 30 VDC, 0 ms,	85°C	$100x10^3$
UL 508				
PE013	CO	5 A, 240 VAC, resistive,	85°C	$30x10^3$
PE033	NO	5 A, 240 VAC, resistive,	85°C	$50x10^3$
PE014	CO/NO/NC	5 A, 240 VAC, resistive,	85°C	$100x10^3$

Coil data

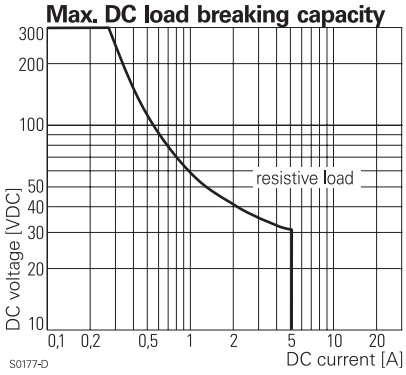
Rated coil voltage range	2,2...48 VDC
Operative range to IEC 61810	2
Reset voltage maximum, % of rated coil voltage	120% at -40°C
Minimum energization duration	20 ms
Information on reduced pulse duration with higher energization voltages on demand	
Maximum energization duration	1 min at <10% duty factor

Coil versions, bistable, 1 coil

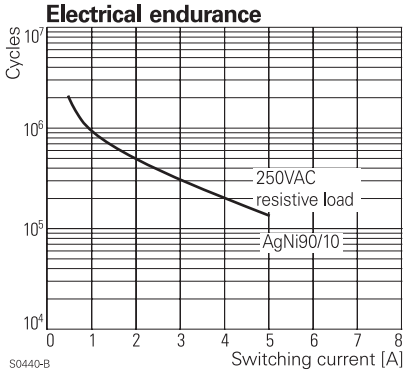
Coil code*)		Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ohm	Rated coil power mW
F02	H02	2.2	1.65	1.65	22±10%	220
F03	H03	3	2.25	2.25	41±10%	220
F05	H05	5	3.75	3.75	125±10%	200
F06	H06	6	4.5	4.5	180±10%	200
F12	H12	12	9.0	9.0	650±10%	222
F24	H24	24	18.0	18.0	2750±10%	209

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

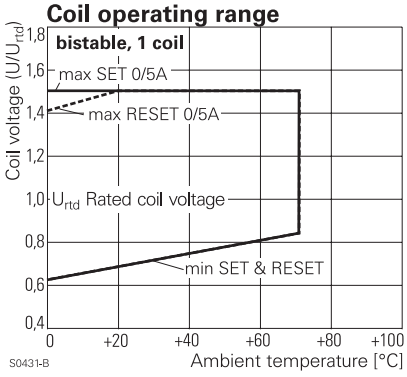
Max. DC load breaking capacity



Electrical endurance



Coil operating range



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Specifications subject to change.

Miniature PCB Relay PE bistable (Continued)

Coils - operation

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

Insulation

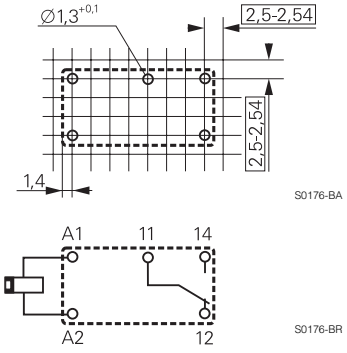
Insulation resistance coil-contact circuit	> 10^4 MOhms	
open contact circuit	> 10^4 MOhms	
Dielectric strength coil-contact circuit	4000 V_{rms}	
open contact circuit	1000 V_{rms}	
Clearance / creepage coil-contact circuit	≥ 3,2 / 4 mm	
Material group of insulation parts	IIIa	
Tracking index of relay base	PTI 250	
Insulation to IEC 61810-1		
Type of insulation coil-contact circuit	basic	
open contact circuit	micro disconnection	
Rated insulation voltage	250 V	
Pollution degree	3	2
Rated voltage system	240 V	230 / 400 V
Overvoltage category	III	

Other data

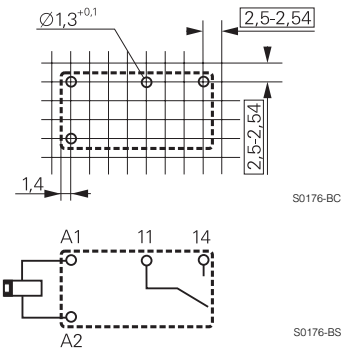
Mechanical endurance	5x10^6 cycles
Material	
RoHS - Directive 2002/95/EC	compliant as per product date code 0352
Resistance to heat and fire	according EN60335, par.30
Environment	
Ambient temperature range	-40...85°C, 70°C at 100% duty factor
Shock resistance (destruction)	> 100 g
Category of protection	RTII - flux proof
	(RTIII - wash tight on request)
Processing	
Resistance to soldering heat flux-proof version	270°C / 10 s
Relay weight	5 g
Packaging unit	25/500 pcs

PCB layout / terminal assignment
Bottom view on solder pins

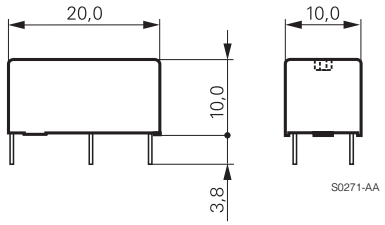
CO version



NO version



Dimensions



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Miniature PCB Relay PE bistable (Continued)

Product key — Typical product key: **PE 0 1 4 F12**

Type
PE Miniature PCB Relay PE bistable

Version
0 flux proof

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

Contact material
4 AgNi 90/10
3 $AgSnO_2$

Coil
Coil code: please refer to coil versions table

Product key	Version	Contacts	Contact material	Coil	Coil	Part number
PE014F02	flux proof	1 CO contact	AgNi 90/10	bistable	2.2 VDC	9-1415389-1
PE014F03				1-coil	3 VDC	1415390-1
PE014F05				polarity F	5 VDC	1-1415390-1
PE014F06				200 mW	6 VDC	2-1415390-1
PE014F12					12 VDC	3-1415390-1
PE014F24					24 VDC	5-1415390-1
PE014H02				bistable	2.2 VDC	7-1415390-1
PE014H03				1-coil	3 VDC	8-1415390-1
PE014H05				polarity H	5 VDC	9-1415390-1
PE014H06				200 mW	6 VDC	1415391-1
PE014H12					12 VDC	1-1415391-1
PE014H24					24 VDC	2-1415391-1

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