Miniature Relay PT

- **2 pole 12 A, 3 pole 10 A or 4 pole 6 A, 2, 3 or 4 CO contacts**
- **DC- or AC-coil**
- **Switching performance up to 3000 VA**
- **Relay height 29 mm**
- **Mechanical indicator, optional LED and protection diode**
- **Manual test tab, optionally lockable.**
- **White marking tabs**
- **RoHS compliant (Directive 2002/95/EC)**

Applications

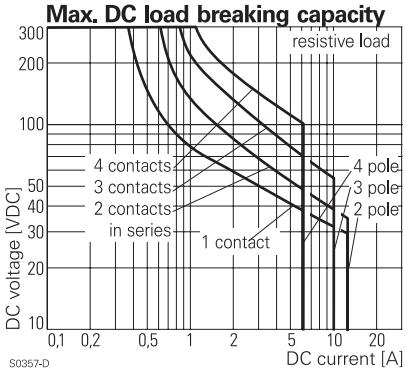
Universal use in control and automation

Approvals

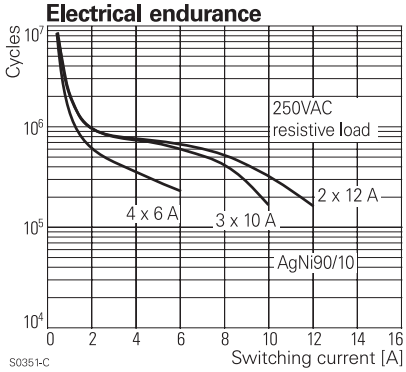
VDE REG.-Nr. 115719, cULus E214025, 00/20059(E2)
Technical data of approved types on request

Contact data	PT2	PT3	PT5
Contact configuration	2 CO	3 CO	4 CO
Contact set	single contact		
Type of interruption	micro disconnection		
Rated current	12 A	10 A	6 A
Rated voltage / max.switching voltage AC	240/400 VAC	240/400 VAC	240/240 VAC
Maximum breaking capacity AC	3000 VA	2500 VA	1500 VA
Limiting making capacity, max 20 ms	24 A	20 A	12 A
Contact material	AgNi90/10, AgNi90/10 gold plated		
Minimum contact load	12V/10mA, 20mV/1mA gold plated		
Mechanical endurance DC coil	$30x10^6$ cycles		
AC coil	$20x10^6$ cycles		
Rated frequency of operation with / without load	6/600 min^{-1}		

Max. DC load breaking capacity



Electrical endurance



Contact ratings

Type	Load	Cycles
PT270	12 A, 250 VAC, 3000 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$168x10^3$
PT270	8 A, 250 VAC, 2000 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$750x10^3$
PT270	4 A, 250 VAC, 1000 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$8.3x10^6$
PT270	3.75 A, 400 VAC, opp. polarity, 70°C, AC3	
PT270	5 A, 250 VAC, opp. polarity, normal/abnormal, 70°C, AC15	
PT270	8 A, 24 VDC, opp. polarity, normal/abnormal, 70°C, DC13	
PT270	1.7 A, 230 VAC, 400 W, opp. polarity, 70°C, AC5b	
PT370	10 A, 250 VAC, 2500 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$159x10^3$
PT370	8 A, 250 VAC, 2000 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$466x10^3$
PT370	4 A, 250 VAC, 1000 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$1.1x10^6$
PT370	2 A, 400 VAC, opp. polarity, 70°C, AC3	
PT370	5 A, 250 VAC, opp. polarity, normal/abnormal, 70°C, AC15	
PT370	8 A, 24 VDC, opp. polarity, normal/abnormal, 70°C, DC13	
PT370	1.7 A, 230 VAC, 400 W, 70°C, AC5b	
PT570	6 A, 250 VAC, 1500 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$228x10^3$
PT570	2 A, 250 VAC, 500 VA, cosφ=1, DF 50%, 600 h^{-1}, NO, 70°C	$782x10^3$
PT570	3 A, 400 VAC, opp. polarity, 70°C, AC3	
PT570	4 A, 250 VAC, opp. polarity, normal/abnormal, 70°C, AC15	
PT570	6 A, 24 VDC, opp. polarity, normal/abnormal, 70°C, DC13	
PT570	1.7 A, 230 VAC, 400 W, opp. polarity, 70°C, AC5b	
PT570	0.3 A, 110 VDC, 33 W, L/R=22 ms, 1440 h^{-1}, DF 8%, NO, prot.D.	$3.6x10^6$
PT570	3 A on /1 A off, 120 VAC, cosφ 0.8on/0.5off, 600h^{-1}, DF 15%, NO	$423x10^3$

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Coil data

Rated coil voltage range DC coil	6...220 VDC
AC coil	6...230 VAC
Coil power DC coil	0.75 mW
AC coil	1.0 VA
Operative range DC coil, AC-coil 50Hz	2
AC coil 60 Hz at 70°C, % of U_{rtd}	90..110%

Coil versions, DC-coil

Coil code STD	LED bipolar	LED+ PD*	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW	opt. LED power mW
006	L06	LA6	6	4.5	0.6	48+10%	750	3.5
012	L12	LB2	12	9.0	1.2	192+10%	750	10
024	L24	LC4	24	18.0	2.4	777+10%	741	18
048	L48	LE8	48	36.0	4.8	3072+10%	750	38
060	L60	LG0	60	45.0	6.0	4845+12%	743	56
110	M10	MB0	110	82.5	11.0	16133+15%	750	96.5
220	N20	NC0	220	165.0	22.0	64533+15%	750	202.5

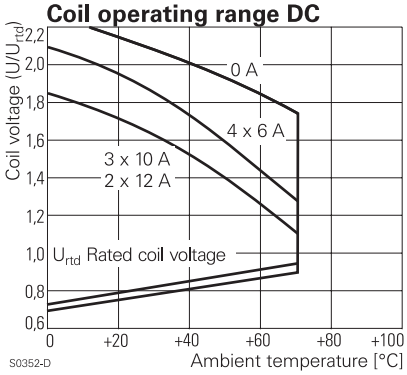
All figures are given for coil without preenergization, at ambient temperature +23°C
*) Protection diode PD; standard polarity: +A1 / -A2

Coil versions, AC-coil 50/60 Hz

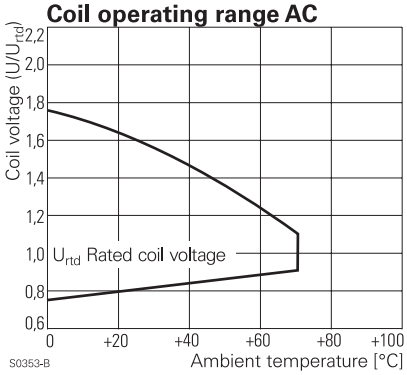
Coil code STD	LED	Rated voltage 50/60Hz VAC	Operate voltage 50/60Hz VAC	Release voltage 50/60Hz VAC	Coil resistance Ohm	Rated coil power 50/60Hz VA
506	R06	6	4.8/5.4	1.8	11±10%	1.0/0.85
512	R12	12	9.6/10.8	3.6	48±10%	1.0/0.85
524	**R24**	**24**	**19.2/21.6**	**7.2**	**192±10%**	**1.0/0.79**
548	R48	48	38.4/43.2	14.4	777±10%	1.0/0.87
560	R60	60	48.0/54.0	18.0	1306±10%	1.0/0.87
615	S15	115	92.0/103.5	34.5	4845±12%	1.0/0.86
730	**T30**	**230**	**184.0/207.0**	**69.0**	**19465±15%**	**1.0/0.90**

All figures are given for coil without preenergization, at ambient temperature +23°C

Coil operating range DC



Coil operating range AC



Insulation	PT2	PT3	PT5
Dielectric strength coil-contact circuit	2500 V_{rms}	2500 V_{rms}	2500 V_{rms}
open contact circuit	1200 V_{rms}	1200 V_{rms}	1200 V_{rms}
adjacent contact circuits	2500 V_{rms}	2500 V_{rms}	2000 V_{rms}
Clearance / creepage coil-contact circuit	≥ 4/4 mm	≥ 4/4 mm	≥ 4/4 mm
adjacent contact circuits	≥ 3.5/9.5 mm	≥ 2.6/3.5 mm	≥ 1.8/3.5 mm
Material group of insulation parts		≥ IIIa	
Insulation to IEC 60664-1			
Type of insulation coil-contact circuit	basic	basic	basic
open contact circuit	functional	functional	functional
adjacent contact circuits	basic	basic	functional
Rated insulation voltage	250 V	250 V	250 V
Pollution degree	2	2	2
Rated voltage system	240/400 V	240 V	240 V
Overvoltage category	III	III	III

Other data

RoHS - Directive 2002/95/EC	compliant
Ambient temperature range	-40...+70°C
Operate time	15 ms
Release time without / with protection diode	10 / 18 ms
Bounce time NO / NC contact	5 ms
Vibration resistance (function) NO / NC contact	7/4 g
Shock resistance (function) NO / NC contact	20/5 g
Category of protection	RTII- flux proof
Mounting distance	0 mm, dense packing
Resistance to soldering heat	270°C / 10s
Relay weight	30 g
Packaging unit	10/250 pcs

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Accessories

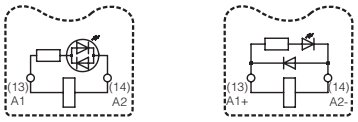
For details see datasheet Accessories Miniature Relay PT

Relay Packages

Complete packages consisting of a relay mounted on a socket see Package PT

Circuit

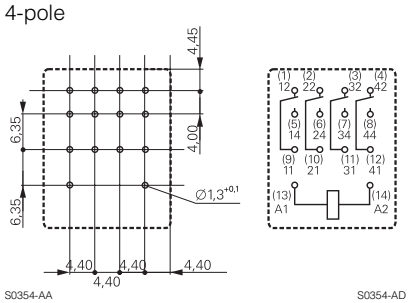
LED protection diode+LED



PCB layout / terminal assignment

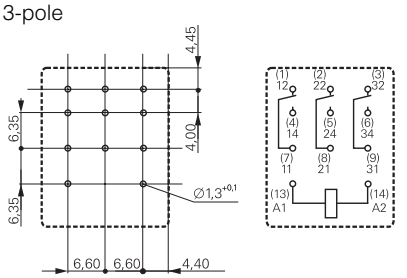
Bottom view on pins

4-pole



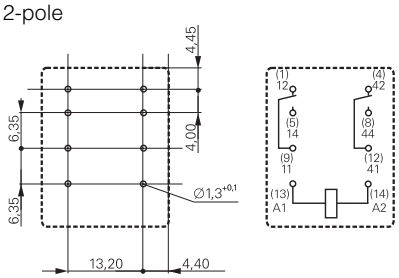
S0354-AA S0354-AD

3-pole



S0354-AB S0354-AE

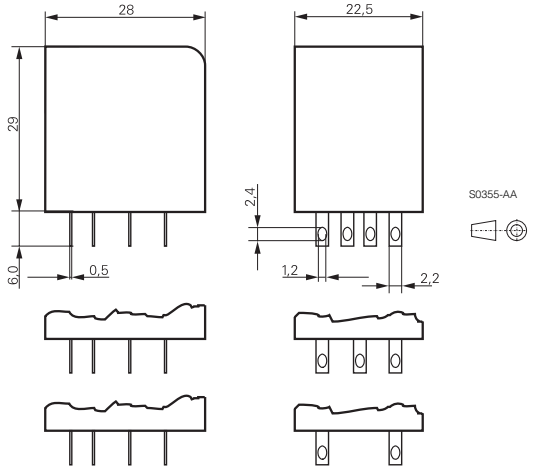
2-pole



S0354-AC S0354-AF

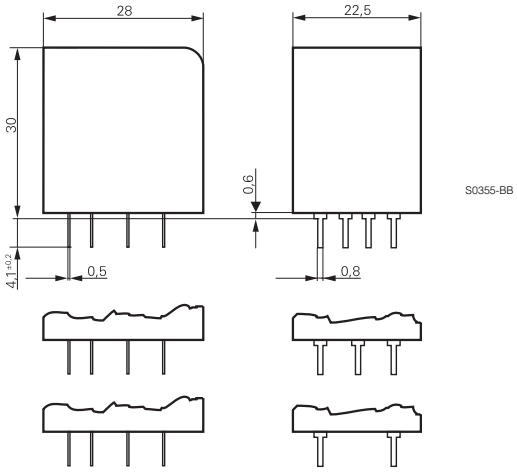
Dimensions

Solder- and plug-in terminals (standard version)



S0355-AA

PCB version



S0355-BB

Product key

P	T						

Type

Contact configuration
- **2** 2 CO contacts
- **3** 3 CO contacts
- **5** 4 CO contacts

Contact material
- **7** AgNi 90/10, with test button*)
- **8** AgNi 90/10 gold plated, with test button*)

Version
- **0** standard, 2.8 mm quick connect term.
- **1** PCB terminals

Coil

Coil code: please refer to coil versions table, preferred types in bold print

*) Version with closed cap without test button available on request
Other types on request

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Product key	Cont. Config.	Cont. material	Version	Coil	Coil	Part number
PT270024	2 CO contacts	AgNi 90/10	AMP 2.8	DC-coil	24 VDC	4-1419111-2
PT270524		test button	connectors	AC-coil	24 VAC	4-1419111-8
PT270615					115 VAC	5-1419111-0
PT270730					230 VAC	5-1419111-1
PT270L24				DC-coil+LED	24 VDC	9-1415001-1
PT270R24				AC-coil+LED	24 VAC	0-1415002-1
PT270S15					115 VAC	2-1415039-1
PT270T30					230 VAC	3-1415002-1
PT271024			PCB terminals	DC-coil	24 VDC	5-1419111-3
PT271524				AC-coil	24 VAC	5-1419111-6
PT271615					115 VAC	4-1419135-0
PT271730					230 VAC	5-1419111-8
PT370024	3 CO contacts	AgNi 90/10	AMP 2.8	DC-coil	24 VDC	6-1419111-1
PT370524		test button	connectors	AC-coil	24 VAC	6-1419111-6
PT370615					115 VAC	6-1419111-8
PT370730					230 VAC	6-1419111-9
PT370L24				DC-coil+LED	24 VDC	5-1415002-1
PT370R24				AC-coil+LED	24 VAC	7-1415002-1
PT370S15					115 VAC	9-1415039-1
PT370T30					230 VAC	9-1415002-1
PT371024			PCB terminals	DC-coil	24 VDC	7-1419111-1
PT371524				AC-coil	24 VAC	7-1419111-3
PT371615					115 VAC	0-1393154-8
PT371730					230 VAC	7-1419111-5
PT570024	4 CO contacts	AgNi 90/10	AMP 2.8	DC-coil	24 VDC	1-1393154-2
PT570524		test button	connectors	AC-coil	24 VAC	8-1419111-7
PT570615					115 VAC	9-1419111-0
PT570730					230 VAC	9-1419111-1
PT570L24				DC-coil+LED	24 VDC	6-1415001-1
PT570R24				AC-coil+LED	24 VAC	7-1415001-1
PT570S15					115 VAC	7-1415003-1
PT570T30					230 VAC	8-1415001-1
PT571024			PCB terminals	DC-coil	24 VDC	9-1419111-3
PT571524				AC-coil	24 VAC	9-1419111-6
PT571615					115 VAC	1-1393154-5
PT571730					230 VAC	9-1419111-8
PT580024		AgNi 90/10	AMP 2.8	DC-coil	24 VDC	1-1393154-7
PT580524		gold plated	connectors	AC-coil	24 VAC	2-1393154-1
PT580730		test button			230 VAC	2-1393154-2
PT580L24				DC-coil+LED	24 VDC	5-1415026-1
PT580R24				AC-coil+LED	24 VAC	6-1415026-1
PT580T30					230 VAC	7-1415026-1
PT581024			PCB terminals	DC-coil	24 VDC	7-1419135-2
PT581730				AC-coil	230 VAC	2-1393154-3

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Dimensions are in mm unless otherwise specified and are shown for reference purposes only.

Product specification according to IEC 61810-1. Product data, technical parameters, test conditions and processing information only to be used together with the 'Definitions' at schrackrelays.com in the 'Schrack' section.

Specifications subject to change.

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