

Miniature Relay PT

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

Typical applications
Universal use in control and automation

Approvals

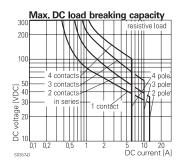
VDE Cert. No. 40009108, UL E214025, Lloyds 00/20059

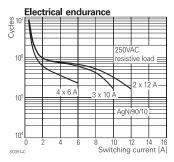
Technical data of approved types on request

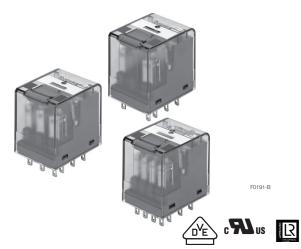
Contact Data	PT2	PT3	PT5
Contact arrangement	2 form C	3 form C	4 form C
-	2 CO	3 CO	4 CO
Rated voltage		240VAC	
Max. switching voltage	400VAC	400VAC	240VAC
Rated current	12A	10A	6A
Limiting making current, max. 20ms	24A	20A	12A
Limiting breaking current	12A	10A	6A
Limiting short-time current		300A/30ms	
Switching power	3000VA	2500VA	1500VA
Contact material	AgNi90/1	0, AgNi90/10	gold plated
Min. recommended contact load		12V at 10mA	
	gold p	olated: 20mV a	t 1mA
Initial voltage drop	30n	nV at 100mA/6	VDC
Frequency of operation			
with/without load		360/36000h ⁻¹	
Operate time typ., DC coil		15ms	
Release time typ., DC coil, without/	with PD	10/18ms	
Bounce time typ., DC coil, form A/fc	rm B	6/8ms	

Contact ratings

Contact	Load	Cycles
C (CO)	12A, 250VAC, cosφ=1, 70°C	70x10 ³
A (NO) of C (CO)	9A, 250VAC, cosφ=1, 80°C	150x10 ³
A (NO) of C (CO)	4A, 250VAC, cosφ=1, 80°C	300x10 ³
C (CO)	10A, 250VAC, cosφ=1, 70°C	100x10 ³
C (CO)	6A, 250VAC, cosφ=1, 70°C	100x10 ³
	C (CO) A (NO) of C (CO) A (NO) of C (CO) C (CO)	C (CO) 12A, 250VAC, cosφ=1, 70°C A (NO) of C (CO) 9A, 250VAC, cosφ=1, 80°C A (NO) of C (CO) 4A, 250VAC, cosφ=1, 80°C C (CO) 10A, 250VAC, cosφ=1, 70°C







Contact Data (continued)

Contact ratings						
Туре	Contact	Load	Cycles			
UL 50	8					
PT 2	C (CO)	12A, 250VAC, general purpose, 70°C	6.000			
PT 2	C (CO)	12A, 250VAC, resistive, 70°C	100x10 ³			
PT 2	A (NO) of C (CO)	12A, 250VAC, resistive, 70°C	100x10 ³			
PT 2	A (NO) of C (CO)	12A, 250VAC, resistive, 70°C	100x10 ³			
PT 3	C (CO)	10A, 250VAC, general purpose, 70°C	6.000			
PT 3	C (CO)	10A, 250VAC, resistive, 70°C	100x10 ³			
PT 3	A (NO) of C (CO)	10A, 250VAC, resistive, 70°C	100x10 ³			
PT 3	B (NC) of C (CO)	10A, 250VAC, resistive, 70°C	100x10 ³			
PT 5	C (CO)	6A, 250VAC, general purpose, 70°C	6.000			
PT 5	C (CO)	6A, 250VAC, resistive, 70°C	100x10 ³			
PT 5	A (NO) of C (CO)	6A, 250VAC, resistive, 70°C	100x10 ³			
PT 5	B (NC) of C (CO)	6A, 250VAC, resistive, 70°C	100x10 ³			
EN609	947-4-1					
PT 2	A (NO) of C (CO)	400VAC, 3.75A, AC3, opposite polarity	, 70°C			
PT 2	A (NO) of C (CO)	230VAC, 1.7A, AC5b (400W lamp load)	,			
		opposite polarity, 70°C				
PT 3	A (NO) of C (CO)	250VAC, 2A, AC3, opposite polarity 70°	°C			
PT 3	A (NO) of C (CO)	230VAC, 1.7A, AC5b (400W lamp load)	,			
		opposite polarity, 70°C				
PT 5	A (NO) of C (CO)	250VAC, 3A, AC3, same polarity 70°C				
PT 5	A (NO) of C (CO)	230VAC, 1.7A, AC5b (400W lamp load)	,			
		same polarity, 70°C				
Mecha	anical endurance					
	coil	30x10 ⁶ operations				
AC	coil	20x10 ⁶ operations				

Coil Data	
Coil voltage range	6 to 220VDC
	6 to 230VAC
Operative range, IEC 61810	
DC coil, AC-coil 50Hz	2
AC coil 60 Hz at 70°C	90110% of rated voltage
Coil insulation system according UL	class 155 (F)



Miniature Relay PT (Continued)

750

Coll Da	ita (continue	ea)			
Coil vers	sions, DC co	il, standard			
Coil	Rated	Operate	Release	Coil	Rated coil
code	voltage	voltage	voltage	resistance	power
	VDC	VDC	VDC	$\Omega \pm 10\%^{1)2)}$	mW
006	6	4.5	0.6	48	750
012	12	9.0	1.2	192	750
024	24	18.0	2.4	777	741
048	48	36.0	4.8	3072	750
060	60	45.0	6	4845 ¹⁾	743
110	110	82.5	11	16133 ²⁾	750

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165.0

Coil ve	Coil versions, DC coil with bipolar LED or LED and protection diode							
Coil co	ode	Rated	Operate	Release	Coil	Rated coil		
bipol.	LED+	voltage	voltage	voltage	resistance	+LED pwr.		
LED	PD ³)	VDC	VDC	VDC	$\Omega \pm 10\%^{1)2)}$	mW		
L06	LA6	6	4.5	0.6	48	750+3.5		
L12	LB2	12	9.0	1.2	192	750+10		
L24	LC4	24	18.0	2.4	777	741+18		
L48	LE8	48	36.0	4.8	3072	750+38		
L60	LG0	60	45.0	6.0	4845 ¹⁾	743+56		
M10	MB0	110	82.5	11.0	16133 ²⁾	750+96.5		
N20	NC0	220	165.0	22.0	64533 ²⁾	750+202.5		

¹⁾ Coil resistance ±12%, 2) Coil resistance ±15%,

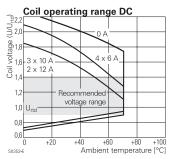
Coil versions, AC coil, 50/60Hz

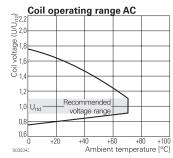
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Coil code		ode	Rated	Operate	Release	Coil	Rated coil	
STD LED voltage		voltage	voltage	voltage	resistance	power		
				50/60Hz	50/60Hz		50/60Hz	
			VAC	VAC	VAC	$\Omega \pm 10\%^{1)2)}$	VA	
	506	R06	6	4.8/5.4	1.8	11	1.0/0.85	
	512	R12	12	9.6/10.8	3.6	48	1.0/0.85	
	524	R24	24	19.2/21.6	7.2	192	1.0/0.79	
	548	R48	48	38.4/43.2	14.4	777	1.0/0.87	
	560	R60	60	48.0/54.0	18.0	1306	1.0/0.87	
	615	S15	115	92.0/103.5	34.5	4845 ¹⁾	1.0/0.86	
	730	T30	230	184/207	69.0	19465 ²⁾	1.0/0.90	

¹⁾ Coil resistance ±12%, 2) Coil resistance ±15%

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





Insulation Data	PT2	PT3	PT5
Initial dielectric strength			
between open contacts	$1200V_{rms}$	$1200V_{rms}$	1200V _{rms}
between contact and coil	$2500V_{rms}$	$2500V_{rms}$	2500V _{rms}
between adjacent contacts	$2500V_{rms}$	$2500V_{rms}$	2000V _{rms}
Initial surge withstand voltage			
between contact and coil	50	000V (1.2/50 _L	IS)
Clearance/creepage			
between contact and coil	≥4/4mm	≥4/4mm	≥4/4mm
between adjacent contacts	≥3.5/9.5mm	≥2.6/3.5mm	≥1.8/3.5mm
Material group of insulation parts		IIIa	

Other Data					
Material compliance: EU RoHS/ELV, China	RoHS, REACH, Halogen content				
refer to the Product Compliance Support Center					
www.te.com/cus	tomersupport/rohssupportcenter				
Ambient temperature	-40 to +70°C				
Cold storage, IEC 60068-2-1	-40°C/16h				
Dry heat, IEC 60068-2-2	85°C/16h				
Category of environmental protection					
IEC 61810	RTII - flux proof				
Vibration resistance (functional),					
form A (NO)/form B (NC)	7/4g				
Shock resistance (functional),					
form A (NO)/form B (NC)	20/5g				
Terminal type	PCB-THT, plug-in				
	quick-connect				
Cover retention, pull/push force	100/100N				
Weight	30g				
Mounting distance, for mounting on PCB	5mm				
Resistance to soldering heat THT					
IEC 60068-2-20	270°C/10s				
Packaging unit	10/250pcs.				

Accessories	
For details see datasheet	Accessories Miniature Relay PT
Note: indicated contact ratings	and electrical endurance data for direct
wiring of relays (according IEC 6	61810-1); for relays mounted on sockets
deratings may apply.	

Product Sets	
Complete sets consisting of a relay	
mounted on a socket see	Package PT

³⁾ Protection diode PD; standard polarity: +A1/-A2

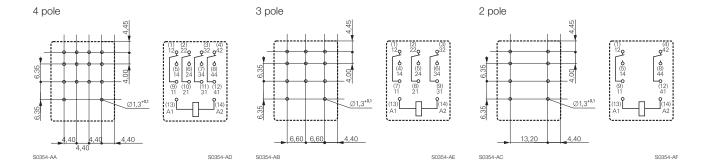
All figures are given for coil without pre-energization, at ambient temperature +23°C



Miniature Relay PT (Continued)

PCB layout / terminal assignment

Bottom view on pins



Circuit LED

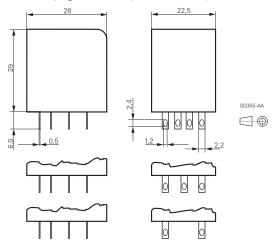
protection diode+LED



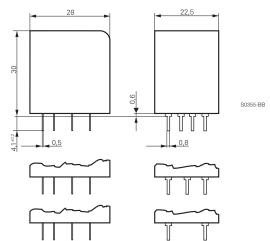


Dimensions

Solder- and plug-in terminals (standard version)









Miniature Relay PT (Continued)

Product	code structure	Typical product code PT			7	0	730
Туре	Miniature Relay PT						
	rrangement			J			
	2 form C contacts (2 CO contacts)						
	3 form C contacts (3 CO contacts)						
	4 form C contacts (4 CO contacts)						
Contact n	naterial				-		
7	AgNi 90/10, with test button	8	AgNi 90/10 gold plated, with test button				
2	AgNi 90/10, without test button	3	AgNi 90/10 gold plated, without test button				
Version							
0	Standard, 2.8mm quick connect term.	1	PCB terminals				
Coil							
Co	il code: please refer to coil versions table						
Other types of	on request						

Product code	Cont. Config.	Cont. material	Version	Coil	Coil	Part number
PT270024	2 form C	AgNi 90/10	AMP 2.8	DC coil	24VDC	4-1419111-2
PT270524	2 CO contacts	test button	connectors	AC coil	24VAC	4-1419111-8
PT270615					115VAC	5-1419111-0
PT270730					230VAC	5-1419111-1
PT270L24				DC coil+LED	24VDC	9-1415001-1
PT270R24				AC coil+LED	24VAC	1415002-1
PT270S15					115VAC	2-1415039-1
PT270T30					230VAC	3-1415002-1
PT271024			PCB terminals	DC coil	24VDC	5-1419111-3
PT271524				AC coil	24VAC	5-1419111-6
PT271615					115VAC	4-1419135-0
PT271730					230VAC	5-1419111-8
PT370024	3 form C	AgNi 90/10	AMP 2.8	DC coil	24VDC	6-1419111-1
PT370524	3 CO contacts	test button	connectors	AC coil	24VAC	6-1419111-6
PT370615					115VAC	6-1419111-8
PT370730					230VAC	6-1419111-9
PT370L24				DC coil+LED	24VDC	5-1415002-1
PT370R24				AC coil+LED	24VAC	7-1415002-1
PT370S15					115VAC	9-1415039-1
PT370T30					230VAC	9-1415002-1
PT371024			PCB terminals	DC coil	24VDC	7-1419111-1
PT371524				AC coil	24VAC	7-1419111-3
PT371615					115VAC	1393154-8
PT371730					230VAC	7-1419111-5
PT570024	4 form C	AgNi 90/10	AMP 2.8	DC coil	24VDC	1-1393154-2
PT570524	4 CO contacts	test button	connectors	AC coil	24VAC	8-1419111-7
PT570615					115VAC	9-1419111-0
PT570730					230VAC	9-1419111-1
PT570L24				DC coil+LED	24VDC	6-1415001-1
PT570LC4				DC coil+LED+PD	0.4) (4.0)	7-1415541-0
PT570R24				AC coil+LED	24VAC	7-1415001-1
PT570S15					115VAC	7-1415003-1
PT570T30			DOD I I I	500 11	230VAC	8-1415001-1
PT571024			PCB terminals	DC coil	24VDC	9-1419111-3
PT571524				AC coil	24VAC	9-1419111-6
PT571615					115VAC	1-1393154-5
PT571730		A NI 00/10	ANAD O O	DO 1	230VAC	9-1419111-8
PT580024		AgNi 90/10	AMP 2.8	DC coil	24VDC	1-1393154-7
PT580524		gold plated	connectors	AC coil	24VAC 230VAC	2-1393154-1
PT580730		test button		DC asili LED		2-1393154-2
PT580L24				DC coil+LED	24VDC	5-1415026-1
PT580R24				AC coil+LED	24VAC	6-1415026-1
PT580T30			DOD townsinel-	DC soil	230VAC	7-1415026-1
PT581024			PCB terminals	DC coil	24VDC	7-1419135-2
PT581730	1			AC coil	230VAC	2-1393154-3