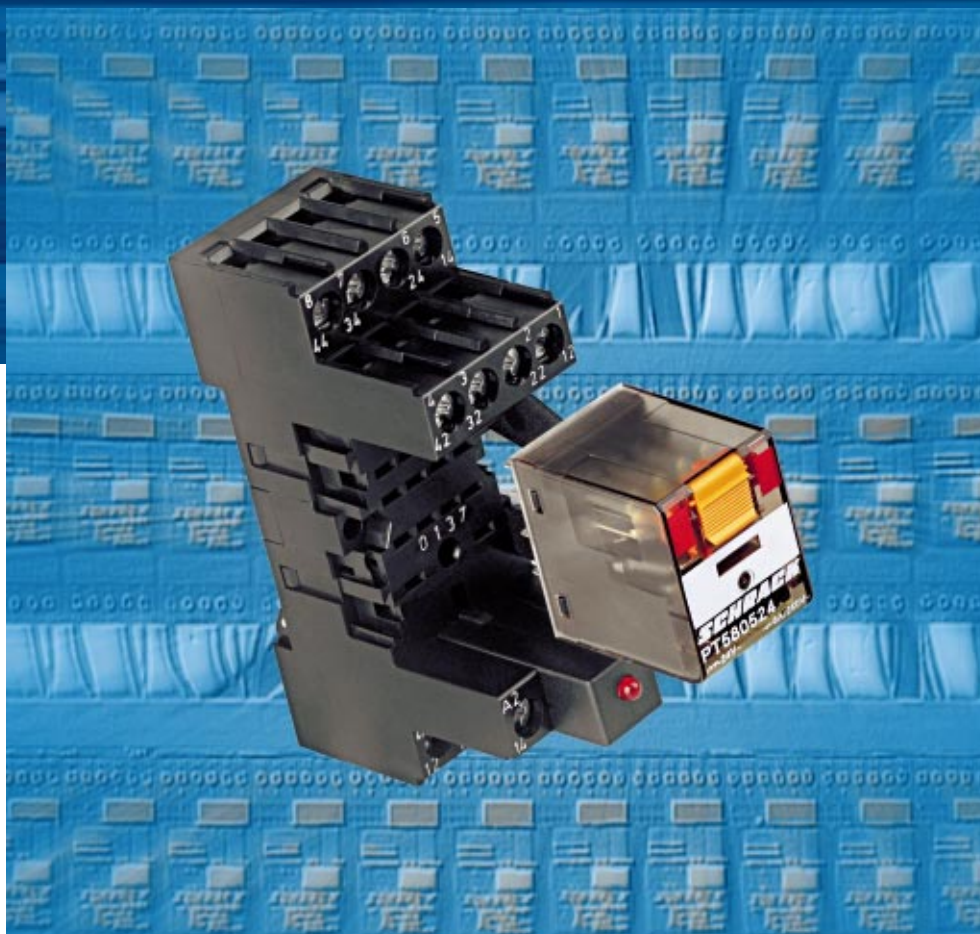


PT - the new Generation



tyco
Electronics

SCHRACK

The new standard ...PT



With the new PT, Tyco Electronics - Schrack again sets new standards in relay technology.

The PT is a modern design with market leading performance; with AC and DC coils and a choice of 2, 3 and 4 pole variants with contact ratings of 12 A, 10 A and 6 A respectively.

Technology at its best

Using design principles from our advanced PCB relays, the PT represents a new generation of relay construction. As a result, performance is improved in critical areas such as reduced coil consumption, without loss of contact pressure, a switching power increase of 20% and a reduction in height from 36 mm to 29 mm.

The PT has outstanding electrical life approved to VDE 0435 at an ambient temperature of 70°C and also meets the European "Low Voltage Directive" confirmed by the CE mark.

For international applications the PT is approved to VDE, UL and CSA and carries the Lloyds Approval.

For panel applications...

With a switching current of 6 A, the 4 pole PT offers 20% more switching power than its competitors.

The 3 pole 10 A version has C250 isolation according to VDE 0110, a key technical feature usually only reserved for larger octal style relays. In addition, the reduced system width of the PT increases packing density on the DIN rail.

With a 12 A switching capacity, the 2 pole PT is the most powerful in its class.

All 3 versions are only 29 mm high allowing better utilisation of cabinet space.

Available in both AC and DC coils, power consumption has been reduced by 30% in comparison to similar models and sensitivity significantly improved, important when controlling cabinet temperature.

A mechanical operate indicator and manual test tab, which may be locked in position, are standard on all models, as is a colour coding system for easy identification of AC or DC coils.



Comparison of generations

...with perfectly matched accessories

A complete range of sockets and accessories ensures that the PT relay can be simply integrated into your application.

The sockets incorporate rising clamp terminals, with captive pozidrive screws, large enough for 2 x 2.5 mm cables and also have the capability to accept a range of plug in indication and protection modules.

The plastic retaining clip allows a simple replacement of a relay even on a densely packed DIN rail.

Snap-on identification tabs allow a professional marking.



...and on the printed circuit board

The many benefits and features of the plug in PT apply equally to the PCB version.

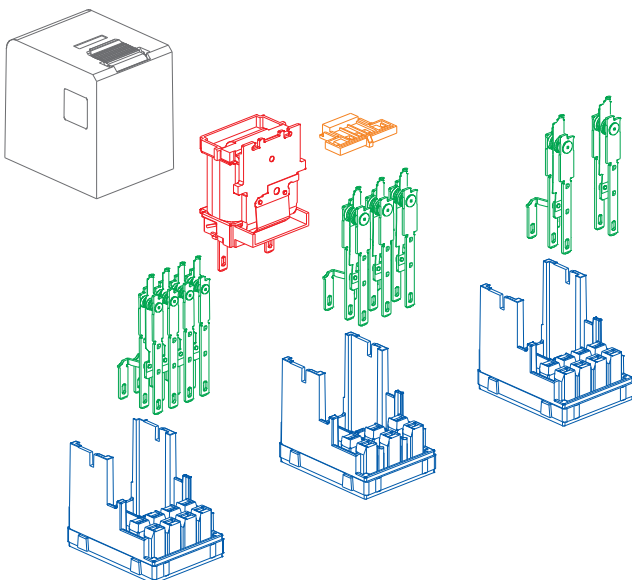
High reliability, coil sensitivity and optimised height make the PT an ideal PCB-relay.

Version with closed cap without test button available on request.

Thinking of the environment

As with all our products the PT has been designed with the environment in mind.

The use of cadmium free AgNi 90/10 contact material and recyclable carton bar packaging are just two examples of this.



The new standard for quality and reliability

The PT is produced on a fully automated production line utilising the latest production techniques giving unprecedented quality.

Reliability is built in to the design of the PT by using fewer integrated parts, eliminating the need for traditional wires and soldering inside the relay.

Miniature Relay PT

2 pole 12 A, 3 pole 10 A or 4 pole 6 A
DC- or AC-coil



F0191-AC

Features

- 2, 3 or 4 C/O contacts
- Switching performance up to 3000 VA
- Relay height 29 mm
- Cadmium-free contact material
- Mechanical and electrical indicator
- Manual test tab, optionally lockable.
- White marking tabs

Applications

Universal use in control and automation



Technical data of approved types on request

Contact data	PT2	PT3	PT5
Configuration	2 C/O	3 C/O	4 C/O
Type of contact	single contacts		
Rated current	12 A	10 A	6 A
Rated voltage / max. breaking voltage AC	250 Vac	250 Vac	250 Vac
Maximum switching voltage	440 Vac	440 Vac	250 Vac
Maximum breaking capacity AC	3000 VA	2500 VA	1500 VA
Make current	24 A	20 A	12 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated		
Minimum contact load	24 V, 10 mA / 20 mV, 1 mA gold plated		

Contact ratings

Type	Load	Operations	Standard
PT570	6 A, 250 Vac, on the C/O contact	1x10 ⁵	VDE 0435

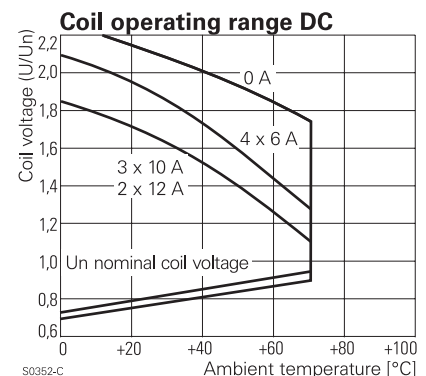
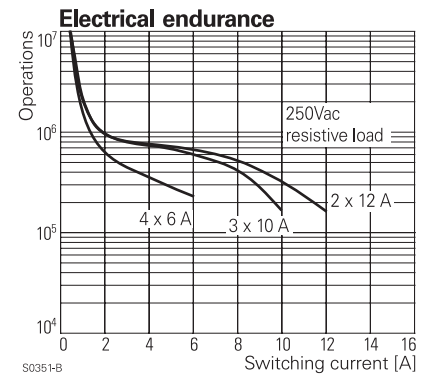
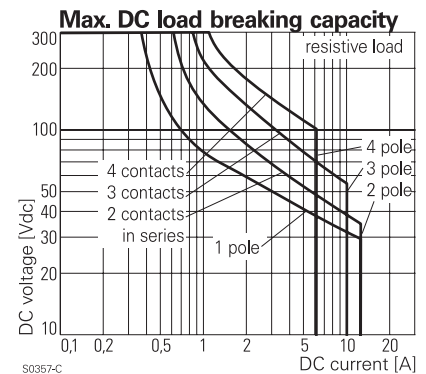
Coil data

Nominal voltage	DC coil	6...220 Vdc
	AC coil	6...230 Vac
Nominal coil power	DC coil	typ. 0.75 W
	AC coil	typ. 1.0 VA
Operate category	2 / b	
Operating range for AC coil 60Hz at 70°C	90...110% U _{nom}	

Coil versions, DC-coil

Coil code		Nominal	Pull-in	Release	Coil	Coil
Standard	LED	voltage	voltage	voltage	resistance	current
	biopolar	Vdc	Vdc	Vdc	Ω	mA
006	L06	6	4.5	0.6	48±10%	125.0
012	L12	12	9.0	1.2	192±10%	62.5
024	L24	24	18.0	2.4	777±10%	31.3
048	L48	48	36.0	4.8	3072±10%	15.6
060	L60	60	45.0	6.0	4845±12%	12.5
110	M10	110	82.5	11.0	16133±15%	6.8
220	N20	220	165.0	22.0	64533±15%	3.4

All figures are given for coil without preenergization, at ambient temperature +20°C



Miniature Relay PT

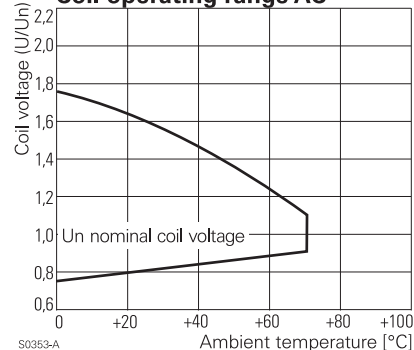
2 pole 12 A, 3 pole 10 A or 4 pole 6 A
DC- or AC-coil

Coil versions, AC-coil

Coil code		Nominal	Pull-in	Release	Coil	Coil
Standard	LED	voltage	voltage	voltage	resistance	current
		Vac	Vac	Vac	Ω	mA
506	R06	6	4.8	1.8	11±10%	166.5
512	R12	12	9.6	3.6	48±10%	83.3
524	R24	24	19.2	7.2	192±10%	41.6
548	R48	48	38.4	14.4	777±10%	21.3
560	R60	60	48.0	18.0	1306±10%	16.7
615	S15	115	92.0	34.5	4845±12%	8.8
730	T30	230	184.0	69.0	19465±15%	4.3

All figures are given for coil without preenergization, at ambient temperature +20°C

Coil operating range AC



Insulation	PT2	PT3	PT5
Dielectric strength coil-contacts	2500 V _{rms}	2500 V _{rms}	2500 V _{rms}
open contact circuit in unenergized position typ.	1500 V _{rms}	1500 V _{rms}	1500 V _{rms}
adjacent contacts	2500 V _{rms}	2500 V _{rms}	2000 V _{rms}
Clearance / creepage	3 / 4 mm	2.6 / 4 mm	1.8 / 3 mm
Insulation to IEC 664/VDE 0110 (1/89)			
Voltage rating	240 V	240 V	240 V
Pollution degree	3	3	2
Overvoltage category	III	III	III
Insulation to VDE 0110b (2/79)			
Insulation cat. / ref. voltage	C / 250	C / 250	B / 250
Tracking resistance of relay base	CTI 175		

Other data

Flammability class UL 94	V-0	
Ambient temperature	DC-coil	-40...+70 °C
	AC-coil	-40...+70 °C
Mechanical life	DC-coil	>30x10 ⁶ ops.
	AC-coil	>20x10 ⁶ ops.
Max. switching rate at rated- / minimum load	6 min ⁻¹ / 600 min ⁻¹	
Operate- / release time	15 / 10 ms	
Bounce time	5 ms	
Vibration resistance N/O contact/N/C contact	>7 / 4 g	
Shock resistance (function) N/O contact/N/C contact	>20 / 5 g	
Category of protection (IEC 61810)	RT II	
Relay weight	30 g	
Packaging unit	10 pcs.	
Accessories	see accessories PT	

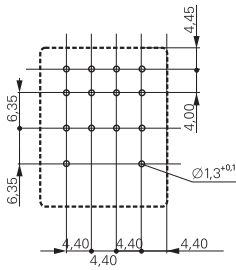
Miniature Relay PT

2 pole 12 A, 3 pole 10 A or 4 pole 6 A
DC- or AC-coil

PCB layout / terminal assignment

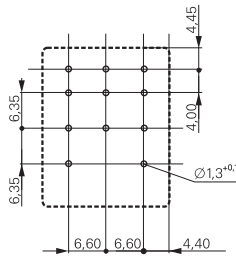
View on solder pins
Dimensions in mm

4-pole



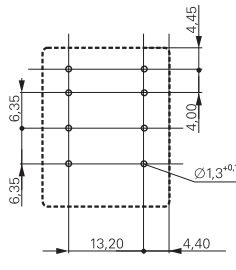
S0354-AA

3-pole

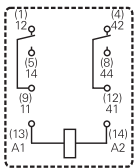


S0354-AB

2-pole



S0354-AC

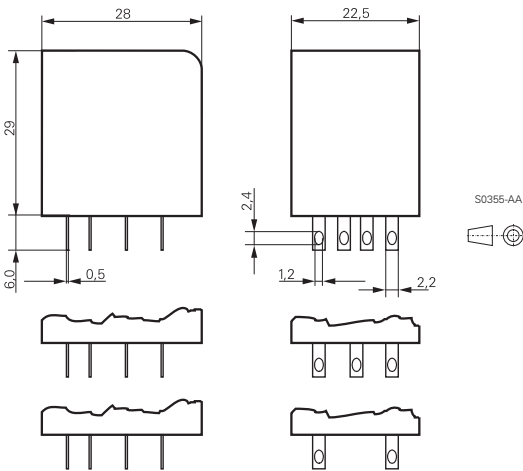


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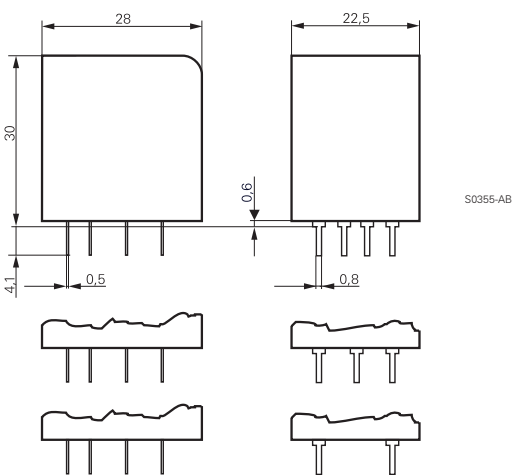
Dimensions

Dimensions in mm

Solder- and plug-in terminals (standard version)



PCB version



Product key

Type

Contact configuration

- 2** 2 C/O contacts
- 3** 3 C/O contacts
- 5** 4 C/O contacts

Contact material

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

Version

- 0** standard, AMP 2.8
- 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.

Miniature Relay PT

2 pole 12 A, 3 pole 10 A or 4 pole 6 A
DC- or AC-coil

Product key	Cont. config.	Cont. material	Version	Coil	Coil	Part number
PT270024	2 C/O contacts	AgNi 90/10 test button	AMP 2.8 connectors	DC coil	24 Vdc	4-1419111-2
PT270524				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 C/O contacts	AgNi 90/10 test button	AMP 2.8 connectors	DC coil	24 Vdc	6-1419111-1
PT370524				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 C/O contacts	AgNi 90/10 test button	AMP 2.8 connectors	DC coil	24 Vdc	1-1393154-2
PT570524				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 gold plated test button	AMP 2.8 connectors	DC coil	24 Vdc	1-1393154-7
PT580524				AC-coil	24 Vac	2-1393154-1
PT580730					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

Accessories Miniature Relay PT

and similar design: relay heights 29 / 34.6 / 35.2 / 36.6 / 37.6mm



F0233-AC

Features

- Easy replacement of relays on a densely packed DIN rail
- High quality rising clamp terminals
- Captive combination terminal screws
- No reduction of protection class or creepage/clearance with plastic retainer
- Simple plug-in indicator- and protection modules
- White snap-on tags

Accessories for sockets:

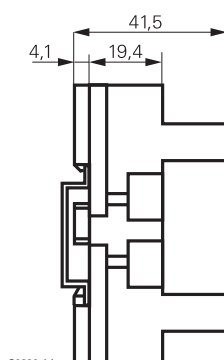
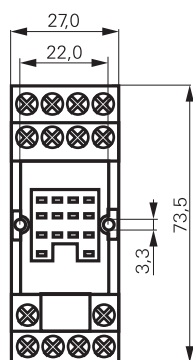
- Retaining clip
- LED- and protection modules
- Marking tags

Dimensions in mm

PT DIN-rail socket with screw type terminals



F0234-AC



S0320-AA



Technical data

Rated current	4-pole	6 A
	3-pole	10 A
	2-pole	12 A
Rated voltage	250 Vac	
Insulation cat. (VDE 0110b)	C / 250 Vac	
Ambient temperature	-45...+70 °C	
Protection category	IP 20	
Protection against accidental contact meets	VBG 4	
Wire cross section	2 x 2.5 mm ²	
with bootlace crimp	2 x 1.5 mm ²	
Terminal torque	0.5 Nm	
max.	0.7 Nm	
Packaging unit	10 pcs.	

DIN-rail socket with screw type terminals

Type		Part Number
PT 78 720	DIN-rail socket with screw type terminals, 2 pole	6-1415034-1
PT 78 730	DIN-rail socket with screw type terminals, 3 pole	9-1415071-1
PT 78 740	DIN-rail socket with screw type terminals, 4 pole	4-1415033-1
PT 78 741	DIN-rail socket with screw type terminals, 4 pole package with protection diode module	5-1415034-1

Accessories for PT 78 720, PT 78 730, PT 78 740, PT 78741

Type		Part Number
PT 17 016	Plastic retaining clip PT, relay height 29 mm	5-1415037-1
PT 17 017	Plastic retaining clip, relay height 34.6 mm	7-1415037-1
PT 17 018	Plastic retaining clip, relay height 35.2 mm	8-1415037-1
PT 17 019	Plastic retaining clip, relay height 36.6 mm	9-1415037-1
PT 17 020	Plastic retaining clip, relay height 37.6 mm	0-1415038-1
PT 28 800	Metal retaining clip PT, relay height 29 mm	5-1419111-9
ZG 28 801	Metal retaining clip, relay height 36 mm	1-1393162-5
PT 17 040	Marking tag	6-1415037-1

Accessories Miniature Relay PT

and similar design: relay heights 29 / 34.6 / 35.2 / 36.6 / 37.6mm

LED- and Protection Modules for PT 78 720, PT 78 730 and PT 78 740

Easy insertion of module into the socket

Wiring in parallel to the coil

Type		Part Number
PTM T0 0A0	Protection diode (A1+, A2-)	9-1415036-1
PTM T0 0L0	Protection diode (A1-, A2+)	0-1415037-1
PTM U0 524	RC-network 6...60 Vac	1-1415037-1
PTM U0 730	RC-network 110...230 Vac	2-1415037-1
PTM V0 524	Varistor 24 Vac	3-1415037-1
PTM V0 730	Varistor 230 Vac	4-1415037-1

LED

PTM L0 524	red LED 6...24 Vdc/Vac	6-1415036-1
PTM G0 524	green LED 6...24 Vdc/Vac	3-1415036-1
PTM L0 024	red LED 6...24 Vdc w. prot. diode (A1+, A2-)	5-1415036-1
PTM G0 024	green LED 6...24 Vdc w. prot.diode (A1+, A2-)	2-1415036-1
PTM L1 024	LED 6...24 Vdc w. prot. diode (A1-, A2+)	8-1415036-1
PTM L0 730	red LED 110...230 Vac	7-1415036-1
PTM G0 730	green LED 110...230 Vac	4-1415036-1



F0231-AC

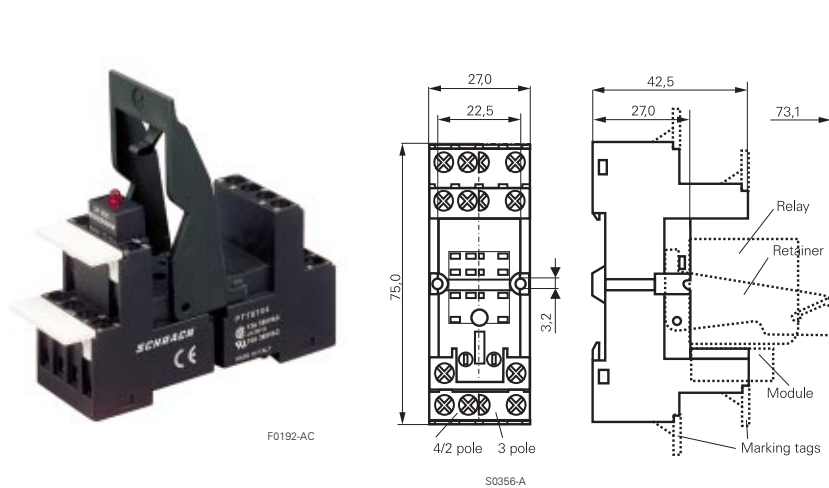
F0232-AC

Accessories Miniature Relay PT

and similar design: relay heights 29 / 34.6 / 35.2 / 36.6 / 37.6mm

Dimensions in mm

PT DIN-rail socket with screw type terminals



Technical data

Rated current	4 x 6 A, 3 x 10 A, 2 x 12 A
Rated voltage	300 Vac
Dielectric strength coil/cont.	>4000 V _{eff}
Insulation category (VDE 0110b)	C / 250 Vac
Ambient temperature	-45...+70 °C ¹⁾
Protection category	IP 20
Protection against accidental contact meets	VBG 4
Wire cross section	2 x 2.5 mm ²
with bootlace crimp	2 x 1.5 mm ²
Terminal torque	0.5 Nm
max.	0.8 Nm
Packaging unit	10 pcs.
¹⁾ at rated current to +40 °C, up to +70 °C at 70% of rated current	

DIN-rail socket with screw type terminals

Type		Part Number
PT 78 702	DIN-rail socket with screw type terminals, 2 pole	9-1419111-9
PT 78 703	DIN-rail socket with screw type terminals, 3 pole	0-1419112-1
PT 78 704	DIN-rail socket with screw type terminals, 4 pole	0-1419112-2

Accessories for PT 78 702, PT 78 703, PT 78 704

Type		Part Number
PT 16 016	Plastic retaining clip PT, relay height 29 mm	3-1419111-8
PT 28 800	Metal retaining clip PT, relay height 29 mm	5-1419111-9
ZG 28 801	Metal retaining clip, relay height 36 mm	1-1393162-5
PT 16 040	Marking tag	3-1419111-9

LED- and Protection Modules for PT 78 702, PT 78 703, PT 78 704

Easy insertion of module into the socket

Wiring in parallel to the coil

Type		Part Number
RPM T0 0A0	Protection diode 1N4007 ¹⁾	1-1393161-1
RPM U0 548	RC-network 24...48 Vac	1-1393161-3
RPM U0 730	RC-network 110...230 Vac	1-1393161-4

LED

RPM L0 024	red LED 12...24 Vdc w.prot.diode ¹⁾	0-1393161-4
RPM G0 024	green LED 12...24 Vdc w.prot.diode ¹⁾	0-1393161-3
RPM L0 524	red LED 12...48 Vdc / Vac	0-1393161-7
RPM G0 524	green LED 12...48 Vdc / Vac ¹⁾	2-1419152-4
RPM L0 110	red LED 60...110 Vdc w.prot.diode ¹⁾	0-1393161-6
RPM G0 110	green LED 60...110 Vdc w.prot.diode ¹⁾	2-1419152-3
RPM L0 730	red LED 110...230 Vac	0-1393161-8
RPM G0 730	green LED 110...230 Vac	2-1419152-5

¹⁾ Standard polarity: A1+, A2-



F0123-AC

Accessories Miniature Relay PT

and similar design: relay heights 29 / 34.6 / 35.2 / 36.6 / 37.6mm

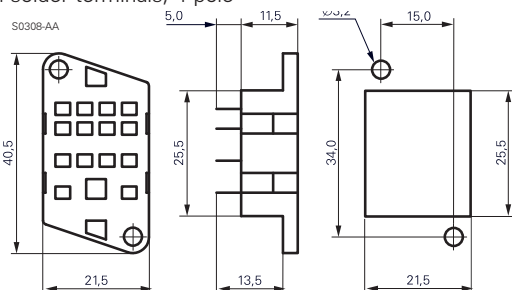
Dimensions in mm
View on solder pins

PT 78 600

Socket with solder terminals, 4 pole



F0132-AC



Chassis cut-out

Technical data

Rated current	10 A
Rated voltage	250 Vac
Dielectric strength coil/cont.	>1500 V _{rms}
Ambient temperature	-40...+70 °C
Packaging unit	25 pcs.

PT 78 604 4 pole

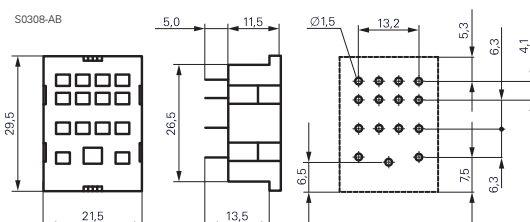
Socket with PCB terminals

PT 78 603 3 pole

PT 78 602 2 pole



F0133-AC



Chassis cut-out

Technical data

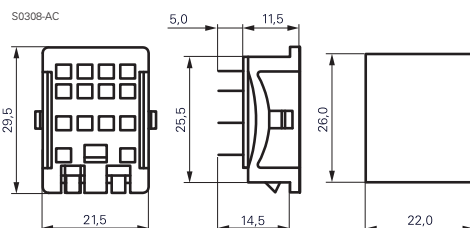
Rated current	10 A
Rated voltage	250 Vac
Dielectric strength coil/cont.	>1500 V _{rms}
Ambient temperature	-40...+70 °C
Packaging unit	25 pcs.

PT 78 601

Socket with solder terminals, 4 pole



F0134-AC



Chassis cut-out

Technical data

Rated current	10 A
Rated voltage	250 Vac
Dielectric strength coil/cont.	>1500 V _{rms}
Ambient temperature	-40...+70 °C
Packaging unit	25 pcs.

PT Sockets

Type	Part Number
PT 78 600 Socket with solder terminals, 4 pole	4-1415043-1
PT 78 602 Socket with PCB terminals, 2 pole	5-1415043-1
PT 78 603 Socket with PCB terminals, 3 pole	0-1393162-5
PT 78 604 Socket with PCB terminals, 4 pole	3-1415043-1
PT 78 601 Socket with solder terminals, 4 pole	6-1415043-1

Accessories for PT 78 600, PT 78 601, PT 78 602, PT 78 603, PT 78 604

Type	Part Number
PT 28 802 Metal retaining clip PT, relay height 29 mm	0-1393162-1
ZG 28 800 Metal retaining clip, relay height 36 mm	1-1393162-4

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