



Relays & solenoids

PCB Power relays	557
PCB Relays	553
Photomos relays	553
Plug-in power relays	566
Reed relays	552
Solenoids	569

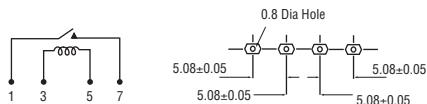
Reed relays

SIL Reed relays

ECE

A range of single pole reed relays sealed in a compact single in-line epoxy package.

- Suitable for a wide range of applications
- Completely washable
- Suitable for auto insertion
- Suitable for direct interfacing with TTL logic
- UL approved



Technical specification

Dimensions	19 x 5 x 7mm
Contacts	NO
Switching current	0.5A DC max.
Carry current	1A DC max.
Switching power	10VA max.
Contact resistance	150mΩ
Operate time	1ms max. (including bounce time)
Release time	10ms max.
Maximum voltage	100V DC
Insulation resistance	1010Ω min.
Coil voltage range	5V 12V 24V
Coil resistance	5V 12V 24V
Operating temperature	-40°C to +85°C

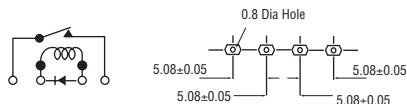
Type	Order code	1+	25+	100+	500+
5V Coil	60-0670	1.40	1.15	0.88	0.75
12V Coil	60-0672	1.50	1.22	0.99	0.82
24V Coil	60-0674	1.60	1.25	1.04	0.86

SIL Reed relays

Meder

A range of single pole normally open diode protected reed relays, housed in a compact single in-line epoxy moulded package.

- The ultra-slim package permits relays to be mounted on 5.08mm centres
- Completely washable and suited to auto insertion
- Suitable for direct interfacing with TTL logic



Technical specification

Dimensions	19 x 5 x 7.4mm
Switching voltage (max.)	200V DC
Switching current (max.)	0.5A
Carry current (max.)	1A
Switching power	10W max.
Hold off voltage (min.)	250V
Contact resistance	100mΩ max.
Operate time	0.5ms max.
Release time	0.2ms max.
Insulation resistance	1 x 10 ¹¹ min.
Life expectancy	1 x 10 ⁸ min.
Operating temperature	-40°C to +85°C

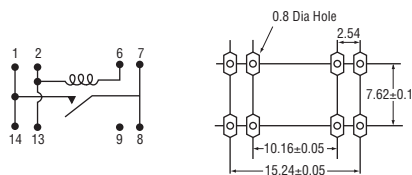
Type	Resistance	Order code	1+	25+	100+	500+
5V Coil	500Ω	60-0650	1.60	1.30	1.05	0.99
12V Coil	1000Ω	60-0655	1.65	1.35	1.08	1.03

DIL Reed relays

ECE

A range of dry reed relays.

- 14-pin IC package
- Fully moulded construction
- Compatible with automatic board processing
- Completely washable
- Single pole normally open contacts



Technical specification

Switch voltage max.	100V DC
Switch current max.	0.5A DC
Switch power max.	10VA
Contact resistance max.	200mΩ
Operate/release time	0.5ms max.
Insulation resistance	1010Ω
Electrical life	100 x 10 ⁶ (10V DC 10mA)
Operating temperature	-40°C to +85°C

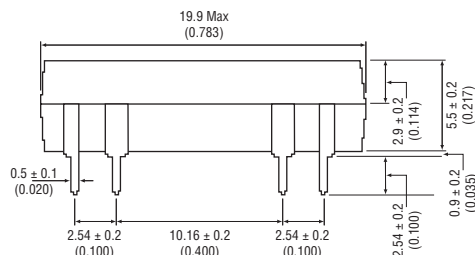
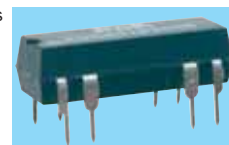
V DC	Coil Resist.	Order code	1+	25+	100+	500+
3.75-16	500Ω	60-2400	1.15	0.89	0.74	0.68
9-20	1000Ω	60-2410	1.25	0.96	0.80	0.73
24	2150Ω	60-2412	1.35	1.02	0.85	0.79

SPNC DIL Reed relay

ECE

A reed relay range that is suitable for applications where small signals are being switched.

- Miniature and cost effective
- Ideal for automatic board processing
- Fully moulded construction
- Completely washable
- High sensitivity allows direct driving by TTL
- DIP type construction
- Very long life



Technical specification

Contact form	Nominal voltage VDC	Maximum voltage VDC	Pull-in voltage VDC	Dropout voltage VDC	Coil resistance Ω	Nominal input power (mW)
2A	5	11	3.75	0.8	140 ±10%	179
2A	12	20	9.0	1.0	500 ±10%	288
2A	24	32	18.0	2.0	2150 ±10%	268

Switching current	0.5A DC max.
Carry current	1.0A DC max.
Switching power	10VA max.
Electrical life	1 x 10 ⁸ (10V DC, 10mA)
Contact resistance	150mΩ max.
Operate time	1.0ms max.
Release time	0.5ms max.
Maximum voltage	100V DC max.
Insulation resistance	1010Ω min.
Dielectric strength	coil to contact 14V DC min. across contacts 250V DC min.
Temperature range	operating -40°C to +85°C storage -55°C to +125°C
Shock resistance	30LCg min.

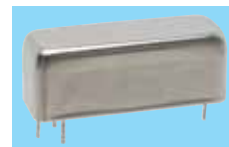
Type	Order code	1+	25+	100+	500+
5V Reed relay	60-2415	1.15	0.89	0.74	0.68
12V Reed relay	60-2416	1.25	0.96	0.80	0.73
24V Reed relay	60-2417	1.35	1.02	0.85	0.79

SPNO Magnetic shield reed relay

ECE

A high quality magnetic reed switch that uses a gas tube sealed switch.

- Prevents dust and humidity influence
- 2.54mm IC terminal arrangement
- High switching speed
- Low bounce time
- Wide operating temperature
- Low power consumption
- Suitable for cordless telephones, modems and burglar alarms etc



Technical specification

Part No.	Nominal voltage VDC	Coil resistance Ω ± 10%	Nominal input mW	Operating voltage VDC	Release voltage VDC	Maximum voltage VDC
EMR021A05	5	500	50	3.2	0.8	11.0
EMR021A12	12	1050	138	8.0	0.8	22.0

Switching current	0.5A DC max.
Carry current	1.0A DC max.
Switching power	10VA max.
Electrical life	10 ⁶
Contact resistance	150mΩ max.
Contact material	Rhodium
Operate time	1.0ms max.
Release time	0.5ms max.
Maximum voltage	100V DC max.
Insulation resistance	100 x 10 ⁶ Ω
Package type	Metal
Dielectric strength	coil to contact 500V DC min. across contacts 200V DC min.
Temperature range	operating -40°C to +85°C storage -55°C to +125°C
Shock resistance	30LCg min.
Pitch	20.32 ± 2.54mm

Type	Order code	1+	25+	100+	500+
5V Reed relay	60-2418	1.50	1.35	1.15	0.99
12V Reed relay	60-2419	1.50	1.35	1.15	0.99

www.rapidonline.com

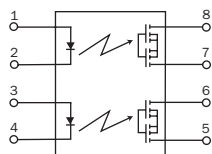
Photomos relays

PhotoMOS signal relays

Dual PhotoMOS relays in an 8-pin 9.78 x 6.4 x 3.9mm DIP package.

- LED and optoelectronic inputs
- MOSFET output stages
- High isolation
- Low ON resistance
- Long operational life
- Applications include high-speed inspection machines, telecommunications equipment and computers
- **UL** and **CSA** approved
- **Matsushita AQW** series

Matsushita



Technical specification	
Output characteristics	AQW210EH
Type	2 x N/O
Load voltage	350V
Load current	120mA
LED leakage current	
Turn on time N/O (typ)	0.25ms 0.28ms
Turn on time N/C (typ)	0.43ms 0.46ms
Turn off time N/O (typ)	0.05ms 0.04ms
Turn off time N/C (typ)	0.3ms 0.4ms
I/O capacitance (max)	
I/O insulation resistance	
Package	
Operating temperature	
Input characteristics	
LED on current N/O (typ)	0.9mA 0.7mA
LED on current N/C (typ)	0.9mA 0.7mA
LED off current N/O (typ)	0.8mA 0.7mA
LED off current N/C (typ)	0.8mA 0.64mA
LED dropout voltage (typ)	1.14V
Dissipated power	75mW

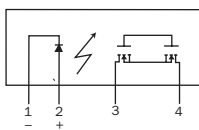
Type	Order code	1+	20+	40+	80+
Dual N/O 350V, 120mA	60-4312	4.80	4.40	4.10	3.85

PhotoMOS relays – power

PhotoMOS relays in a compact and slim 4-pin SIL package.

- LED and optoelectronic inputs
- MOSFET output stages
- Provides extremely high isolation (2,500kV)
- Long operational life
- Applications include high speed inspection machines, office machines, telecommunication, automotive and industrial control
- Dimensions 21.0 x 3.5 x 12.5mm
- **UL** and **CSA** approved
- **Matsushita type AQZ202** and **AQZ204**

Matsushita



Technical specification		AQZ202	AQZ204
Output characteristics			
Load voltage		60V	400V
Load current		3.0A	0.5A
LED leakage current		10µA	10µA
Turn on time (typ)		2.46ms	1.65ms
Turn off time (typ)		0.22ms	0.08ms
I/O capacitance (typ)		0.8pF	0.8pF
I/O insulation resistance		1,000MΩ	1,000MΩ
Package		4 pin SIL	4 pin SIL
Operating temperature		-20°C to +85°C	-20°C to +85°C
Input characteristics			
LED on current		1mA (typ)	1mA (typ)
LED off current		0.9mA (typ)	0.9mA (typ)
LED dropout voltage		1.25V (typ)	1.25V (typ)
Dissipated power		75mW	75mW

Type	Order code	1+	25+	50+	100+
60V, 3A PhotoMOS relay	60-4318	7.50	6.95	6.40	6.00
400V, 0.5A PhotoMOS relay	60-4320	6.80	6.30	5.80	5.45

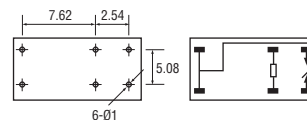
PCB Relays

Subminiature relay SPCO 1A

A range of subminiature, economically priced single pole changeover relays.

- Typical applications include computer equipment and security systems
- This compact relay is ideal for high density designs where low power consumption is required
- **UL** approved

Tianbo



Technical specification	
Dimensions	12.4 x 7.4 x 9.9mm
Contact rating	1A 24V DC 0.5A 125V AC
Contact arrangement	Single pole changeover
Contact material	Ag+Au
Operate/release time	4mS
Coil consumption	360mW
Resistance	5V 69Ω 12V 400Ω 24V 1600Ω
Temperature range	-30°C to +70°C
Approvals	UL

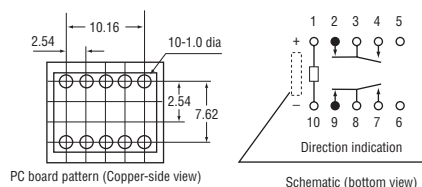
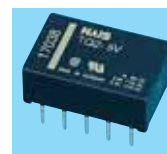
Type	Order code	1+	25+	100+	250+
5V DC	60-0680	0.71	0.64	0.58	0.55
12V DC	60-0685	0.71	0.64	0.58	0.55
24V DC	60-0690	0.71	0.64	0.58	0.55

Low profile relay DPCO 1A

Ultra-small size, high sensitivity double-pole change-over relays, sealed to allow automatic washing.

- Relay coil is polarised, therefore polarity must be observed
- **UL** and **CSA** approved
- **Matsushita TQ2** series

Matsushita



Technical specification	
Dimensions	14 x 9 x 5mm
Contact rating	1A at 30V DC, 0.5A at 125V AC
Contact arrangement	Double pole, change over
Contact material	Gold-clad silver
Coil consumption	5V and 12V: 140mW, 24V: 200mW
Operate/release time	3ms max.
Pick-up/drop out voltage	75%/10%
Operating life	- mechanical 108 operations - electrical 2 x 10 ⁵ (1A 30V DC resistive)

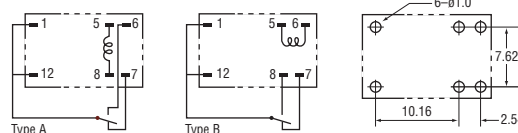
Coil	Resistance	Order code	1+	25+	50+	100+
5V DC	178Ω	60-4245	2.70	2.45	2.30	2.10
12V DC	1028Ω	60-4250	2.70	2.45	2.30	2.10
24V DC	2880Ω	60-4255	2.80	2.50	2.40	2.30

Subminiature relay SPCO 1A

A miniature single pole changeover relay.

- Features flux contamination immunity
- DIL pins arranged on a 2.54mm pitch
- Ideally suited to low level switching or dry circuit switching
- Nominal coil power 450mW
- **Fujitsu types FBR211SA** and **FBR211SB** series

Fujitsu



Technical specification	
Dimensions	15 x 10 x 10.5mm
Contact rating	1A at 24V DC, 0.5A at 100V AC
Max. switching power	24W
Contact arrangement	Single pole changeover
Contact material	Gold overlay silver palladium
Operate/release time	5ms/5ms
Coil operating range	80-110% of coil voltage
Mechanical life	>5 x 10 ⁶ operations
Electrical life	>3 x 10 ⁵ operations
Operating temperature range	-25°C to +50°C

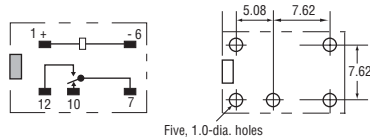
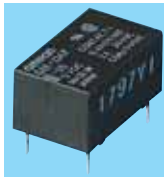
Coil	Resistance	Order code	1+	25+	100+	250+
Fujitsu FBR211SA series						
5V DC	56Ω	60-0710	1.40	1.25	1.15	1.08
12V DC	320Ω	60-0712	1.40	1.25	1.15	1.08
24V DC	1280Ω	60-0714	1.40	1.25	1.15	1.08
Fujitsu FBR211SB series						
5V DC	56Ω	60-0785	1.40	1.25	1.15	1.08
12V DC	320Ω	60-0790	1.40	1.25	1.15	1.08
24V DC	1280Ω	60-0795	1.40	1.25	1.15	1.08

Miniature signal relay SPDT 1A

A range of subminiature sensitive signal switching relays.

- Fully sealed construction
- 98mW coil pick up power
- UL and CSA approved
- Omron G6E-134P series

Omron

**Technical specification**

Dimensions	16 x 10 x 8mm
Contact rating	2A 30V DC 0.4A 125V AC
Contact arrangement	SPCO
Contact material	Gold overlay, silver palladium
Operate/release time	5ms/5ms
Coil consumption	200mW
Temperature range	-40°C to +70°C

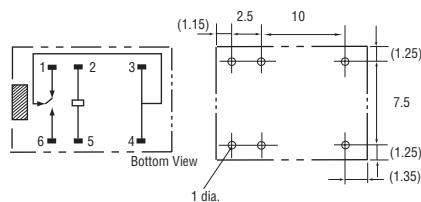
Coil	Resistance	Order code	1+	10+	25+	100+
5V DC	125Ω	60-4450	2.40	2.20	2.10	1.90
12V DC	720Ω	60-4452	2.40	2.20	2.10	1.90

Subminiature relay SPDT 1A

Miniature, low-cost, 1A single pole PCB relay.

- Low power consumption
- Standard or high sensitivity versions
- Bifurcated crossbar contacts
- Fully sealed
- Ideal for telecommunications and security systems
- Omron G2E series

Omron

**Technical specification**

Dimensions	15 x 10 x 11mm
Contact rating	1A
Contact arrangement	Single pole changeover
Contact material	Silver, gold-clad
Operate/release time	5ms/3ms
Resistance	High sensitivity General purpose
Coil consumption	General purpose High sensitivity
Temperature range	-25°C to +60°C
Approvals	UL, CSA

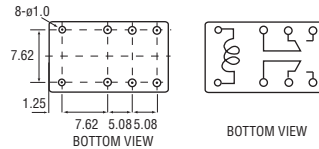
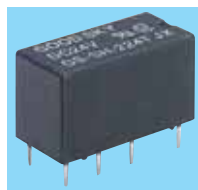
Type	Order code	1+	25+	100+	250+
General purpose					
12V DC	60-4352	2.25	2.09	1.99	1.95
24V DC	60-4354	2.25	2.09	1.99	1.95
High sensitivity					
5V DC	60-4344	2.52	2.21	1.99	1.80
12V DC	60-4346	2.79	2.48	2.19	2.00
24V DC	60-4348	2.79	2.48	2.19	2.00

Subminiature relay DPCO 1A

GS

A range of compact, lightweight double pole changeover relays to give high density PCB mounting.

- Coil consumption is 360mW
- 92/8 gold silver alloy on silver palladium contacts allows low level switching (1V DC 1mA)
- Casing is epoxy resin sealed for washing
- BT47 style relays
- UL and CSA approved

**Technical specification**

Dimensions	20.3 x 10.1 x 15.6mm
Contact rating	1A 24V DC/120V AC
Max. switching power	30W
Contact arrangement	Double pole changeover
Contact material	Ag Alloy
Operate/release time	6ms/4ms max.
Pull in voltage	75% max.
Drop out voltage	10% min.
Life expectancy	mechanical 107 operations electrical 105 operations

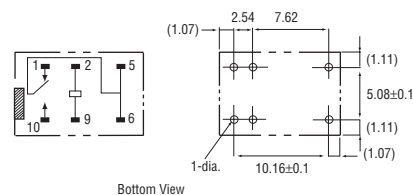
Coil	Resistance	Order code	1+	25+	100+	250+
GS-D series						
5V DC	70Ω	60-4690	1.55	1.25	0.90	0.82
12V DC	400Ω	60-4692	1.55	1.25	0.90	0.82
24V DC	1600Ω	60-4694	1.55	1.25	0.90	0.82

High sensitivity relay SPDT 1A

Omron

Ultra-miniature, high sensitivity SPDT relay.

- Dimensions 12.5 x 7.5 x 10mm
- Wide switching capacity of 1mA to 1A
- High sensitivity, 150mW
- Conforms to FCC part 68 for coil to contact
- Omron G5V-1series

**Technical specification**

Dimensions	12.5 x 7.5 x 10mm
Contact rating	1A
Contact arrangement	Single pole changeover
Contact material	Silver, gold-clad
Operate/release time	5ms/5ms
Resistance	12V DC 960Ω 150mW 24V DC 3840Ω
Coil consumption	150mW
Temperature range	-40°C to +70°C
Approvals	UL, CSA

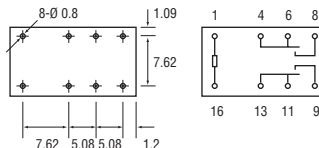
Type	Order code	1+	25+	100+	250+
12V DC	60-4456	1.41	1.29	1.21	1.16
24V DC	60-4458	1.41	1.29	1.21	1.16

Subminiature relay DPCO 1A

Tianbo

A range of subminiature double pole changeover relays.

- Typical applications include security systems and telecommunication equipment
- High sensitivity
- Equivalent to BT47 relays
- UL and TUV approved

**Technical specification**

Dimensions	21 x 11 x 12.2mm
Contact rating	1A 24VDC/0.5A 120VAC TUV 2A 24VDC/1A 120VAC UL
Contact arrangement	Double pole changeover
Contact material	Ag+Au
Operate/release time	6mS/4mS
Coil consumption	360mW
Resistance	5V 70Ω 12V 400Ω 24V 1600Ω
Temperature range	-30°C to +70°C
Approvals	UL, TUV

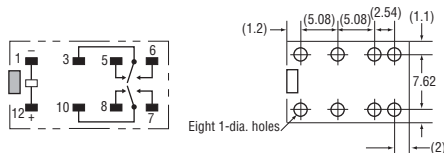
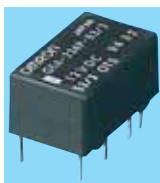
Type	Order code	1+	25+	100+	250+
5V DC	60-4460	1.39	1.19	0.86	0.76
12V DC	60-4465	1.39	1.19	0.86	0.76
24V DC	60-4470	1.39	1.19	0.86	0.76

Subminiature high sensitivity relay DPCO 1A

A range of subminiature high sensitivity relays with a footprint of just 16 x 9.9mm.

- **BT type 53** approval
- Bifurcated gold clad cross bar contacts
- Permanent magnet construction
- Note: coil polarity must be observed
- **UL** and **CSA** approved
- **Omron G5A-234P-53** series

Omron



Technical specification	
Dimensions	16 x 10 x 8.4mm
Contact rating	1A 30V DC 0.5A 125V AC
Contact arrangement	DPCO
Contact material	Gold clad silver palladium
Operate/release time	5ms/5ms
Coil operating range	70% - 160% coil voltage
Coil consumption	200mW
Temperature range	-40°C to +70°C
British Telecom code	4.5V DC 53/1 12V DC 53/3

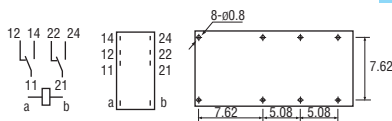
Coil	Resistance	Order code	1+	25+	100+	250+
4.5V DC	101Ω	60-4430	3.10	2.78	2.62	2.30
12V DC	720Ω	60-4432	3.10	2.78	2.62	2.30

Subminiature relay DPCO 1.25A

Double pole changeover industry standard sealed relays.

- Equivalent to **BT Type 47W**, indicating acceptance for use on private or public telecommunications equipment
- Hermetically sealed and housed in a flame retardant case
- DIL pins on a 2.54mm pitch grid
- **UL** and **CSA** approved

Finder



Technical specification	
Dimensions	20.3 x 10.4 x 11.4mm
Contact rating	1.25A @ 250V AC
Contact arrangement	Double pole changeover
Contact material	Gold overlay silver contacts
Operate/release time	15ms/10ms
Coil operating range	70-150% of coil voltage
Mechanical life	>10 x 106 cycles
British Telecom codes	5V BT47W/5, 12V BT47W/6, 24V BT47/7
Finder part Nos	3022-005 60-0100 3022-9012 60-0105 3022-9024 60-0110

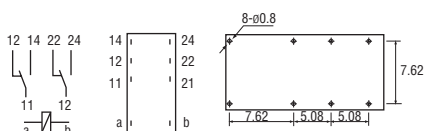
Coil	Resistance	Order code	1+	25+	100+	500+
5V DC	62Ω	60-0100	1.45	1.20	0.99	0.94
12V DC	360Ω	60-0105	1.45	1.20	0.99	0.94
24V DC	1440Ω	60-0110	1.45	1.20	0.99	0.94

High sensitivity subminiature DPDT 1.25A relay

The **30** series from **Finder** is identical to the **BT51W** series but supplied with a more sensitive coil (200mW).

- The relays are fully sealed, telecoms standard
- DIL pins are arranged on a 2.54mm grid
- **UL** and **CSA** approved
- **Finder 30** series

Finder



Technical specification	
Dimensions	20.3 x 10.4 x 11.4mm
Contact rating	1.25A at 30V DC, 0.3A at 150V AC
Contact arrangement	Double pole changeover
Contact material	Gold plated silver nickel
Operate/release time	10ms
Coil operating temperature	70-150%
Coil consumption	200mW
Temperature range	-40°C to +70°C
Finder Part Nos	3022-7005 60-0140 3022-7012 60-0145 3022-7024 60-0150

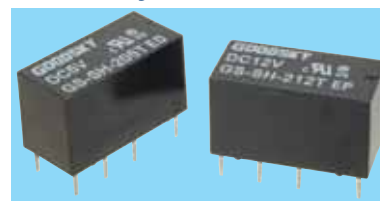
Coil	Resistance	Order code	1+	25+	100+	250+
5V DC	125Ω	60-0140	1.70	1.50	1.35	1.25
12V DC	720Ω	60-0145	1.70	1.50	1.35	1.25
24V DC	720Ω	60-0150	1.70	1.50	1.35	1.25

Subminiature DPDT 2A relay

GS

A compact lightweight relay for high density PCB mounting.

- Low coil power consumption
- Available in 5V and 12V versions
- Fully sealed construction
- Applications include telecommunications and audio equipment
- **C-UL** approved



Technical specification	
Nominal voltage	5V DC 12V DC
Max. allowable voltage	150%
Coil resistance	205T 125Ω ±10% 212T 720Ω ±10%
Contact arrangement	DPDT
Contact material	Ag alloy
Operate/release time	4mSec max.
Nominal current	205T 40mA 212T 16.7mA
Coil operating range	150% max.
Temperature range	-30°C to +80°C
Mechanical life	107 operations at no load condition
Electrical life	105 operations at rated resistive load
Dimensions	21(L) x 12(H) x 10mm(D)

Coil	Order code	1+	25+	100+	250+
5V DC	60-4754	1.20	0.95	0.78	0.67
12V DC	60-4756	1.20	0.95	0.78	0.67

DC Solid state SPST 2A relay

Finder

A series of slim solid state single pole relays.

- PCB mounting
- 1 NO (SPST-NO)
- Ultra-long working life
- High speed
- Reliable
- Switching up to 2A at 24V DC
- Ultra-slim 5mm wide
- Ambient temperature -20°C to +60°C
- Silent switching
- **Finder 34-series**



Technical specification	
Dimensions	28mm (L) x 5mm (W) x 15.5mm (H)
Contact Rating	2A at 24V DC
Contact Arrangement	Single pole
Contact material	Standard AgSnO2 (silver tin oxide)
Dielectric strength	Output is rated at 2.5kV.
Operate/release time	6ms/2ms
Mechanical life	Ultra-long (solid state)
Finder part No's.	34.81.7.024.9024 60-4084 34.81.7.24.8240 60-4085

Coil	Order code	1+	10+	50+	100+
24V DC	60-4084	7.20	6.50	5.90	5.45
240V DC	60-4085	11.15	9.95	9.15	8.35

Microminiature 2A DPDT relay

Takamisawa

A range of very low profile, high sensitivity, 2 pole changeover relays, in a compact fully sealed package.

- Dual in line pins arranged on a 2.54mm pitch
- Conform to **FCC Part 68** withstanding surges of 1500V
- **UL** and **CSA** approved



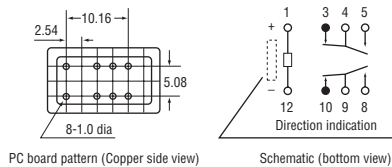
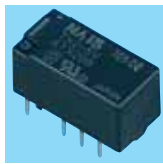
Technical specification	
Dimensions	14 x 9 x 4.75mm
Contact rating:	2A 30V DC, 0.5 A 125V AC
Maximum switching:	30W DC 220V DC, 250V AC
Power Voltage Current	2A
Contact arrangement	Double pole changeover
Contact material	Gold overlay silver alloy
Operate/release time	6ms/4ms
Coil consumption	140mW
Operating temperature	-40°C to +85°C
Takamisawa part nos.	A5-WK (60-4030) A12-WK (60-4032)

Coil	Resistance	Order code	1+	25+	100+	500+
5V DC	178Ω	60-4030	1.70	1.45	1.31	1.16
12V DC	1028Ω	60-4032	1.70	1.45	1.31	1.16

Compact footprint relay DPCO 2A**Matsushita**

A subminiature relay with high contact capacity for its size and high breakdown voltage between contacts and coil.

- **UL** and **CSA** approved
- **Matsushita TX2** series



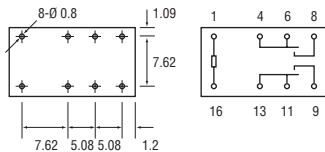
Technical specification	
Dimensions	15 x 17.4 x 8.2mm
Contact rating	2A at 30V DC
Max. switching power	60W
Contact arrangement	Double pole change over
Contact material	Gold clad silver alloy
Coil consumption	140mW
Operate/release time	4ms
Pick-up/drop-out voltage	75%/10%
Operating life	mechanical 108 operations electrical 105 operations min.

Coil	Resistance	Order code	1+	20+	40+	80+
5V DC	178Ω	60-4260	3.25	2.75	2.45	2.20

Subminiature relay DPDT 2A**Omron**

Low signal 2A double pole PCB relay.

- Fully sealed construction
- Suitable for handling low signals
- Applications include computer, telecommunications and security equipment
- Reliable bifurcated crossbar contacts
- Conforms to **FCC 68** 1500V surge withstand
- **Omron G5V-2** series



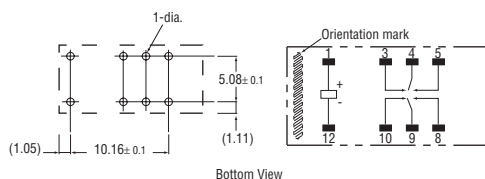
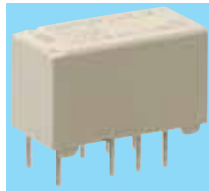
Technical specification	
Dimensions	20.5 x 10 x 11.5mm
Contact rating	2A
Contact arrangement	Double pole changeover
Contact material	Silver, gold-clad
Operate/release time	7ms/3ms
Resistance	12V DC 288Ω 24V DC 1152Ω
Coil consumption	500mW
Temperature range	-25°C to +70°C
Approvals	UL, CSA

Coil	Order code	1+	25+	100+	250+
12V DC	60-4446	1.52	1.44	1.30	1.21
24V DC	60-4448	1.52	1.44	1.30	1.21

Subminiature high sensitivity relay DPDT 2A**Omron**

Subminiature, high sensitivity double pole 2A relay.

- Low power consumption
- High impulse withstand voltage between coil and contacts
- High dielectric strength of 2KV between coil and contacts
- Bifurcated crossbar contacts
- Fully sealed
- **Omron G6S-2** series



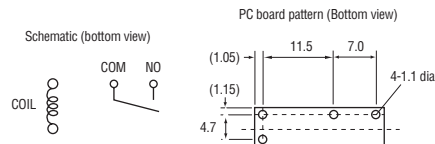
Technical specification	
Dimensions	14.8 x 7.3 x 9.2mm
Contact rating	2A
Contact arrangement	Double pole changeover
Contact material	Silver, gold-clad
Operate/release time	4ms/4ms
Resistance	12V DC 1028Ω 24V DC 2880Ω
Coil consumption	140mW
Temperature range	-40°C to +85°C
Approvals	UL, CSA

Coil	Order code	1+	25+	100+	250+
12V DC	60-4436	2.75	2.50	2.20	1.95
24V DC	60-4438	2.75	2.50	2.20	1.95

Slim PCB 3A power relay**Matsushita**

A slim and compact, PCB mounting, 3A switching relay requiring low operating power (200mW).

- Designed for small load switching of domestic appliances and similar applications
- The contacts are silver alloy and configured as normally open
- The relay offers high shock and insulation resistance
- Available in various coil voltages
- **UL** and **CSA** approved



Technical specification	
Dimensions	20.5 x 7.2 x 15.3mm
Nominal switching capacity	3A 125V/250V AC, 3A 30V DC
Max switching power	AC 831VA DC 90W
Operate/release time	10ms
Contact/coil surge voltage	10,000V
Expected life	>105
ALD105	5V 40Ω
ALD112	12V 720Ω
ALD124	24V 2880Ω

Coil	Order code	1+	25+	50+	100+
5V DC	60-5042	1.50	1.30	1.15	1.05
12V DC	60-5044	1.50	1.30	1.15	1.05
24V DC	60-5046	1.65	1.47	1.28	1.15

Miniature PCB relay DPDT 3A**Kam Ling**

Low-cost direct PCB mounting relays.

- Power consumption approximately 510mW
- Fully sealed design
- Rated 110V AC or 24V DC
- Resistor load of 3 Amp
- Available with coil voltage of 5, 6, 12 and 24V DC
- Breaks up to 5A loads
- High reliability
- Low coil power consumption



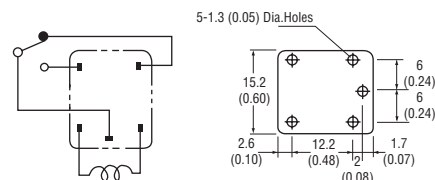
Technical specification	
Rated voltage	110VAC/24VDC.
Maximum switching capacity	120W.
Dimensions	L21.5 x H17.3 x W17.0mm.

Coil	Resistance	Order code	1+	25+	100+	500+
5V DC	45Ω	60-0420	0.95	0.78	0.67	0.59
6V DC	66Ω	60-0421	0.95	0.78	0.67	0.59
12V DC	270Ω	60-0422	0.95	0.78	0.67	0.59
24V DC	1032Ω	60-0423	0.95	0.78	0.67	0.59

Subminiature relay SPCO 3A**Kam Ling**

Single pole changeover relay for low power use on printed circuit boards.

- Power consumption typically 360mW
- **Kam Ling KS1P** series



Technical specification	
Dimensions	18.5 x 15.2 x 13.1mm
Contact rating	3A 24V DC or 110V AC (80W) (AgCdO)
Contact arrangement	Single pole changeover
Coil voltages	3V, 6V, 12V, 24V DC
Pickup voltage	80% of rated voltage
Operating life	Mechanical: 1 x 107 operations min. Electrical: 1 x 105 operations (at max. load)

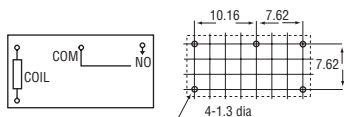
Coil	Resistance	Order code	1+	25+	100+	500+
3V DC	25Ω	60-0302	0.65	0.50	0.38	0.34
6V DC	100Ω	60-0300	0.65	0.50	0.38	0.34
12V DC	400Ω	60-0310	0.65	0.50	0.38	0.34
24V DC	1470Ω	60-0304	0.65	0.50	0.38	0.34

PCB Power relays

Power relay SPST 5A

A high capacity miniature relay with high electrical noise immunity, high sensitivity (200mW) and high surge voltage (8000V) between coil and contacts.

- UL, CSA, SEMKO, TUV and VDE approved
- Matsushita JQ1AP series



Bottom View

Technical specification	
Dimensions	20 x 10 x 15.6mm
Contact rating	5A 277V AC/10A 125V AC
Max. switching capacity	2500 VA
Contact arrangement	Single pole, single throw
Contact material	Silver alloy
Coil sensitivity	200mW
Operate/release time	6ms/4ms max.
Pick-up/drop-out voltage	80%/5%
Operating life	— Mechanical: 1 x 107 operations min. — Electrical: 5 x 104 operations min.

Coil	Resistance	Order code	1+	25+	50+	100+
12V DC	720Ω	60-4235	2.32	2.10	1.82	1.55

Sugar cube-sized PCB relay SPST 5A

Single pole relay for direct mounting to printed circuit boards.

- Very low power consumption typically 360mW
- 24V DC or 110V AC
- Flux tight construction
- Small size, less than 0.53 cubic inches
- Capable of switching 5A loads
- Low profile
- Low coil power consumption
- All sealed and resistant to wave soldering and cleaning
- Kam Ling KU1T-F series



Technical specification	
Dimensions	16.2 x 21.3 x 22.7
Contact rating	5A at 24V DC or 240V AC (AgCdO)
Contact arrangement	SPST
Coil voltages	3V, 6V, 12V, 24V available
Pickup voltage	80% of rated voltage
Contact resistance	100mΩ Max.
Operate time	15ms max. (at rated voltage)
Release time	10ms max.
Insulation resistance	100Ω min.
Dielectric strength	750 VAC (1 Min.)
Ambient temperature	Operating: -10°C to +50°C
Humidity	45% to 85% RH
Operating life	Mechanical: 1 x 10 ² Operations min. Electrical: 1 x 10 ² Operations min. (at contact ratings)

Coil	Resistance	Order code	1+	25+	100+	500+
3V DC	25Ω	60-0362	0.75	0.59	0.48	0.42
6V DC	95Ω	60-0364	0.75	0.59	0.48	0.42
12V DC	385Ω	60-0366	0.75	0.59	0.48	0.42
24VDC	1500Ω	60-0368	0.75	0.59	0.48	0.42

Wide range of adhesive tapes

— see page 983

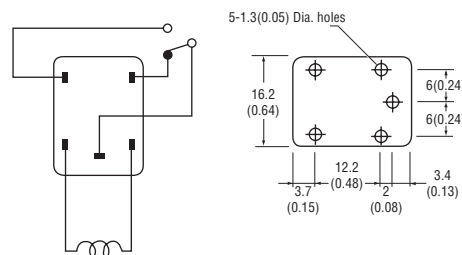


Miniature relay SPDT 5A

Single pole relay for direct mounting to printed circuit boards.

- Very low power consumption typically 360mW
- Flux tight construction
- Equivalent to Fujitsu FBR111 and Omron LC1N
- Kam Ling KU1T-F series

Kam Ling



Technical specification	
Dimensions	21.3 x 16.2 x 18.5mm
Contact rating	5A at 24V DC or 110V AC (80W)
Contact arrangement	Single pole changeover
Coil voltages	3V, 6V, 12V, 24V DC
Pickup voltage	80% of rated voltage
Operating life	Mechanical: 1 x 107 operations min. Electrical: 1 x 105 operations min.

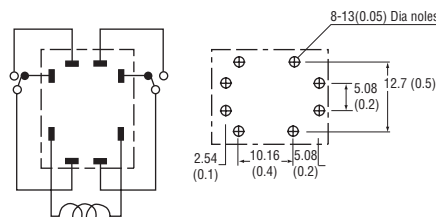
Type	Resistance	Order code	1+	25+	100+	500+
3V DC	25Ω	60-0352	0.75	0.59	0.48	0.42
6V DC	100Ω	60-0350	0.75	0.59	0.48	0.42
12V DC	400Ω	60-0360	0.75	0.59	0.48	0.42
24V DC	1440Ω	60-0354	0.75	0.59	0.48	0.42

Miniature relay DPDT 5A

Double pole changeover relay in a low profile package for mounting to printed circuit boards.

- Low power consumption typically 510mW
- Flux tight construction
- Kam Ling KL2P series

Kam Ling



Technical specification	
Dimensions	21.5 x 17 x 16.2mm
Contact rating	5A at 24V DC or 110V AC (120W) (AgCdO)
Contact arrangement	Double pole changeover
Coil voltages	5V, 6V, 12V, 24V DC
Pickup voltage	75% of rated voltage
Operating life	Mechanical: 1 x 107 operations

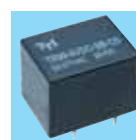
Coil	Resistance	Order code	1+	25+	100+	500+
5V DC	47Ω	60-0401	0.98	0.80	0.69	0.62
6V DC	70Ω	60-0400	0.98	0.80	0.69	0.62
12VDC	280Ω	60-0410	0.98	0.80	0.69	0.62
24V DC	1030Ω	60-0402	0.98	0.80	0.69	0.62

Miniature 5A DPDT relay

A low cost double pole changeover relay in a low profile package, for mounting on printed circuit boards.

- Low power consumption typically 500mW
- Washable construction

RVFM



Technical specification	
Dimensions	21.6 x 16.0 x 16.5mm
Contact rating	5A at 28V DC or 110V AC
Contact material	Silver alloy
Contact arrangement	Double pole changeover
Coil voltages	6V and 12V DC
Pickup voltage	80% of rated voltage
Operating life	Mechanical: 10 x 10 6 operations Electrical: 10 x 10 4 operations

Coil	Resistance	Order code	1+	25+	100+	500+
6V DC	80Ω	60-0405	0.98	0.80	0.69	0.62
12V DC	320Ω	60-0415	0.98	0.80	0.69	0.62

DC Miniature SPDT 6A relay

Finder

A range of slim solid state 6A single pole relays.

- PCB mounting
- 1 CO (SPDT), 6A
- 240V AC switching capacity
- Ideal for industrial and commercial applications
- High capacity
- Low power consumption
- Ambient temperature -40°C to $+85^{\circ}\text{C}$
- 5kV (1.2/50 μs) insulation between coil and contacts
- **Finder 32.21** series



Technical specification	
Dimensions	20.3mm (L) x 10.2mm (W) x 10.7mm (H)
Contact arrangement	1 CO (SPDT)
Contact rating	6A at 240V AC
Contact arrangement	Single pole
Contact material	Standard AgCdO (Silver Cadmium Oxide)
Mechanical life	$>10 \times 10^2$ cycles
Operate/release time	6ms
Finder part No's.	

32.21.7.005.2000	60-4086
32.21.7.012.2000	60-4087
32.21.7.024.2000	60-4088
32.21.7.048.2000	60-4089

Type	Order code	1+	25+	100+	250+
5V DC	60-4086	1.83	1.63	1.48	1.35
12V DC	60-4087	1.83	1.63	1.48	1.35
24V DC	60-4088	1.83	1.63	1.48	1.35
48V DC	60-4089	1.97	1.75	1.58	1.45

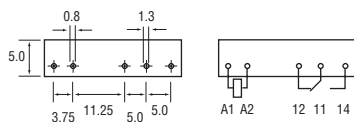
Ultra-slim relay SPDT 6A

Finder



A range of compact, slim single pole changeover relays.

- Housed in a SIL package
- Ideally suited to high density PCB mounting
- Contacts are rated at 6A with 6kV isolation between coil and contacts
- Sealed to **IP50**, 8mm creepage and 6mm clearance
- **Finder 34.51** series



Technical specification	
Dimensions	28 x 5 x 15mm
Contact rating	6A 250V DC
Contact arrangement	single pole changeover
Contact material	silver nickel
Operate/release time	5ms/3ms
Coil consumption	500mW
Resistance	5V 130 Ω
	12V 840 Ω
	24V 3350 Ω
Temperature range	-40°C to $+85^{\circ}\text{C}$
Approvals	VDE, UL
Finder part Nos.	
5V	34.51.7.005.0010
5V Flat version	34.51.7.005.0019
12V	34.51.7.012.0010
12V Flat version	34.51.7.012.0019
24V	34.51.7.024.0010
24V Flat version	34.51.7.024.0019

Type	Order code	1+	25+	100+	250+
5V DC	60-4164	2.50	2.35	2.05	1.85
5V DC flat version	60-4081	2.65	2.50	2.15	1.90
12V	60-4166	2.50	2.35	2.05	1.85
12V DC flat version	60-4082	2.65	2.50	2.15	1.90
24V DC	60-4168	2.50	2.35	2.05	1.85
24V DC flat version	60-4083	2.65	2.50	2.15	1.90
PCB Socket	60-4176	0.89	0.82	0.69	0.62

DC Miniature SPST 6A relay

Finder

A range of slim solid state 6A single pole relays.

- PCB mounting
- 1 NO (SPST), 6A
- 240V AC switching capacity
- Ideal for industrial and commercial applications
- High capacity
- Low power consumption
- Dielectric strength between contacts of 1kV



- 5kV (1.2/50 μs) insulation between coil and contacts
- Ambient temperature -40°C to $+85^{\circ}\text{C}$
- **Finder 32.21** series

Technical specification	
Dimensions	20.3mm (L) x 10.2mm (W) x 10.7mm (H)
Contact arrangement	1 NO (SPST)
Contact rating	6A at 240V AC
Contact arrangement	Single pole
Contact material	Standard AgCdO (Silver Cadmium Oxide)
Mechanical life	$>10 \times 10^2$ cycles
Operate/release time	6ms
Finder part No's.	

32.21.7.005.2300	60-4090
32.21.7.012.2300	60-4091
32.21.7.024.2300	60-4092
32.21.7.048.2300	60-4093

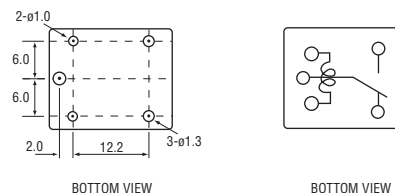
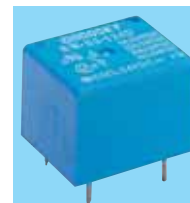
Type	Order code	1+	25+	100+	250+
5V DC	60-4090	1.83	1.63	1.48	1.35
12V DC	60-4091	1.83	1.63	1.48	1.35
24V DC	60-4092	1.83	1.63	1.48	1.35
48V DC	60-4093	1.97	1.75	1.58	1.45

Miniature PCB power relay 12A SPCO

GS

Power relay with a very low power consumption, 360mW coil for PCB mounting.

- Offered in two switching capacities with either 6A or 12A contacts
- Sealed construction suitable for flow soldering
- **UL** and **CSA** approved (12A type is also **C-UL** and **TUV** approved)



Technical specification	
Dimensions	19 x 15.4 x 15.5mm
Contact rating:	RW series 6A 230V AC, 10A 24V DC
	RWH series 12A 230V AC, 15A 24V DC
Contact arrangement:	Single pole change over
Contact material:	RW series Ag Alloy
	RWH series AgSnO ₂
Operate/release time	10ms/5ms max.
Pull in voltage:	75% coil voltage max.
Drop out voltage	5% min.
Life expectancy:	Mechanical 10 ⁷ operations
	Electrical 10 ⁵ operations

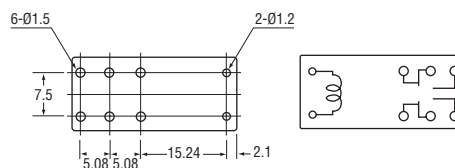
Coil	Resistance	Order code	1+	25+	100+	250+
RW Series 6A contacts						
6V DC	100 Ω	60-4660	0.85	0.70	0.55	0.47
12V DC	400 Ω	60-4662	0.85	0.70	0.55	0.47
24V DC	1600 Ω	60-4664	0.85	0.70	0.55	0.47
RWH Series 12A contacts						
6V DC	100 Ω	60-4666	1.15	0.90	0.62	0.52
12V DC	400 Ω	60-4668	1.15	0.90	0.62	0.52
24V DC	1600 Ω	60-4670	1.15	0.90	0.62	0.52

Miniature relay DPCO 5A

GS

Vertical PCB or socket mounting general purpose DC relays.

- DPCO contacts rated 5A 250V AC
- 5kV insulation
- 8mm creepage and clearance
- Industry standard 5.08mm pitch pinning
- Silver cadmium contacts
- **UL**, **CSA** and **VDE** approved



Technical specification	
Dimensions	29.1 x 12.8 x 20.6mm
Contact rating	5A @ 250V DC
Contact arrangement	Double pole changeover
Contact material	AgCdO
Operate/release time	15ms/8ms
Coil consumption	540mW
Temperature range	-30°C to $+55^{\circ}\text{C}$
GS part nos.	
M1-SS-212L	60-4610
M1-SS-224L	60-4612

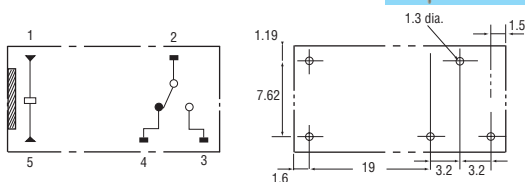
Coil	Resistance	Order code	1+	50+	250+	1000+
12V	270Ω	60-4610	1.45	1.20	1.05	0.88
24V	110Ω	60-4612	1.45	1.20	1.05	0.88

Miniature relay SPDT 8A

Miniature 8A SPDT PCB mounting power relays.

- Environmentally-friendly cadmium-free contacts
- 4kV dielectric strength
- 8mm creepage and clearance
- Fully sealed package
- Low power consumption 220mW
- **Omron G6RN-1** series

Omron



Bottom View

Technical specification						
Dimensions		28.5 x 15 x 10mm				
Contact rating		8A				
Contact arrangement		Single pole changeover				
Contact material		0.35μ gold plated silver nickel				
Operate/release time		6ms/3ms				
Resistance	12V DC	655Ω				
	24V DC	2620Ω				
Coil consumption		220mW				
Temperature range		-40°C to +85°C				
Approvals		UL, CSA, VDE				

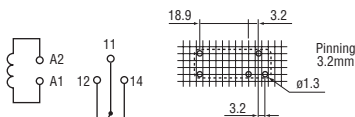
Type	Order code	1+	25+	100+	250+
12V DC	60-4134	2.56	2.31	2.17	2.10
24V DC	60-4136	2.56	2.31	2.17	2.10

Low profile SPCO 8A

A miniature low profile relay; height of just 12.3mm, with a continuous current rating of 8A/250V AC.

- Protection class II to **DIN0106** between coil and contacts (includes 4kV/8mm requirements to **IEC65, VDE0631, VDE00700**)
- Sensitive coil rated at 220mW nominal
- Sealed to **IP67**
- **Schrack RY2** series

Schrack



Technical specification						
Dimensions		28.5 x 10.1 x 12mm				
Contact rating		8A @ 250V AC/30VDC				
Contact arrangement		SPCO				
Contact material		Silver cadmium oxide				
Operate/release time		7ms/2ms				
Temperature range		-40°C to +0°C (85°C @ 6A)				
Schrack part Nos.		RY610012 60-4130 RY610024 60-4132				

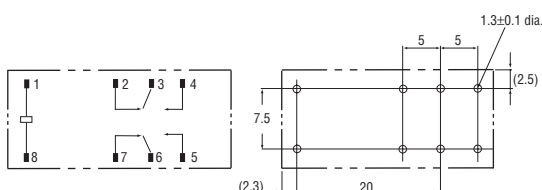
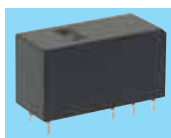
Type	Resistance	Order code	1+	10+	25+	100+
12V DC	620Ω	60-4130	2.45	2.32	2.25	2.05
24V DC	2350Ω	60-4132	2.45	2.32	2.25	2.05

Miniature power relay DPDT 8A

Low profile 8A DPDT lead and cadmium-free PCB mounting power relays.

- Maximum height 15.7mm
- Lead-free with cadmium-free contacts
- Creepage and clearance 10mm
- High sensitivity 400mW
- **Omron G2RL-2** series

Omron



Bottom View

Technical specification						
Dimensions		28.8 x 15.5 x 12.5mm				
Contact rating		8A				
Contact arrangement		Double pole changeover				
Contact material		silver-nickel				
Operate/release time		7ms/2ms				
Resistance	12V DC	360Ω				
	24 DC	1440Ω				
Coil consumption		400mW				
Temperature range		-40°C to +85°C				
Approvals		UL, CSA, VDE				

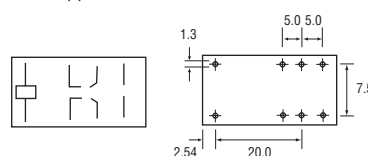
Type	Order code	1+	25+	100+	250+
12V DC	60-1090	2.61	2.35	2.23	2.11
24V DC	60-1092	2.61	2.35	2.23	2.11

Low profile relay DPDT 8A

Low profile PCB mounting relays with double-pole changeover contacts rated at 8A at 250V AC.

- Height just 15.7mm
- 6kV isolation between coil and contacts
- Sealed to IP50
- 5mm industry standard footprint
- **UL, VDE and CSA** approved

Finder



Technical specification						
Dimensions		29 x 12.7 15.7mm				
Contact rating		8A at 250V AC				
Contact arrangement		Double pole changeover				
Contact material		AgNi				
Operate/release time		7ms/8ms				
Coil consumption		400mW				
Resistance	12V	360Ω				
	24V	1440Ω				
	48V	5520Ω				
Temperature range		-40°C to +85°C				
Finder part Nos.	12V	4152.9012.0010				
	24V	4152.9024.0010				
	48V	4152.9048.0010				

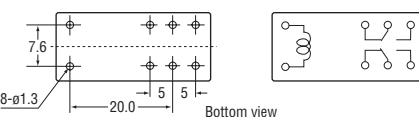
Type	Order code	1+	25+	100+	250+
12V DC	60-4850	2.15	1.95	1.70	1.55
24V DC	60-4852	2.15	1.95	1.70	1.55
48V DC	60-4854	2.60	2.45	2.10	1.90

Miniature low profile relay DPCO 8A

PCB mounting relays with a low 15.0mm height.

- Industry standard 5mm pinning, silver alloy contacts
- Rated 8A @ 250V AC
- 5kV coil-contact insulation
- Very low power consumption

GS



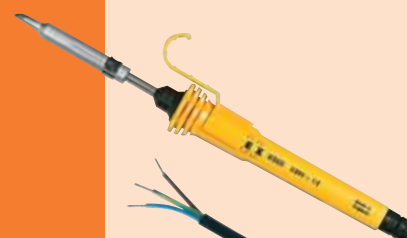
Bottom view

Technical specification						
Dimensions		29 x 12.6 x 15.6mm				
Contact rating		8A 250V AC/30V DC				
Contact arrangement		Double pole changeover				
Contact material		Ag Alloy				
Operate/release time		12ms/8ms				
Coil consumption		400mW (DC) 1.65W (AC)				
Temperature range		-40°C to +85°C				
GS part Nos.		EMI-SS-212D 60-4640 EMI-SS-224D 60-4642 EMI-SS-2230A 60-4644				

Coil	Resistance	Order code	1+	25+	100+	500+
12V DC	360Ω	60-4640	0.88	0.73	0.60	0.48
24V DC	1440Ω	60-4642	0.88	0.73	0.60	0.48
230VAC	3250Ω	60-4644	1.48	1.30	1.15	0.95

Soldering irons

– see page 922

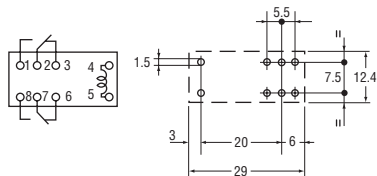


Miniature relay DPCO 8A

Finder

A range of industry standard vertical PCB or socket mounted relays.

- The **Finder 40.52** series incorporate 8mm isolation gap between coil and contacts as required by **VDE0700**
- Housed in a dustproof **IP40** tinted case (AC versions have an orange tint)
- Widely approved including **VDE, BEAB, UL, CSA, SEV, NF-USE, SETI, IMQ, SEMKO** and **DEMKO**
- **Finder 40.52 series**

**Technical specification**

Dimensions	29 x 12.4 x 25mm			
Contact rating	8A at 240V AC/30V DC			
Contact arrangement	Double pole changeover			
Contact material	Silver nickel			
Operate/release time	10ms/7ms			
Coil operating range	70-150%			
Coil consumption	500mW			
Temperature range	-20°C to +70°C			

Finder part nos	4052-9006	60-1110	4052-802	60-1170
	4052-7012	60-1115	4052-8110	60-1175
	4052-7024	60-1140	4052-8240	60-1180
	4052-9048	60-1145		

Coil	Resistance	Order code	1+	25+	100+	250+
6V DC	55Ω	60-1110	1.80	1.60	1.40	1.30
12V DC	300Ω	60-1115	1.80	1.60	1.40	1.30
24V DC	1200Ω	60-1140	1.80	1.60	1.40	1.30
48V DC	3500Ω	60-1145	2.40	2.20	1.90	1.70
24V DC	320Ω	60-1170	2.40	2.20	1.90	1.70
110V DC	6900Ω	60-1175	2.70	2.40	2.10	1.80
240V DC	31500Ω	60-1180	4.20	3.70	3.30	2.80

Low profile PCB SPDT 10A relay

Finder

The Finder 43.41 series is an industry standard range of low profile 10A single pole relays with a rated voltage of 240V.

- 1 CO (SPDT), 10A
- 3.2mm pinning
- Very low coil consumption of 250mW
- 10mm, 6kV (1.2/50μs) between coil and contacts
- Ambient temperature -40°C to +85°C

**Technical specification**

Dimensions:	30.2mm (L) x 10.2mm (W) x 15.4mm (H)			
Contact rating:	10/15A at 240V AC			
Contact arrangement:	Single pole changeover			
Contact material:	Standard AgCdO (Silver Cadmium Oxide)			
Mechanical life:	>10 x 10 ² cycles			
Operate/release time:	6ms/4ms			
Pinning:	3.2mm			
Coil consumption:	400mW			
Resistance:	6V	150Ω		
	12V	580Ω		
	24V	2200Ω		
	48V	9200Ω		
Temperature range:	-40°C to +85°C			

Type	Order code	1+	25+	100+	250+
6V DC	60-4070	2.30	2.05	1.80	1.60
12V DC	60-4071	2.30	2.05	1.80	1.60
24V DC	60-4072	2.30	2.05	1.80	1.60
48V DC	60-4073	2.85	2.55	2.20	1.90

Low profile PCB SPST 10A relay

Finder

The Finder 43.41 series is an industry standard range of low profile 10A single pole relays with a contact rating of 240V.

- 1 NO (SPST-NO)
- 10A/ 240V
- 5mm pinning
- Very low coil consumption of 250mW
- 10mm, 6kV (1.2/50μs) between coil and contacts
- Ambient temperature -40°C to +85°C
- PCB mounting

**Technical specification**

Dimensions:	30.2mm (L) x 10.2mm (W) x 15.4mm (H)			
Contact Rating:	10/15A at 240V AC			
Contact Arrangement:	Single pole			
Contact Material:	Standard AgCdO (Silver-based composite Material)			
Mechanical life:	>10 x 10 ² cycles			
Operate/release time:	6ms/2ms			

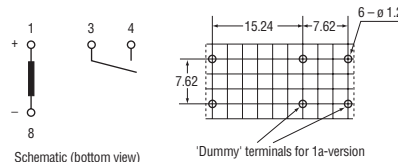
Type	Order code	1+	25+	100+	250+
6V DC	60-4074	2.30	2.05	1.80	1.60
12V DC	60-4075	2.30	2.05	1.80	1.60
24V DC	60-4076	2.30	2.05	1.80	1.60
48V DC	60-4077	2.85	2.55	2.20	1.90

Universal power relays SPNO 10A

Matsushita

A universal power relay with single, normally open switch contacts rated at 10A.

- The relays feature high impulse voltage withstand with 8mm air gaps and creepage distances
- **UL, CSA** and **VDE** approvals pending
- **Matsushita DE1A** series

**Technical specification**

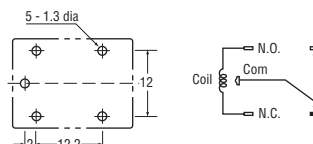
Dimensions	25 x 12.5 x 12mm			
Contact rating	10A 250V AC			
Max. switching power	4,000VA			
Contact arrangement	Single pole, normally open			
Contact material	AgSnO2			
Operate/release/bounce time	5ms/3ms/1ms			
Pick-up/drop-out voltage	30%/10%			
Operating life	- Mechanical	5 x 10 ⁷ operations min.		
	- Electrical	1 x 10 ⁵ operations min.		

Coil	Resistance	Order code	1+	25+	50+	100+
5V DC	125Ω	60-4200	3.80	3.35	3.15	2.92

Ultra-miniature PCB power relay 10A Matsushita

An ultra-miniature PCB mounting power relay. For applications such as air conditioners, heaters, office machinery, fax, vending machines and certain automotive uses e.g. power windows, antenna, central locking etc.

- The relays are of a sealed construction, with universal PCB footprint
- **UL, CSA, TUV** and **VDE** approvals
- **Matsushita JS** series

**Technical specification**

Dimensions	22 x 16 x 16mm			
Contact rating	10A, 125V AC			
Contact arrangement	Single pole, change-over			
Contact material	Silver alloy			
Operate/release time	Approx. 10ms			
Pick-up/drop-out voltage	70%/10% of nominal			
Operating life	- mechanical	10 ⁷		
	- electrical	10 ⁵		

Coil	Resistance	Order code	1+	25+	50+	100+
5V DC	69.4Ω	60-4275	0.89	0.80	0.75	0.69
6V DC	100Ω	60-4280	0.89	0.80	0.75	0.69
12V DC	400Ω	60-4285	0.89	0.80	0.75	0.69
24V DC	1600Ω	60-4290	0.89	0.80	0.75	0.69

Remote control ICs

– see Integrated Circuits section page 709

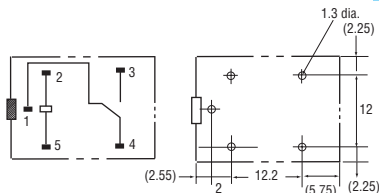


Subminiature power relay SPDT 10A

Omron

Subminiature, plastic sealed 10A SPDT PCB mounting power relays.

- Subminiature 'sugar cube' relay
- Fully sealed package
- High withstand impulse voltage 4kV
- High sensitivity 400mW
- Omron G5LE series



Bottom View

Technical specification	
Dimensions	21.6 x 18.5 x 15.6mm
Contact rating	10A
Contact arrangement	Single pole changeover
Contact material	silver-tin-dioxide
Operate/release time	10ms/5ms
Resistance	12V DC 400Ω
	24V DC 1600Ω
Coil consumption	400mW
Temperature range	-40°C to +85°C
Approvals	UL, CSA, TUV

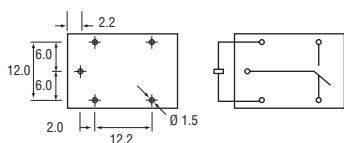
Type	Order code	1+	25+	100+	250+
12V DC	60-4196	1.68	1.53	1.43	1.33
24V DC	60-4198	1.68	1.53	1.43	1.33

Miniature relay SPCO 10A

Finder

A range of miniature single pole changeover relays rated at 10A.

- PCB mounting relays housed in a compact 'sugar cube' package
- Sealed to IP67
- 4kV insulation between coil and contacts



Technical specification	
Dimensions	21.5 x 15.5 x 17mm
Contact rating	10A 250V DC
Contact arrangement	Single pole changeover
Contact material	Silver cadmium oxide
Operate/release time	10ms/5ms
Coil consumption	360mW
Resistance	5V 70Ω
	12V 400Ω
	24V 1600Ω
Temperature range	-40°C to +85°C
Approvals	VDE, UL
Finder part Nos.	5V 3611.9005.0000
	12V 3611.9012.0000
	24V 3611.9024.0000

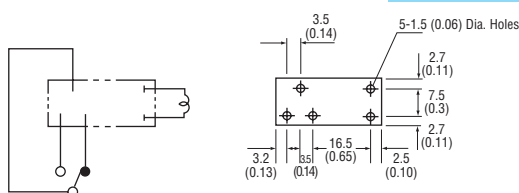
Type	Order code	1+	25+	100+	250+
5V	60-4190	0.69	0.60	0.55	0.50
12V	60-4192	0.69	0.60	0.55	0.50
24V	60-4194	0.69	0.60	0.55	0.50

Miniature relay SPCO 10A

Kam Ling

Vertical style miniature power relay with one changeover contact for PCB mounting.

- Pin for pin compatible with similar European models
- Flux tight construction
- Conforms to VDE, SEV, UL and CSA
- Kam Ling KJ1P series



Technical specification	
Dimensions	29.2 x 12.9 x 25mm
Contact rating	10A at 24V DC or 240V AC (AgCdO)
Contact arrangement	Single pole changeover
Coil voltages	5V, 6V, 12V, 24V DC
Pickup voltage	75% of rated voltage
Operating life	Mechanical: 5 x 10 ⁶ operations min.

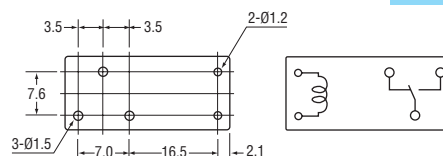
Coil	Resistance	Order code	1+	25+	100+	500+
5V DC	47Ω	60-0162	1.30	0.99	0.90	0.81
6V DC	68Ω	60-0160	1.30	0.99	0.90	0.81
12V DC	270Ω	60-0165	1.30	0.99	0.90	0.81
24V DC	1080Ω	60-0164	1.30	0.99	0.90	0.81

Miniature relay SPDT 10A

GS

Vertical PCB or socket mounting, general purpose DC relays with SPCO contacts, rated at 10A 250V AC with 5kV insulation and 8mm creepage and clearance.

- Industry standard 3.5mm pitch pinning and silver cadmium contacts
- UL, CSA and VDE approved



Technical specification	
Dimensions	29.1 x 13 x 20.6mm
Contact rating	10A 250V AC
Contact arrangement	Single pole changeover
Contact material	Silver alloy
Operate/release time	20ms/8ms max.
Coil consumption	540mW
Temperature range	-40°C to +55°C
GS part Nos.	MI-SS-106L 60-4598
	MI-SS-112L 60-4600
	MI-SS-124L 60-4602

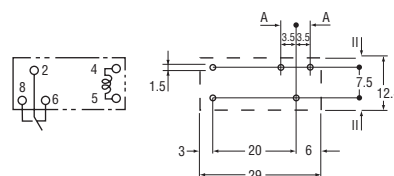
Type	Resistance	Order code	1+	50+	250+	1000+
6V	68Ω	60-4598	1.30	0.99	0.90	0.81
12V	270Ω	60-4600	1.30	0.99	0.90	0.81
24V	1100Ω	60-4602	1.30	0.99	0.90	0.81

Miniature relay SPDT 10A

Finder

A range of industry standard vertical PCB or socket mounted relays.

- Incorporate 8mm isolation gap between coil and contacts as required by VDE0700
- Housed in a dustproof IP40 tinted case (AC versions have an orange tint)
- Widely approved including VDE, BEAB, UL, CSA, SEV, NF-USE, SETI, IMQ, SEMKO and DEMKO
- Finder 40.31 series



Technical specification	
Dimensions	29 x 12.4 x 25mm
Contact rating	10A at 240V AC
Contact arrangement	Single pole changeover
Contact material	Silver nickel
Operate/release time	10ms/7ms
Coil operating range	70-150%
Coil consumption	500mW
Temperature range	-20°C to +70°C
Finder Part Nos.	4031-9006 60-0900 4031-7048 60-0915
	4031-7012 60-0905 4031-8024 60-0920
	4031-7024 60-0910 4031-8240 60-0935

Coil	Resistance	Order code	1+	25+	100+	250+
6V DC	55Ω	60-0900	1.40	1.25	1.10	0.95
12V DC	300Ω	60-0905	1.40	1.25	1.10	0.95
24V DC	1200Ω	60-0910	1.40	1.25	1.10	0.95
48V DC	4800Ω	60-0915	1.90	1.70	1.50	1.30
24V DC	320Ω	60-0920	1.90	1.70	1.50	1.30
240V DC	31500Ω	60-0935	3.50	3.10	2.70	2.50

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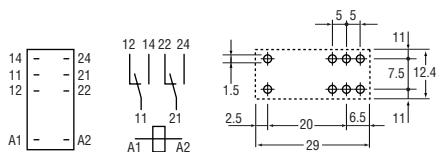
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Miniature relay DPDT 10A

Finder

A compact relay which has the switching capability of 10A 250V AC or 30V DC with double pole contacts.

- Design features include guided contacts, separate arcing chambers, low power consumption and 4kV-8mm isolation between coil and contacts
- Flux-free base
- **VDE, BEAB, UL, CSA, SEV, NF-USE, SETI, IMQ, SEMKO, and DEMKO** approved
- **Finder 44.62** series

**Technical specification**

Dimensions	29 x 12.4 x 25mm
Contact rating	10A 240V AC/30V DC
Contact arrangement	DPDT
Contact material	AgSnO ₂
Operate/release time	10ms/7ms
Coil operating range	70-150%
Coil consumption	500mW
Temperature range	-20°C to +70°C
Finder Part Nos.	4462-7006-4000 60-4170 4462-7012-4000 60-4172 4462-7024-000 60-4174

Coil	Resistance	Order code	1+	25+	100+	250+
6V DC	75Ω	60-4170	2.70	2.30	1.95	1.80
12V DC	300Ω	60-4172	2.70	2.30	1.95	1.80
24V DC	1200Ω	60-4174	2.70	2.30	1.95	1.80

Low profile 10A SPDT relay

Finder

Low profile single pole change over PCB relays rated at 10A.

- 12.7mm high
- High voltage withstand
- 8mm creepage and clearance
- **Finder 40** series

**Technical specification**

Dimensions	28.5 x 26.3 x 12.7mm
Contact rating	10A/250V
Contact arrangement	Single pole changeover
Contact material	Silver cadmium oxide
Operate/release time	12/4ms
Coil consumption	300mW
Operating temperature	-40°C to +70°C
Approvals	UL, VDE

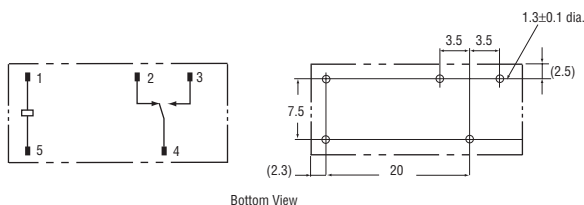
Type	Order code	1+	25+	100+	250+
12V DC	60-4146	1.80	1.60	1.40	1.25
24V DC	60-4148	1.80	1.60	1.40	1.25

Miniature power relay SPDT 12A

Omron

Low profile 12A SPDT lead and cadmium-free PCB mounting power relays.

- Maximum height 15.7mm
- Lead-free with cadmium-free contacts
- Creepage and clearance 10mm
- High sensitivity 400mW
- **Omron G2RL-1** series

**Technical specification**

Dimensions	28.8 x 15.5 x 12.5mm
Contact rating	12A
Contact arrangement	Single pole changeover
Contact material	silver-tin-dioxide
Operate/release time	7ms/2ms
Resistance	12V DC 60Ω 24V DC 1440Ω
Coil consumption	400mW
Temperature range	-40°C to +85°C
Approvals	UL, CSA, VDE

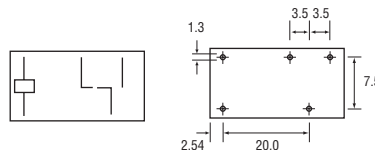
Type	Order code	1+	25+	100+	250+
12V DC	60-1082	2.16	1.95	1.84	1.74
24V DC	60-1084	2.16	1.95	1.84	1.74

Low profile relay SPCO 12A

Finder

A range of low profile, single pole changeover relays with a contact rating of 12A.

- PCB mounting relays on an industry standard 3.5mm pinning
- 6kV isolation between coil and contacts
- Housed in a package sealed to **IP50**

**Technical specification**

Dimensions	29 x 12.7 x 15.7mm
Contact rating	12A 250V
Contact arrangement	single pole changeover
Contact material	silver nickel
Operate/release time	7ms/8ms
Coil consumption	400mW
Resistance	12V 360Ω 24V 1400Ω 48V 5520Ω
Temperature range	-40°C to +85°C
Approvals	VDE, UL, CSA
Finder part Nos.	12V 4131.9012.0010 24V 4131.9024.0010 48V 4131.9048.0010

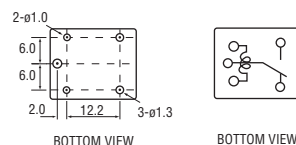
Type	Order code	1+	25+	100+	250+
12V	60-4330	1.80	1.60	1.40	1.30
24V	60-4332	1.80	1.60	1.40	1.30
48V	60-4334	2.30	2.10	1.80	1.70

Miniature PCB power relay 12A SPST

GS

A range of general purpose single pole changeover PCB mounting relays with sealed casings for washing.

- Contacts are 12A rated and silver alloy construction
- **UL, CSA** and **TUV** approved

**Technical specification**

Dimensions	20.5 x 16.7 x 20.3mm
Contact rating	12A 120V AC/24V DC
Contact arrangement	Single pole changeover
Contact material	Ag Alloy
Operate/release time	15ms/5ms maximum
Pull in voltage	7% coil voltage max.
Drop out voltage	5% min.
Life expectancy: Mechanical	107 operations
Electrical	105 operations

Coil	Resistance	Order code	1+	25+	100+	250+
6V DC	320Ω	60-4680	1.15	0.90	0.62	0.52
12V DC	1280Ω	60-4682	1.15	0.90	0.62	0.52

Function generators

– see Test equipment section page 1030

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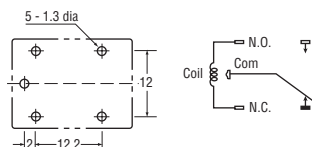
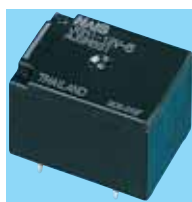
Ultra-miniature automotive power relay 15A

Matsushita

An ultra-miniature power relay for automotive applications such as power-windows, door locks, intermittent wiper, lighting, power antennae etc.

- The relays are of a sealed construction, with universal footprint and low pick-up voltage for high ambient use

- Matsushita type JSM1-12-5



Technical specification	
Dimensions	22 x 16 x 16mm
Operating voltage	12V nominal
Contact rating	15A resistive, 10A inductive
Contact arrangement	Single pole, change-over
Contact material	Silver alloy
Operate/release time	Approx. 10ms
Pick-up/drop-out voltage	6.3V/0.9
Operating life	- mechanical 10 ⁷ operations - electrical 10 ⁸ operations

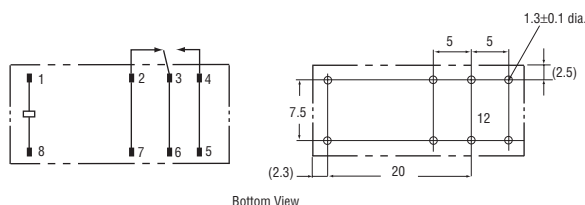
Coil	Resistance	Order code	1+	25+	50+	100+
12V DC	225Ω	60-4295	1.60	1.40	1.25	1.10

Miniature power relay SPDT 16A

NEW LOW PRICE Omron

Low profile 16A SPDT lead and cadmium-free PCB mounting power relays.

- Maximum height 15.7mm
- Lead-free with cadmium-free contacts
- Creepage and clearance 10mm
- High sensitivity 400mW
- Omron G2RL-1-E series



Technical specification	
Dimensions	28.8 x 15.5 x 12.5mm
Contact rating	16A
Contact arrangement	Single pole changeover
Contact material	silver-tin-dioxide
Operate/release time	7ms/2ms
Resistance	12V DC 360Ω 24V DC 1440Ω
Coil consumption	400mW
Temperature range	-40°C to +85°C
Approvals	UL, CSA, VDE

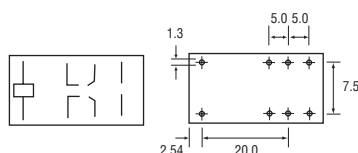
Type	Order code	1+	25+	100+	250+
12V DC	60-1086	1.95	1.80	1.70	1.55
24V DC	60-1088	1.95	1.80	1.70	1.55

Low profile relays SPDT 16A

Finder

A range of single pole changeover relays.

- Low profile
- Contact rating of 16A
- PCB mounting
- Industry standard 5mm pinning
- 6kV isolation between coil and contacts
- Housed in a package sealed to IP50
- Approved to VDE, UL, CSA standards



Technical specification	
Dimensions	29 x 12.7 x 15.7mm
Contact rating	16A 250V
Contact arrangement	single pole changeover
Contact material	silver nickel
Operate/release time	7ms/8ms
Coil consumption	400mW
Resistance	12V 360Ω 24V 1440Ω 48V 5520Ω
Temperature range	-40°C to +85°C
Approvals	VDE, UL, CSA
Finder part Nos.	4161.9012.0010 4161.9024.010

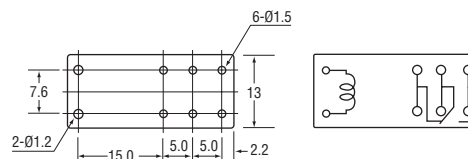
Type	Order code	1+	25+	100+	250+
12V DC	60-0940	1.90	1.70	1.50	1.40
24V DC	60-0942	1.90	1.70	1.50	1.40

Miniature relay SPCO 16A

GS

Vertical PCB or socket mounting general purpose DC relays with SPCO contacts.

- Contacts rated at 16A 250V AC
- 5kV insulation
- 8mm creepage and clearance
- Industry standard 5.0mm pitch pinning
- Silver alloy contacts
- UL, CSA and TUV approved



Technical specification	
Dimensions	29.1 x 13 x 20.6mm
Contact rating	16A @ 250V DC
Contact arrangement	Single pole changeover
Contact material	Ag alloy
Operate/release time	15ms/ms
Coil consumption	540mW
Temperature range	-30°C to +55°C
GS part nos.	6Z-SS-112L 60-4620 6Z-SS-124L 60-4622

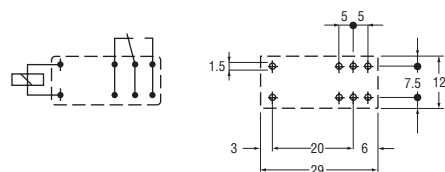
Coil	Resistance	Order code	1+	50+	250+	1000+
12V DC	270Ω	60-4620	1.80	1.40	1.15	0.85
24V DC	1100Ω	60-4622	1.80	1.40	1.15	0.85

Miniature relay SPDT 16A

Finder

A range of industry standard vertical PCB or socket mounted relays.

- Incorporates an 8mm isolation gap between coil and contacts as required by VDE0700
- Housed in a dustproof IP40 tinted case (AC versions have an orange tint).
- VDE, BEAB, UL, CSA, SEV, NF-USE, SETI, IMQ, SEMKO and DEMKO approved
- Finder 40.61 series



Technical specification	
Dimensions	29 x 12.4 x 25mm
Contact rating	16A at 240V AC/30V DC
Contact arrangement	Single pole changeover
Contact material	Silver cadmium oxide
Operate/release time	10ms/7ms
Coil operating range	70-150%
Coil consumption	500mW
Temperature range	-20°C to +70°C
Finder Part Nos	4061-9006 60-1010 4061-9048 60-1045 4061-7012 60-1015 4061-8024 60-1070 4061-7024 60-1040 4061-8240 60-1080

Coil	Resistance	Order code	1+	25+	100+	250+
6V DC	55Ω	60-1010	1.70	1.45	1.30	1.10
12V DC	300Ω	60-1015	1.70	1.45	1.30	1.10
24V DC	1200Ω	60-1040	1.70	1.45	1.30	1.10
48V DC	3500Ω	60-1045	1.95	1.80	1.60	1.40
240V DC	3150Ω	60-1080	3.30	2.90	2.70	2.40

NO MINIMUM ORDER VALUE

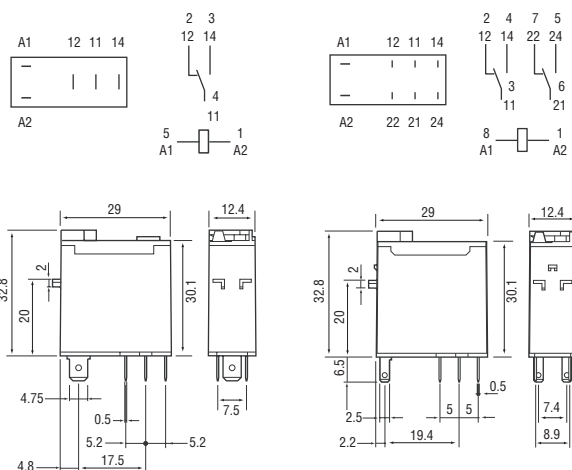
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Miniature relays



A range of SPDT and DPDT relays available in various AC and DC voltages and with or without LED indicators. These relays may be directly mounted or, alternatively, may be mounted using either a flange mount adaptor or 35mm rail mounting screw socket (see below).

- Ideal for use in control panels and control systems
- Faston terminals provide secure and reliable connections
- High current ratings
- Nickel silver contact material
- Changeover type contact circuit
- CE approved
- Finder 46.61 series



Mfrs. part no.	Terminal type	Contact config.	Current rating	Coil type	Test/indication	Order code
46.61.8.024.0040	Faston 4.8 x 0.5mm	SPDT CO	16A	AC	Lockable test button, mechanical indicator	60-4471
46.61.8.230.0040	Faston 4.8 x 0.5mm	SPDT CO	16A	AC	Lockable test button, mechanical indicator	60-4472
46.61.9.012.0040	Faston 4.8 x 0.5mm	SPDT CO	16A	DC	Lockable test button, mechanical indicator	60-4473
46.61.9.024.0040	Faston 4.8 x 0.5mm	SPDT CO	16A	DC	Lockable test button, mechanical indicator	60-4474
46.61.8.024.0054	Faston 4.8 x 0.5mm	SPDT CO	16A	AC	Lockable test button, LED, mechanical indicator	60-4475
46.61.8.230.0054	Faston 4.8 x 0.5mm	SPDT CO	16A	AC	Lockable test button, LED, mechanical indicator	60-4476
46.61.9.012.0074	Faston 4.8 x 0.5mm	SPDT CO	16A	DC	Lockable test button, double LED, mechanical indicator	60-4477
46.61.9.024.0074	Faston 4.8 x 0.5mm	SPDT CO	16A	DC	Lockable test button, double LED, mechanical indicator	60-4478
46.52.8.024.0040	Faston 2.5 x 0.5mm	DPDT CO	8A	AC	Lockable test button, mechanical indicator	60-4479
46.52.8.230.0040	Faston 2.5 x 0.5mm	DPDT CO	8A	AC	Lockable test button, mechanical indicator	60-4480
46.52.9.012.0040	Faston 2.5 x 0.5mm	DPDT CO	8A	DC	Lockable test button, mechanical indicator	60-4481
46.52.9.024.0040	Faston 2.5 x 0.5mm	DPDT CO	8A	DC	Lockable test button, mechanical indicator	60-4482
46.52.8.024.0054	Faston 2.5 x 0.5mm	DPDT CO	8A	AC	Lockable test button, LED, mechanical indicator	60-4483
46.52.8.230.0054	Faston 2.5 x 0.5mm	DPDT CO	8A	AC	Lockable test button, LED, mechanical indicator	60-4484
46.52.9.012.0074	Faston 2.5 x 0.5mm	DPDT CO	8A	DC	Lockable test button, double LED, mechanical indicator	60-4485
46.52.9.024.0074	Faston 2.5 x 0.5mm	DPDT CO	8A	DC	Lockable test button, double LED, mechanical indicator	60-4486

Operate/release time (ms) 10/3(**46.52 series**)
15/5(**46.61 series**)

Mechanical life 10 x 10
Temperature range -40°C to +70°C

Type	Order code	1+	25+	100+
SPDT				
24V AC	16A 60-4471	2.90	2.37	2.17
230V AC	16A 60-4472	4.25	3.48	3.19
12V DC	16A 60-4473	2.38	1.95	1.79
24V DC	16A 60-4474	2.38	1.95	1.79
24V AC with LED	16A 60-4475	3.52	2.88	2.64
230V AC with LED	16A 60-4476	4.89	4.00	3.67
12V DC with LED	16A 60-4477	3.03	2.48	2.27
24V DC with LED	16A 60-4478	3.03	2.48	2.27
DPDT				
24V AC	8A 60-4479	3.38	2.77	2.54
230V AC	8A 60-4480	4.76	3.90	3.57
12V DC	8A 60-4481	2.85	2.33	2.14
24V DC	8A 60-4482	2.85	2.33	2.14
24V AC with LED	8A 60-4483	4.03	3.30	3.02
230V AC with LED	8A 60-4484	5.40	4.42	4.05
12V DC with LED	8A 60-4485	3.49	2.86	2.62
24V DC with LED	8A 60-4486	3.49	2.86	2.62
Accessories				
Flange mt. adapt.	8A/16A 60-4487	0.74	0.60	0.55
35mm Rail mount	16A 60-4488	1.96	1.60	1.47
35mm Rail mount	8A 60-4489	2.14	1.75	1.60

Low profile PCB SPST 16A relay

Finder

A range of industry standard low profile 16A single pole relays.

- PCB mounting
- 1 NO (SPST-NO), 16A
- 5mm pinning
- 15.4mm high
- Very low coil consumption of 250mW
- 10mm, 6kV (1.2/50μs) between coil and contacts
- Ambient temperature +85°C
- **Finder 43.61 series**



Technical specification
Dimensions 30.2mm (L) x 10.2mm (W) x 15.4mm (H)
Contact Rating 10/15A at 240V AC
Contact Arrangement Single pole
Contact material Standard AgCdO (Silver Cadmium Oxide)
Mechanical life >10 x 10⁶ cycles
Operate/release time 6ms/2ms
Finder part No's. **43.61.9.006.2300 60-4078**
43.61.9.012.2300 60-4079

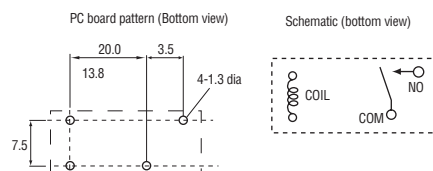
Type	Order code	1+	25+	100+	250+
12V DC	60-4078	2.30	2.05	1.80	1.60
24V DC	60-4079	2.30	2.05	1.80	1.60
48V DC	60-4080	2.85	2.55	2.20	1.90

16A PCB Power relay SPST

Matsushita

A compact, PCB mounting, 16A switching relay.

- Requires low operating power (400mW)
- Designed for heavy load switching of domestic appliances and similar applications
- Contacts are silver alloy and configured as 1 Form A (normally open)
- High shock and insulation resistance
- Available in various coil voltages
- **UL, CSA TUV** approved, and **VDE, SEMKO** pending



Technical specification
Dimensions 28.6 x 12.4 x 24.9mm
Nominal switching capacity 16A 277V AC
Max switching power 4432VA
Operate/release time 20ms
Contact/coil surge voltage 10,000V
Expected life >10⁵

Manufacturer	Coil voltage	Coil resistance	Order code
ALE15B05	5V	63Ω	60-5030
ALE15B12	12V	360Ω	60-5032

Type	Order code	1+	25+	50+	100+
5V DC	60-5030	1.10	0.95	0.85	0.75
12V DC	60-5032	1.10	0.95	0.85	0.75

www.rapidonline.com

16A SPNO Miniature relay

PCB mounting 16A relays.

- Fitted with Faston 250 terminals
- EN, GOST, IMQ, UL, VDE approved
- Finder 45.71 series



Finder

See **Connectors** – single pole section for suitable crimp terminals.

Technical specification	
Contact rating	16A 250V AC
Contact arrangement	SPNO
Switching current max.	30A
Switching voltage max.	400V AC
Dielectric strength	Coil to contact 6kV
	Contact to contact 1kV
Contact material	Silver cadmium oxide
Operating time	10ms
Release time	2ms
Temperature range	-40°C to +125°C
Weight	20g

Coil	Order code	1+	25+	100+	250+
12V DC	60-4181	2.45	2.20	1.98	1.74
24V DC	60-4183	2.45	2.20	1.98	1.74

20A PCB Power relay SPST

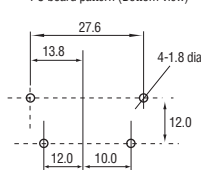
A PCB mounting high power relay for home appliances.

- Especially suitable for compressor and inverter loads
- High insulation resistance
- Will withstand a 10,000V voltage surge
- Contacts are silver alloy and configured as 1 Form A (normally open)
- Conforms to **UL/CSA, TUV** and **VDE** pending

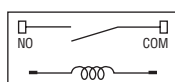


Matsushita

PC board pattern (Bottom view)



Schematic (bottom view)



Technical specification	
Dimensions	30.1 x 15.7 x 23.3mm
Contact material	silver alloy
Nominal switching capacity	20A 250V AC
Max switching current	25A
Switching power	6,250VA
Expected life	106
Operating/release time	15ms
Initial insulation resistance	1,000MΩ

Manufacturer	Coil voltage	Coil resistance	Order code
ALF1P05	5V	27.8Ω	60-5036
ALF112	12V	160Ω	60-5038
ALF1P24	24V	640Ω	60-5040

Coil	Order code	1+	25+	50+	100+
5V	60-5036	1.59	1.38	1.28	1.20
12V	60-5038	1.59	1.38	1.28	1.20
24V	60-5040	1.59	1.38	1.28	1.20

Mini ISO automotive relay

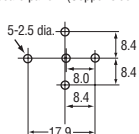
A miniature ISO type PCB mounting relay rated at 40A.

- Constructed using copper as the current carrying material so offering low temperature rise
- Ruggedly constructed for use in harsh environments
- Available with either normally open (NO - 1 Form A) or with change-over contacts (CO - 1 Form C)

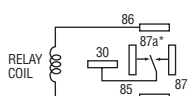


Matsushita

PC board pattern (Copper-side view)



PC board pattern (Copper-side view)



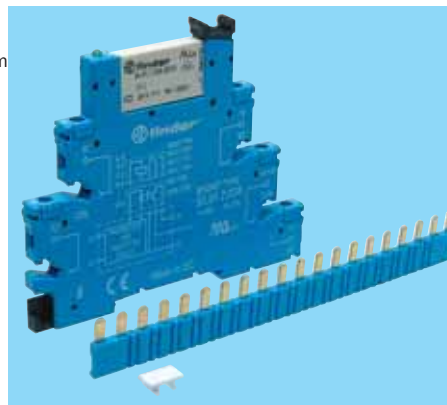
Technical specification	
Dimensions	26 x 12.4 x 25mm
Coil voltage	12V
Coil power	1.4W
Coil resistance	103Ω
Nominal current	117mA
Switching voltage	16V DC max
Switching current	40A
Switching power	560W max
Operate/release time	15ms max

Type	Order code	1+	25+	50+	100+
ISO auto 40A relay - CO	60-5024	3.25	3.00	2.62	2.43
ISO auto 40A relay - NO	60-5026	3.10	2.80	2.50	2.35

Relay module 6A SPDT

6A SPDT 35mm DIN rail mounting relay interface modules from Finder.

- Coil indication
- Protection circuit
- Fitted with retaining clip
- ID tab and jumper busbar available



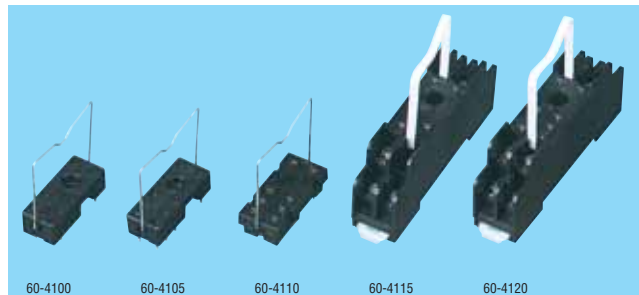
Finder

Technical specification	
Contact	SPDT
Current rating	6A
Voltage rating	250V
Rated power	300mW
Operate/release time	7/11ms
Dimensions	6 x 75 x 87mm
Operating temperature	-40°C to +55°C
Protection category	IP20
Approvals	UL VDE
Order Code	Finder part No.s
60-1750	38.51.7.012.0050
60-1752	38.51.7.024.0050
60-1754	38.51.7.024.0060
60-1756	38.51.0.125.0050
60-1758	38.51.0.230.0050
60-1746	093.64

Type	Order code	1+	25+	50+	100+
12VDC	60-1750	5.80	5.42	5.20	5.10
24VDC	60-1752	5.80	5.42	5.20	5.10
48VDC	60-1754	6.35	6.05	5.74	5.60
125VAC	60-1756	7.80	7.55	7.20	7.10
230VAC	60-1758	7.80	7.55	7.20	7.10
20w Jumper	60-1746	2.30	2.20	2.10	2.00
ID tabs	60-1748	1.28	1.23	1.18	1.10

Miniature relay sockets

Camden



PCB and DIN rail mounting relay sockets.

- The DIN rail mounting relay socket provides improved access to terminals over conventional relay base designs
- Sockets are available in both single and double pole
- Supplied complete with retaining clips
- An economy PCB mount double pole socket is also available representing exceptional value for money
- Gives finger protection to **IP20**
- UL** approved

Technical specification	Manufacturer's No.	Order code
Type		
PCB mount single pole	CRBC35/C	60-4100
PCB mount double pole	CRBC50/C	60-4105
PCB mount double pole (economy)	C25080/C	60-4110
DIN mount single pole	C25203P/C	60-4115
DIN mount double pole	C2508P/C	60-4120
Rating	10A/380V	
Dielectric strength	>4kV	
Moulding	Flame retardant UL94-V1	
Pitch	Single pole 3.5mm, double pole 5.0mm	

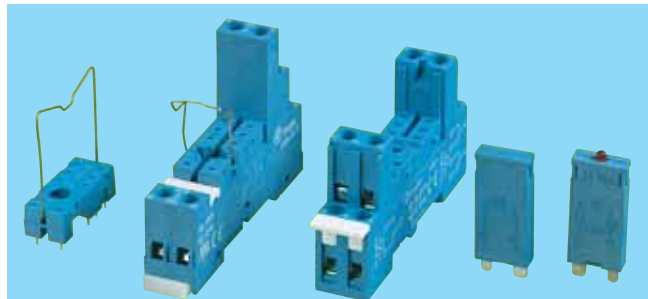
Type	Order code	1+	25+	100+
PCB single pole	60-4100	0.49	0.45	0.35
PCB double pole	60-4105	0.49	0.45	0.38
PCB double pole (economy)	60-4110	0.40	0.35	0.30
DIN single pole	60-4115	2.40	2.00	1.20
DIN double pole	60-4120	2.50	2.20	1.50

TECHNICAL DATA

Technical data sheets are available.
Contact us directly on 01206 751166
or download from our website
www.rapidonline.com

40 Series relay sockets

Finder



Relay sockets to suit Finder 40 series PCB relays.

- PCB, 3.5mm or 5mm DIN rail versions
- Suitable for 40.31, 40.52 and 40.61 relays
- DIN rail versions with or without clip
- Protection category **IP20**
- Both DIN sockets accept protection diode modules

Technical specification					
Contact rating	10A 250V				
Body material	Self extinguishing PPE				
Contact material	Tin plated brass				
Insulation resistance	>1000MΩ				
Dielectric strength	>6kV				
Operating temperature	-40°C to +70°C				
Approvals	CE				
Finder part Nos.	60-1705	9513	60-1440	99013000	60-1446
	60-1710	9515	60-1445	99013024	60-1448
	60-1730	9563	60-1740	9583	99803000
	60-1740	9575	60-1745	9585	99809024

Type	Order code	1+	25+	100+
PCB sockets				
40.31 series socket	60-1705	0.42	0.38	0.30
40.52, 40.61 series socket	60-1710	0.42	0.38	0.30
DIN socket + clip				
40.31 series DIN socket	60-1730	2.25	1.80	1.50
40.52, 40.61 series socket	60-1735	2.35	1.90	1.60
Diode module 6-220V DC	60-1440	0.67	0.59	0.52
Diode + LED mod. 6-24V DC	60-1445	1.40	1.30	1.10
DIN socket				
40.31 series DIN socket	60-1740	2.25	1.80	1.50
40.52, 40.61 series DIN skt.	60-1745	2.35	1.90	1.60
Diode module 6-220 VDC	60-1446	0.67	0.59	0.52
Diode + LED mod. 6-24 VDC	60-1448	1.40	1.30	1.10

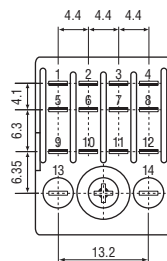
Plug-in power relays

4PCO 5A Power relay and mounting socket

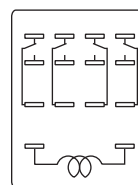
GS

A series of 4 pole changeover power relays. These relays are designed for PCB terminal, solder lug terminal or with the rail/surface relay safe separation sockets (coil terminals on one side, c/o terminals on the other) available separately. All are black, with fingerproof screw clamp terminals.

- 4 pole version
- Switching current 5 Amps
- Low coil power consumption
- High response time
- High reliability and long life
- High level of vibration and shock resistance
- Suitable for vending machines, cooking appliances and control equipment
- CE approved
- **GS type RE-2 series**



BOTTOM VIEW



BOTTOM VIEW

Technical specification	
Nominal load 4P	contact capacity 5A at 250V AC
	contact capacity 5A at 30V DC
Rated carrying current	5A
Max. allowable current	5A
Max. allowable voltage	250V AC, 110V DC
Max. allowable power force	600VA, 150W
Min. switching load	10V DC, 10mA
Contact material	Ag Alloy
Contact form	DPDT, DPST, FPDT, FPST
Contact resistance	100mΩ max. at 1A, 6V DC
Operate time	25ms max.
Release time	25ms max.
Dielectric strength	coil and contact 1.500V AC at 50/60Hz for one minute
	between contacts 1.000V AC at 50/60Hz for one minute
Surge resistance	3.000V (between coil and contact 1.2 x 50μsec.
Insulation resistance	100MΩ min at 500V DC
Temperature range	25°C to +55°C
Humidity range	45-85% RH
Weight	35g
Safety	UL

Type	Order code	1+	10+	50+	100+
12V DC	60-1666	3.05	2.50	2.25	2.00
24V DC	60-1667	3.10	2.55	2.30	2.05
24V AC	60-1668	3.20	2.60	2.35	2.10
110/120V AC	60-1669	3.30	2.70	2.45	2.20
220/240V AC	60-1670	3.70	3.00	2.70	2.40
RE-4 series socket	60-1671	1.55	1.30	1.20	1.15

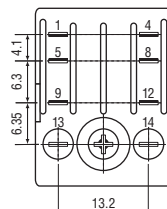
2PCO 5A Power relay and mounting socket

GS

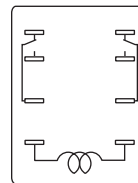
A series of 2 pole changeover power relays.

These relays are designed for PCB terminal, solder lug terminal or with the rail/surface relay safe separation sockets (coil terminals on one side, c/o terminals on the other) available separately. All are black, with fingerproof screw clamp terminals.

- 2 pole version
- Switching current 5 Amps
- Low coil power consumption
- High response time
- High reliability and long life
- High level of vibration and shock resistance
- Suitable for vending machines, cooking appliances and control equipment
- CE approved
- **GS type RE-2 series**



BOTTOM VIEW



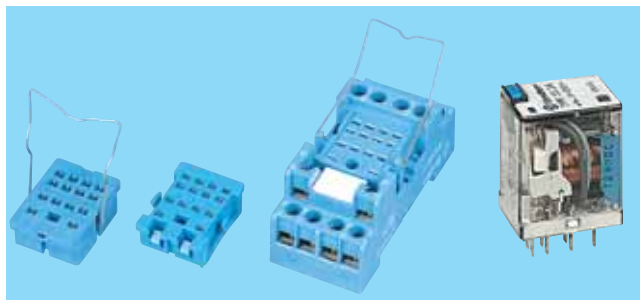
BOTTOM VIEW

Technical specification	
Nominal load 2P	contact capacity 5A at 250V AC
	contact capacity 5A at 30V DC
Rated carrying current	5A
Max. allowable current	5A
Max. allowable voltage	250V AC, 110V DC
Max. allowable power force	600VA, 150W
Min. switching load	10V DC, 10mA
Contact material	Ag Alloy
Contact form	DPDT, DPST
Contact resistance	100mΩ max. at 1A, 6V DC
Operate time	25ms max.
Release time	25ms max.
Dielectric strength	coil and contact 1.500V AC at 50/60Hz for one minute
	between contacts 1.000V AC at 50/60Hz for one minute
Surge resistance	3.000V (between coil and contact 1.2x50μSec.
Insulation resistance	100MΩ min at 500V DC
Temperature range	-25°C to +55°C
Humidity range	45-85% RH
Weight	35g
Safety	UL

Type	Order code	1+	10+	50+	100+
12V DC	60-1660	2.60	2.10	1.85	1.70
24V DC	60-1661	2.62	2.15	1.90	1.75
24V AC	60-1662	2.75	2.25	2.00	1.80
110/120V AC	60-1663	2.80	2.30	2.10	1.85
220/240V AC	60-1664	3.20	2.60	2.30	2.10
RE-2 series socket	60-1665	1.50	1.25	1.15	1.10

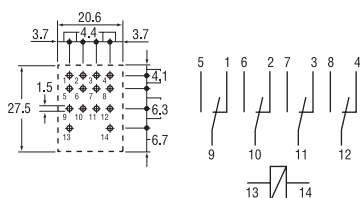
7A Power relay 4PDT

Finder



An industry standard range of miniature 4 pole changeover relays.

- Manual test button
- Mechanical flag indication
- DIN rail/surface socket has touchproof terminals
- Accepts all modules and a user defined legendable identification tab
- Relays approved to **IMQ, SEMKO, CSA (4.5A), DEMKO, VDE, SEV** and **UL**
- Sockets approved to **CSA** and **UL**
- **Finder 55-34** series



Technical specification
Dimensions
Contact rating
Contact arrangement
Contact material
Operate/release time
Coil operating range
Temperature range
Sockets
PCB/chassis
DIN rails/surface
Finder Part Nos

27.5 x 20.6 x 37mm
7A at 240V AC
4PDT
Silver nickel
20ms
80% - 110%
40°C to +70°C
Load rating:
10A 250V
7A 250V

55.34.9.012.0040 60-1305
55.34.9.024.0040 60-1310
55.34.8.024.0040 60-1312
55.34.8.230.0040 60-1345
9414 60-1400
9424 60-1405
9474 48-0788

Coil	Resistance	Order code	1+	25+	100+
Finder 5534 Series					
12V DC	160Ω	60-1305	4.50	3.80	2.90
24V DC	640Ω	60-1310	4.50	3.80	2.90
24V AC	190Ω	60-1312	4.50	3.80	2.90
24V DC	—	60-1345	4.50	3.80	2.90
Sockets					
PCB		60-1400	0.80	0.65	0.55
Chassis		60-1405	0.80	0.65	0.55
DIN rail/surface		48-0788	2.60	2.10	1.90

Project books

— see page 867



AC Voltage detector

— see Test equipment section page 1029

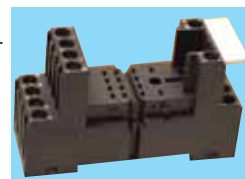


Compact industrial relay base

Camden

A 14 pin 4 pole DIN rail EN50022 or chassis mount relay base with rising clamp connections.

- Base is supplied complete with marking tab
- Finger proof to **IP20**
- Dual terminal numbering to **IEC67** and **DIN 46 199**
- **UL** and **CSA** approved
- **Camden type CRBS15/4N**



Technical specification
Rating 12A/300V AC
Dielectric strength >3kV
Moulding **UL94V-1** self extinguishing glass filled PA6
Contacts 6µ nickel plated brass
Screws Nickel plated steel M3 combination head
Temperature range -40°C to +85°C

Type	Order code	1+	25+	100+	250+
Relay base	60-4992	2.20	1.94	1.68	1.54

DPDT 10A Power relay and mounting socket

GS

A series of double pole double throw power relays. Suitable for vending machines, cooking appliances and control equipment. Also available, sockets for panel builder relays. All are black, with fingerproof screw clamp terminals

- Double pole double throw version
- Switching current 5 Amps
- Socket type, easy to use
- Low coil power consumption
- High response time
- High reliability and long life
- High level of vibration and shock resistance
- **CE** approved
- **GS type RK** series



Technical specification
Nominal load DPDT contact capacity contact capacity
Rated carrying current 10A at 220V AC
Max. allowable current 10A at 24V DC
Max. allowable voltage 10A
Max. allowable power force 220V AC, 110V DC
Min. switching load 2400VA, 280W
Contact material 1V DC, 10mA
Contact form Ag
Contact resistance DPDT
Operate time 100MQ max. at 1A, 6V DC
Release time 25ms max.
Dielectric strength coil and contact between contacts
Surge resistance 1.000V AC at 50/60Hz for one minute
Insulation resistance 1.000V AC at 50/60Hz for one minute
Temperature range 3.000V (between coil and contact 1.2 x 50µSec.
Humidity range 100MQ min at 500V DC
Weight -10°C to +40°C
Safety 35-85% RH
85g
UL

Type	Order code	1+	10+	50+	100+
12V DC	60-1672	2.95	2.55	2.30	2.15
24V DC	60-1673	3.00	2.60	2.35	2.20
24V AC	60-1674	3.05	2.65	2.38	2.22
110/120V AC	60-1675	3.10	2.70	2.40	2.25
220/240V AC	60-1676	3.40	2.90	2.65	2.45
RK-2P series socket	60-1677	1.20	1.00	0.92	0.88

3PDT 10A Power relay and mounting socket

GS

A series of 3 pole double throw power relays. These relays are designed for use with the rail/surface relay safe separation sockets (coil terminals on one side, c/o terminals on the other) available separately.

Also available, sockets for panel builder relays. Available only in black, with fingerproof screw clamp terminals.



- 3 pole double throw version
- Switching current 10 Amps
- Low coil power consumption
- High response time
- High reliability and long life
- Suitable for vending machines, cooking appliances and control equipment
- High level of vibration and shock resistance
- CE approved
- **GS type RK series**

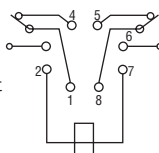
Technical specification					
Nominal load	3PDT	contact capacity	10A at 220V AC 10A at 24V DC		
Rated carrying current		contact capacity	10A		
Max. allowable current			10A		
Max. allowable voltage			220V AC, 110V DC		
Max. allowable power force			2400VA, 280W		
Min. switching load			10V DC, 10mA		
Contact material			Ag		
Contact form			3PDT		
Contact resistance			100mΩ max. at 1A, 6V DC		
Operate time			25ms max.		
Release time			25ms max.		
Dielectric strength		coil and contact between contacts	1.000V AC at 50/60Hz for one minute 1.000V AC at 50/60Hz for one minute 3.000V (between coil and contact 1.2 x 50μSec.		
Surge resistance			100MΩ min at 500V DC		
Insulation resistance			~10°C to +40°C Humidity range 35 - 85% RH		
Temperature range			85g		
Weight			UL		
Safety					

Type	Order code	1+	10+	50+	100+
12V DC	60-1678	3.70	3.15	2.90	2.65
24V DC	60-1679	3.75	3.20	2.95	2.70
24V AC	60-1680	3.80	3.25	3.00	2.75
110/120V AC	60-1681	3.85	3.30	3.05	2.80
220/240V AC	60-1682	4.05	3.50	3.20	2.90
RK-3P series socket	60-1683	1.25	1.05	0.96	0.91

Power relays DPDT 10A

A series of two pole changeover power relays.

- Fitted with octal plug in bases
- Relays incorporate a manual test button with a mechanical flag contact operating indicator
- Flame retardant cover
- Approved to **BSI, VDE, CSA, UL, BEAB, IMQ, SETI, SEMKO, DEMKO** and **SEV** standards
- **Finder 60-12 series**



Finder

Technical specification					
Dimensions		32.5 x 36.4 x 54mm			
Contact rating	(resistive)	10A 250V AC/30V DC			
	(inductive)	3A 250V AC/5A 24V DC			
Maximum switching capacity		2500VA			
Contact arrangement		Double pole changeover			
Max switching current		20A			
Max switching voltage		250 - 400V AC			
Contact material		Silver nickel (90/10%)			
Dielectric strength		200V rms			
Operate/release time		20ms max			
Coil operating range		80-110%			
Operating temperature range		-40°C to +70°C			

Coil	Resistance	Order code	1+	25+	100+	250+
12V DC	111Ω	60-1610	5.25	4.50	3.80	3.60
24V DC	443Ω	60-1615	5.25	4.50	3.80	3.60
24V AC	74Ω	60-1617	5.25	4.50	3.80	3.60
230V AC	7900Ω	60-1620	5.70	4.90	4.10	3.90

FAST DELIVERY

All orders received by 8pm are shipped by overnight carrier

Standards

Terminology explained

CSA

The Canadian Standards Association is a not-for-profit membership based association serving business, industry, government and consumers in Canada and the global marketplace.

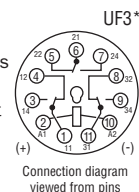
Working in Canada and around the world, the CSA develop standards that address real needs, such as enhancing public safety and health, advancing the quality of life, helping to preserve the environment and facilitating trade.

Serving both the public good and the growth of their own industries the CSA's 9,000 members contribute their time, money and expertise to standards development. They provide the broad range of technical knowledge, experience and expertise required to develop standards as well as funds to help support standards development.

Power relays 3PDT 10A

A series of three pole changeover power relays.

- Each fitted with 11 pin plug-in bases
- Relays incorporate a manual test button with mechanical flag contact operating indicator
- Flame retardant cover
- Approved to **BSI, VDE, CSA, UL, BEAB, IMQ, SETI, SEMKO, DEMKO** and **SEV** standards
- **Finder 60-13 series**



Finder

Technical specification					
Dimensions		32 x 32 x 54mm			
Contact rating	(resistive)	10A 250V AC/30V DC			
	(inductive)	3A 250V AC/5A 24V DC			
Maximum switching capacity		2500VA			
Contact arrangement		3 pole changeover			
Max. switching current		20A			
Max. switching voltage		250 - 400V AC			
Contact material		Silver nickel (90/110%)			
Dielectric strength		1000V rms			
Operate/release time		9ms max			
Coil operating range		80-110%			
Operating temperature range		-40°C to +70°C			

Coil	Resistance	Order code	1+	25+	100+	250+
12V DC	111Ω	60-1640	5.60	4.90	4.00	3.80
24V DC	443Ω	60-1645	5.60	4.90	4.00	3.80
24V AC	74Ω	60-1647	5.60	4.90	4.00	3.80
230V DC	790Ω	60-1650	6.00	5.10	4.30	4.10

Power relay PCB mount DPDT 30A

Finder

A series of 30A 2 pole relays.

- PCB mounting.
- 2 CO (DPDT-CO), 30A
- Suitable for heavy duty load switching
- Dielectric strength between contacts of 1.5kV
- Double insulation between coil and contacts
- Safe high capacity switching
- AC or DC version available
- 6kV (1.2/50μs) insulation between coil and contacts
- Ambient temperature -40°C to +70°C
- **Finder 66.22 series**



Technical specification					
Dimensions		51.5mm (L) x 33.5mm (W) x 31mm (H)			
Contact arrangement		2 CO (DPDT-CO)			
Contact rating		30A at 240V AC			
Contact arrangement		2 pole			
Contact material		Standard AgCdO (Silver Cadmium Oxide)			
Mechanical life		Mechanical life: >10 x 102 cycles			
Operate/release time		8/15ms			
Finder part No's.		66.22.9.012.0000	60-4380		
		66.22.9.024.0000	60-4381		
		66.22.8.024.0000	60-4382		

Type	Order code	1+	10+	50+	100+
12V DC	60-4380	6.10	5.15	4.98	4.67
24V DC	60-4381	6.10	5.15	4.98	4.67
24V AC	60-4382	6.10	5.15	4.98	4.67
230V AC	60-4383	6.45	5.39	5.21	4.94

GUARANTEED SAME DAY DESPATCH

on all orders placed between 8am and 8pm

Power relay flange mount DPDT 30A

Finder

A series of 30A 2 pole relays.

- Top flange mounting
- 2 CO (DPDT-CO), 30A
- Dielectric strength between contacts of 1.5kW
- Suitable for heavy duty load switching
- Double insulation between coil and contacts
- Safe high capacity switching
- AC or DC version available
- 6kV (1.2/50µs) insulation between coil and contacts
- Ambient temperature 40°C to +70°C
- **Finder 66.82** series



Technical specification	
Overall Dimensions	68.5mm (L) x 33.5mm (W) x 40.75mm (H) inc flanges
Dimensions	51.5mm (L) x 33.5mm (W) x 31mm (H) ex. flanges
Contact arrangement	2 CO (DPDT-CO)
Contact rating	30A at 240V AC
Contact arrangement	2 pole
Contact material	Standard AgCdO (Silver Cadmium Oxide)
Mechanical life	>10 x 102 cycles
Operate/release time	8/15ms
Finder part Nos.	

66.82.9.012.0000	60-4384
66.82.9.024.0000	60-4385
66.82.8.024.0000	60-4386

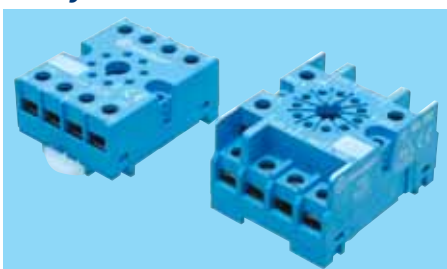
Type	Order code	1+	10+	50+	100+
12V DC	60-4384	6.10	5.15	4.98	4.67
24V DC	60-4385	6.10	5.15	4.98	4.67
24V AC	60-4386	6.10	5.15	4.98	4.67
230V AC	60-4387	6.45	5.39	5.21	4.94

60 Series DIN relay sockets

Finder

DIN relay sockets in fingerproof mouldings for use with Finder 60 series relays.

- 8 or 11 pin format
- Captive screw termination
- Rising clamp
- **Finder 90** series



Technical specification	
Current rating	10A
Voltage rating	250V
Dimensions	51 x 41 x 23mm
Operating temperature	-40°C to +70°C
Approvals	CSA,UL, VDE, SEMKO, FIMKO

Type	Order code	1+	25+	100+	250+
8 pin socket	60-1652	1.80	1.60	1.40	1.30
11 pin socket	60-1654	2.20	1.90	1.70	1.50

DIN Rail/surface relay sockets

Camden

A range of compact DIN rail/surface mounting relay sockets.

- Suits 8-pin octal base relays or 11-pin relays
- Available in fingerproof mouldings
- The base may be mounted to a **EN50022** DIN rail via a retaining/screwdriver release tab or directly onto a chassis surface
- All connections are made via captive screw terminals with self-rising clamps



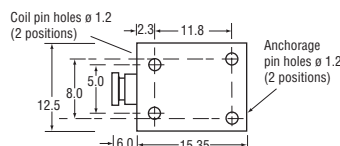
Technical specification	
Contact rating	10A 380V
Dielectric strength	>2kV
Moulding	UL94V-1 self extinguishing glass filled Noryl
Contacts	tin plated brass
Screws (pozi or slotted)	zinc plated steel M4
Dimensions	8-pin 51(L) x 40(W) x 20.5(H)mm 11-pin 51(L) x 43(W) x 30(H)mm

Type	Order code	1+	25+	100+	250+
8-pin fingerproof	60-1770	1.90	1.65	1.50	1.37
11-pin fingerproof	60-1775	2.35	2.10	2.02	1.84

Solenoids

PCB Miniature solenoids

PED



A range of miniature PCB mounting solenoids.

- Profile of just 12mm height
- Ideally suited to pulse driven applications

Technical specification	
Pull force continuous	35gf @ 1.0mm 10gf @ 2.0mm
Pull force, 25% duty	105gf @ 1.0mm 50gf @ 2.0mm
Closed power	1.5W continuous (DC)
PED part Nos.	45-120-610-540 45-120-610-620 60-3205 60-3210

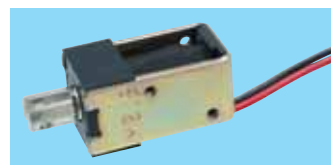
Type	Order code	1+	10+	25+	100+
6V DC	60-3205	1.95	1.88	1.75	1.64
12V DC	60-3210	1.95	1.88	1.75	1.64

Latching solenoids

PED

Two miniature latching (remanence) solenoids employing permanent magnets allowing the solenoid to be retained in the set position without consuming any power.

- Pulses of typically 40ms duration will operate and reset both ranges



Technical specification			
Series	Coil consumption	Pulse force,intermittent	Magnet holding force @ 25°C
66	3W	200gf @ 1mm, 80gf @ 2mm	480gf typ.
67	5W	400gf @ 1.2mm, 100gf @ 4mm	1000gf typ.
PED part No.	66-120-610-620 67-120-610-620	60-3240 60-3250	

Type	Order code	1+	10+	20+	50+
66 series					
12V DC	60-3240	4.50	3.70	3.15	2.90
67 series					
12V DC	60-3250	4.60	3.75	3.20	2.75

Standards

Terminology explained

CE

The letters "CE" are the abbreviation of French phrase "Conformite Europeene". The term initially used was "EC Mark" and "CE Marking" officially replaced it in the Directive 93/68EEC in 1993. "CE Marking" is now used in all EU official documents. "CE Mark" is also in use, but it is NOT the official term.

CE Marking on a product is a manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation, in practice by many of the so called Product Directives*.

*Product Directives contains the "essential requirements" and/or "performance levels" and "Harmonised Standards" to which the products must conform. Harmonised Standards are the technical specifications (European Standards or Harmonisation Documents) which are established by several European standards agencies (CEN, CENELEC, etc).

CE Marking on a product indicates to governmental officials that the product may be legally placed on the market in their country.

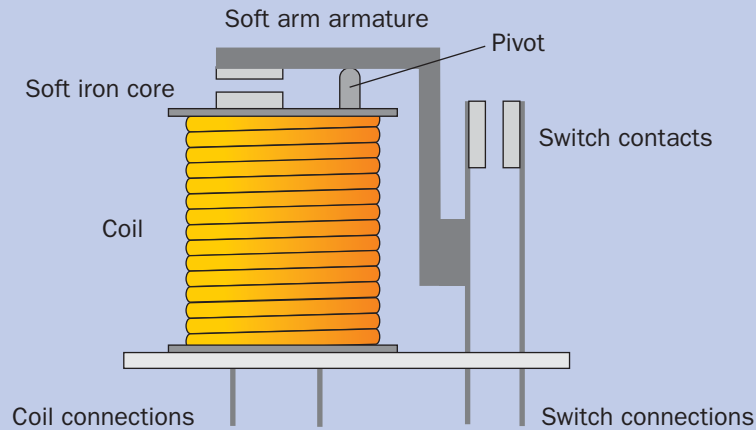
CE Marking on a product ensures the free movement of the product within the EFTA & European Union (EU) single market (total 28 countries), and permits the withdrawal of the non-conforming products by customs and enforcements/vigilance authorities.

Information panel

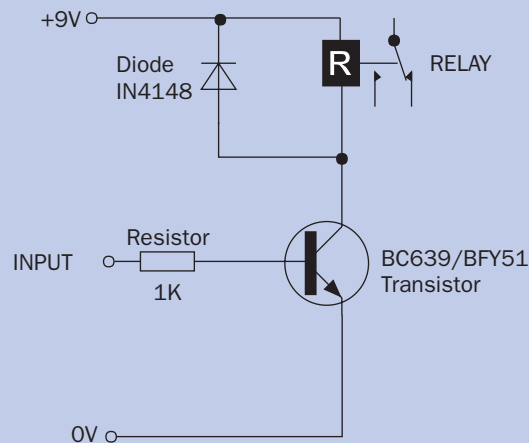
Relay

Description:

When a current is passed through the coil of the relay it creates a magnetic field which pulls down the armature and closes the switch contacts.



A diode must be used to protect a transistor when using a relay. When the current is removed from the coil of the relay a voltage is induced in the coil. The diode is used across the coil to prevent the voltage from damaging the transistor.



A double pole double throw relay can be used as a latch. The contacts will remain closed after the input source is removed.

