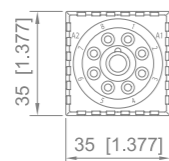
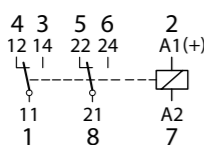
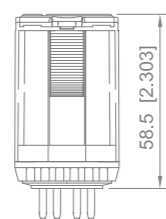


## RM2010 2 CHANGE-OVER CONTACTS, 8 PINS, DPDT

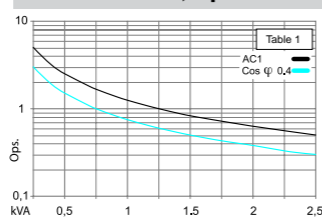


Dimensions mm [in]

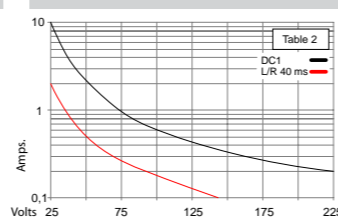


**General application** 10 A 250 V AC-1 0,5 A 110 V DC-1  
10 A 30 V DC-1 0,2 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240), 400  
RM2010NN, RM2010LN, RM2010NR  
DC: 24, 48, 110, 220  
RM2010NN, RM2010LN, RM2010LD, RM2010LE  
AC/DC: RM2010LU  
**Sockets:** SMB20D, SMT20D, SMW20F, SMP20F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std), std + 0,2 μ Au, std+10 μ Au

### Insulation

Contact Open contact ..... 1000 V  
Contact/contact ..... 25kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



### Specifications

Pick-up time/bounce time ..... 16 ms + ≤ 3 ms  
Release time/bounce time ..... 8 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC:10 Mill./VDC:20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

### Coils

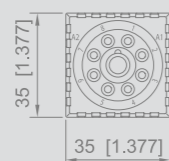
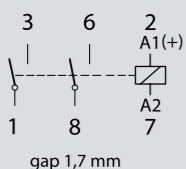
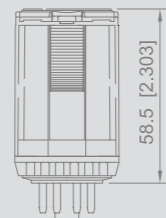
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... >0,1 x Un  
Nominal power ..... 2,2 VA (VAC)/ 1,3 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	67	92	24	443	54
48	296	46	48	1K8	27
115	1K7	19	110	9K2	12
230	7K1	9,5	220	36K1	6

## RM2014 2 OPEN CONTACTS (NO), 8 PINS, DPST

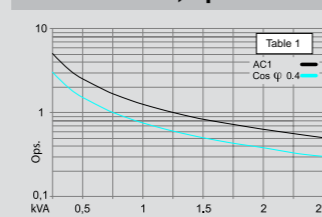


Dimensions mm [in]

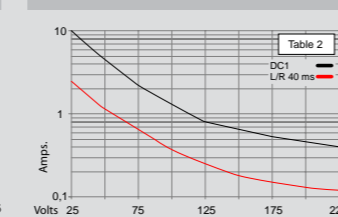


**Application for VDC** 10 A 250 V AC-1 1,2 A 110 V DC-1  
10 A 30 V DC-1 0,4 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM2014NN, RM2014LN, RM2014NR  
DC: 24, 48, 110, 220  
RM2014NN, RM2014LN, RM2014LD, RM2014LE  
AC/DC: RM2014LU  
**Sockets:** SMB20D, SMT20D, SMW20F, SMP20F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

### Insulation

Contact Open contact ..... 2000 V  
Contact/contact ..... 2,5 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



### Specifications

Pick-up time/bounce time ..... 20 ms + ≤ 3 ms  
Release time/bounce time ..... 10 ms + 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC:10 Mill./VDC:20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40/ RT1  
Weight ..... 90 g.

### Coils

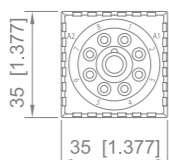
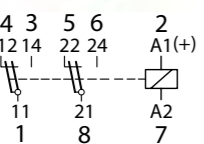
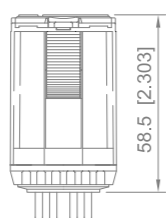
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... >0,1 x Un  
Nominal power ..... 2,4 VA (VAC)/ 1,6 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	360	66
48	286	50	48	1K4	34
115	1K7	21	110	7K6	15
230	6K8	10	220	30K3	7,5

## RM2117 2 TWIN CHANGE-OVER CONTACTS, 8 PINS, DPDT

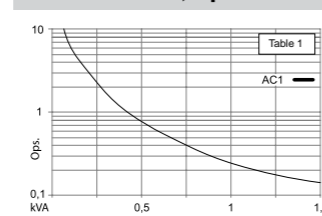


Dimensions mm [in]

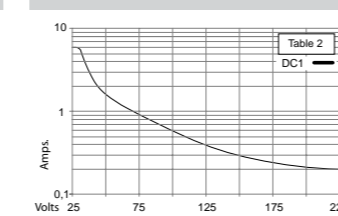


**Low signal application** 6 A 250 V AC-1 6 A 30 V DC-1  
5 mA/5V 1 mA/5V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM2117NN, RM2117LN, RM2117NR  
DC: 24, 48, 110, 220  
RM2117NN, RM2117LN, RM2117LD, RM2117LE  
AC/DC: RM2117LU  
**Sockets:** SMB20D, SMT20D, SMW20F, SMP20F

### Contacts

Max. switching current ..... 6 A  
Max. peak inrush current, 20ms ..... 15 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 1,2 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi + 0,2μ Au (std), std + 10 μ Au

### Insulation

Contact Open Contact ..... 1000 V  
Contact/contact ..... 2,5 KV  
Contact/coil ..... 2,5 KV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 KV / 3



### Specifications

Pick-up time/bounce time ..... 16 ms + ≤ 3 ms  
Release time/bounce time ..... 8 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC:10 Mill./VDC:20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40/ RT1  
Weight ..... 90 g.

### Coils

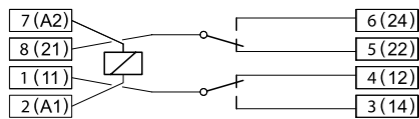
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... >0,1 x Un  
Nominal power ..... 2,2 VA (VAC)/ 1,3 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	67	92	24	443	54
48	296	46	48	1K8	27
115	1K7	19	110	9K2	12
230	7K1	9,5	220	36K1	6

**SMB20** 2 POLES, RAIL DIN

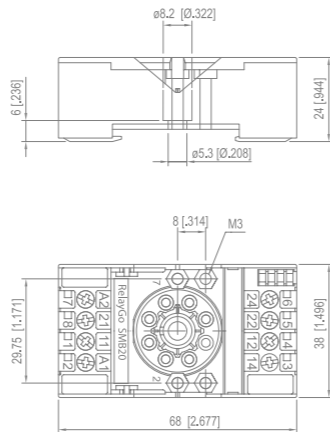


**Connection diagram**



**Socket for octal relays, with clip and marking label**  
10 A / 300 V

**Dimensions mm [in]**



**Specifications**

Rated load ..... 10 A / 300 V

**Insulation**

Test voltage, (Vrms/ 1 min.) .....  
 Contacts/coils ..... 2,5 kV  
 All terminals/DIN rail ..... 2,5 kV  
 Terminal/terminal ..... 25 W

**Cross-section of connecting wire**

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
 Multi-wire ..... 22 - 14 AWG  
 Cable with tip ..... 4 mm<sup>2</sup>  
 Max. screw torque ..... 1,2 Nm  
 Screw dimensions ..... M3, Pozi  
 Retaining clip plastic integrated



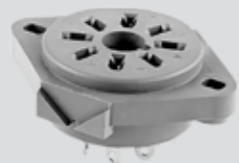
**Socket for RM relays**

8 pin plug-in relays RM2010, RM2014, RM2117

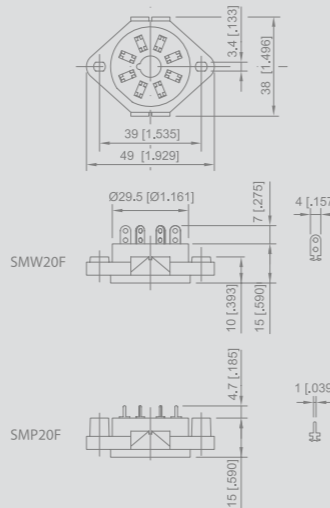
Mounting in rail DIN and panel  
 Coding label  
 Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

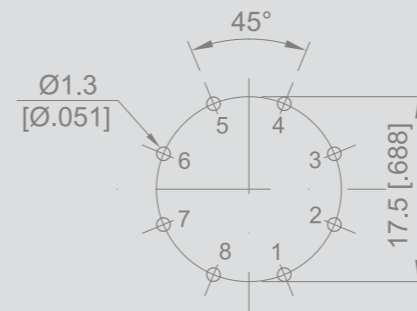
**SMW20F** 2 POLES, PANEL MOUNTING, SOLDERING WITH CABLES



**Dimensions mm [in]**



**PCB mounting**



**Socket for RM relays**

Socket for RM 8 pin plug-in relays RM2010, RM2014, RM2117

**Specifications**

Rated load ..... 10 A / 300 V  
 Isolation (terminal/terminal) ..... 2,5 kV



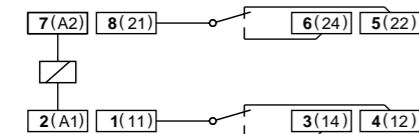
**SMP20F** 2 POLES, PRINTED CIRCUIT, MOUNTABLE WITH SCREW M3



**SMT20** 2 POLES, RAIL DIN

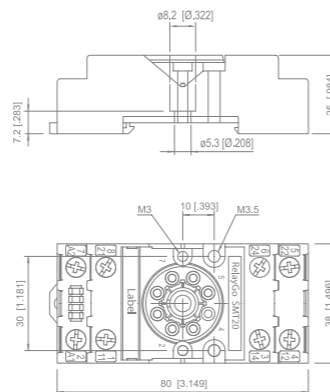


**Connection diagram**



**Socket for octal relays, with clip and marking label**  
10 A / 300 V

**Dimensions mm [in]**



**Specifications**

Rated load ..... 10 A / 300 V

**Insulation**

Test voltage, (Vrms/ 1 min.) .....  
 Contacts/coils ..... 2,5 kV  
 All terminals/DIN rail ..... 2,5 kV  
 Terminal/terminal ..... 25 W

**Cross-section of connecting wire**

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
 Multi-wire ..... 22 - 14 AWG  
 Cable with tip ..... 4 mm<sup>2</sup>  
 Max. screw torque ..... 1,2 Nm  
 Screw dimensions ..... M3, Pozi  
 Retaining clip plastic integrated



**Socket for RM relays**

8 pin plug-in relays RM2010, RM2014, RM2117

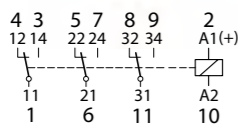
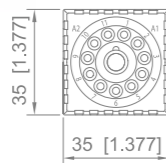
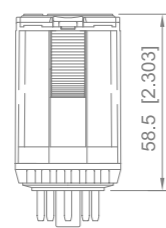
Mounting in rail DIN and panel  
 Coding label  
 Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

## RM3010 3 CHANGE-OVER CONTACTS, 11 PINS, TPDT

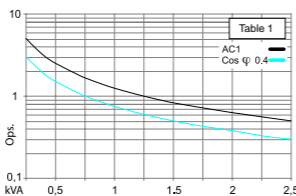


Dimensions mm [in]

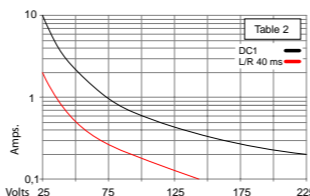


**General application** 10 A 250 V AC-1 0,5 A 110 V DC-1  
10 A 30 V DC-1 0,5 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM3010NN, RM3010LN, RM3010NR  
DC: 24, 48, 110, 220  
RM3010NN, RM3010LN, RM3010LD, RM3010LE  
AC/DC: RM3010LU  
**Sockets:** SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std), std + 0,2 μ Au, std + 10 μ Au

### Insulation

Contact  
Open contact ..... 1000 V  
Contact/contact ..... 25 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



### Specifications

Pick-up time/bounce time ..... 16 ms + ≤ 3 ms  
Release time/bounce time ..... 8 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 95 g.

### Coils

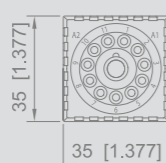
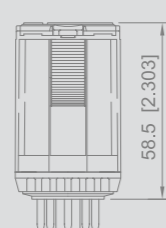
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,2 VA (VAC) / 1,3 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	67	92	24	443	54
48	296	46	48	1K8	27
115	1K7	19	110	9K2	12
230	7K1	9,5	220	36K1	6

## RM3014 3 OPEN CONTACTS, (NO) 11 PINS, TPST

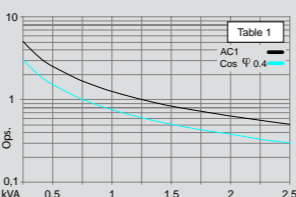


Dimensions mm [in]

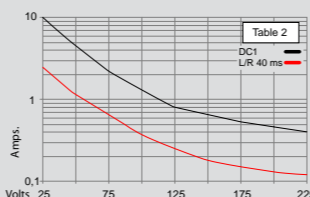


**Application for VDC** 10 A 250 V AC-1 1,2 A 110 V DC-1  
10 A 30 V DC-1 0,4 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM3014NN, RM3014LN, RM3014NR,  
DC: 24, 48, 110, 220  
RM3014NN, RM3014LN, RM3014LD, RM3014LE  
AC/DC: RM3014LU  
**Sockets:** SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

### Insulation

Contact  
Open contact ..... 2000 V  
Contact/contact ..... 2,5 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



### Specifications

Pick-up time/bounce time ..... 20 ms + ≤ 3 ms  
Release time/bounce time ..... 10 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 95 g.

### Coils

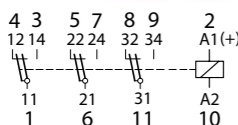
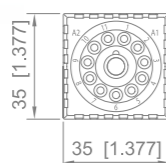
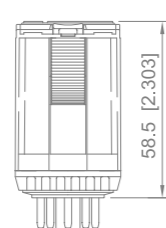
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,6 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	360	66
48	286	50	48	1K4	34
115	1K7	21	110	7K6	15
230	6K8	10	220	30K3	7,5

## RM3117 3 TWIN CONTACTS, 11 PINS, TPDT

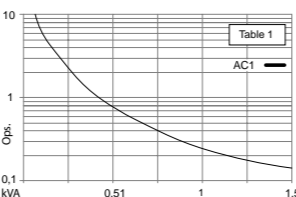


Dimensions mm [in]

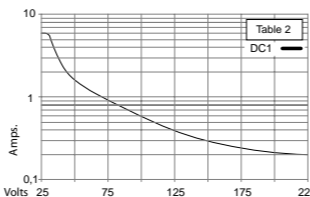


**Low signal, three change-over** 6 A 250 V AC-1 6 A 30 V DC-1  
5 mA/5 V 1 mA/5 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM3117NN, RM3117LN, RM3117NR  
DC: 24, 48, 110, 220  
RM3117NN, RM3117LN, RM3117LD, RM3117LE  
AC/DC: RM3117LU  
**Sockets:** SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

### Contacts

Max. switching current ..... 6 A  
Max. peak inrush current, 20ms ..... 15 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 1,2 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi + 0,2 μ Au (std), std + 10 μ Au

### Insulation

Contact  
Open Contact ..... 1000 V  
Contact/contact ..... 25 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV / 3



### Specifications

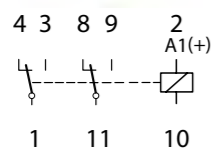
Pick-up time/bounce time ..... 16 ms + ≤ 3 ms  
Release time/bounce time ..... 8 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 95 g.

### Coils

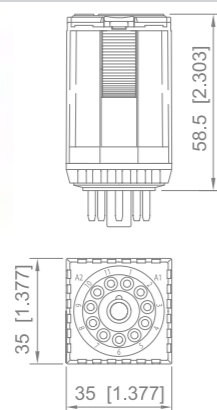
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,2 VA (VAC) / 1,3 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	67	92	24	443	54
48	296	46	48	1K8	27
115	1K7	19	110	9K2	12
230	7K1	9,5	220	36K1	6

## RM2112 2 CHANGE-OVER SENSITIVE RELAY, 11 PINS, DPDT

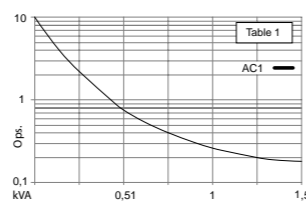


Dimensions mm [in]

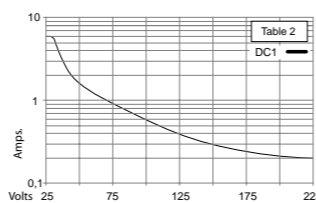


Sensitive relay 500 mW 6 A 250 V AC-1 6 A 30 V DC-1

Electric life, ops x 10<sup>6</sup>



Maxim load in VDC



Standard types

DC: 12, 24, 48, 60, 110  
RM2112NN, RM2112D, RM2112E  
Sockets: SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

Contacts

Max. switching current ..... 6 A  
Max. peak inrush current, 20ms ..... 15 A  
Max. switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi + 0,2 μ Au (std), 10 μ Au

Insulation

Contact  
Open contact ..... 1000 V  
Contact/contact ..... 25 kV  
Contact/coil ..... 2,5 kV

Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



Specifications

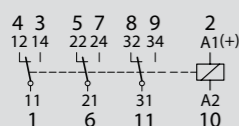
Pick-up time/bounce time ..... 18 ms / ≤ 3 ms  
Release time/bounce time ..... 10 ms / ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

Coils

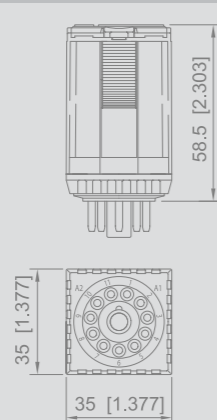
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 500 mW

VDC	Ω	mA
24	1K1	21
48	4K6	10
60	7K2	8,3
110	24K2	4,5

## RM3113 3 CHANGE-OVER SENSITIVE RELAY, 11 PINS, TPDT

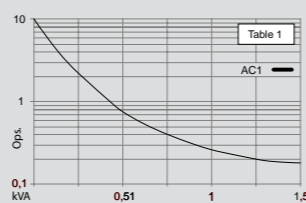


Dimensions mm [in]

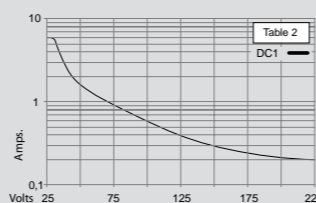


Sensitive relay 800 mW 6 A 250 V AC-1 6 A 30 V DC-1

Electric life, ops x 10<sup>6</sup>



Maxim load in VDC



Standard types

DC: 24, 48, 60, 110  
RM3113NN, RM3113D, RM3113E  
Sockets: SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

Contacts

Max. switching current ..... 6 A  
Max. peak inrush current, 20ms ..... 15 A  
Max. switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi + 0,2 μ Au (std), 10 μ Au

Insulation

Contact  
Open contact ..... 1000 V  
Contact/contact ..... 25 kV  
Contact/coil ..... 2,5 kV

Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV / 3



Specifications

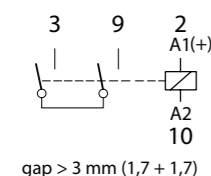
Pick-up time/bounce time ..... 18 ms / ≤ 3 ms  
Release time/bounce time ..... 10 ms / ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

Coils

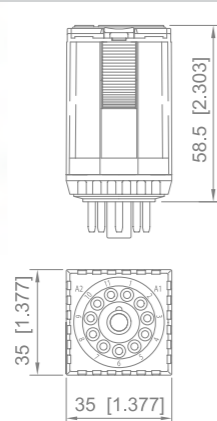
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 800 mW

VDC	Ω	mA
24	720	33
48	2K8	17
60	4K5	13
110	15K	7

## RM1015 1 DOUBLE MAKE OPEN CONTACT, 11 PINS, SPST

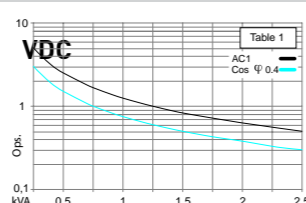


Dimensions mm [in]

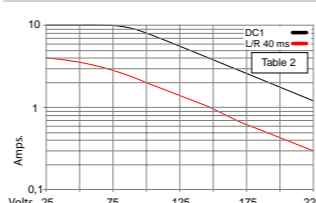


Power relay, VDC 10 A 250 V AC-1 7 A 110 V DC-1  
10 A 30 V DC-1 1,2 A 220 V DC-1

DC-1 Electric life, ops x 10<sup>6</sup>



Maxim load in



Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM1015NN, RM1015LN, RM1015NR  
DC: 24, 48, 110, 220  
RM1015NN, RM1015LN, RM1015LD, RM1015LE  
AC/DC: RM1015LU  
Sockets: SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

Insulation

Contact  
Open contact ..... 2,5 kV  
Contact/coil ..... 2,5 kV

Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



Specifications

Pick-up time/bounce time ..... 20 ms + ≤ 3 ms  
Release time/bounce time ..... 10 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

Coils

Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... > 0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,3 W (VDC)

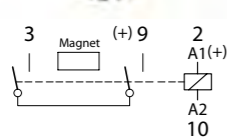
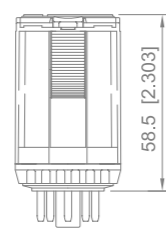
VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	443	54
48	286	50	48	1K7	27
115	1K7	21	110	9K2	12
230	6K8	10	220	36K1	6

**RM1016**

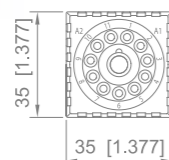
**1 OPEN CONTACT, MAGNETIC BLOW OUT, 11 PINS, SPST**



Dimensions mm [in]

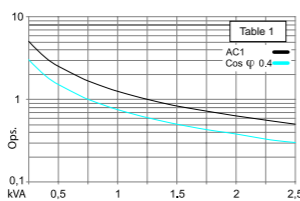


gap > 3 mm (1,7 + 1,7)

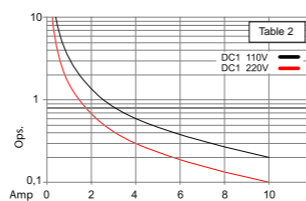


**Power double make relay VDC**  
 10 A 250 V AC-1      10A 220V DC-1  
 3,6 A 110 V L/R40ms      2A 220V L/R40ms

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
 DC: 24, 48, 110, 220  
 RM1016NN, RM1016LN, RM1016NR  
 RM1016NN, RM1016LN, RM1016LD, RM1016LE  
 AC/DC: RM1016LU  
**Sockets:** SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

**Contacts**

Max. switching current ..... 10 A  
 Max. peak inrush current, 20ms ..... 30 A  
 Max. Switching voltage ..... 250 V  
 Max. VAC load (table 1) ..... 2,5 kVA  
 Max. VDC load ..... see (table 2)  
 Contact material ..... AgNi (std)

**Insulation**

Contact  
 Open contact ..... 2,5 kV  
 Contact/coil ..... 2,5 kV  
 Insulation resistance at 500 V ..... >3G Ω  
 Insulation, EN 61810-1 ..... 2,5 kV / 3



**Specifications**

Pick-up time/bounce time ..... 20 ms + ≤ 3 ms  
 Release time/bounce time ..... 10 ms + ≤ 1 ms  
 Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
 Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
 VDC voltage endurance at rated load ..... >100.000 ops.  
 Switching frequency at rated load ..... 1200/h.  
 Protection class ..... IP40 / RT1  
 Weight ..... 90 g.

**Coils**

Pick-up voltage ..... < 0,8 x Un  
 Release voltage ..... > 0,1 x Un  
 Nominal power ..... 2,4 VA (VAC) / 1,3W (VDC)

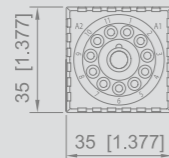
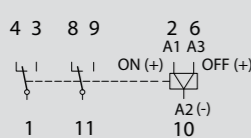
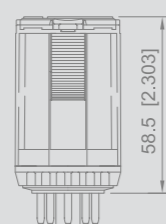
VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	443	54
48	286	50	48	1K7	27
115	1K7	21	110	9K2	12
230	6K8	10	220	36K1	6

**RM2019**

**2 CHANGE-OVER CONTACTS, REMANENCE, 11 PINS, DPDT**

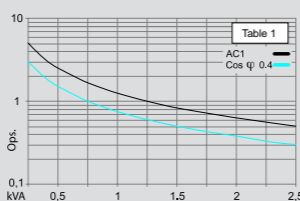


Dimensions mm [in]

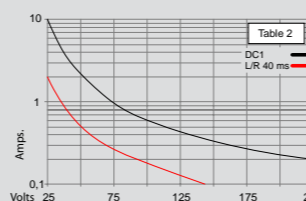


**Magnetic remanence**  
 10 A 250 V AC-1      0,5 A 110 V DC-1  
 10 A 30 V DC-1      0,2 A 220 V DC-1

**Electric life, ops x 10<sup>6</sup>**



**Maxim load in VDC**



**Standard types**

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
 DC: 12, 24, 48, 110  
 RM2019NN  
**Sockets:** SMB30D, SMP30D, SMB30P, SMB30S, SMW30F, SMP30F

**Contacts**

Max. switching current ..... 10 A  
 Max. peak inrush current, 20ms ..... 30 A  
 Max. Switching voltage ..... 250 V  
 Max. VAC load (table 1) ..... 2,5 kVA  
 Max. VDC load ..... see (table 2)  
 Contact material ..... AgNi (std), std + 0,2 μ Au, std + 10 μ Au

**Insulation**

Contact  
 Open contact ..... 1000 V  
 Contact/contact ..... 25 kV  
 Contact/coil ..... 2,5 kV  
 Insulation resistance at 500 V ..... >3G Ω  
 Insulation, EN 61810-1 ..... 2,5 kV/3



**Specifications**

Pick-up time/bounce time ..... 50 ms.  
 Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
 Mechanical life ops. .... VAC: 10 Mill./VDC: 20 Mill  
 VDC voltage endurance at rated load ..... >100.000 ops.  
 Switching frequency at rated load ..... 1200/h.  
 Protection class ..... IP40/ RT1  
 Weight ..... 95 g.

**Coils**

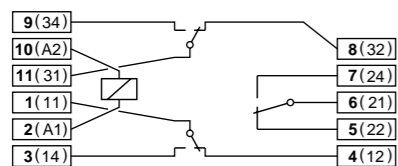
Pick-up voltage ..... 1,5 VA/W  
 Release voltage ..... 0,5 VA/W

VAC	ONmA	OFFmA	VDC	ONmA	OFFmA
24	75	12	12	125	41
48	38	6	24	63	21
115	16	2,5	48	31	10
230	8	1,3	110	14	4,5

## SMB30 3 POLES, RAIL DIN

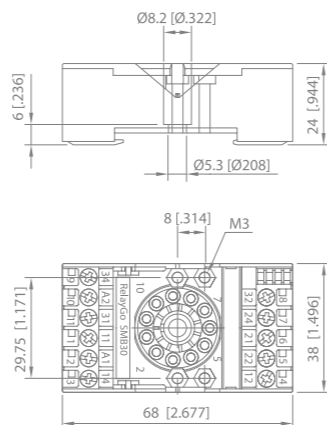


Connection diagram



Socket for undecal relays, with clip and marking label **10 A / 250 V**

Dimensions mm [in]



### Specifications

Rated load ..... 10 A / 250 V

Insulation  
 Test voltage, (Vrms/ 1 min.)  
 Contacts/coils ..... 2,5 kV  
 All terminals/DIN rail ..... 2,5 kV  
 Terminal/terminal ..... 25 V

### Cross-section of connecting wire

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
 Multi-wire ..... 22 - 14 AWG  
 Cable with tip ..... 4 mm<sup>2</sup>  
 Max. screw torque ..... 1,2 Nm  
 Screw dimensions ..... M3, Pozi  
 Retaining clip plastic integrated  
 Weight ..... 55 gr



### Socket for RM relays

Socket for RM 11 pin plug-in relays RM3010, RM3014, RM3117, RM2112, RM3113, RM1015, RM1016, RM2019

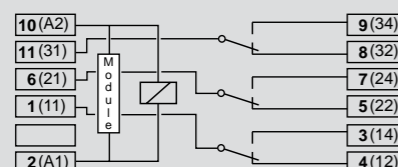
Mounting in rail DIN and panel  
 Coding label.  
 Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

## SMB30P 3 POLES, RAIL DIN, PLUG-IN MODULES MM1, PARALLEL

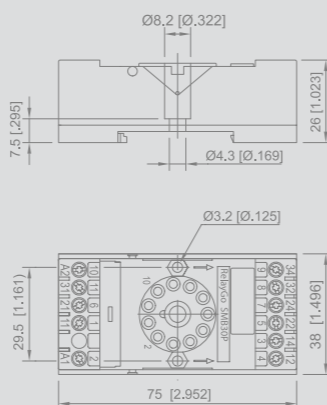


Connection diagram



Accessories of the coil for plug-in module to the socket **10 A / 250 V**

Dimensions mm [in]



### Specifications

Rated load ..... 10 A / 250 V

Insulation  
 Test voltage, (Vrms/ 1 min.)  
 Contacts/coils ..... 2,5 kV  
 All terminals/DIN rail ..... 2,5 kV  
 Terminal/terminal ..... 25 V

### Cross-section of connecting wire

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
 Multi-wire ..... 22 - 14 AWG  
 Cable with tip ..... 4 mm<sup>2</sup>  
 Max. screw torque ..... 1,2 Nm  
 Screw dimensions ..... M3, Pozi  
 Retaining clip plastic integrated  
 Weight ..... 55 gr



### Socket for RM relays

Socket for RM 11 pin plug-in relays RM3010, RM3014, RM3117, RM2112, RM3113, RM1015, RM1016, RM2019

Mounting in rail DIN and panel  
 Coding label.  
 Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

### MM1

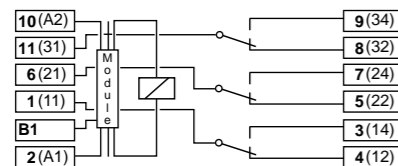
Parallel module for the socket SMB30P



## SMB30S 3 POLES, RAIL DIN PLUG-IN MODULES MM2, SERIES

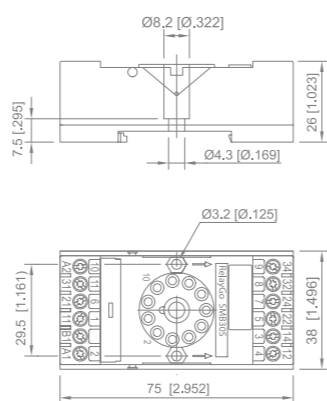


Connection diagram



Accessories of the coil for plug-in module to the socket **10 A / 300 V**

Dimensions mm [in]



### Specifications

Rated load ..... 10 A / 250 V

Insulation  
 Test voltage, (Vrms/ 1 min.)  
 Contacts/coils ..... 2,5 kV  
 All terminals/DIN rail ..... 2,5 kV  
 Terminal/terminal ..... 25 V

### Cross-section of connecting wire

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
 Multi-wire ..... 22 - 14 AWG  
 Cable with tip ..... 4 mm<sup>2</sup>  
 Max. screw torque ..... 1,2 Nm  
 Screw dimensions ..... M3, Pozi  
 Retaining clip plastic integrated  
 Weight ..... 55 gr



### Socket for RM relays

Socket for RM 11 pin plug-in relays RM3010, RM3014, RM3117, RM2112, RM3113, RM1015, RM1016, RM2019

Mounting in rail DIN and panel  
 Coding label.  
 Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

### MM2

Serie module for the socket SMB20S.

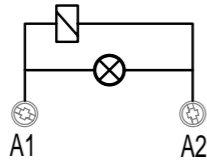


## MM1 - MODULES FOR SOCKET SMB30P

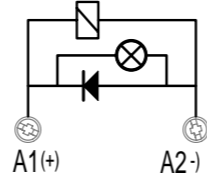
In parallel with the coil



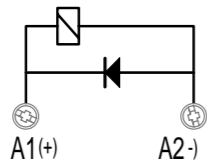
**Pilot LED**  
 MM1L / 24 VAC/VDC  
 MM1L / 48 VAC/VDC  
 MM1L / 110 ... 125 VAC/VDC  
 MM1L / 200 ... 230 VAC/VDC



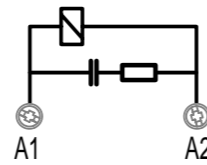
**Freewheeling diode and LED**  
 MM1LD / 24 VDC  
 MM1LD / 48 VDC  
 MM1LD / 110 ... 125 VDC  
 MM1LD / 200 ... 230 VDC



**Freewheeling diode**  
 MM1ND / 12 ... 60 VDC  
 MM1ND / 12 ... 250 VDC



**RC suppressor (LED not available)**  
 MM1NR / 20 ... 50 VAC  
 MM1NR / 110 ... 120 VAC  
 MM1NR / 220 ... 240 VAC

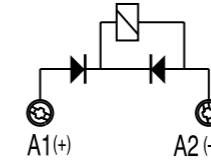


## MM2 - MODULES FOR SOCKET SMB30S

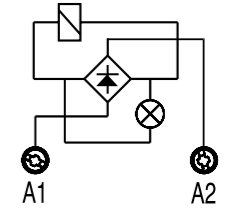
In serie with the coil



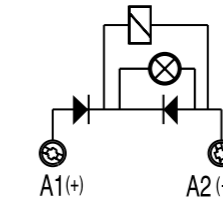
**Freewheeling and polarity diode**  
 MM2NE / 12 ... 60 VDC  
 MM2NE / 12 ... 250 VDC



**Rectifier bridge and LED**  
 MM2NU / 12 ... 48 VAC/VDC  
 MM2LU / 12 VAC/VDC  
 MM2LU / 24 VAC/VDC  
 MM2LU / 48 VAC/VDC



**Freewheeling, polarity and LED diode**  
 MM2LE / 24 VDC  
 MM2LE / 48 VDC  
 MM2LE / 110 ... 125 VDC  
 MM2LE / 200 ... 230 VDC

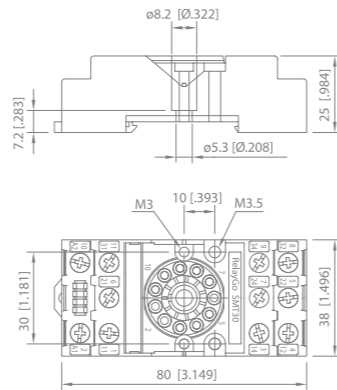


**SMT30 — 3 POLES, RAIL DIN**

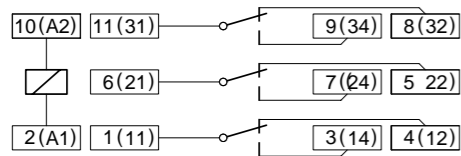


Socket for undecal relays, with clip and marking label  
10 A / 250 V

**Dimensions mm [in]**



**Connection diagram**



**Specifications**

Rated load ..... 10 A / 250 V

**Insulation**

Test voltage, (Vrms/ 1 min.) .....  
Contacts/coils ..... 2,5 kV  
All terminals/DIN rail ..... 2,5 kV  
Terminal/terminal ..... 2,5 kV

**Cross-section of connecting wire**

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
Multi-wire ..... 22 - 14 AWG  
Cable with tip ..... 4 mm<sup>2</sup>  
Max. screw torque ..... 1,2 Nm  
Screw dimensions ..... M3, Pozi  
Retaining clip plastic integrated  
Weight ..... 55 gr



**Socket for RM relays**

Socket for RM 11 pin plug-in relays RM3010, RM3014, RM3117, RM2112, RM3113, RM1015, RM1016, RM2019

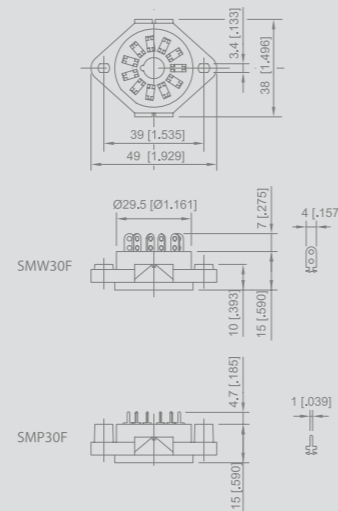
Mounting in rail DIN and panel  
Coding label.  
Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

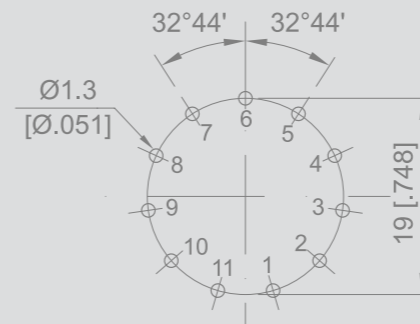
**SMW30F — 3 POLES, PANEL MOUNTING, SOLDERING WITH CABLES**



**Dimensions mm [in]**



**PCB mounting**



**Socket for RM relays**

Socket for RM 11 pin plug-in relays RM3010, RM3014, RM3117, RM2112, RM3113, RM1015, RM1016, RM2019

**Specifications**

Rated load ..... 10 A / 250 V  
Insulation (terminal/terminal) ..... 2,5 kV



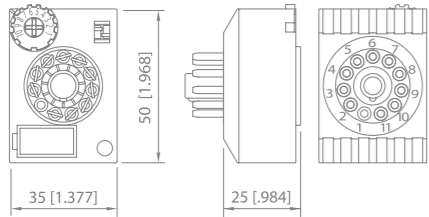


**TM**



TM timers plug into the sockets timing 8 and 11 pin relays. RM2 & RM3. These relays plug into the timer.

**Dimensions** mm [in]



**Specifications**

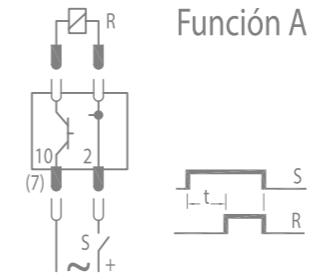
Repetition accuracy ..... +0,5 % /20 ms.  
 Voltage variations ..... 1ms/volt  
 Ambient temperature ..... -0,25% /K  
 Reset time ..... <150 ms.  
 Reset time ..... <200 ms.  
 Operation time ..... VAC/VDC 80/50 ms.  
 Ambient temperature ..... -10°C...+60°C  
 Protection ..... IEC 255.4  
**Material** PC Lexan or similar  
 Protection degree ..... IP40  
 Weight ..... 35 g

**TMA**

**ON DELAY**

The count is initiated when S is closed. The relay is activated when the time (t) is achieved

**Connection diagram**



**Tipos TMA2 and TMA3 with time scale 0,2 sec - 30 min.**

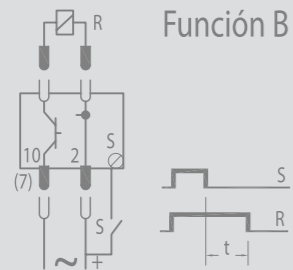
<b>TMA2L</b>	12 ... 60 V
<b>TMA2H</b>	61... 240 V
<b>TMA3L</b>	12 ... 60 V
<b>TMA3H</b>	61... 240 V

**TMB**

**INTERVAL IN OFF-IMPULSE**

The count is initiated when S is opened. The relay is deactivated when time t is deactivated.

**Connection diagram**



**Tipos TMB2 and TMB3 with time scale 0,2 sec - 30 min.**

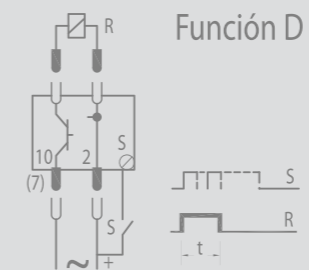
<b>TMB2L</b>	12 ... 60 V
<b>TMB2H</b>	61... 240 V
<b>TMB3L</b>	12 ... 60 V
<b>TMB3H</b>	61... 240 V

**TMD**

**IMPULSE-ON INTERVAL**

The relay is activated with a closing pulse in S and deactivated when the the time (t) is achieved

**Connection diagram**



**Tipos TMD2 and TMD3 with time scale 0,2 sec - 30 min.**

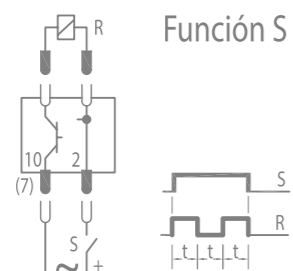
<b>TMD2L</b>	12 ... 60 V
<b>TMD2H</b>	61... 240 V
<b>TMD3L</b>	12 ... 60 V
<b>TMD3H</b>	61... 240 V

**TMS**

**CYCLIC**

The relay is activated intermittent in time cycles (t) when S is closed. First cycle ON

**Connection diagram**



**Tipos TMS2 and TMS3 with time scale 0,2 sec - 30 min.**

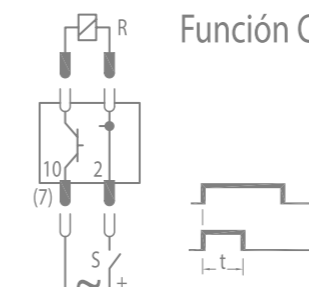
<b>TMS2L</b>	12 ... 60 V
<b>TMS2H</b>	61... 240 V
<b>TMS3L</b>	12 ... 60 V
<b>TMS3H</b>	61... 240 V

**TMC**

**ONE SHOT DELAY**

The relay is activated when S is closed and deactivated when the time (t) is achieved.

**Connection diagram**



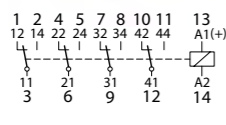
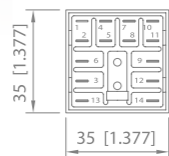
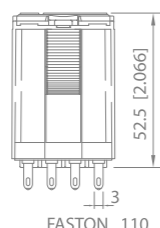
**Tipos TMC2 and TMC3 with time scale 0,2 sec - 30 min.**

<b>TMC2L</b>	12 ... 60 V
<b>TMC2H</b>	61... 240 V
<b>TMC3L</b>	12 ... 60 V
<b>TMC3H</b>	61... 240 V

## RM4010 - 4 CHANGE-OVER CONTACTS, 14 FASTON, FPDT

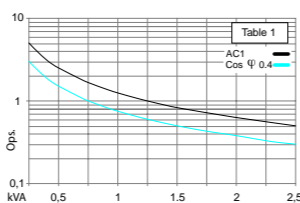


### Dimensions mm [in]

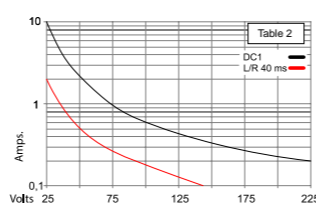


**General application** 10 A 250 V AC-1 0,5 A 110 V DC-1  
10 A 30 V DC-1 0,2 A 220 V DC-1

### Electric life, ops x 10<sup>6</sup>



### Maxim load in VDC



### Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM4010NN, RM4010LN, RM4010NR  
DC: 24, 48, 110, 220  
RM4010NN, RM4010LN, RM4010LD, RM4010LE  
AC/DC: RM4010LU  
Sockets: SMT40D, SMW40F, SMP40X, SMP40F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std) + Agni + 0,2 μ Au, std +10 μ Au

### Insulation

Contact  
Open contact ..... 1000 V  
Contact/contact ..... 2,5 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



### Specifications

Pick-up time/bounce time ..... 20 ms + ≤ 3 ms  
Release time/bounce time ..... 10 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC:10 Mill./VDC:20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

### Coils

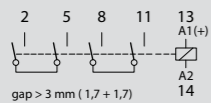
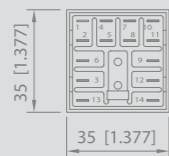
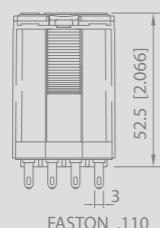
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... >0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,4 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	414	58
48	286	50	48	1K6	30
115	1K7	21	110	8K1	13
230	6K8	10	220	35K7	6,2

## RM2015 - 2 DOUBLE MAKE OPEN CONTACT, 6 FASTON, DPST

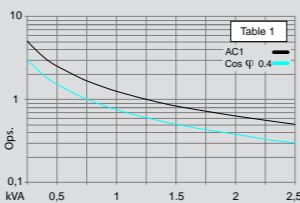


### Dimensions mm [in]

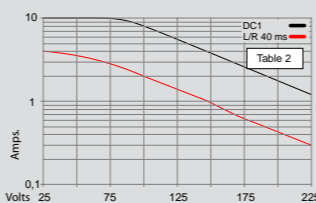


**Power relay, VDC** 10 A 250 V AC-1 7 A 110 V DC-1  
10 A 30 V DC-1 1,2 A 220 V DC-1

### Electric life, ops x 10<sup>6</sup>



### Maxim load in VDC



### Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM2015NN, RM2015LN, RM2015NR  
DC: 24, 48, 110, 220  
RM2015NN, RM2015LN, RM2015LD, RM2015LE  
AC/DC: RM2015LU  
Sockets: SMT40D, SMW40F, SMP40X, SMP40F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... AgNi (std)

### Insulation

Contact  
Open contact ..... 2,5 kV  
Contact/contact ..... 2,5 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV/3



### Specifications

Pick-up time/bounce time ..... 20 ms + ≤ 3 ms  
Release time/bounce time ..... 10 ms + ≤ 1 ms  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC:10 Mill./VDC:20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

### Coils

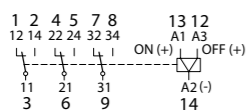
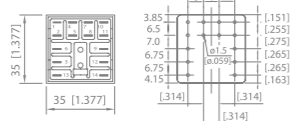
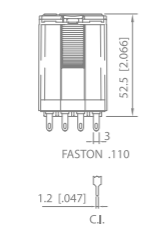
Pick-up voltage ..... < 0,8 x Un  
Release voltage ..... >0,1 x Un  
Nominal power ..... 2,4 VA (VAC) / 1,3 W (VDC)

VAC	Ω	mA	VDC	Ω	mA
24	65	100	24	443	54
48	286	50	48	1K8	27
115	1K7	21	110	9K2	12
			220	36K1	6

## RM3019 - 3 CHANGE-OVER CONTACTS, REMANENCE, 12 FASTON TPDT

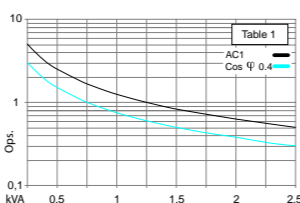


### Dimensions mm [in]

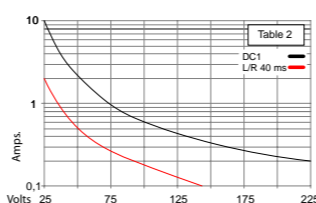


**Magnetic remanence** 10 A 250 V AC-1 0,5 A 110 V DC-1  
10 A 30 V DC-1 0,2 A 220 V DC-1

### Electric life, ops x 10<sup>6</sup>



### Maxim load in VDC



### Standard types

AC 50 Hz, (60 Hz): 24, 48, 115, (120), 230, (240)  
RM3019NN  
DC: 12, 24, 48, 110  
RM3019NN  
Sockets: SMT40D, SMW40F, SMP40X, SMP40F

### Contacts

Max. switching current ..... 10 A  
Max. peak inrush current, 20ms ..... 30 A  
Max. Switching voltage ..... 250 V  
Max. VAC load (table 1) ..... 2,5 kVA  
Max. VDC load ..... see (table 2)  
Contact material ..... Agni + 0,2 μ Au (std), 10 μ Au

### Insulation

Contact  
Open contact ..... 2,5 kV  
Contact/contact ..... 2,5 kV  
Contact/coil ..... 2,5 kV  
Insulation resistance at 500 V ..... >3G Ω  
Insulation, EN 61810-1 ..... 2,5 kV / 3



### Specifications

Pick-up time/bounce time ..... 50 ms.  
Ambient temperature, operation/storage ... -40°C (no ice) 60°C/80°C  
Mechanical life ops. .... VAC:10 Mill./VDC:20 Mill  
VDC voltage endurance at rated load ..... >100.000 ops.  
Switching frequency at rated load ..... 1200/h.  
Protection class ..... IP40 / RT1  
Weight ..... 90 g.

### Coils

Pick-up voltage ..... 1,5 VAW  
Release voltage ..... 0,5 VAW

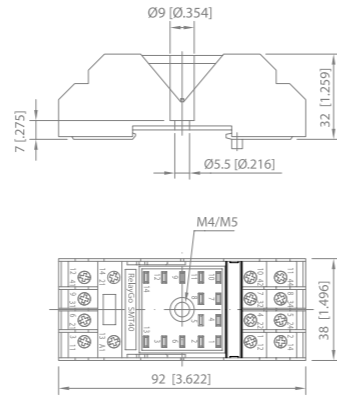
VAC	ONmA	OFFmA	VDC	ONmA	OFFmA
24	75	12	12	125	41
48	38	6	24	63	21
115	16	2,5	48	31	10
230	8	1,3	110	14	4,5

**SMT40 4 POLES, RAIL DIN**

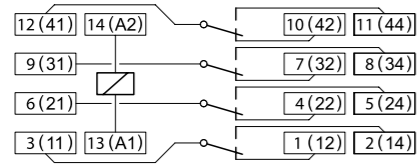


Socket for RM4 relay, with clip and marking label  
10 A / 250 V

**Dimensions mm [in]**



**Connection diagram**



**Specifications**

Rated load ..... 10 A / 250 V

**Insulation**

Test voltage, (Vrms/ 1 min.) .....  
 Contacts/coils ..... 2,5 kV  
 All terminals/DIN rail ..... 2,5 kV  
 Terminal/terminal ..... 25 W

**Cross-section of connecting wire**

Single-wire ..... 4 mm<sup>2</sup> or 2 x 2,25 mm<sup>2</sup>  
 Multi-wire ..... 22 - 14 AWG  
 Cable with tip ..... 4 mm<sup>2</sup>  
 Max. screw torque ..... 1,2 Nm  
 Screw dimensions ..... M3, Pozi  
 Retaining clip plastic integrated



**Socket for RM relays**

Socket for RM, 14 born plug-in relays RM3010, RM3014, RM3117, RM2112, RM3113, RM1015, RM1016, RM2019

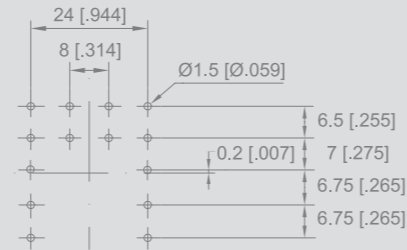
Mounting in rail DIN and panel  
 Coding label.  
 Numeration EN/DIN

According to the norm EN 60947-1 and IEC 61810-1

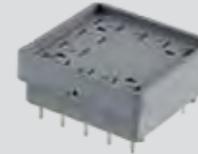
**SMW40F 4 POLES, PANEL MOUNTING, SOLDERING WITH CABLES**



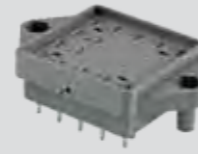
**PCB mounting**



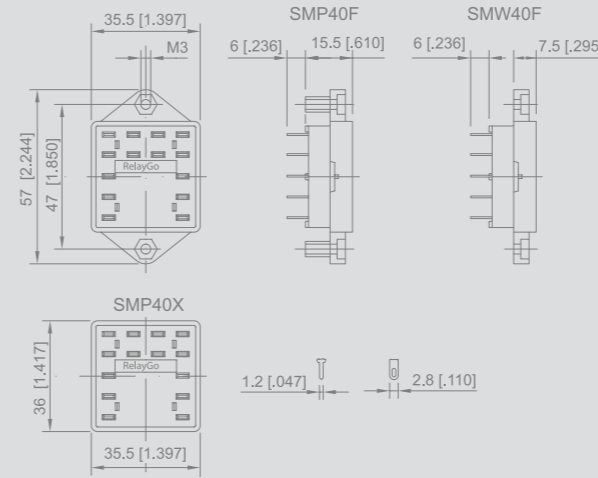
**SMP40X 4 POLES, PRINTED CIRCUIT**



**SMP40F 4 POLES, PRINTED CIRCUIT, MOUNTABLE WITH SCREW M3**



**Dimensions mm [in]**



**Socket for RM relays**

Socket for RM, 14 born plug-in relays RM4010, RM2015, RM3019

**Specifications**

Rated load ..... 10 A / 250 V  
 Insulation (terminal/terminal) ..... 2,5 kV





**Kühn Controls AG**

**Notes:**

You want more information about this product, please call us: tel: +49 (0)7082-940000 or send us a fax: +49 (0)7082-940001,  
or email: [sales@kuehn-controls.de](mailto:sales@kuehn-controls.de) or visit our Website: [www.kuehn-controls.de](http://www.kuehn-controls.de)