

Power Relay RM 2/3/7

- 2 / 3 pole 10 / 16 A, 2 CO or 3 CO contacts
- Switching capacity up to 6000 VA
- DC- or AC-coil
- Mechanical indicator
- Push-to-test button
- Plug-in version, PCB terminals, chassis- or DIN-rail mount



FO163-B

Applications

Elevator control, power supplies

Approvals

VDE REG.-Nr. 40003144, **RU** us E214025
Technical data of approved types on request

Contact data	RM2	RM3	RM7
Contact configuration	2 CO	3 CO	3 CO
Contact set	single contact		
Type of interruption	micro disconnection		
Rated voltage / max. switching voltage AC	400 / 440 VAC		
Rated current	16 A	10 A	16 A
Maximum breaking capacity AC	6000 VA	3800 VA	6000 VA
Limiting making capacity, max 20 ms	40 A	40 A	40 A
Contact material	AgCdO		
Rated frequency of operation with / without load	16/100 min ⁻¹		
Operate- / release time DC coil	max 15/10 ms		
Bounce time DC coil NO / NC contact	max 4 / 6 ms		

Contact ratings

Type	Contact	Load	Ambient temp. [°C]	Cycles
IEC 61810				
RM20	CO	16 A, 400 VAC, cosφ=1	35°C	100x10 ³
RM30	CO	10 A, 400 VAC, cosφ=1	35°C	100x10 ³
RM70	CO	16 A, 400 VAC, cosφ=1	35°C	100x10 ³
UL 508				
RM2	NO	16 A, 277 VAC, general purpose	50°C	30x10 ³
RM2	NO	16 A, 415 VAC, resistive	50°C	100x10 ³
RM20	NO	10 A, 48 VDC	50°C	30x10 ³
RM3	CO	10 A, 415 VAC, resistive	50°C	100x10 ³
RM30	NO / NC	10 A, 277 VAC, general purpose	50°C	30x10 ³
RM7	NO	16 A, 415 VAC, resistive	50°C	100x10 ³
RM7	NO / NC	16 A, 277 VAC, general purpose	50°C	30x10 ³

Coil data

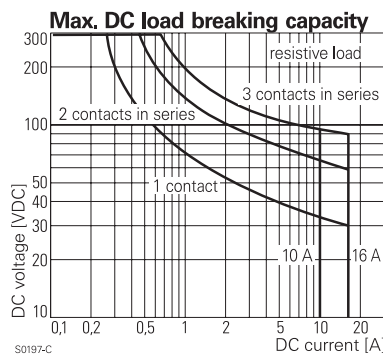
	RM2	RM3	RM7
Rated coil voltage range DC coil	6...220 VDC		
AC coil	6...400 VAC		
Operative range to IEC 61810	2		

Coil versions, DC-coil

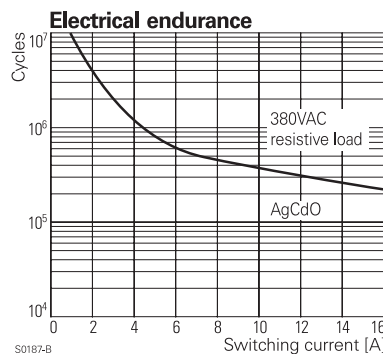
Coil code	STD	LED	PD*	LED+	PD*	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power W
Coil versions, DC-coil, RM2, RM3										
006	L06	0A6	LA6	6	4.5	0.6	32±10%	1.1		
012	L12	0B2	LB2	12	9.0	1.2	110±10%	1.3		
024	L24	0C4	LC4	24	18.0	2.4	475±10%	1.2		
048	L48	0E8	LE8	48	36.0	4.8	2000±10%	1.2		
060	L60	0G0	LG0	60	45.0	6.0	2850±10%	1.3		
110	M10	1B0	MB0	110	82.5	11.0	10000±12%	1.2		
221	N21	2C1	NC1	220	165.0	22.0	40000±15%	1.2		

Coil versions, DC-coil, RM2, RM3

006	L06	0A6	LA6	6	4.5	0.6	32±10%	1.1
012	L12	0B2	LB2	12	9.0	1.2	110±10%	1.3
024	L24	0C4	LC4	24	18.0	2.4	475±10%	1.2
048	L48	0E8	LE8	48	36.0	4.8	2000±10%	1.2
060	L60	0G0	LG0	60	45.0	6.0	2850±10%	1.3
110	M10	1B0	MB0	110	82.5	11.0	10000±12%	1.2
221	N21	2C1	NC1	220	165.0	22.0	40000±15%	1.2

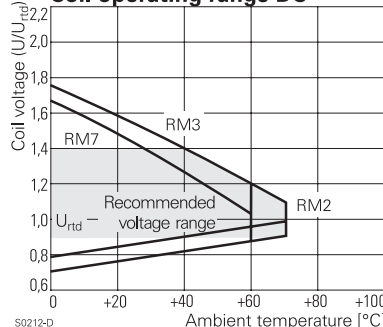


S0197-C



S0187-B

Coil operating range DC



S0212-D

Power Relay RM 2/3/7 (Continued)

Coil versions, DC-coil, RM7

Coil code	STD	LED	PD*	LED+	Rated voltage	Operate voltage	Release voltage	Coil resistance	Rated coil power
	bipolar		PD*		VDC	VDC	VDC	Ohm	W
006	L06	0A6	LA6		6	4.5	0.6	24 ± 10%	1.5
012	L12	0B2	LB2		12	9.0	1.2	86 ± 10%	1.7
024	L24	0C4	LC4		24	18.0	2.4	345 ± 10%	1.7
048	L48	0E8	LE8		48	36.0	4.8	1340 ± 10%	1.7
060	L60	0G0	LG0		60	45.0	6.0	2200 ± 10%	1.6
110	M10	1B0	MB0		110	82.5	11.0	7300 ± 10%	1.7
221	N21	2C1	NC1		220	165.0	22.0	30000 ± 15%	1.6

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

Coil versions, AC-coil 50 / 60 Hz

Coil code	STD	LED	Rated voltage	Operate voltage	Release voltage	Coil resistance	Rated coil power
			VAC	50 / 60 Hz	50 / 60 Hz	Ohm	50 / 60 Hz
				VAC	VAC		VA

Coil versions, AC-coil, RM2, RM3

506	R06		6	4.8 / 5.1	2.4	5.3 ± 10%	2.29/1.98
512	R12		12	9.6 / 10.2	4.8	24 ± 10%	2.19/1.86
524	R24		24	19.2 / 20.4	9.6	86 ± 10%	2.26/ 1.95
548	R48		48	38.4 / 40.8	19.2	345 ± 10%	2.28/1.97
560	R60		60	48.0 / 51.0	24.0	544 ± 10%	2.27/1.96
615	S15		115	92.0 / 97.8	46.0	2000 ± 10%	2.37/2.00
730	T30		230	184.0 / 195.5	92.0	8300 ± 12%	2.32/ 1.96
900	V00		400	320.0 / 340.0	160.0	27500 ± 15%	2.31/1.96

Coil versions, AC-coil, RM7

506	R06		6	4.8 / 5.1	2.4	4.7 ± 10%	2.86/2.36
512	R12		12	9.6 / 10.2	4.8	19.5 ± 10%	2.71/2.27
524	R24		24	19.2 / 20.4	9.6	80 ± 10%	2.62/2.00
548	R48		48	38.4 / 40.8	19.2	320 ± 10%	2.60/2.17
560	R60		60	48.0 / 51.0	24.0	500 ± 10%	2.62/2.20
615	S15		115	92.0 / 97.8	46.0	1850 ± 10%	2.65/2.22
730	T30		230	184.0 / 195.5	92.0	7500 ± 10%	2.69/ 2.26
900	V00		400	320.0 / 340.0	160.0	23500 ± 15%	2.61/2.20

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

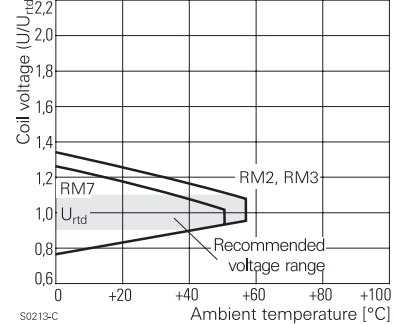
Insulation

Dielectric strength coil-contact circuit	2500 V _{rms}
open contact circuit	1500 V _{rms}
adjacent contact circuits	2500 V _{rms}
Clearance / creepage coil-contact circuit	≥ 4.0/14.9 mm
adjacent contact circuits	≥ 6.1/7.3 mm
Material group of insulation parts	IIIa
Insulation to IEC 61810-1	
Type of insulation coil-contact circuit	basic
open contact circuit	micro disconnection
adjacent contact circuits	basic
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230 / 400 V
Overvoltage category	III

Other data

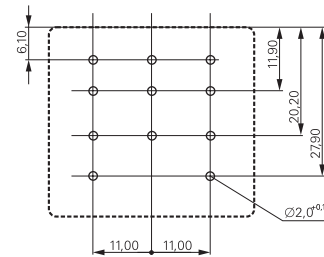
	RM2	RM3	RM7
Mechanical endurance	20x10 ⁶ cycles		
Material			
RoHS - Directive 2002/95/EC	compliant as per product date code 0415		
Environment			
Ambient temperature range DC coil	-45...+70°C	-45...+60°C	-45...+60°C
AC coil	-45...+55°C	-45...+55°C	-45...+50°C
Vibration resistance (function) NO/NC	5/2 g	5/2 g	12/4 g
Category of protection	RTI - dust protected		
Processing			
Resistance to soldering heat	270°C / 10 s		
Relay weight	81 g		
Packaging unit	10/25 pcs		

Coil operating range AC

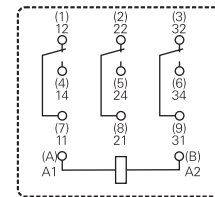


PCB layout / terminal assignment

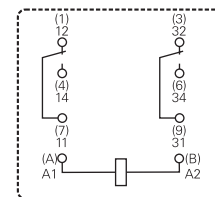
Bottom view on pins



3 CO contacts



2 CO contacts



Power Relay RM 2/3/7 (Continued)

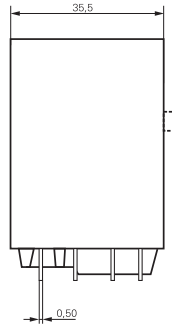
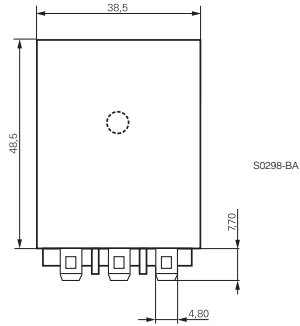
Accessories

For details see datasheet Accessories Power Relay RM

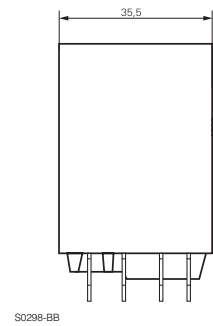
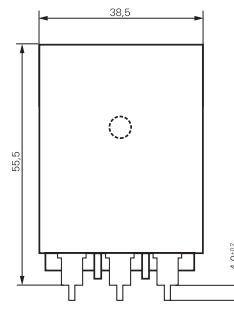
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1, table 12); for relays mounted on sockets deratings may apply.

Dimensions

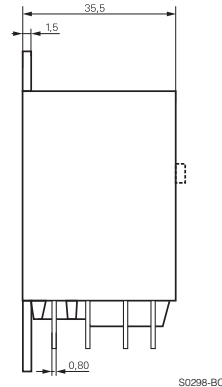
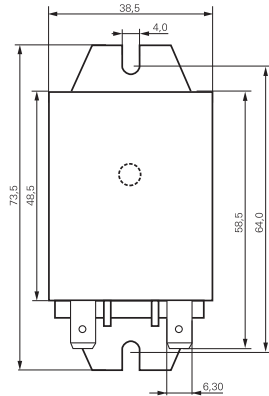
Plain cover, plug-in version



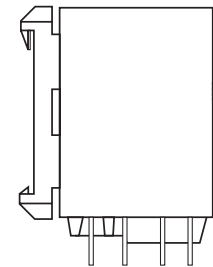
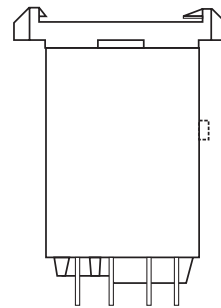
PCB version



Cover with mounting brackets, 6.3 mm quick connect (4.8 mm available)



Cover with DIN-snap-on attachment (6.3 mm quick connect only)
horizontal vertical



Product key

Typical product key

RM 7 0 2 730

Type

RM Power relay RM 2/3/7

Contact configuration

2 2 CO contacts (2 form C), 16 A **7** 3 CO contacts (3 form C), 16 A
3 3 CO contacts (3 form C), 10 A

Version

0 AgCdO, without test button **3** AgCdO, with test button

Enclosure

2 plain cover, 4.8 mm quick connect terminals
3 cover with mounting brackets, 4.8 mm quick connect terminals
5 cover with mounting brackets, 6.3 mm quick connect terminals
7 PCB version
8 cover with DIN-snap-on attachment, horizontal, 6.3 mm quick connect terminals
9 cover with DIN-snap-on attachment, vertical, 6.3 mm quick connect terminals

Coil

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

Power Relay RM 2/3/7 (Continued)

Product key	Contacts	Version	Enclosure	Coil	Coil	Part number
RM202024	2 CO contacts 16 A	without test button	plain cover	DC-coil	24 VDC	8-1393149-2
RM202524			quick c. 4.8 mm	AC-coil	24 VAC	1-1393146-9
RM202615					115 VAC	2-1393146-0
RM202730					230 VAC	1-1393148-4
RM203024			mounting brackets	DC-coil	24 VDC	1-1393148-6
RM203524			quick c. 4.8 mm	AC-coil	24 VAC	2-1393146-5
RM203615					115 VAC	2-1393146-6
RM203730					230 VAC	2-1393146-8
RM205024			mounting brackets	DC-coil	24 VDC	2-1393146-9
RM205524			quick c. 6.3 mm	AC-coil	24 VAC	3-1393146-0
RM205615					115 VAC	3-1393146-1
RM205730					230 VAC	3-1393146-2
RM207024			PCB version	DC-coil	24 VDC	3-1393146-3
RM207615				AC-coil	115 VAC	8-1393149-5
RM207730					230 VAC	3-1393146-4
RM208024			DIN-snap-on	DC-coil	24 VDC	3-1393146-5
RM208730			horizontal	AC-coil	230 VAC	8-1393149-6
RM209730			DIN vertical		230 VAC	3-1393146-6
RM232024	with test button		plain cover	DC-coil	24 VDC	3-1393146-8
RM232524			quick c. 4.8 mm	AC-coil	24 VAC	3-1393146-9
RM232615					115 VAC	4-1393146-0
RM232730					230 VAC	3-1393107-4
RM233024			mounting brackets	DC-coil	24 VDC	3-1393107-5
RM233615			quick c. 4.8 mm	AC-coil	115 VAC	4-1393146-2
RM235024			mounting brackets	DC-coil	24 VDC	8-1393149-8
RM235730			quick c. 6.3 mm	AC-coil	230 VAC	4-1393146-5
RM239730			DIN vertical		230 VAC	4-1393148-7
RM302024	3 CO contacts 10 A	without test button	plain cover	DC-coil	24 VDC	8-1393149-9
RM302524			quick c. 4.8 mm	AC-coil	24 VAC	5-1393146-3
RM302615					115 VAC	5-1393146-4
RM302730					230 VAC	5-1419150-3
RM303024			mounting brackets	DC-coil	24 VDC	6-1393148-4
RM303615			quick c. 4.8 mm	AC-coil	115 VAC	5-1393146-5
RM303730					230 VAC	5-1393146-7
RM307024			PCB version	DC-coil	24 VDC	7-1393148-2
RM307730				AC-coil	230 VAC	5-1393146-9
RM332024	with test button		plain cover	DC-coil	24 VDC	9-1393149-2
RM332524			quick c. 4.8 mm	AC-coil	24 VAC	9-1393149-3
RM332730					230 VAC	9-1393149-4
RM333024			mount. br. q.c.4.8	DC-coil	24 VDC	9-1393149-6
RM335730			mount. br. q.c.6.3	AC-coil	230 VAC	6-1393107-1
RM338730			DIN horizontal		230 VAC	7-1393148-7
RM339730			DIN vertical		230 VAC	6-1393107-2
RM702024	3 CO contacts 16 A	without test button	plain cover	DC-coil	24 VDC	8-1393146-5
RM702524			quick c. 4.8 mm	AC-coil	24 VAC	1393844-9
RM702615					115 VAC	1-1393844-0
RM702730					230 VAC	1-1393844-1
RM703024			mounting brackets	DC-coil	24 VDC	1-1393844-2
RM703524			quick c. 4.8 mm	AC-coil	24 VAC	9-1393146-1
RM703615					115 VAC	9-1393146-2
RM703730					230 VAC	9-1393146-4
RM705024			mounting brackets	DC-coil	24 VDC	9-1393146-6
RM705524			quick c. 6.3 mm	AC-coil	24 VAC	9-1393146-7
RM705615					115 VAC	1-1393844-4
RM705730					230 VAC	1-1393844-5
RM707024			PCB version	DC-coil	24 VDC	9-1393146-8
RM707524				AC-coil	24 VAC	1393147-1
RM707730					230 VAC	1393147-2
RM708024			DIN horizontal	DC-coil	24 VDC	1393147-4
RM708730			quick c. 6.3 mm	AC-coil	230 VAC	1-1419136-0
RM709024			DIN vertical	DC-coil	24 VDC	2-1393149-2
RM709730				AC-coil	230 VAC	1393147-5
RM732024	with test button		plain cover	DC-coil	24 VDC	1-1393844-7
RM732524			quick c. 4.8 mm	AC-coil	24 VAC	1-1393147-0
RM732615					115 VAC	1-1393147-1
RM732730					230 VAC	1-1393844-8
RM733730			mount.br. q.c. 4.8		230 VAC	1-1393147-5
RM735024			mounting brackets	DC-coil	24 VDC	3-1393149-6
RM735524			quick c. 6.3 mm	AC-coil	24 VAC	3-1393149-7
RM735730					230 VAC	4-1393149-1
RM737730			PCB version		230 VAC	2-1393147-0
RM738024			DIN-snap-on	DC-coil	24 VDC	2-1393844-0
RM738730			horizontal	AC-coil	230 VAC	2-1393147-2
RM739024			DIN-snap-on	DC-coil	24 VDC	4-1393149-5
RM739730			vertical	AC-coil	230 VAC	2-1393844-2