

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
- RoHS compliant (Directive 2002/95/EC) as per product date code 0415



FD163-A

Applications

Elevator control, power supplies

Approvals

VDE REG.-Nr. 40003144, c 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 current	16 A	10 A	16 A
Rated voltage / max. switching voltage AC	400/440 VAC		
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		
Mechanical endurance	20x10 ⁶ cycles		
Rated frequency of operation with / without load	16/100 min ⁻¹		

Contact ratings

Type	Load	Cycles
RM2	16 A, 415 VAC, UL	100x10 ³
RM20	16 A, 400 VAC, cosφ=1, 35°C, VDE	100x10 ³
RM2	16 A, 250 VAC, general purpose, UL	30x10 ³
RM20	10 A, 48 VDC, UL	30x10 ³
RM30	10 A, 400 VAC, cosφ=1, 35°C, VDE	100x10 ³
RM3	10 A, 300 VAC, resistive, UL	100x10 ³
RM3	10 A, 250 VAC, general purpose, UL	30x10 ³
RM7	5 A, 400 VAC, resistive, UL	100x10 ³
RM70	16 A, 400 VAC, cosφ=1, 35°C, VDE	100x10 ³
RM7	10 A, 300 VAC, resistive, UL	100x10 ³
RM7	10 A, 415 VAC, 10% duty cycle, NO, 70°C, DC-coil	100x10 ³

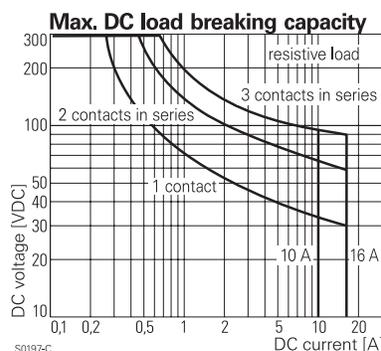
Coil data	RM2	RM3	RM7
Rated coil voltage range DC coil	6...220 VDC		
AC coil	6...400 VAC		
Coil power DC coil	1.2 W	1.2 W	1.6 W
AC coil	2.3 VA	2.3 VA	2.8 VA
Operative range	2		

Coil versions, DC-coil

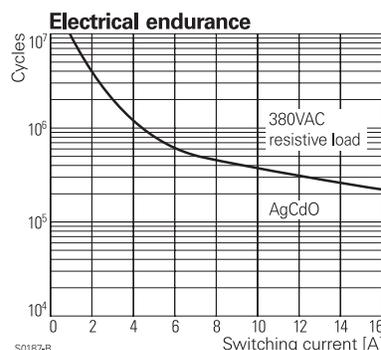
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power W
STD LED PD* bipolar	LED+ PD*				

Coil versions, DC-coil, RM2, RM3

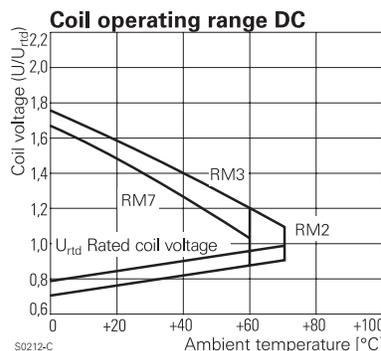
006 L06 0A6 LA6	6	4.5	0.6	32±10%	1.1
012 L12 0B2 LB2	12	9.0	1.2	110±10%	1.3
024 L24 0C4 LC4	24	18.0	2.4	475±10%	1.2
048 L48 0E8 LE8	48	36.0	4.8	2000±10%	1.2
060 L60 0G0 LG0	60	45.0	6.0	2850±10%	1.3
110 M10 1B0 MB0	110	82.5	11.0	10000±12%	1.2
221 N21 2C1 NC1	220	165.0	22.0	40000±15%	1.2



S0197-C



S0187-B



S0212-C

Power Relay RM 2/3/7 (Continued)

Coil versions, DC-coil, RM7

Coil code	STD	LED bipolar	PD* LED+ PD*	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power 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 VAC	Operate voltage 50/60Hz VAC	Release voltage 50/60Hz VAC	Coil resistance Ohm	Rated coil power 50/60Hz VA
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, 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

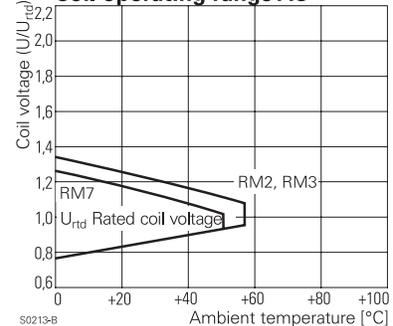
Insulation

Dielectric strength coil-contact circuit	open contact circuit	2500 V _{rms}
	adjacent contact circuits	1500 V _{rms}
	adjacent contact circuits	2500 V _{rms}
Clearance / creepage coil-contact circuit	adjacent contact circuits	≥ 4.0/14.9 mm
	adjacent contact circuits	≥ 6.1/7.3 mm
Material group of insulation parts		≥ IIIa
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	open contact circuit	basic
	adjacent contact circuits	functional
	adjacent contact circuits	basic
Rated insulation voltage		250 V
Pollution degree		3
Rated voltage system		240/400 V
Overvoltage category		III

Other data

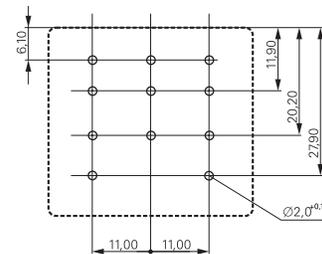
	RM2	RM3	RM7
RoHS - Directive 2002/95/EC	compliant as per product date code 0415		
Ambient temperature range DC coil	-45...+70°C	-45...+60°C	-45...+60°C
	AC coil	-45...+55°C	-45...+50°C
Operate- / release time	15/10 ms		
Bounce time NO / NC contact	3 ms		
Vibration resistance (function) NO / NC contact	5/2 g	5/2 g	12/4 g
Category of protection	RTI - dust protected		
Resistance to soldering heat	270°C / 10 s		
Relay weight	81 g		
Packaging unit	10/25 pcs		

Coil operating range AC

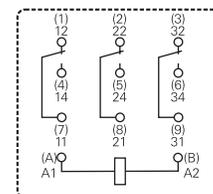


PCB layout / terminal assignment

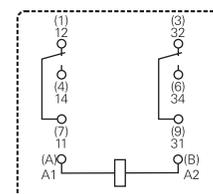
Bottom view on pins



3 CO contacts



2 CO contacts



Power Relay RM 2/3/7 (Continued)

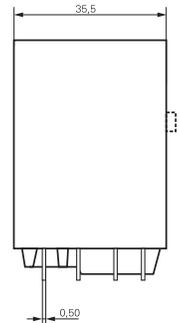
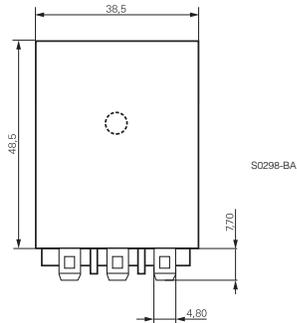
Accessories

For details see datasheet

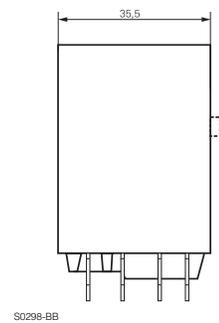
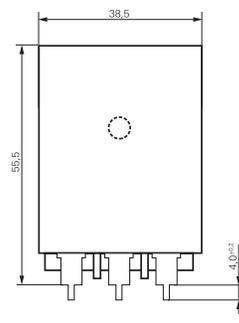
Accessories Power Relay RM

Dimensions

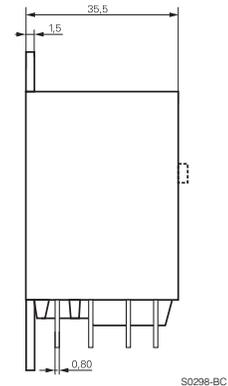
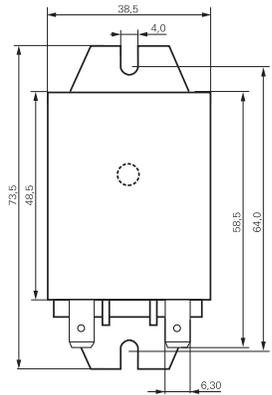
Plain cover, plug-in version



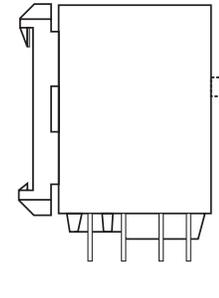
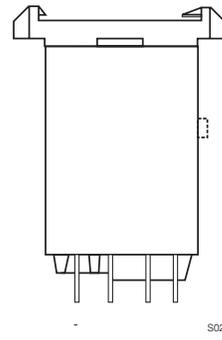
PCB version



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

Type	R	M					
Contact configuration	2 2 CO contacts, 16 A		7 3 CO contacts, 16 A				
	3 3 CO contacts, 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	plain cover	DC-coil	24 VDC	8-1393149-2
RM202524		test button	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
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
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	0-1393147-1
RM707730					230 VAC	0-1393147-2
RM708024			DIN horizontal	DC-coil	24 VDC	0-1393147-4
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	0-1393147-5
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