Power Relay RM 2/3/7

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

F0163-B

Typical applications
Elevator control, power supplies

Approvals

VDE Cert. No. 40003144, UL E214025
Technical data of approved types on request

Contact Data	RM2	RM3	RM7
Contact arrangement	2 form C 2 CO	3 form C 3 CO	3 form C 3 CO
Rated voltage		400VAC	
Max. switching voltage		440VAC	
Rated current	16A	10A	16A
Limiting making current, max. 20ms	40A	40A	40A
Switching power	6000VA	3800VA	6000VA
Contact material		AgNi90/10	
Min. recommended contact load		24VDC/100mA	
Frequency of operation, with/without load		960/6000h^{-1}	
Operate/release time typ., DC coil	15/10ms		
Bounce time max., DC coil, form A/form B		4/10ms	

Contact ratings

Type	Contact	Load	Cycles
IEC 61810			
RM22	C (CO)	16A, 400VAC, cosφ=1, DC-coil, 70°C	100x10^3
RM22	C (CO)	16A, 400VAC, cosφ=1, AC-coil, 60°C	50x10^3
RM3	C (CO)	10A, 400VAC, cosφ=1, 55°C	100x10^3
RM72	C (CO)	16A, 400VAC, cosφ=1, 50°C	50x10^3
UL 508			
RM2	A (NO)	16A, 277VAC, general purpose, 70°C	30x10^3
RM2	A (NO)	16A, 240VAC, 1HP, 70°C	6.050
RM2	A (NO)	16A, 415VAC, resistive, 70°C	100x10^3
RM3	C (CO)	10A, 415VAC, resistive, DC-coil, 70°C	100x10^3
RM3	C (CO)	10A, 415VAC, resistive, AC-coil, 55°C	100x10^3
RM3	A (NO)/B (NC)	10A, 277VAC, gen. purp., DC-coil, 70°C	30x10^3
RM3	A (NO)/B (NC)	10A, 277VAC, gen. purp., AC-coil, 55°C	30x10^3
RM7	A (NO)	16A, 415VAC, resistive, 50°C	100x10^3
RM7	A (NO)/B (NC)	16A, 277VAC, general purpose, 50°C	30x10^3
RM72	A (NO)	250VAC/1.5HP (3ph.) DC-coil, 70°C	10x10^3
RM72	A (NO)	28VDC/16A general purpose, 40°C	6x10^3
IEC 60947-5-1			
RM72	A (NO)	16A, AC-15 400VAC/5A, same pol., 25°C	6.050

Contact Data (continued)	RM2	RM3	RM7
Mechanical endurance			
DC coil		20x10^6 operations	
AC coil		10x10^6 operations	

Coil Data

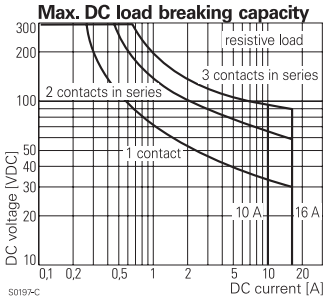
Coil voltage range	6 to 220VDC 12 to 400VAC
Operative range, IEC 61810	2
Coil insulation system according UL	class 130 (B)

Coil versions, DC coil

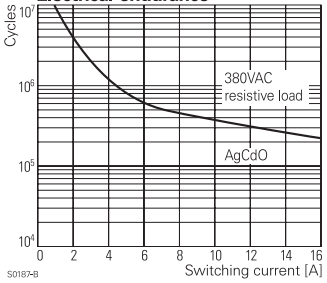
STD	LED bipolar	Coil code PD[3]	LED+ PD[3]	Rated voltage VDC	Coil resistance Ω±10%[1)2)]	Rated coil power W
Coil versions, DC coil, RM2, RM3						
006	L06	0A6	LA6	6	32	1.1
012	L12	0B2	LB2	12	110	1.3
024	L24	0C4	LC4	24	475	1.2
048	L48	0E8	LE8	48	2000	1.2
060	L60	0G0	LG0	60	2850	1.3
110	M10	1B0	MB0	110	10000[1)]	1.2
221	N21	2C1	NC1	220	40000[2)]	1.2
Coil versions, DC coil, RM7						
006	L06	0A6	LA6	6	24	1.5
012	L12	0B2	LB2	12	86	1.7
024	L24	0C4	LC4	24	345	1.7
030	-	0D0	-	30	490	1.8
048	L48	0E8	LE8	48	1340	1.7
060	L60	0G0	LG0	60	2200	1.6
110	M10	1B0	MB0	110	7300	1.7
221	N21	2C1	NC1	220	30000[2)]	1.6
Operate voltage, DC coil				75% of rated coil voltage		
Release voltage, DC coil				10% of rated coil voltage		

1) Coil resistance ±12%, 2) Coil resistance ±15%
3) Protection diode PD; standard polarity: +A1 / -A2
All figures are given for coil without pre-energization, at ambient temperature +23°C

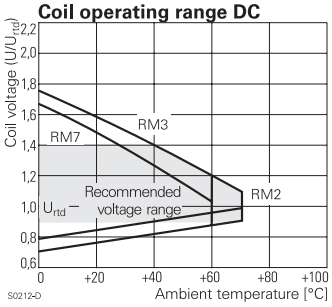
Max. DC load breaking capacity



Electrical endurance



Coil operating range DC



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Power Relay RM 2/3/7 (Continued)

Coil Data (continued)

Coil versions, AC coil

Coil code STD	Coil code LED	Rated voltage VAC	Operate voltage 50/60Hz VAC	Release voltage 50/60Hz VAC	Coil resistance Ω±10%[1)2)]	Rated coil power 50/60Hz VA
Coil versions, AC-coil, RM2, RM3						
512	R12	12	9.6/10.2	3.6	24	2.19/1.86
524	R24	24	19.2/20.4	7.2	86	2.26/ 1.95
548	R48	48	38.4/40.8	14.4	345	2.28/1.97
560	R60	60	48.0/51.0	18.0	544	2.27/1.96
615	S15	115	92.0/97.8	34.5	2000	2.37/2.00
730	T30	230	184.0/195.5	69.0	8300[1)]	2.32/ 1.96
900	V00	400	320.0/340.0	120.0	27500[2)]	2.31/1.96
Coil versions, AC-coil, RM7						
512	R12	12	9.6/10.2	3.6	19.5	2.71/2.27
524	R24	24	19.2/20.4	7.2	80	2.62/2.00
548	R48	48	38.4/40.8	14.4	320	2.60/2.17
560	R60	60	48.0/51.0	18.0	500	2.62/2.20
615	S15	115	92.0/97.8	34.5	1850	2.65/2.22
730	T30	230	184.0/195.5	69.0	7500	2.69/ 2.26
900	V00	400	320.0/340.0	120.0	23500[2)]	2.61/2.20

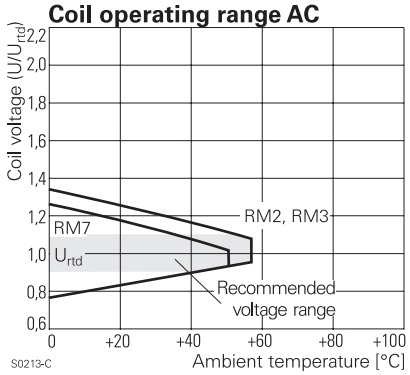
[1)] Coil resistance ±12%, [2)] Coil resistance ±15%

All figures are given for coil without pre-energization, at ambient temperature +23°C

Insulation Data

	RM2	RM3	RM7
Initial dielectric strength			
between open contacts	1500Vrms	1500Vrms	1500Vrms
between contact and coil	2500Vrms	2500Vrms	2500Vrms
between adjacent contacts	2500Vrms	2500Vrms	2500Vrms
Initial surge withstand voltage			
between contact and coil	5000V	4000V	4000V
Clearance/creepage			
between contact and coil		≥4.0/14.9mm	
between adjacent contacts		≥6.1/7.3mm	
Material group of insulation parts		IIIa	

Coil operating range AC



Other Data

	RM2	RM3	RM7
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter			
Ambient temperature			
for mounting/handling		-20 to 40°C	
in operation			
DC coil	-40 to 70°C	-40 to 70°C	-40 to 60°C
AC coil	-40 to 60°C	-40 to 55°C	-40 to 50°C
Cold storage, IEC 60068-2-1		16h/-40°C	
Dry heat, IEC 60068-2-2		16h/+85°C	
Damp heat cyclic, IEC 60068-2-30, Db, Variant 112/12h +25/+55°C			
Category of environmental protection			
IEC 61810		RTI - dust protected	
Vibration resistance (functional)			
form A (NO)/form B (NC)	5/2g	5/2g	12/4g
Terminal type		PCB-THT, plug-in, quick-connect	
Cover retention, pull/push force		100/100N	
Weight		81g	
Resistance to soldering heat THT			
IEC 60068-2-20		270°C/10s	
Packaging unit		10/25 pcs.	

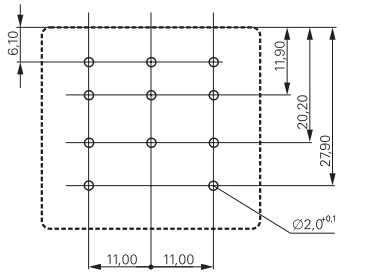
Accessories

For details see datasheet Accessories Power Relay RM

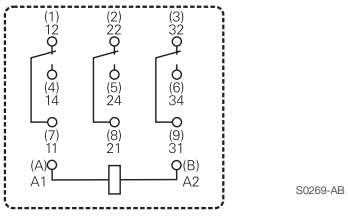
Note: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

PCB layout / terminal assignment

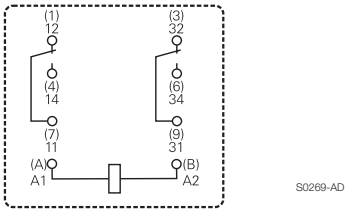
Bottom view on pins



3 form C (CO) contacts



2 form C (CO) contacts



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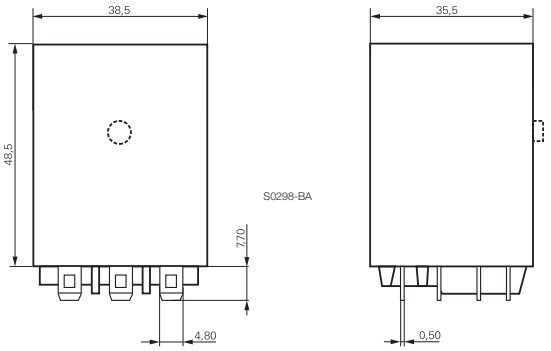
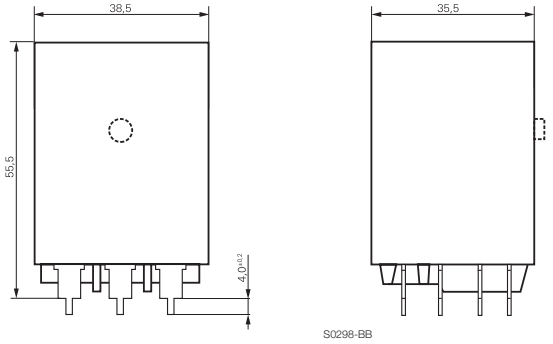
Dimensions

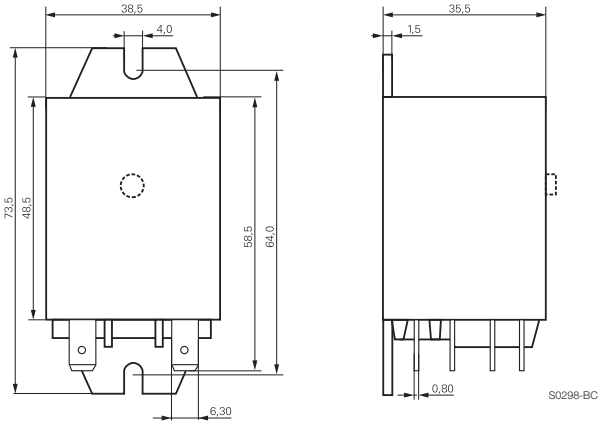
Plain cover, plug-in version



PCB version

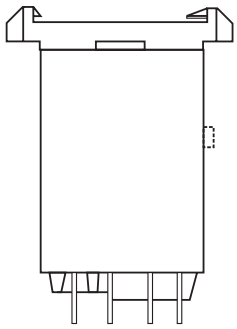


Cover with mounting brackets, 6.3mm quick connect (4.8mm available)

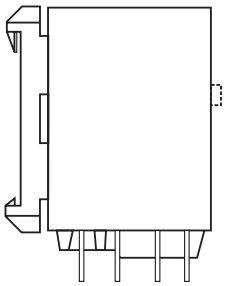


Cover with DIN-snap-on attachement (6.3mm quick connect only)

horizontal



vertical



Product code structure

Typical product code: **RM 7 2 2 730**

Type
- **RM** Power Relay RM 2/3/7

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

Version
- **0** Discontinued: AgCdO, without test button[1)]
- **2** AgNi 90/10, without test button
- **3** Discontinued: AgCdO, with test button[1)]
- **7** AgNi 90/10, with test button

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

Coil
- Coil code: please refer to coil versions table

1) AgCdO contacts are discontinued and replaced with AgNi contacts (see PCN E-18-003016)

Power Relay RM 2/3/7 (Continued)

Product code	Contacts	Cont. material	Version	Enclosure	Coil	Coil	Part number
RM222012	2 form C	AgNi	Without	Plain cover	DC-coil	12VDC	1-1415546-7
RM222024	2 CO contacts	AgNi	test button	4.8 mm terminal	DC-coil	24VDC	1-1415546-8
RM225012	16A	AgNi		Mounting brackets	DC-coil	12VDC	1415542-7
RM225024		AgNi		quick c. 6.3 mm	DC-coil	24VDC	1415542-8
RM225524		AgNi			AC-coil	24VAC	1-1415546-9
RM225615		AgNi			AC-coil	115VAC	2-1415546-0
RM225730		AgNi			AC-coil	230VAC	1415542-9
RM227024		AgNi		PCB version	DC-coil	24VDC	2-1415546-1
RM227730		AgNi			AC-coil	230VAC	2-1415546-2
RM322024	3 form C	AgNi		Plain cover	DC-coil	24VDC	2-1415546-3
RM327024	3 CO contacts	AgNi		4.8 mm terminal	DC-coil	24VDC	5-1415538-3
	10A	AgNi					
RM722012	3 form C	AgNi		Plain cover	DC-coil	12VDC	3-1415546-1
RM722024	3 CO contacts	AgNi		4.8 mm terminal	DC-coil	24VDC	3-1415546-2
RM7220C4	16A	AgNi			DC-coil (PD)	24VDC	4-1415547-1
RM723024		AgNi		Mounting brackets	DC-coil	24VDC	3-1415546-3
				quick c. 4.8 mm			
RM725024		AgNi		Mounting brackets	DC-coil	24VDC	3-1415546-4
RM725615		AgNi		quick c. 6.3 mm	AC-coil	115VAC	3-1415546-5
RM725730		AgNi			AC-coil	230VAC	3-1415546-6
RM727024		AgNi		PCB version	DC-coil	24VDC	3-1415546-7
RM727730		AgNi			AC-coil	230VAC	3-1415546-8
RM772012		AgNi	With	Plain cover	DC-coil	12VDC	3-1415546-9
RM772024		AgNi	test button	4.8 mm terminal	DC-coil	24VDC	5-1415544-7
RM772060		AgNi			DC-coil	60VDC	2-1415545-1
RM772524		AgNi			AC-coil	24VAC	1-1415547-8
RM772730		AgNi			AC-coil	230VAC	4-1415546-0
RM772900		AgNi			AC-coil	400VAC	4-1415546-1
RM775730		AgNi		Mounting brackets	AC-coil	230VAC	1-1415547-9
				quick c. 6.3 mm			
RM778024		AgNi		DIN-snap-on	DC-coil	24VDC	4-1415546-2
RM778730		AgNi		horizontal	AC-coil	230VAC	2-1415547-0
RM779730		AgNi		DIN-snap-on	AC-coil	230VAC	4-1415546-3
				vertical			

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