

Zelio™ Plug-In Relays

RUM universal range

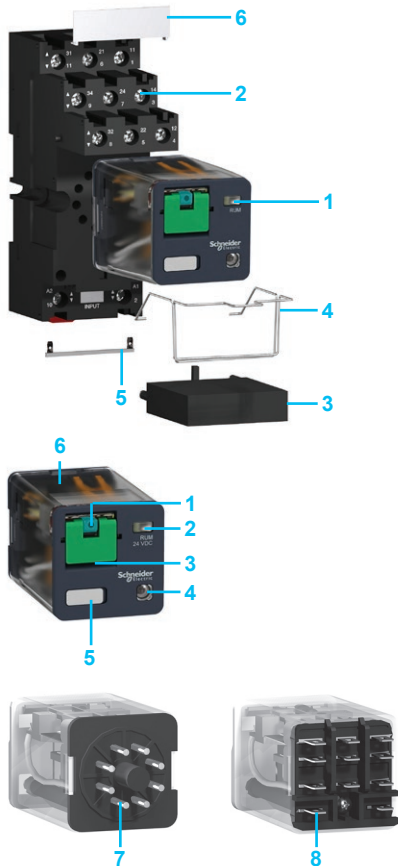
Catalog
2014



Schneider
Electric™



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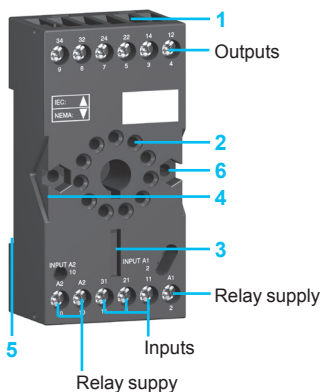
Introduction of product range

The RUM universal relay product range includes:

- 10 A relays with 2 and 3 C/O contacts, and cylindrical or quick-connect (Faston type) pins. All of these relays have the same dimensions.
- Sockets with mixed or separate contact terminals.
- Protection modules (diode, RC circuit or varistor) or 1 timer module, common to all RUM sockets.
- Metal maintaining clamp for all RUM sockets.
- 2-pole bus jumper that can be used on sockets with separate contact terminals in order to simplify cabling when creating an equipotential link between the coil terminals.
- Clip-in legends for the sockets.

Relay description

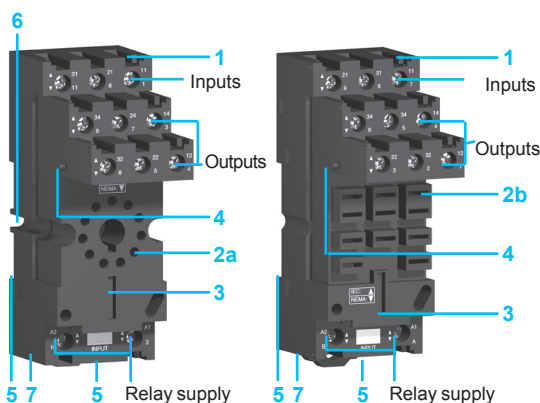
- Spring return pushbutton for testing the contacts (green: Vdc coil; red: Vac coil).
- Mechanical "relay status" indicator.
- Removable lock-down door enables continuous engagement of the contacts for test or maintenance purposes. (1).
- Optional bipolar LED indicating the relay status.
- Removable ID tag for relay identification.
- Finger grips for easy removal of the relay from a socket.
- Eight or eleven cylindrical pins (RUM2C and RUM3C versions).
- Eight or eleven quick-connect (Faston type) pins (RUM2F and RUM3F versions).



Socket description

Sockets with mixed contact terminals (2)

- Connection by screw connector.
- Eight or eleven female contacts for the relay cylindrical pins.
- Location for protection modules or timer module.
- Locking component for metal hold-down clip.
- Locating slot for mounting on DIN rail.
- Two fixing holes for panel mounting.



Sockets with separate contact terminals (3)

- Connection by screw connector.
- a Eight or eleven female contacts for the relay cylindrical pins.
b Eleven female contacts for the relay flat pins.
- Location for protection modules or timer module.
- Locking component for metal hold-down clip.
- Locating slot for mounting on DIN rail with fixing clip.
- Two fixing holes for panel mounting.
- Location for bus jumpers (see dimensions for mounting on sockets on page 10).

(1) During operation, this lock-down door must always be in the closed position.

(2) The inputs are mixed with the relay's coil terminals, with the outputs being located on the opposite side of the socket.

(3) The inputs and outputs are separated from the relay coil terminals.

General Specifications

Conforming to standards			IEC/EN 61810-1, UL 508, CSA C22-2 n° 14
Product certifications			cULus File E164862 CCN NLDX, NLDX7; cURus File E164862 CCN NLDX2, NLDX8; CSA; CE; GOST; RoHS compliant
Ambient air temperature around the device	Storage	°C (F)	- 40 to + 85 (-40 to +185)
	Operation	°C (F)	- 40 to + 55 (-40 to +131)
Vibration resistance conforming to IEC/EN 60068-2-6	In operation		3 gn (35 to 150 Hz) and ± 1 mm (10 to 35 Hz); 5 cycles
	Not operating		4 gn (35 to 150 Hz) and ± 1 mm (10 to 35 Hz); 5 cycles
Degree of protection	Conforming to IEC/EN 60529		IP 40 (housing only)
Shock resistance conforming to IEC/EN 60068-2-27	Opening		10 gn (11 ms)
	Closing		10 gn (11 ms)
Protection category			RT I
Mounting position			Any

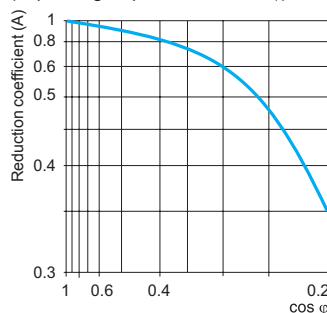
Insulation Specifications

Rated insulation voltage (Ui)	Conforming to IEC/EN 60947	V	250 (IEC), 300 (UL, CSA)
Rated impulse withstand voltage (Uimp)		kV	4 (1.2/50 μs)
Dielectric strength (rms voltage)	Between coil and contact	Vac	2500
	Between poles	Vac	2000
	Between contacts	Vac	1500

Contact Specifications

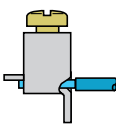
Relay type				RUMF2●●●	RUMF3●●●	RUMC2●●●	RUMC3A●●	
Number and type of contacts					2 C/O	3 C/O	2 C/O	3 C/O
Contact materials					AgNi			
Conventional thermal current (Ith)	For ambient temperature ≤ 55°C			A	10			
Rated operational current	Conforming to IEC in utilization categories AC-1 and DC-1	NO	A	10 at 250 Vac 10 at 28 Vdc				
		NC	A	5 at 250 Vac 5 at 28 vdc				
	Conforming to UL	Resistive	A	10 at 277 Vac (200k cycles) 10 at 30 Vdc (200k cycles)				
		Motor	HP	Motor: 1/3 at 120 Vac (6k cycles) Motor: 1 at 277 Vac (6k cycles)				
		Pilot Duty		B300 (6k cycles)				
Minimum switching requirement				mA	10 at 17 Vdc; MCTF ≥ 10 million			
Maximum switching voltage				V	250 V (IEC) / 300 V (UL, CSA)			
Switching capacity	Maximum	Vac	VA	2500 VA (IEC), 2770 VA (UL)				
		Vdc	W	280 W (IEC) / 300 W (UL)				
	Minimum	mW	170					
Maximum operating rate	No-load				18000			
In operating cycles/hour	Under load				1200			
Utilization coefficient					20%			
Mechanical durability	Cycles				5,000,000			
Electrical durability	Resistive load				100,000 (unless otherwise specified)			
Operating cycles	Inductive load				See curve below			

Electrical durability of contacts Resistive load Vac
Reduction coefficient for inductive load Vac
(depending on power factor cos φ)



RUMF●●●●, RUMC2●●●, RUMC3A●●●

Durability (inductive load) = durability (resistive load) x reduction coefficient.

Coil Specifications												
Average consumption			VA	3								
			W	1.4								
Drop-out voltage threshold				≥ 0.15 Uc (at minimum operating temperature)								
				≥ 0.1 Uc (at minimum operating temperature)								
Response time	Operate time		ms	20 max (at 100% coil voltage)								
	Release time		ms	20 max								
Control circuit voltage Uc			V	12	24	48	60	110	120	125	220	230
Relay control voltage codes				JD	BD	ED	ND	FD	–	GD	MD	–
d.c. supply	Average resistance at 20 °C ± 10%	Ω		120	470	1800	2790	7300	–	7300	37,000	–
	Operating voltage limits	Min.	V	9.6	19.2	38.4	48	88	–	100	176	–
		Max.	V	13.2	26.4	52.8	66	121	–	137.5	242	–
Relay control voltage codes				–	B7	E7	–	–	F7	–	–	P7
a.c. supply	Average resistance at 20 °C ± 15%	Ω		–	72	290	–	–	1700	–	–	6800
	Operating voltage limits	Min.	V	–	19.2	38.4	–	–	96	–	–	184
		Max.	V	–	26.4	52.8	–	–	132	–	–	253
Socket Specifications												
Socket type					RUZC2M	RUZC3M	RUZSC2M	RUZSC3M	RUZSF3M			
Relay types used					RUMC2●●●●●	RUMC3●●●●●	RUMC2●●●●●	RUMC3●●●●●	RUMF●●●●●			
Contact terminal arrangement					Mixed			Separate				
Wire connection method					Connector							
Product certifications					UL, CSA							
Conforming to standards					IEC 61984, CE							
Electrical Specifications												
Conventional thermal current (Ith)				A	10			12				
Maximum operating voltage				V	250 (IEC)							
Insulation Specifications												
Between adjacent output contacts				Vrms	2500							
Between input and output contacts				Vrms	2500							
Between contacts and DIN rail				Vrms	2500							
General Specifications												
Ambient air temperature around the device	Storage		°C (F)	- 40 to + 85 (-40 to +185)								
	Operation		°C (F)	- 40 to + 55 (-40 to +131)								
Degree of protection		Conforming to IEC/EN 60529			IP 20							
Cabling	Solid cable without cable end	1 conductor		0.5 to 2.5 mm² - AWG 20 to AWG 14								
		2 conductors		0.5 to 1.5 mm² - AWG 20 to AWG 16								
	Flexible cable with cable end	1 conductor		0.25 to 2.5 mm² - AWG 22 to AWG 14								
		2 conductors		0.25 to 1 mm² - AWG 22 to AWG 17								
Maximum tightening torque / Screw size				Nm	1 / M3.3 screw							
Mounting					On 35 mm DIN rail / on panel							
Fixing on DIN rail					By red plastic clip							
Terminal referencing					IEC, NEMA							
Bus jumper (Ith: 5 A)					No			Yes				
Compatibility with the metal maintaining clamp					Yes							
Timer module					Yes							
Protection module					All RUW24●●●							
Clip-in legends					No			Yes				
Wire connection method	Screw connector											



RUMC21BD



RUMC21F7



RUMC32BD



RUMF32F7



RUMF33P7

References					
Pins	Control circuit voltage	Number and type of contacts - Thermal current (Ith)			
		2 C/O - 10 A		3 C/O - 10 A	
		Unit reference	Weight	Unit reference	Weight
kg/lbkg/lb					
Universal relays with lockable test button only (sold in lots of 10)					
Cylindrical	12 Vdc	RUMC21JD	0.086/0.190	RUMC31JD	0.086/0.190
	24 Vdc	RUMC21BD	0.086/0.190	RUMC31BD	0.086/0.190
	48 Vdc	RUMC21ED	0.086/0.190	RUMC31ED	0.086/0.190
	60 Vdc	—	—	RUMC31ND	0.086/0.190
	110 Vdc	RUMC21FD	0.086/0.190	RUMC31FD	0.086/0.190
	125 Vdc	—	—	RUMC31GD	0.086/0.190
	220 Vdc	—	—	RUMC31MD	0.086/0.190
	24 Vac	RUMC21B7	0.086/0.190	RUMC31B7	0.086/0.190
	48 Vac	RUMC21E7	0.086/0.190	RUMC31E7	0.086/0.190
	120 Vac	RUMC21F7	0.086/0.190	RUMC31F7	0.086/0.190
	230 Vac	RUMC21P7	0.086/0.190	RUMC31P7	0.086/0.190
Flat (Faston type)	12 Vdc	RUMF21JD	0.086/0.190	RUMF31JD	0.086/0.190
	24 Vdc	RUMF21BD	0.086/0.190	RUMF31BD	0.086/0.190
	48 Vdc	RUMF21ED	0.086/0.190	RUMF31ED	0.086/0.190
	110 Vdc	RUMF21FD	0.086/0.190	RUMF31FD	0.086/0.190
	24 Vac	RUMF21B7	0.086/0.190	RUMF31B7	0.086/0.190
	48 Vac	RUMF21E7	0.086/0.190	RUMF31E7	0.086/0.190
	120 Vac	RUMF21F7	0.086/0.190	RUMF31F7	0.086/0.190
	230 Vac	RUMF21P7	0.086/0.190	RUMF31P7	0.086/0.190
Universal relays with lockable test button and LED (sold in lots of 10)					
Cylindrical	12 Vdc	RUMC22JD	0.086/0.190	RUMC32JD	0.086/0.190
	24 Vdc	RUMC22BD	0.086/0.190	RUMC32BD	0.086/0.190
	48 Vdc	RUMC22ED	0.086/0.190	RUMC32ED	0.086/0.190
	60 Vdc	—	—	RUMC32ND	0.086/0.190
	110 Vdc	RUMC22FD	0.086/0.190	RUMC32FD	0.086/0.190
	125 Vdc	—	—	RUMC32GD	0.086/0.190
	24 Vac	RUMC22B7	0.086/0.190	RUMC32B7	0.086/0.190
	48 Vac	RUMC22E7	0.086/0.190	RUMC32E7	0.086/0.190
	120 Vac	RUMC22F7	0.086/0.190	RUMC32F7	0.086/0.190
	230 Vac	RUMC22P7	0.086/0.190	RUMC32P7	0.086/0.190
	Flat (Faston type)	12 Vdc	RUMF22JD	0.086/0.190	RUMF32JD
24 Vdc		RUMF22BD	0.086/0.190	RUMF32BD	0.086/0.190
48 Vdc		RUMF22ED	0.086/0.190	RUMF32ED	0.086/0.190
110 Vdc		RUMF22FD	0.086/0.190	RUMF32FD	0.086/0.190
24 Vac		RUMF22B7	0.086/0.190	RUMF32B7	0.086/0.190
48 Vac		RUMF22E7	0.086/0.190	RUMF32E7	0.086/0.190
120 Vac		RUMF22F7	0.086/0.190	RUMF32F7	0.086/0.190
230 Vac		RUMF22P7	0.086/0.190	RUMF32P7	0.086/0.190
Universal relays with LED only (sold in lots of 10)					
Cylindrical pins	12 Vdc	RUMC23JD	0.086/0.190	RUMC33JD	0.086/0.190
	24 Vdc	RUMC23BD	0.086/0.190	RUMC33BD	0.086/0.190
	48 Vdc	RUMC23ED	0.086/0.190	RUMC33ED	0.086/0.190
	60 Vdc	—	—	RUMC33ND	0.086/0.190
	110 Vdc	RUMC23FD	0.086/0.190	RUMC33FD	0.086/0.190
	125 Vdc	—	—	RUMC33GD	0.086/0.190
	24 Vac	RUMC23B7	0.086/0.190	RUMC33B7	0.086/0.190
	48 Vac	RUMC23E7	0.086/0.190	RUMC33E7	0.086/0.190
	120 Vac	RUMC23F7	0.086/0.190	RUMC33F7	0.086/0.190
	230 Vac	RUMC23P7	0.086/0.190	RUMC33P7	0.086/0.190
	Quick-connect pins	12 Vdc	RUMF23JD	0.086/0.190	RUMF33JD
24 Vdc		RUMF23BD	0.086/0.190	RUMF33BD	0.086/0.190
48 Vdc		RUMF23ED	0.086/0.190	RUMF33ED	0.086/0.190
110 Vdc		RUMF23FD	0.086/0.190	RUMF33FD	0.086/0.190
24 Vac		RUMF23B7	0.086/0.190	RUMF33B7	0.086/0.190
48 Vac		RUMF23E7	0.086/0.190	RUMF33E7	0.086/0.190
120 Vac		RUMF23F7	0.086/0.190	RUMF33F7	0.086/0.190
230 Vac		RUMF23P7	0.086/0.190	RUMF33P7	0.086/0.190



RUZSC3M+
Relay RUMC3...



RUW241P7



RUW101MW



RUZC200



RUZS2

References (continued)

Sockets

Contact terminal arrangement	Connection	Relay type	Sold in lots of	Unit reference	Weight kg/lb
Mixed	Screw connector	RUMC2...	10	RUZC2M	0.054/0.119
		RUMC3...	10	RUZC3M	0.054/0.119
Separate	Screw connector	RUMC2...	10	RUZSC2M	0.095/0.209
		RUMC3...	10	RUZSC3M	0.100/0.220
		RUMF2...	10	RUZSF3M	0.095/0.209
		RUMF3...			

Protection modules

Description	For use with	Voltage	Sold in lots of	Unit reference	Weight kg/lb
Diode	All RUM sockets	6 to 250 Vdc	10	RUW240BD	0.004/0.009
RC circuit	All RUM sockets	110 to 240 Vac	10	RUW241P7	0.004/0.009
Varistor	All RUM sockets	24 Vac/Vdc	10	RUW242B7	0.004/0.009
		240 Vac/Vdc	10	RUW242P7	0.004/0.009

Timer module

Description	For use with	Voltage	Reference	Weight kg/lb
Multifunction	All RUM sockets	24 to 240 Vac/Vdc	RUW101MW	0.020/0.044

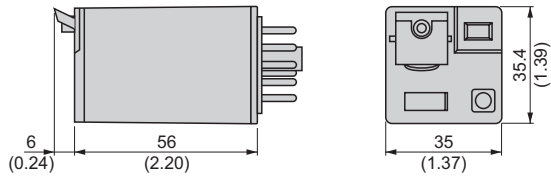
Accessories

Description	For use with	Sold in lots of	Unit reference	Weight kg/lb
Metal maintaining clamp	All RUM sockets	10	RUZC200	0.001/0.002
Bus jumper 2-pole (Ith : 5 A)	All RUM sockets with separate contacts	10	RUZS2	0.005/0.011
Clip-in ID tags	All relays (sheet of 108 legends)	10	RXZL520	0.080/0.190
	All RUM sockets with separate contacts	10	RUZL420	0.001/0.002

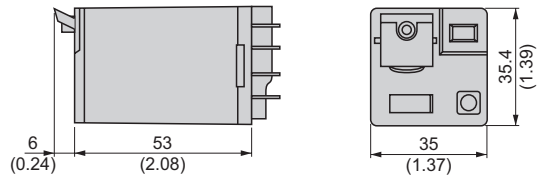
Dimensions: mm (in.)

Universal relays

RUMC●●



RUMF●●

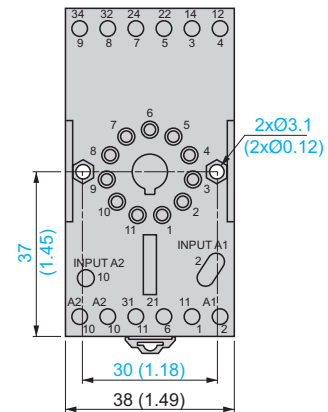
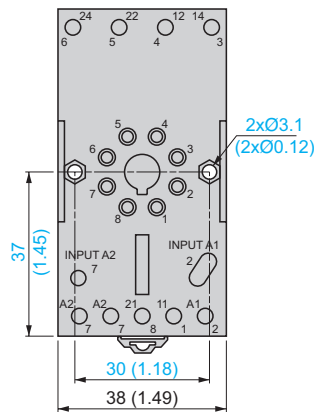
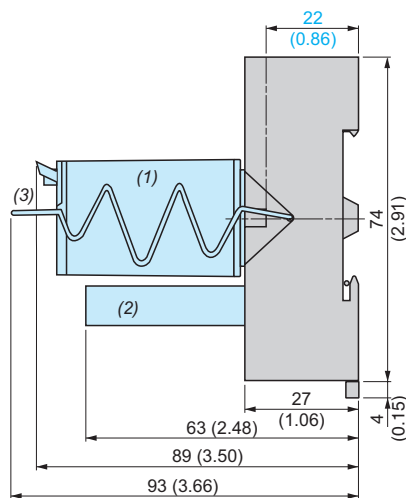


Sockets

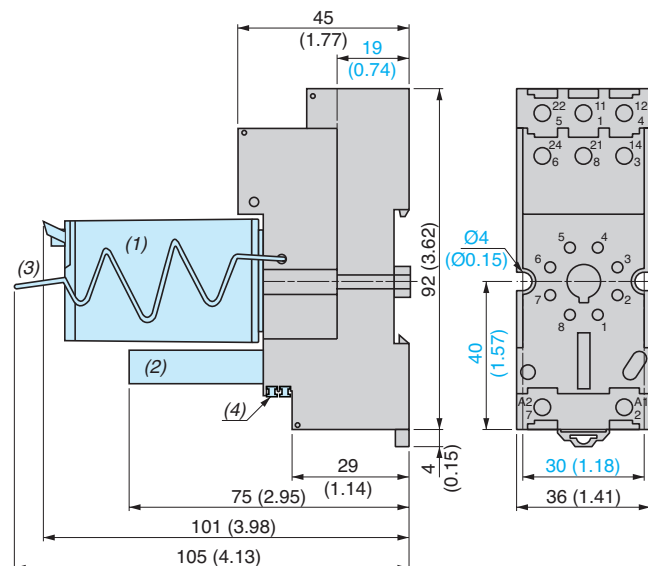
Common side view

RUZC2M

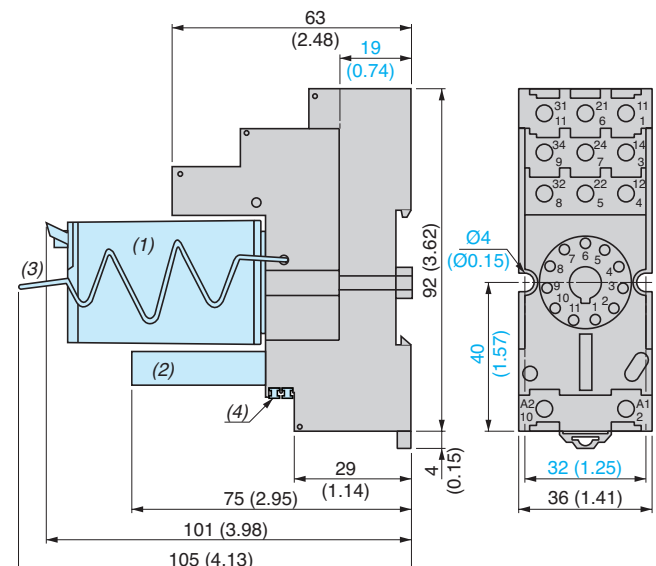
RUZC3M



RUZSC2M



RUZSC3M

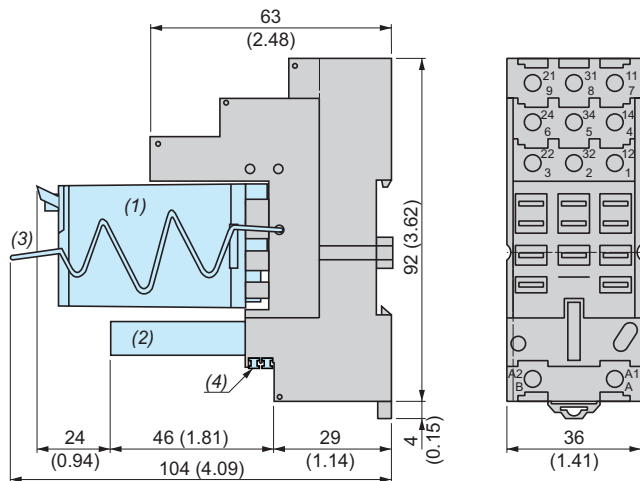


- (1) Relays
- (2) Protection or timer module
- (3) Maintaining clamp
- (4) 2 bus jumpers

Dimensions: mm (in.) (continued)

Sockets (continued)

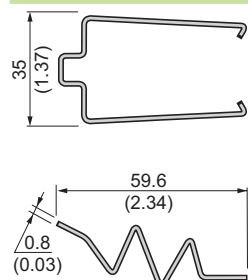
RUZSF3M



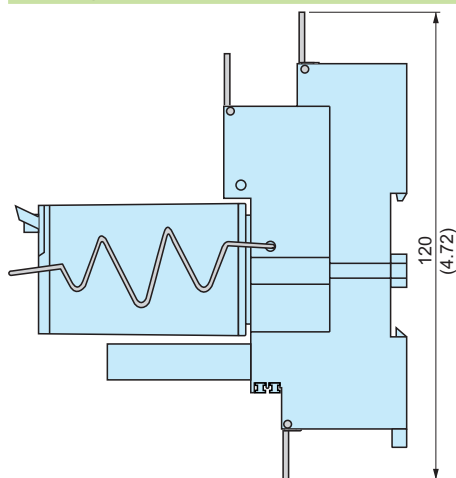
- (1) Relays
- (2) Protection or module
- (3) Maintaining clamp
- (4) 2 bus jumpers

Metal maintaining clamps and plastic legends

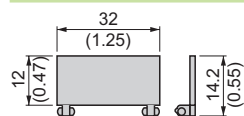
RUZC200



Mounting

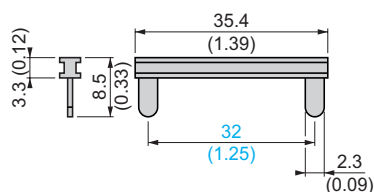


RUZL420



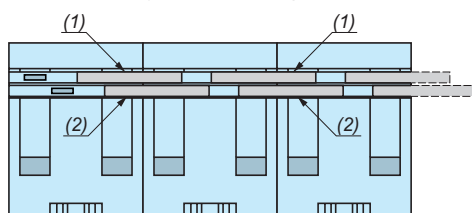
Bus jumper

RUZS2



Mounting on sockets with separate contacts (view from below)

Example of bus jumper mounting on sockets

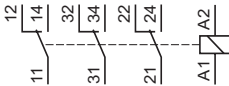
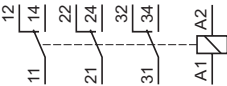
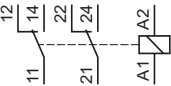


- (1) 2 bus jumpers (polarity A2)
- (2) 2 bus jumpers (polarity A1)

Wiring diagrams

Universal relays

RUM•2••• RUMC3••••• RUMF3•••

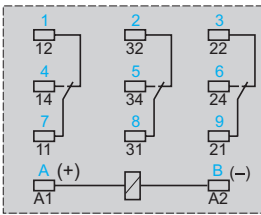
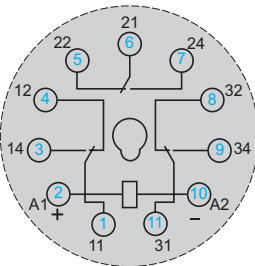
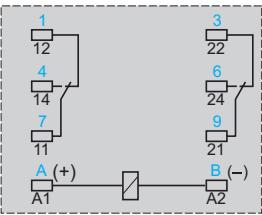
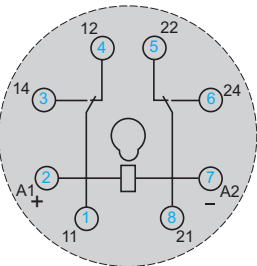


RUMC2•••

RUMF2•••

RUMC3•••••

RUMF3•••

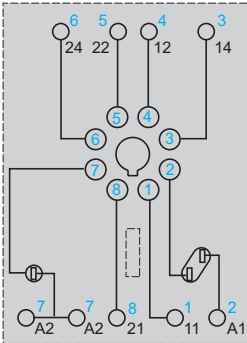


Symbols shown in blue correspond to NEMA marking.

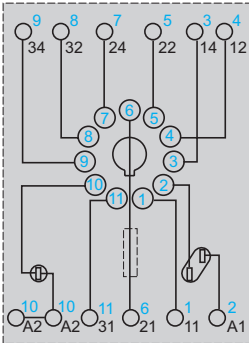
Wiring diagrams (continued)

Sockets

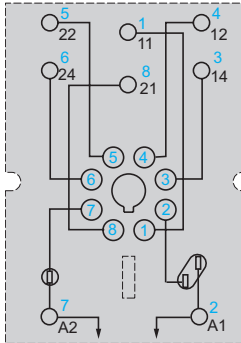
RUZ C2M



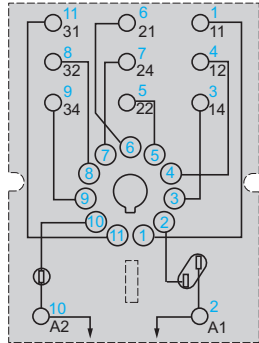
RUZ C3M



RUZ SC2M

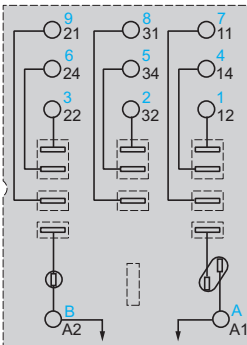


RUZ SC3M



Symbols shown in blue correspond to NEMA marking.

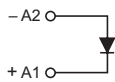
RUZ SF3M



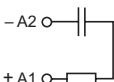
Symbols shown in blue correspond to NEMA marking.

Protection modules

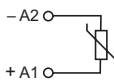
RUW 240BD



RUW 241P7



RUW 242●●

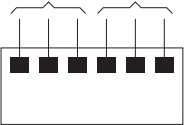


Multifunction timer module RUW 101MW

Programming

Timing range selection

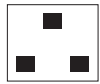
Function selection
Timing range selection



0.1 to 1 s



0.1 to 10 s



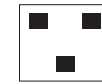
0.1 to 1 min



1 to 10 min



0.1 to 1 h



1 to 10 h



0.1 to 1 day



1 to 10 days

Function selection

Selection

Function

Control

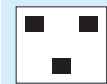
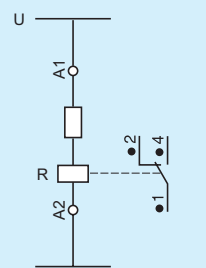
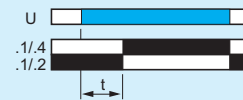
Function diagram

Control scheme



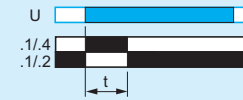
On-delay Timer
E

Series control



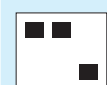
Monostable with maintained control
Wu

Series control



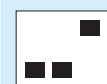
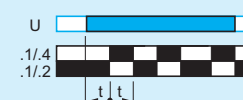
Flashing relay, starting On-delay phase
Bi

Series control



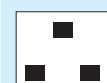
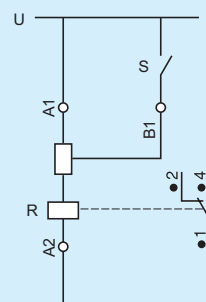
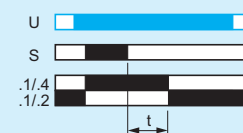
Flashing relay, starting Off-delay phase
Bp

Series control



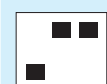
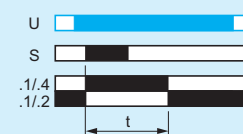
Off-delay timer
R

Control by external contact (S)



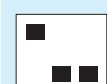
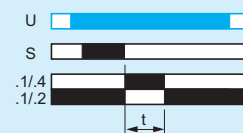
Monostable with pulse control
Ws

Control by external contact (S)



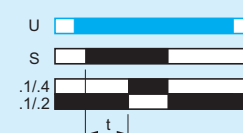
Monostable, starting on de-energization
Wa

Control by external contact (S)



On-delay Timer
Es

Control by external contact (S)



Power off

Contact open

U : voltage

S : external control

Power on

Contact closed

R : relay RUM ●●●

t : adjustable time delay



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