Industrial Motors

Commercial & Appliance Motors

Automation

Digital & Systems

Energy

Transmission & Distribution

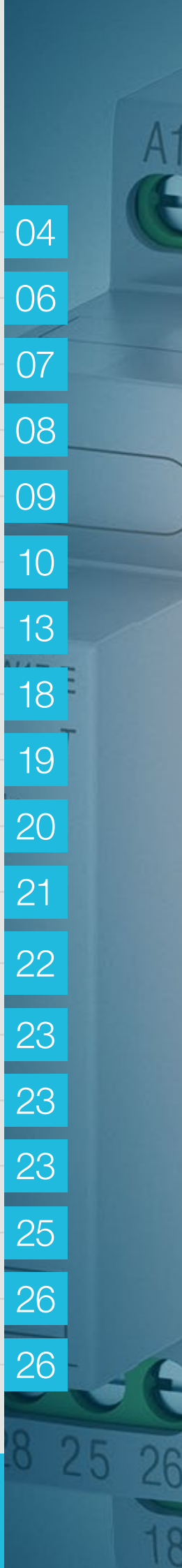
Coatings

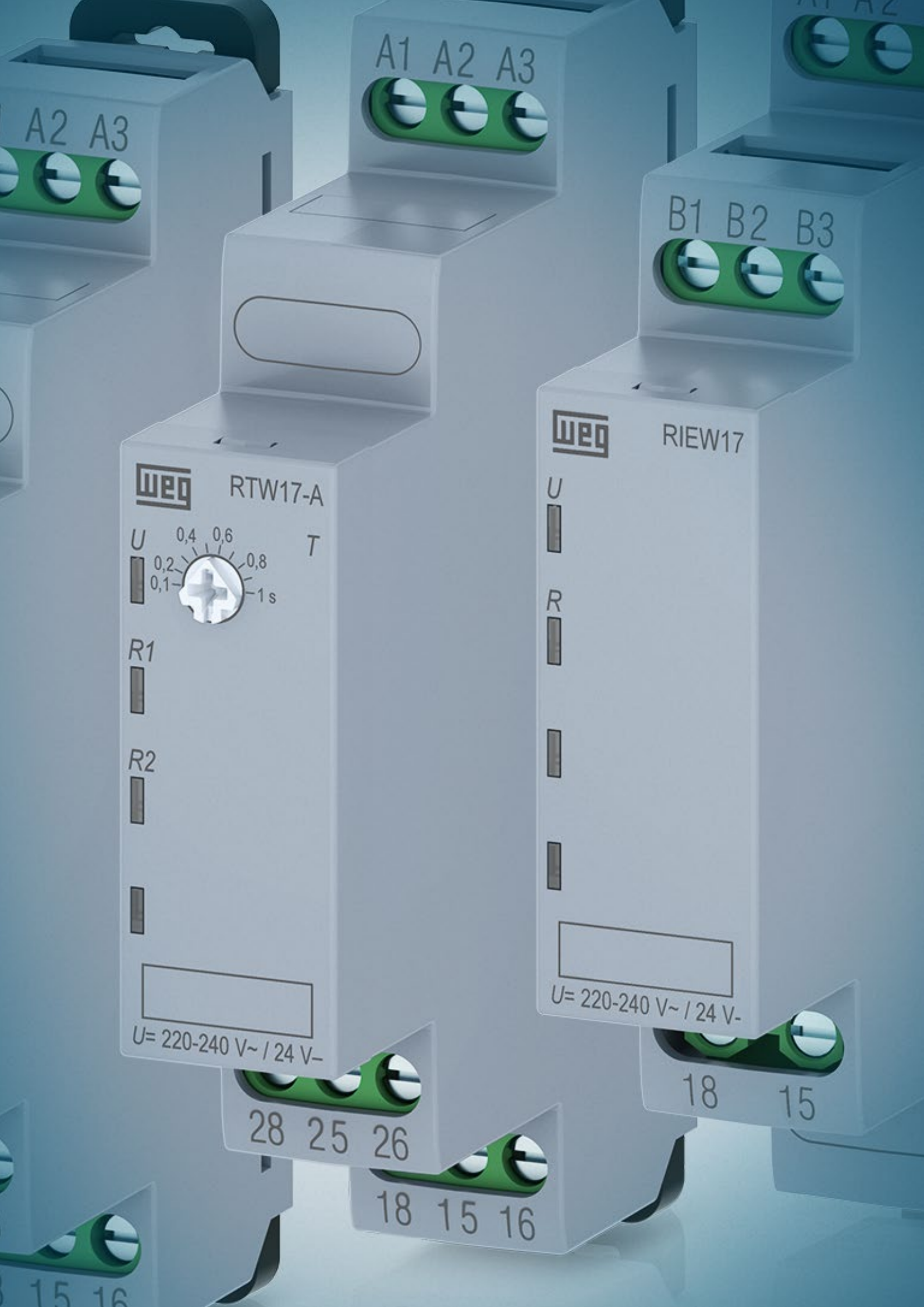
Electronic Relays Modular Line

Compact and **precise** solution for electrical controls

Driving efficiency and sustainability

SUMMARY




A2 A3
A1 A2 A3
B1 B2 B3
RTW17-A
U
T
0,4
0,6
0,2
0,8
0,1
1 s
R1
R2
U= 220-240 V~ / 24 V–
RIEW17
U
R
U= 220-240 V~ / 24 V-
28 25 26
18 15 16
18 15
15 16

COMPACT AND PRECISE SOLUTION FOR ELECTRICAL CONTROLS

The 17.5 mm wide Electronic Relays of the Modular Line were designed according to international standards, being a compact, effective and safe solution for industrial, commercial and residential applications.

The line offers many timing options for applications of motor control and starting, industrial and commercial automation, as well as specific functions for lighting system control and voltage monitoring. Its reduced size also allows the installation in distribution boards, electrical panels or motor starters, simplifying even more its application.

Benefits

COMPACT

Compact size, 17.5 mm wide

MODULAR

Suitable for installation in distribution boards, industrial panels and motor starters

EASY INSTALLATION

- Direct mounting on DIN rail 35 mm or fixed with screws
- Application in industrial or residential environments

ENERGY SAVINGS

Modern electronic control ensures very low energy consumption

INTERNATIONAL CERTIFICATIONS

Designed according to the following standards:

- IEC / EN 60947-1
- IEC / EN 60947-5-1
- IEC / EN 61812
- UL 508 CAN / CSA C22.2

Applications

Industries in general

Panel installers

Residential and commercial buildings

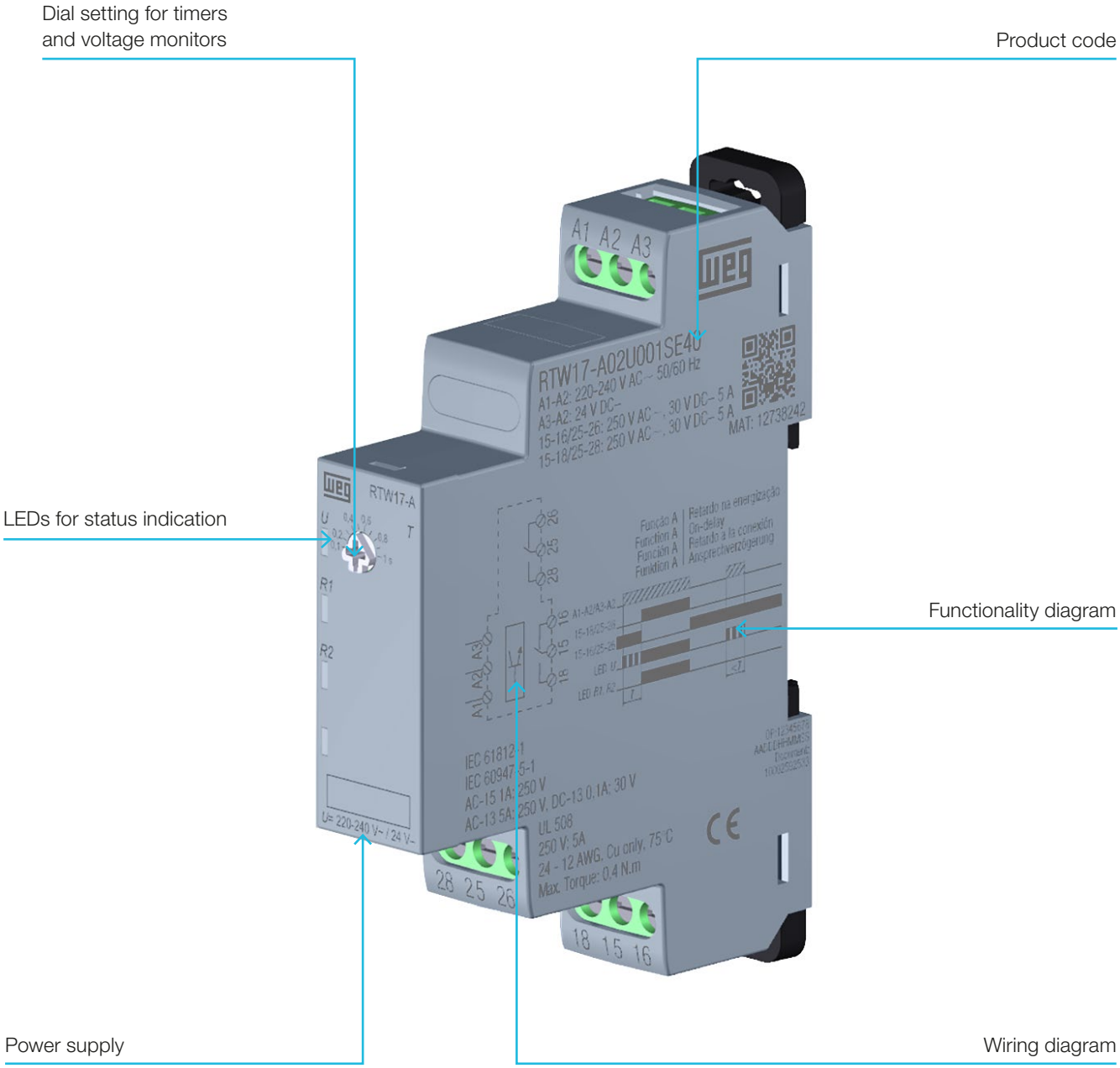
Hospital installations

Agribusiness

Shopping malls

Food equipment

Construction characteristics



TIMING RELAYS

RTW17

Electronic devices that allow switching an output signal according to the timing function and selected time. They are available in 17.5 mm wide boxes and can be mounted on DIN rails 35 mm or fixed by screws, available with one or two NOC outputs.
They can be used in different types of industrial applications, such as electric motor starters, control panels, industrial furnaces, die casting machines, among others. They can also be used in residential and commercial applications.

Timing functions

- RTW17-A - ON-delay
- RTW17-E - Impulse ON
- RTW17-Ba - OFF-delay with external command
- RTW17-RDI - OFF-delay without external command
- RTW17-Da - Symmetrical flasher, starts with pulse ON
- RTW17-Db - Symmetrical flasher, starts with pulse OFF
- RTW17-Dc - Asymmetrical flasher, starts with pulse ON
- RTW17-Dd - Asymmetrical flasher, starts with pulse OFF
- RTW17-G - Star-delta

Coding

RTW17	A	01	U030S	E05
Single and multiple timing relay				

Function
A - ON-delay[3]
E - Impulse ON[3]
Ba - OFF-delay with external command
RTW17-RDI - OFF-delay without external command
Da - Symmetrical flasher, starts with pulse ON
Db - Asymmetrical flasher, starts with pulse OFF
Dc - Asymmetrical flasher, starts with pulse ON
Db - Asymmetrical flasher, starts with pulse OFF
G - Star-delta[3]

Number of contacts
01 - 1 contact NOC
02 - 2 contacts NOC

Timing
U001S - 0.1 to 1 second
U003S - 0.3 to 3 seconds
U010S - 1 to 10 seconds
U030S - 3 to 30 seconds
U060S - 6 to 60 seconds
U100S - 10 to 1,000 seconds
U300S - 30 to 300 seconds
U010M - 1 to 10 minutes
U030M - 3 to 30 minutes
U060M - 6 to 60 minutes
MAT - 0.1s to 10 days[1)2)]

Power supply
E05 - 24-240 VAC / VDC
D90 - 208-480 VAC[3)]

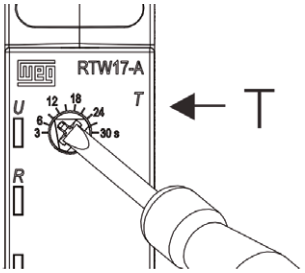
Notes: 1) MAT multiple timing models available only for RTW17-A, E, G, Ba, Da, Db models.
2) Multiple timing models only at voltage E05 - 24-240 VAC / VDC.
3) D90 - 208-480 VAC only for functions RTW17-A, E and G.

Time range adjustment

Single timing

Example: RTW17-A

	RTW17-A / E / Ba / RDI / Da / Db / Dc / Dd		RTW17 - G	
Red LED	Output on		Time Y	
Green LED	Power supply		Time Δ	

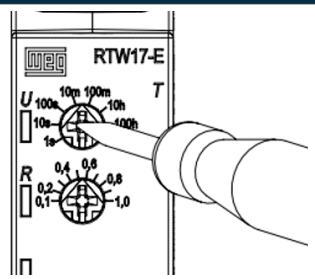
RTW17	A / E / Ba / Da / Db / Dc / Dd[1)]	G
	0.1 - 1s[1)]	3 - 30s
	0.3 - 3s	
	1 - 10s	
	3 - 30s	
	6 - 60s	
	10 - 100s	
	30 - 300s	
	1 - 10min	
	3 - 30min[1)]	
	6 - 60min[1)]	

Note: 1) Time adjustment ranges not available for RDI models.

Multiple timing

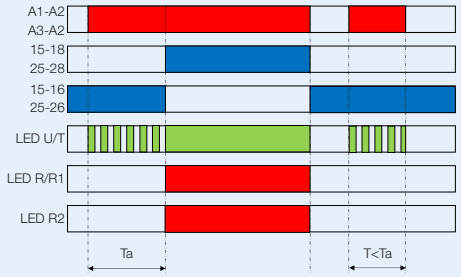
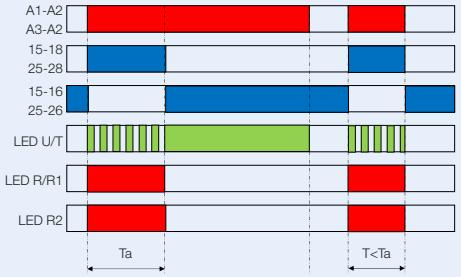
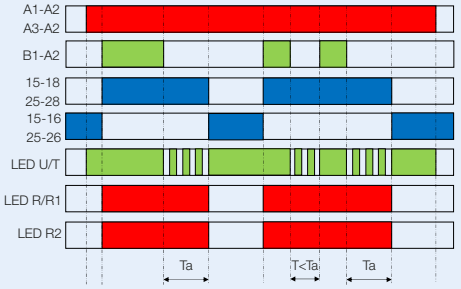
Example: RTW17-E

	RTW17- A / E / Ba / Da / Db MAT		RTW17-G MAT	
Red LED	Output on		Time Y	
Green LED	Power supply		Time Δ	

RTW17	A / E / Ba / Da / Db	G
	0.1s - 10 days	0.1s - 10 days

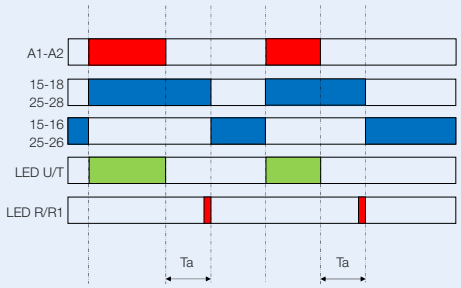
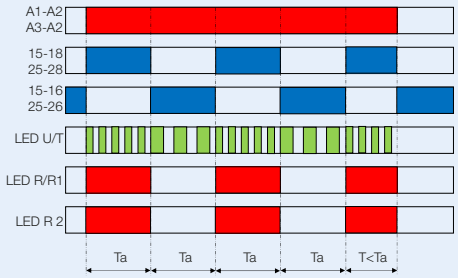
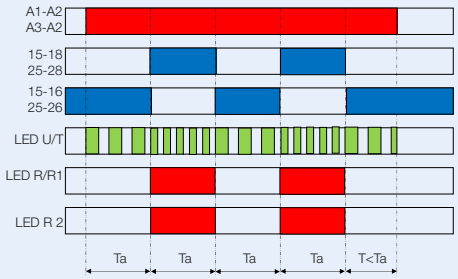
Functions

Single timing models (RTW17) or multiple timing (RTW17-MAT)

Operating mode	Timing diagram
RTW17-A (ON-delay) After the relay is energized, the time (T) set on the selector starts counting. After such time has elapsed, the output contacts will switch, remaining in that state until the power supply is interrupted.	
RTW17-E (impulse ON) After the relay is energized, the output contacts are instantly switched and remain activated for the time (T) set on the selector.	
RTW17-Ba (OFF-delay with external command) With the relay energized, from the energization of the command terminal, the output contacts switch instantly. When the command is removed, the output contacts return to the original condition after the time (T), set on the selector switch, has elapsed.	

Functions

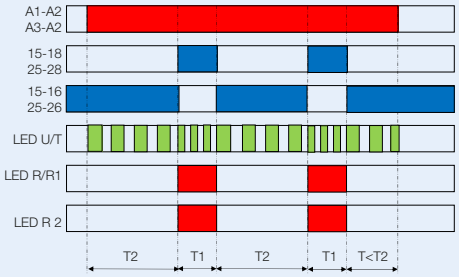
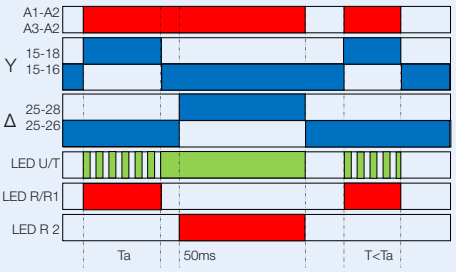
Single timing models (RTW17) or multiple timing (RTW17-MAT)

Operating mode	Timing diagram
RTW17-RDI (OFF-delay without external command)[1)] After the relay is energized, the output contacts are switched instantly. When the power suplly is disconnected, the time set on the selector starts counting down and, after this time, the contacts return to their initial position.	
RTW17-Da (symmetrical flasher, starts with pulse ON) After the relay is energized, the output contacts are activated; after the time set in the selector switch has elapsed, the contacts are deactivated; such behavior will continue cyclically. A single selection determines the relay time ON and time OFF.	
RTW17-Db (symmetrical flasher, starts with pulse OFF) After the relay is energized, the output contacts remain deactivated; after the time set in the selector switch has elapsed, the contacts are activated; such behavior will continue cyclically. A single selection determines the relay time ON and time OFF.	

Note: 1) RDI function not available in RTW_MAT models (multple timing).

Functions

Single timing models (RTW17) or multiple timing (RTW17-MAT)

Operating mode	Timing diagram
RTW17-Dc (asymmetrical flasher, starts with pulse ON) After the relay is energized, the output contacts are activated and deactivated cyclically with the first cycle ON. The upper selector switch determines the time (T1) the contacts remain activated, while the lower selector switch determines the time (T2) the contacts remain deactivated.	
RTW17-Dd (asymmetrical flasher, starts with pulse ON) After the relay is energized, the output contacts are activated and deactivated cyclically with the first cycle OFF. The upper selector switch determines the time (T1) the contacts remain activated, while the lower selector switch (T2) determines the time the contacts remain deactivated.	
RTW17-G (Star-delta) After the relay is energized, the star output contacts instantly switch and remain activated for the time (T) set on the selector switch. After 50ms, the delta terminals are activated and remain in that state until the power supply is interrupted.	

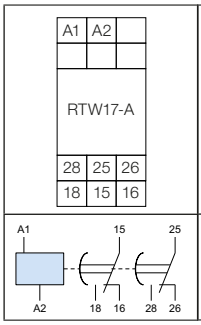
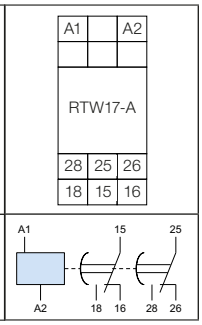
Selection

Single timing relays

RTW17-A - ON-delay

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-A	0.1-1s	RTW17-A01U001S•	RTW17-A02U001S•
	0.3-3s	RTW17-A01U003S•	RTW17-A02U003S•
	1-10s	RTW17-A01U010S•	RTW17-A02U010S•
	3-30s	RTW17-A01U030S•	RTW17-A02U030S•
	6-60s	RTW17-A01U060S•	RTW17-A02U060S•
	10-100s	RTW17-A01U100S•	RTW17-A02U100S•
	30-300s	RTW17-A01U300S•	RTW17-A02U300S•
	1-10min	RTW17-A01U010M•	RTW17-A02U010M•
	3-30min	RTW17-A01U030M•	RTW17-A02U030M•
	6-60min	RTW17-A01U060M•	RTW17-A02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC
D90	208-480 VAC

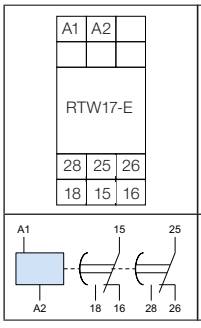
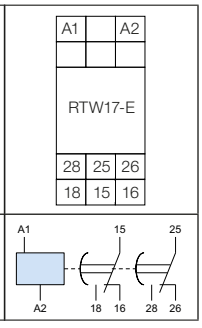
E05	D90
	

Note: 25/26/28 terminals on 2 contacts models only.

RTW17-E - Impulse ON

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-E	0.1-1s	RTW17-E01U001S•	RTW17-E02U001S•
	0.3-3s	RTW17-E01U003S•	RTW17-E02U003S•
	1-10s	RTW17-E01U010S•	RTW17-E02U010S•
	3-30s	RTW17-E01U030S•	RTW17-E02U030S•
	6-60s	RTW17-E01U060S•	RTW17-E02U060S•
	10-100s	RTW17-E01U100S•	RTW17-E02U100S•
	30-300s	RTW17-E01U300S•	RTW17-E02U300S•
	1-10min	RTW17-E01U010M•	RTW17-E02U010M•
	3-30min	RTW17-E01U030M•	RTW17-E02U030M•
	6-60min	RTW17-E01U060M•	RTW17-E02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC
D90	208-480 VAC

E05	D90
	

Note: 25/26/28 terminals on 2 contacts models only.

Selection

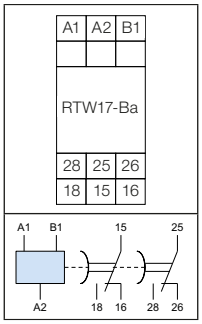
Single timing relays

RTW17-Ba - OFF-delay with external command

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-Ba	0.1-1s	RTW17-BA01U001S•	RTW17-BA02U001S•
	0.3-3s	RTW17-BA01U003S•	RTW17-BA02U003S•
	1-10s	RTW17-BA01U010S•	RTW17-BA02U010S•
	3-30s	RTW17-BA01U030S•	RTW17-BA02U030S•
	6-60s	RTW17-BA01U060S•	RTW17-BA02U060S•
	10-100s	RTW17-BA01U100S•	RTW17-BA02U100S•
	30-300s	RTW17-BA01U300S•	RTW17-BA02U300S•
	1-10min	RTW17-BA01U010M•	RTW17-BA02U010M•
	3-30min	RTW17-BA01U030M•	RTW17-BA02U030M•
	6-60min	RTW17-BA01U060M•	RTW17-BA02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

E05



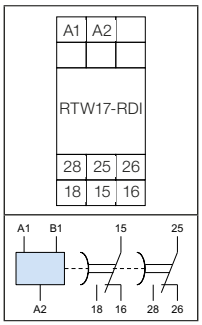
Note: 25/26/28 terminals on 2 contacts models only.

RTW17-RDI - OFF-delay without external command

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-RDI	0.3-3s	RTW17-RDI01-U003S•	RTW17-RDI02-U003S•
	1-10s	RTW17-RDI01-U010S•	RTW17-RDI02-U010S•
	3-30s	RTW17-RDI01-U030S•	RTW17-RDI02-U030S•
	6-60s	RTW17-RDI01-U060S•	RTW17-RDI02-U060S•
	10-100s	RTW17-RDI01-U100S•	RTW17-RDI02-U100S•
	30-300s	RTW17-RDI01-U300S•	RTW17-RDI02-U300S•
	1-10min	RTW17-RDI01-U010M•	RTW17-RDI02-U010M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

E05



Note: 25/26/28 terminals on 2 contacts models only.

Selection

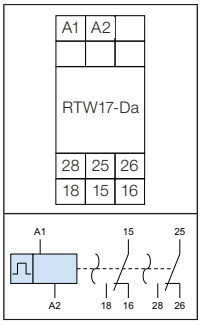
Single timing relays

RTW17-Da - Symmetrical flasher, starts with pulse ON

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-Da	0.1-1s	RTW17-DA01U001S•	RTW17-DA02U001S•
	0.3-3s	RTW17-DA01U003S•	RTW17-DA02U003S•
	1-10s	RTW17-DA01U010S•	RTW17-DA02U010S•
	3-30s	RTW17-DA01U030S•	RTW17-DA02U030S•
	6-60s	RTW17-DA01U060S•	RTW17-DA02U060S•
	10-100s	RTW17-DA01U100S•	RTW17-DA02U100S•
	30-300s	RTW17-DA01U300S•	RTW17-DA02U300S•
	1-10min	RTW17-DA01U010M•	RTW17-DA02U010M•
	3-30min	RTW17-DA01U030M•	RTW17-DA02U030M•
	6-60min	RTW17-DA01U060M•	RTW17-DA02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

E05



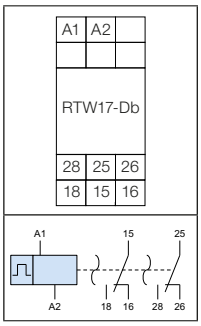
Note: 25/26/28 terminals on 2 contacts models only.

RTW17-Db - Symmetrical flasher, starts with pulse OFF

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-Db	0.1-1s	RTW17-DB01U001S•	RTW17-DB02U001S•
	0.3-3s	RTW17-DB01U003S•	RTW17-DB02U003S•
	1-10s	RTW17-DB01U010S•	RTW17-DB02U010S•
	3-30s	RTW17-DB01U030S•	RTW17-DB02U030S•
	6-60s	RTW17-DB01U060S•	RTW17-DB02U060S•
	10-100s	RTW17-DB01U100S•	RTW17-DB02U100S•
	30-300s	RTW17-DB01U300S•	RTW17-DB02U300S•
	1-10min	RTW17-DB01U010M•	RTW17-DB02U010M•
	3-30min	RTW17-DB01U030M•	RTW17-DB02U030M•
	6-60min	RTW17-DB01U060M•	RTW17-DB02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

E05



Note: 25/26/28 terminals on 2 contacts models only.

Selection

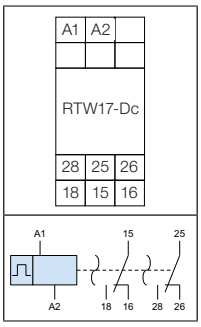
Single timing relays

RTW17-Dc - Asymmetrical flasher, starts with pulse ON

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-Dc	0.1-1s	RTW17-DC01U001S•	RTW17-DC02U001S•
	0.3-3s	RTW17-DC01U003S•	RTW17-DC02U003S•
	1-10s	RTW17-DC01U010S•	RTW17-DC02U010S•
	3-30s	RTW17-DC01U030S•	RTW17-DC02U030S•
	6-60s	RTW17-DC01U060S•	RTW17-DC02U060S•
	10-100s	RTW17-DC01U100S•	RTW17-DC02U100S•
	30-300s	RTW17-DC01U300S•	RTW17-DC02U300S•
	1-10min	RTW17-DC01U010M•	RTW17-DC02U010M•
	3-30min	RTW17-DC01U030M•	RTW17-DC02U030M•
	6-60min	RTW17-DC01U060M•	RTW17-DC02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

E05



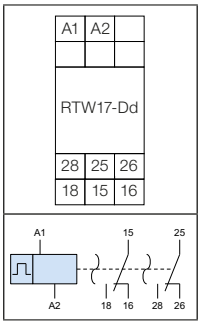
Note: 25/26/28 terminals on 2 contacts models only.

RTW17-Dd - Asymmetrical flasher, starts with pulse OFF

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-Dd	0.1-1s	RTW17-DD01U001S•	RTW17-DD02U001S•
	0.3-3s	RTW17-DD01U003S•	RTW17-DD02U003S•
	1-10s	RTW17-DD01U010S•	RTW17-DD02U010S•
	3-30s	RTW17-DD01U030S•	RTW17-DD02U030S•
	6-60s	RTW17-DD01U060S•	RTW17-DD02U060S•
	10-100s	RTW17-DD01U100S•	RTW17-DD02U100S•
	30-300s	RTW17-DD01U300S•	RTW17-DD02U300S•
	1-10min	RTW17-DD01U010M•	RTW17-DD02U010M•
	3-30min	RTW17-DD01U030M•	RTW17-DD02U030M•
	6-60min	RTW17-DD01U060M•	RTW17-DD02U060M•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

E05



Note: 25/26/28 terminals on 2 contacts models only.

Selection

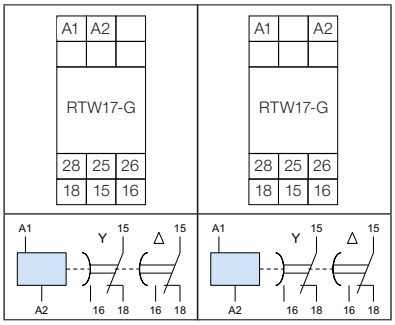
Single timing relays

RTW17-G - star-delta

Models	Time adjust	Reference
		2 contacts
RTW17-G	3-30s	RTW17-G02U030S•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC
D90	208-480 VAC

E05	D90



Multiple timing relays (wide adjustment range)

RTW17-_MAT - Multiple timing relays

Models	Time adjust	Reference	
		1 contact	2 contacts
RTW17-_MAT Time adjust from 0.1 second up to 10 days	ON-delay (A)	RTW17-A01MAT•	RTW17-A02MAT•
	Impulse ON (E)	RTW17-E01MAT•	RTW17-E02MAT•
	OFF-delay (Ba)	RTW17-BA01MAT•	RTW17-BA02MAT•
	Symmetrical flasher, starts with pulse ON (Da)	RTW17-DA01MAT•	RTW17-DA02MAT•
	Symmetrical flasher, starts with pulse OFF (Db)	RTW17-DB01MAT•	RTW17-DB02MAT•
	Star-delta (G)	-	RTW17-G02MAT•

• Power input	
Code	A1-A2 terminals
E05	24-240 VAC / VDC

Technical data

Product voltage code			E05	D90
Power input	Input level (U_e)[1]	A1-A2 terminals	24-240 VAC (50/60 Hz) or 24-240 VDC	208-480 VAC (50/60 Hz)
	Operational range		0.85...1.10 x U_e	
	Power consumption - control circuit		1 W	
	Insulation voltage (U_i)		300 V	600 V
	Impulse voltage (U_{imp})		4 kV	6 kV
	Minimum discharge current		2 kA	

Main data				
Time adjust	Reset time		100ms	
	Minimum command pulse time		50ms (general) / 1.5s (RDI models)	
	Scale accuracy (end of scale)		±5%	
	Repeatability accuracy		±2%	
	Delay transition Y - Δ (star-delta)		50ms ±20%	
Output relay	Output contact capacity (I_e)		Resistive loads at 250 VAC: 5 A AC-15 at 230 VAC: 1 A	Resistive loads at 30 VDC: 3 A DC-13 at 24 VDC: 1 A DC-13 at 48 VDC: 0.45 A DC-13 at 60 VDC: 0.35 A DC-13 at 125 VDC: 0.2 A DC-13 at 250 VDC: 0.1 A
	Thermal current (I_{th})		5 A (AC)	
	Fuse (clase gL/gG)		4 A	
	Mechanical lifespam		30 x 10^6 cycles	
General features	Environment temperature		Storage: -40 °C... +85 °C	Operation: -5 °C... +60 °C
	Protection degree		IP20	
	Cable crossection (min... max)	Solid wire[1]	1 x (0.5... 2.5 mm²) / 2 x (0.5... 1 mm²)	
		Flexible conductor with ferrule	1 x (0.5... 1.5 mm²) / 2 x (0.5... 0.75 mm²)	
		AWG Solid wire[1]	2 x (28... 18 AWG)	
	Terminal tightening torque		0.4 N.m / 3.5 Lb.in	
	Mounting position		Any position (no restrictions)	
	Impact resistance		15 g / 11ms	
	Vibration resistance		10 a 55 Hz / 0.35 mm	
	Weight		1 contact models: 0.08 kg	1 contact models: 0.095 kg
	Degree of pollution		2	
	Overvoltage category		III	
	Certifications		CE/UKCA/UL	

Note: 1) If there is more than one solid wire in the same terminal, they must have the same diameter.

VOLTAGE MONITORING RELAYS
RMW17

RMW17 are electronic devices developed to monitor the electrical power supply and protect equipment. By means of their auxiliary contact, voltage monitor relays keep the equipment in operating conditions as long as the power supply still in according with parameter set in the product, shutting down whenever there is any variation/anomaly that exceeds the preset values.

With their precise and fast-acting electronics, they will save the equipment from breakdowns that would occur if they if they were to remain in operation while being fed from a main power supply that is not in accordance with their nominal values.

Voltage monitoring functions

- RMW17-FF - Phase loss
- RMW17-FFN - Phase loss with neutral detection
- RMW17-SF - Phase sequence
- RMW17-FSF - Phase loss and sequence
- RMW17-FSN - Phase loss and sequence with neutral detection
- RWM17-SS - Three-phase undervoltage and overvoltage
- RMW17-SSM - Single-phase undervoltage and overvoltage

Configuration

RMW17 | **FSF** | **01** | **D97**

RMW17 - Voltage monitoring relay

Function
SF - Phase sequence
FF - Phase loss
FFN - Phase loss with neutral detection[1)]
FSF - Phase loss and sequence
FSN - Phase loss and sequence with neutral detection[1)]
SS - Three-phase undervoltage and overvoltage
SSM - Single-phase undervoltage and overvoltage

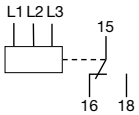
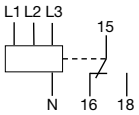
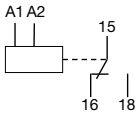
Number of contacts:
01 - 1 contact

Power supply
D77 - 208 Vac
D23 - 220 Vac
D24 - 230 Vac
D25 - 240 Vac
D33 - 380 Vac
D34 - 400 Vac
D35 - 415 Vac
D36 - 440 Vac
D38 - 460 Vac
D39 - 480 Vac
D65 - 200-240 Vac
D90 - 208-480 Vac
D97 - 380-480 Vac

Selection

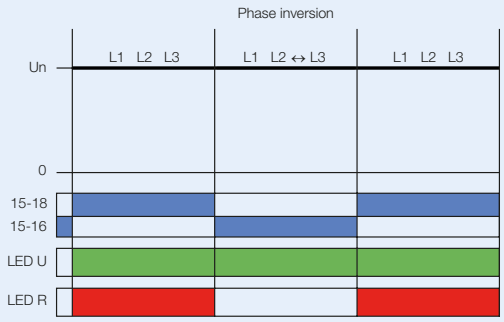
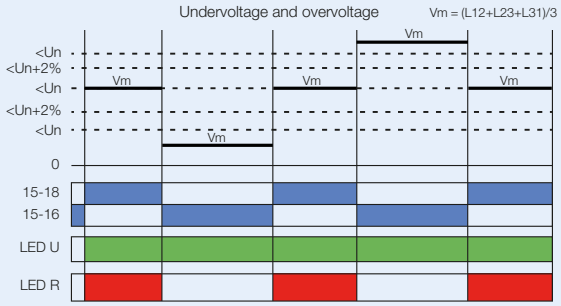
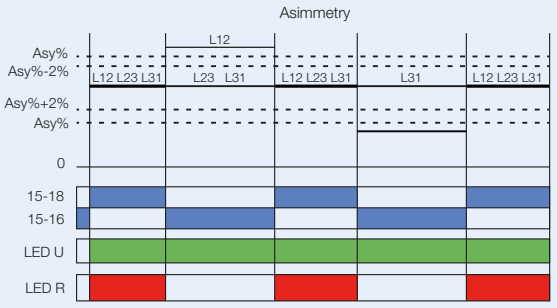
Models	Function	Operational voltage	Reference
			1 contact
RTW17	Phase sequence	208-480 Vac	RMW17-SF01D90
		200-240 Vac	RMW17-SF01D65
	Phase loss	200-240 Vac	RMW17-FF01D65
		380-480 Vac	RMW17-FF01D97
	Phase loss with neutral detection[1)]	200-240 Vac	RMW17-FFN01D65
		380-480 Vac	RMW17-FFN01D97
	Phase loss and sequence	200-240 Vac	RMW17-FSF01D65
		380-480 Vac	RMW17-FSF01D97
	Phase loss and sequence with neutral detection[1)]	200-240 Vac	RMW17-FSN01D65
		380-480 Vac	RMW17-FSN01D97
	Three-phase undervoltage and overvoltage	208 Vac	RMW17-SS01D77
		220 Vac	RMW17-SS01D23
		230 Vac	RMW17-SS01D24
		240 Vac	RMW17-SS01D25
		380 Vac	RMW17-SS01D33
		400 Vac	RMW17-SS01D34
		415 Vac	RMW17-SS01D35
		440 Vac	RMW17-SS01D36
		460 Vac	RMW17-SS01D38
		480 Vac	RMW17-SS01D39
	Single-phase undervoltage and overvoltage	220 Vac	RMW17-SSM01D23

Electrical connections

	Connection diagram		
	Three-phase models	Three-phase with neutral models[1)]	Single-phase models
Top: line input	L1 - L2 - - L3	L1 - L2 N - L3	A1 - A2 - - -
Center: adjustment and signaling	RMW17	RMW17	RMW17
Bottom: auxiliary contact	- - - 18 15 16	- - - 18 15 16	- - - 18 15 16
Electrical diagram			

Note: 1) For the correct operation of the FFN and FSN models, all three phases and the neutral must be connected.

Functions

Function description	Operational diagram
SF - Phase sequence With the phases connected to the relay in the correct sequence (L1-L2-L3), the auxiliary contact will switch (15-18 closed, 15-16 open). If the phase sequence is reversed, the auxiliary contact will return to its standard position (15-16 closed, 15-18 open).	
FF - Phase loss When the main supply is fault-free (within the parameters set on the voltage monitor relay), the auxiliary contact will switch (15-18 closed, 15-16 open). If the phase voltage drops below 70% of the nominal voltage, the auxiliary contact will return to its standard position (15-16 closed, 15-18 open).	
SS - Undervoltage and overvoltage When the main supply is fault-free (within the parameters set on the voltage monitor relay), the auxiliary contact will switch (15-18 closed, 15-16 open). If the phase voltage varies beyond the value set for undervoltage or overvoltage, the auxiliary contact will switch back to its resting position (15-16 closed, 15-18 open) to its standard position.	
Asy - Asimmetry[1)] When the phase voltage is in balance (within the parameters set on the voltage monitor relay), the auxiliary contact will switch (15-18 closed, 15-16 open). If there is an unbalance between the phases at a level higher than that set on the dial located on the face of the product, the auxiliary contact will return to its standard position (15-16 closed, 15-18 open).	

Note: 1) The Asymmetry function (Asy) is present in the FF, FFN, FSF and FSN items, which can be adjusted in the range of 3... 15%.

Technical data

Product voltage code		D77	D23	D24	D25	D33	D34	D35	D36	D38	D39	D65	D97	D90
Power input	Power supply/operation (Us) Terminals L1-L2-L3 /A1-A2	208 VAC	220 VAC	230 VAC	240 VAC	380 VAC	400 VAC	415 VAC	440 VAC	460 VAC	480 VAC	200-240 VAC	380-480 VAC	208-480 VAC
	Frequency	50/60 Hz												
	Maximum permissible voltage in neutral	20 VAC												
	Maximum power consumption (Us)	80 mA / 1 W												
	Rated insulation voltage (U_i)	600 V												

Main data			
Output relay	Output relay capacity (I_e)	Resistive loads at 250 VAC: 3 A AC-15 at 230 VAC: 1 A	Resistive loads at 24 VDC: 3 A DC-13 at 24 VDC: 1 A DC-13 at 48 VDC: 0.45 A DC-13 at 60 VDC: 0.35 A DC-13 at 125 VDC: 0.2 A DC-13 at 250 VDC: 0.1 A
	Rated thermal current (I_{th})	3 A	
	Fuse (gL/gG class)	4 A	
	Mechanical lifespan	30 x 10^6 cycles	
General features	Voltage level for phase failure actuation	<0.7 x Un	
	Undervoltage and overvoltage settings[1)]	Undervoltage: 3... 15% (0.97... 0.85 x Un) / Overvoltage: 3... 15% (1.03... 1.15 x Un)	
	Adjustment for asymmetry (unbalance)[2)]	3... 15%	
	Adjustment accuracy	±15%	
	Repeatability accuracy	±1%	
	Environment temperature	Storage: -40 ... +85 °C / Operation: -5 ... +60 °C	
	Protection degree	IP20	
	Cable crossection (min... max) – Solid wire[3)]	1 x (0.5 ... 2.5) mm² / 2 x (0.5 ... 1) mm²	
	Cable crossection (min... max) – Flexible conductor with ferrule	1 x (0.5 ... 1.5) mm² / 2 x (0.5 ... 0.75) mm²	
	Cable crossection (min... max) – AWG solid wire[3)]	1 ou 2 x (24 ... 12 AWG)	
	Terminal tightening torque	0.4 N.m / 3.5 Lb.in	
	Mounting position	Any position (no restrictions)	
	Impact resistance	15 g / 11ms	
	Vibration resistance	10 ... 55 Hz / 0.35 mm	
	Weight	0.08 kg	
	Degree of pollution	2	
	Overvoltage category	III	
	Certifications	CE/UKCA/UL[4)]	

Notes: 1) Exclusive for SS and SSM function relays.
2) Asymmetry function (unbalance) fixed at 15% for SF function relays. SS and SSM function relays do not have an asymmetry function.
3) If there is more than one solid wire in the same terminal, they must be of the same diameter.
4) UL certification not available for single-phase models.

IMPULSE RELAY

RIEW17

The RIEW17 impulse relay was designed to be used in the control of automation systems in homes, hotels and commercial or residential buildings. 17.5 mm wide, it is compact size allows installation in switchboard panels.

The commands of the automation system can be executed from one or more points, replacing conventional switches by pushbuttons, thus allowing multiple commands in a flexible, simple and quick way, providing greater effectiveness and electric energy savings. It may also be used in the command of illumination systems and other residential automation systems, ensuring safety and reliability. Furthermore, it has incorporated reset (master-off) and alternate current (AC) or direct current (DC) power supply.

Selection

Reference	Description	Power supply	Contacts	Width
RIEW17-01E40	Impulse relay	220-240 VAC / 24 VDC	1NO	17.5 mm
RIEW17-01E05		24-240 VAC 50/60 Hz (A1-A2) ou 24-240 VAC (A1-A2)	1NO	
RIEW17-02E05			2NO	
RIEW17-11E05			1NC + 1NO	

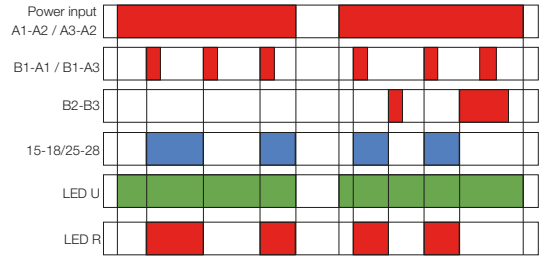
Operation

Operating mode

The U LED indicates the RIEW17 is energized (green LED On).
With the RIEW17 energized, when a command pulse is emitted, the output relays picks up, the NO contact closes, thus activating the connected devices.
The R red LED turns on, indicating the output is closed.
After one more command pulse, the output returns to the regular state (NO contact). The R LED turns off.
The reset function (master-off) disables the output relay, regardless of the output contact state. If several RIEW17 relays with reset (master-off) are present in a network and they can be enabled, all of them will be turned off (contacts 15-18 will remain open).

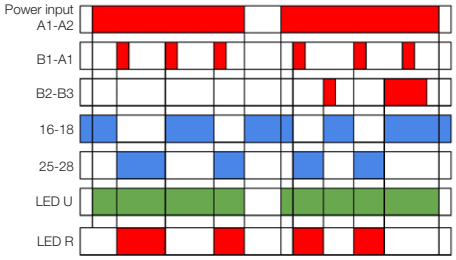
Timing diagram

RIEW17 1NO and 2NO



Note: A1-A2/A3-A2: Power supply
B1-A1/B1-A3: Command pulse
B2-B3: Reset (Master off)
15-18/25-28: Output contacts
LED U: Power status indication
R LED: Output contact status indication

RIEW17 1NC + 1NO



Note: A1-A2: Power supply
B1-A1: Command pulse
B2-B3: Reset (Master off)
25-28/16-18: Output contacts
LED U: Power status indication
R LED: Output contact status indication

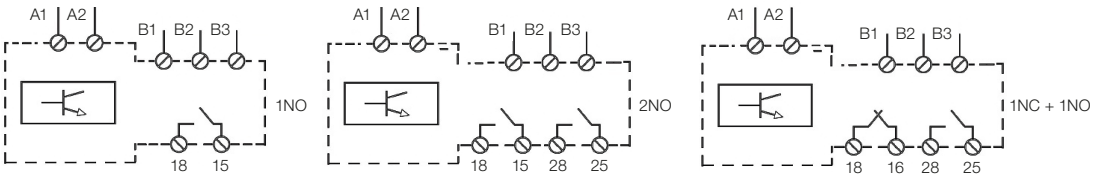
Technical data

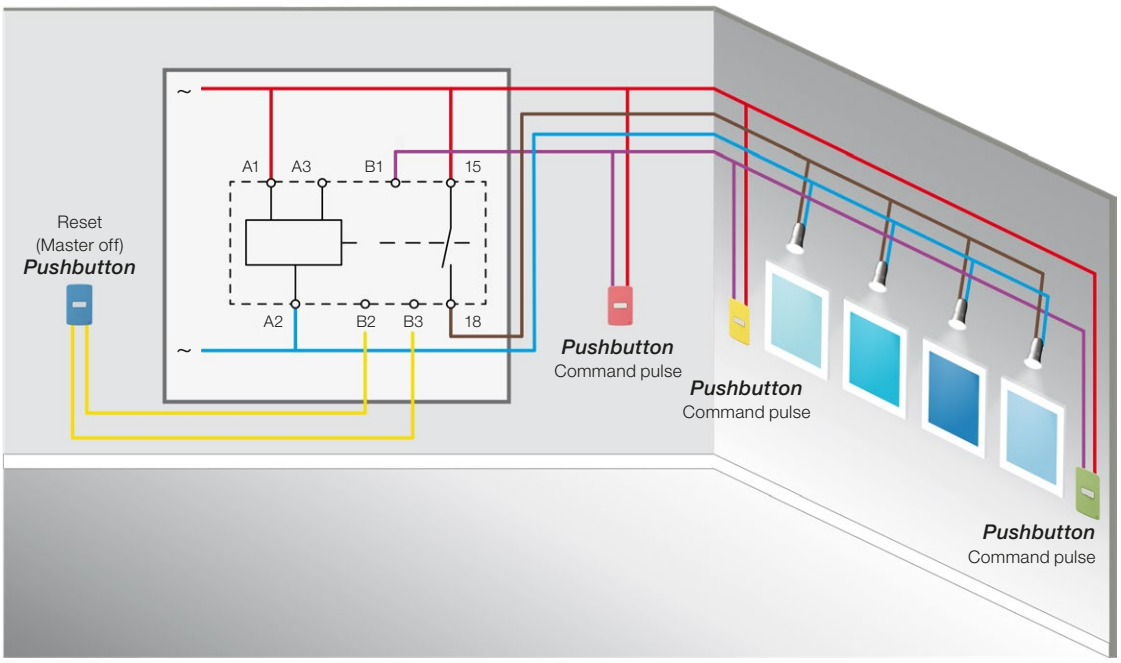
Product voltage code		E05	E40
Power input	Input level (U_e)	24-240 VAC (50/60 Hz) / 24-240 VDC	220-240 VAC (50/60 Hz) / 24 VDC
	Operational range	0.85... 1.10 x U_e	
	Power consumption - control circuit	1 W	
	Insulation voltage (U_i)	300 V	
	Impulse voltage (U_{imp})	4 kV	
	Minimum discharge current	2 kA	

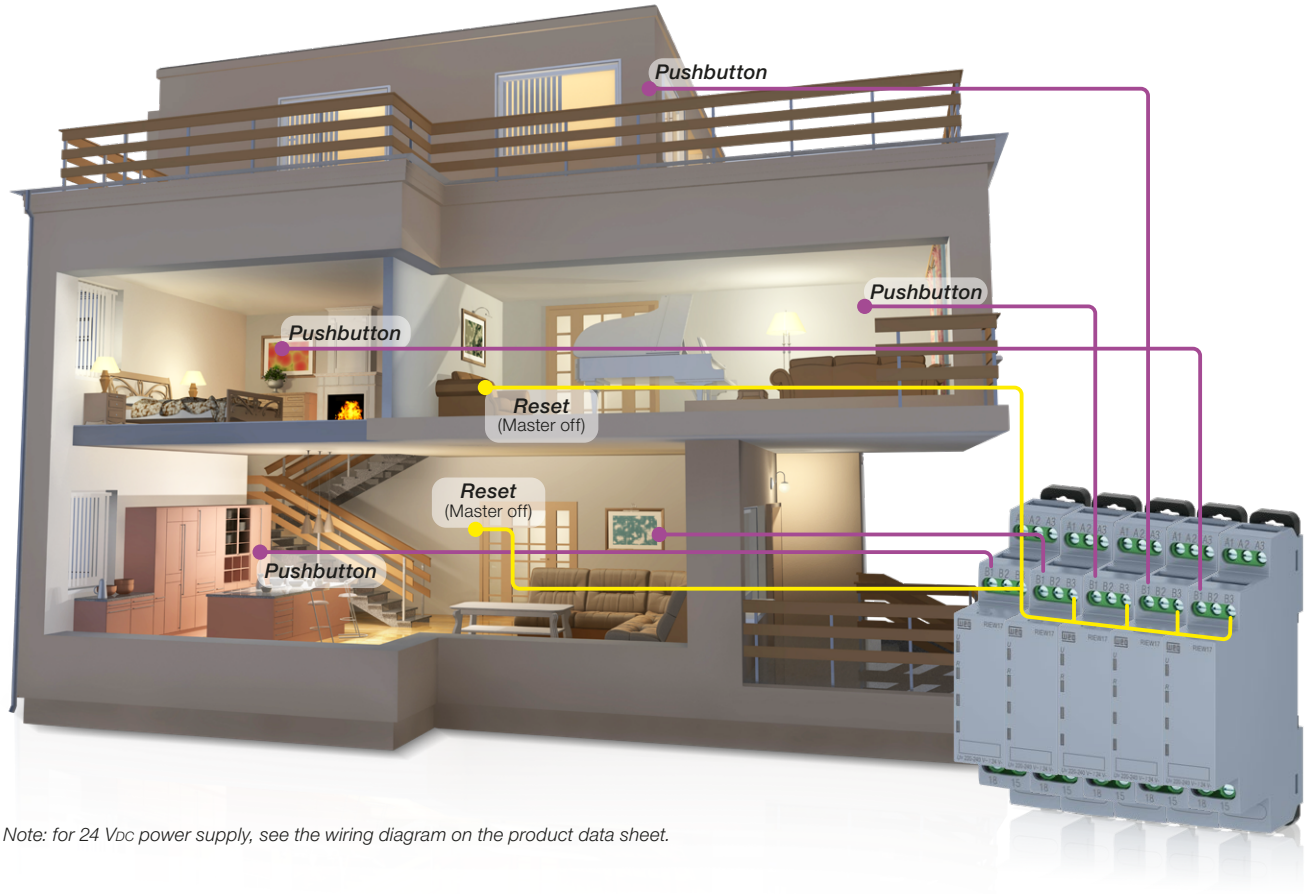
General features			
Output relay	Current @ 250 VAC / 30 VDC	Rated	16 A
		Instant peak	30 A
	AC-1 rated power (250 VAC)		4,000 W
	AC-15 rated power (250 VAC)		750 VA
	Maximum lamp power		Incandescent or halogen: 3,000 W
			Fluorescent with electronic ballast: 1,500 W
			Fluorescent with electromagnetic ballast: 1,000 W
			CFL: 600 W
			LED (230 VAC): 600 W
			Halogen or LED with electronic ballast: 600 W
			Halogen or LED with electromagnetic ballast: 1,500 W
General features	Auxiliary contact versions		1NO / 2NO / 1NC + 1NO
	Electrical lifespan		10 x 10^5 cycles
	Environment temperature	Operation	-5 °C ... +60 °C
		Store	-40 °C ... +85 °C
	Protection degree		IP20
	Cable crossection (min... max)	Solid wire[1)]	1 x (0.5 ... 2.5) mm² / 2 x (0.5 ... 1) mm² / 2 x (28 ... 18) AWG
		Flexible conductor with ferrule	1 x (0.5 ... 1.5) mm² / 2 x (0.5 ... 0.75) mm²
	Terminal tightening torque		0.4 N.m / 3.5 Lb.in
	Terminal screw		M3
	Mounting position		Any position (no restrictions)
	Impact resistance		15 g / 11ms
	Vibration resistance		10 ... 55 Hz / 0.35 mm
	Weight		0.1 kg
	Degree of pollution		2
	Overvoltage category		III

Note: 1) If there is more than one solid wire in the same terminal, they must be of the same diameter.

Wiring diagram



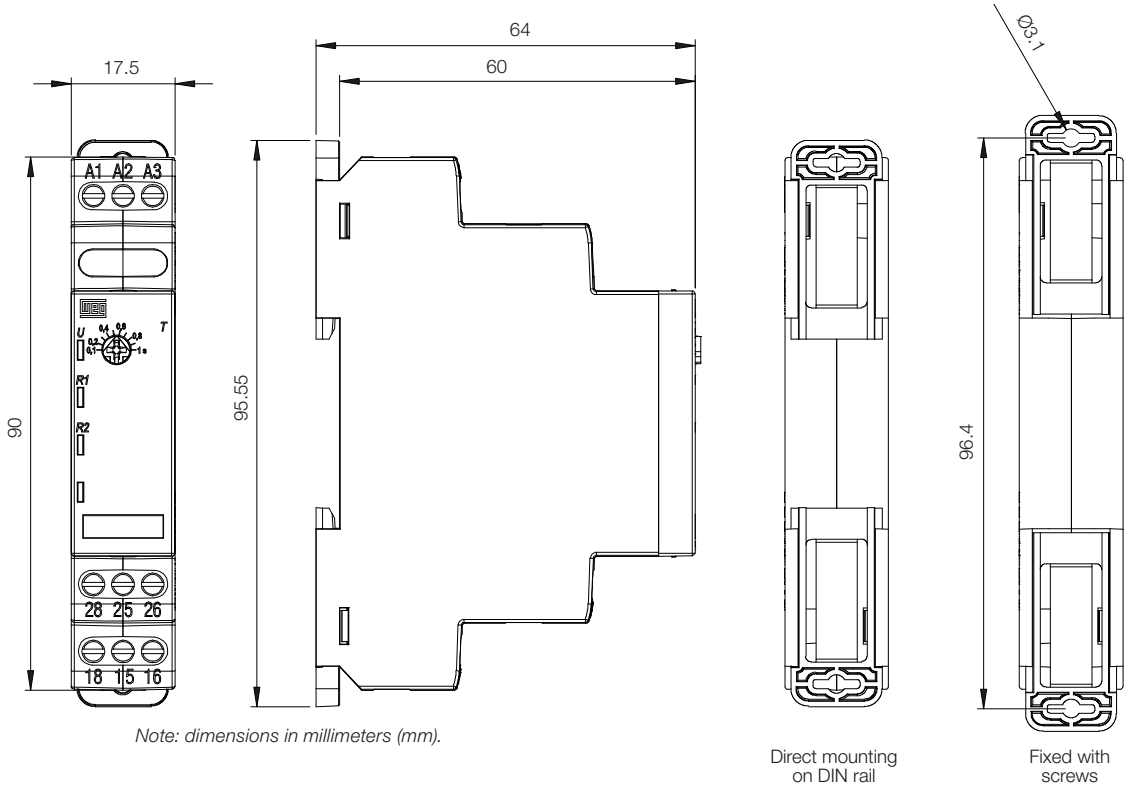




Note: for 24 VDC power supply, see the wiring diagram on the product data sheet.

Dimensions

RTW17 / RIEW17 / RMW17



Note: dimensions in millimeters (mm).

Altitudes - ratio-corrector factor

Altitude above sea level - h	Voltage ratio-corrector factor (U_e) / V	Current ratio-corrector factor (I_u) / A
h ≤2,000 m	1	1 x I_n
2,000 <h ≤3,000 m	0.87	0.95 x I_n
3,000 <h ≤4,000 m	0.77	0.90 x I_n
4,000 <h ≤5,000 m	0.67	0.85 x I_n

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