Zelio Control - Measurement and control relays

Multifunction 3-phase control relays RM22TA, RM22TU, RM22TR, and RM22TG



RM22T•••

Presentation

The RM22 Zelio multifunction control relays monitor the following functions on 3-phase supplies:

RM22TA	RM22TU	RM22TR	RM22TG
	RM22TA	RM22TA RM22TU	RM22TA RM22TU RM22TR A A A A A A A A A A A A A A A A A A A

Function performed Function not performed

Depending on the model these RM22T $\bullet \bullet \bullet$ control relays:

- Accept different nominal 3-phase voltages: up to \sim 480 V
- Monitor own power supply measured as a true rms value
- Designed for clip-on mounting on DIN rail
- Settings are protected by a sealable cover
- Diagnostic button for load circuit testing
- Relay output status LED
- Fault detection indication LED
- Dial pointer LED indicator for relay power ON status
- Relay output On-delay or Off-delay

Applications

 Control for connection of moving equipments (site equipment, agricultural equipment, refrigerated trucks)

Control for protection of persons and equipment against the consequences of

- reverse running (lifting, handling, elevators, escalators, etc.)
- Control of sensitive 3-phase supplies
- Protection against the risk of a driving load (phase failure)
- Normal/emergency power supply switching



- 1a Voltage range selector switch
- 1b Voltage range/On-Off delay selector
- 2 Time delay adjustment potentiometer Tt
- 3a Asymmetry threshold setting potentiometer Asym
- 3b Undervoltage setting potentiometer <U
- 3c Overvoltage setting potentiometer >U
- 4 Diagnostic button

RM22TR



Un Green LED: indicates that supply to the relay is on **R** Yellow LED: indicates relay output state **DEF** Yellow LED: indicates fault detection

RM22TG

Multifunction 3-phase control relays RM22TA, RM22TU, RM22TR, and RM22TG

Operating principle

Multifunction 3-phase supply control relays monitor:

- Own power supply
- Correct sequencing of phases L1, L2 and L3
- Fault signalling by LED
- Phase failure, including in the case of voltage regeneration
- Undervoltage from 2...- 20 % of the supply voltage Un
- Overvoltage from 2...20 % of the supply voltage Un Asymmetry from 5...15 % of the supply voltage Un
- Voltage selector switch:
- Set the switch to 3-phase supply voltage Un
- Position of this switch is taken into account on energization of the device

□ If the switch position is changed while the device is operating, all the LEDs flash but the product continues to operate normally with the voltage selected at the time of energization preceding the change of position

If the switch is returned to the original position selected prior to the last energization, the LED's return to their normal state

Phase + asymmetry control relays: RM22TA

- The relay monitors its own supply voltage Un:
- □ correct sequence of three phases
- failure of at least one of the three phases (U measured < 0.7 x Un)
- asymmetry adjustable from 5...15 % of Un
- In the event of a sequencing or phase failure fault, the relay opens instantly
- In the event of an asymmetry fault, the relay opens at the end of the time delay set by the user
- On energization of the device with a fault measured, the relay stays open

Function diagram

Functions:

- Sequence of phases L1, L2, L3
- □ Phase failure
- □ Asymmetry Asym



Tt : time delay after crossing of threshold (adjustable on front panel)

Operation (continued)

Zelio Control - Measurement and control relays

Multifunction 3-phase control relays RM22TA, RM22TU, RM22TR, and RM22TG

Operating principle (continued)

Phase + Undervoltage control relays: RM22TU

- The relay monitors its own supply voltage Un:
- □ correct sequence of the three phases
- □ failure of at least one of the three phases (U measured < 0.7 x Un)
- □ undervoltage adjustable from 2...- 20 % of Un
- In the event of a sequencing or phase failure fault, the relay opens instantly
- In the event of a voltage fault, the relay opens instantly
- On energization of the device with a fault measured, the relay stays open







□ Phase failure



□ Undervoltage control **<U**



Tt : response time after crossing the threshold

Phase + Undervoltage/overvoltage control relay: RM22TR

- The relay monitors its own supply voltage Un:
- □ phase failure
- undervoltage and overvoltage

An adjustable time delay, on crossing the thresholds, provides immunity to transients, and prevents spurious triggering of the output relay

- In the event of a voltage fault, the relay opens at the end of the time delay set On-delay or Off-delay by the user
- On energization of the device with a fault measured, the relay stays open
- In the event of phase failure, the relay opens instantly

Function diagrams

Functions:Phase failure





Tt : time delay after crossing of threshold (adjustable on front panel)

Operation (continued) references

Zelio Control - Measurement and control relays Multifunction 3-phase control relays

RM22TA, RM22TU, RM22TR, and RM22TG

Operating principle (continued)

- Phase control relays: RM22TG
- The RM22TG relay monitors:
- Correct sequencing of the three phases
- Total loss of one or more of the phases
- When phase sequence and voltages are correct (> \sim 183 V), the output relays are closed
- and the yellow LED is on
- When there is a sequencing fault or total loss of one or more phases (detected as soon as one of the voltages drops below 100 V) the relay opens instantly and the LED goes off
- On energization of the device with a fault measured, the relay stays open
- **Function diagram**
- Function:
- Sequence of phases L1, L2, L3



Tr: response time on appearance of a fault

Reference	S					
Function	Rated 3-phase supply voltage	Measurement range	Time delay	Output	Reference	Weight
	V	V				kg/ <i>lb</i>
Phase sequencePhase failureAsymmetry	~200240	~200240	Off delay (0.130 s)	2 C/O 8 A	RM22TA31	0.090/ <i>0.198</i>
	~380480	~ 380480	Off delay (0.130 s)	2 C/O 8 A	RM22TA33	0.090/ <i>0.198</i>
 Phase sequence Phase failure Undervoltage and 	~200240	~200240	On/Off delay (0.130 s)	2 C/O 8 A	RM22TR31	0.090/ <i>0.198</i>
overvoltage	~380480	~ 380480	On/Off delay (0.130 s)	2 C/O 8 A	RM22TR33	0.090/ <i>0.198</i>
 Phase sequence Phase failure Undervoltage 	~200240	~200240	No	2 C/O 8 A	RM22TU21	0.090/ <i>0.198</i>
	∼ 380480	~380480	No	2 C/O 8 A	RM22TU23	0.090/ <i>0.198</i>
 Phase sequence Phase failure 	~208480	~ 183528	No	2 C/O 8 A	RM22TG20	0.090/ <i>0.198</i>





RM22TG20



RM22TR31

RM22TU21

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RM.	227	TA3	31		

Zelio Control - Measurement and control relays

1-phase or DC voltage control relays RM22UA and RM22UB



RM22UA21MR



RM22UA31MR

Presentation

 $\mathsf{RM22UA}$ and $\mathsf{RM22UB}$ are DC voltage or 1-phase control relays which monitor the following functions:

Functions	RM22	UA2●MR	UA3•MR	UA33MT	UB34
Overvoltage (without memory)					
Undervoltage (with/without mem	nory)				
Overvoltage (with/without memo	ory)				
Overvoltage or undervoltage (windows mode)					

Function performed

Function not performed

The RM22 control relays enable:

- Automatic a.c. or d.c. recognition
- Selection between overvoltage and undervoltage
- Monitor own supply voltage which is measured as true rms value
- Selectable memory function
- Dial pointer LED indicator for relay power ON status
- Relay output status LED

The settings are protected by a sealable cover and the control status is indicated by a LED. The relays are designed for clip-on mounting on Din rail mounting.

Applications

 Protection of electronic or electromechanical devices against overvoltage and undervoltage

- Normal/emergency power supply switching
- d.c. motor overspeed control
- Monitoring of a.c. or d.c. supplies
- Battery and Speed monitoring (with tacho-generator)



- Configuration: selection of operating mode <U (undervoltage), >U (overvoltage), >U> (overvoltage and under voltage), MEMORY - NO MEMORY (with or without memory)
- 2a Voltage threshold setting potentiometer U value
- 2b Undervoltage setting potentiometer <U
- 2c Overvoltage setting potentiometer >U
- 3 Time delay adjustment potentiometer Tt
 - 4a Hysteresis adjustment potentiometer Hys
 - 4b Hysteresis/overvoltage and undervoltage window mode adjustment potentiometer Hys/>U>
 - 5 Diagnostic button
- 6 Configuration: selection of On-delay or Off-delay

R Yellow LED: indicates relay output state

2b

3

5

4b 3

5

1-phase or DC voltage control relays RM22UA and RM22UB

Operating principle

DC voltage or 1-phase control relays monitor:

- voltages of 1-phase and DC supplies
- its own supply voltage for RM22UB model

An adjustable time delay, on crossing the thresholds, provides immunity to transients, and prevents spurious triggering of the output relay.

Overvoltage + Undervoltage control relays with/without memory: RM22 UA2•MR/UA3•MR/UA33MT

The operating mode is fixed by the user:

- Undervoltage with or without memory
- Overvoltage with or without memory

The position of the configuration switch and the operating mode is read by the product on energization:

If the configuration switch is set to an unacceptable position, the product detects a fault, the output relay stays open and the LEDs flash to indicate the position error.
 If the configuration switch position is changed while the device is operating, all

the LEDs flash, but the product continues to operate normally with the function selected at the time of energization before position change.

■ If the configuration switch is returned to the original position selected prior to the last energization, the LED's return to their normal state.

The undervoltage or overvoltage threshold value is set by means of a potentiometer graduated as a percentage of the scale value of U to be monitored. The hysteresis is adjusted by means of a potentiometer graduated from 5...50 % of the threshold setting. The hysteresis value must not exceed the limit values of the measuring range.

Overvoltage without Memory

If the voltage controlled exceeds the threshold setting for a time greater than t hat set on the front panel (0.1...30 s), the output relay opens and LED R goes off. During the time delay, this LED flashes.

As soon as the voltage drops below the value of the threshold setting minus the hysteresis, the relay instantly closes.

Undervoltage without Memory

If the voltage controlled falls below the threshold setting for a time greater than that set on the front panel (0.1...30 s), the output relay opens and LED R goes off. During the time delay, this LED flashes.

As soon as the voltage rises above the value of the threshold setting plus the hysteresis, the relay instantly closes.

Overvoltage/Undervoltage with Memory

If "Memory" mode is selected, the relay opens when crossing of the threshold is detected and then stays in that position. The power must be switched off to reset the product.



Operation (continued)

Zelio Control - Measurement and control relays

1-phase or DC voltage control relays RM22UA and RM22UB



Overvoltage + Undervoltage control relay in Windows mode: RM22 UA3•MR/ UA33MT/UB34

These relays operate in window mode where they check that the voltage controlled stays between a minimum and a maximum threshold.

The undervoltage or overvoltage threshold values are set by means of two graduated potentiometers clearly indicating the Un to be monitored. The hysteresis is fixed at 5 % of the threshold setting.

■ If the voltage controlled exceeds the high threshold setting or falls below the low threshold setting for a time greater than that set time on the front panel (0.1...30 s), the output relay opens and LED R goes off. During the time delay, this LED flashes.

• As soon as the voltage falls below the high threshold setting value minus the hysteresis, or rises above the low threshold setting value plus the hysteresis, the relay instantly closes.

• On energization of the device with a fault measured, the relay stays open.

Function diagrams

■ Functions: Overvoltage and Undervoltage control in window mode <U<



References

Zelio Control - Measurement and

control relays 1-phase or DC voltage control relays RM22UA and RM22UB





RM22UA23MR



RM22UA33MT

RM22U	B34

Function	Rated supply voltage	Measurement range	Time delay	Output	Reference	Weight
	V	V				kg/ <i>lb</i>
Overvoltage without memory	≂24240	≂0.055	No	2 C/O 8 A	RM22UA21MR	0.110/ <i>0.242</i>
	≂24240	≂1100	No	2 C/O 8 A	RM22UA22MR	0.110/ <i>0.242</i>
	≂24240	≂15500	No	2 C/O 8 A	RM22UA23MR	0.110/ <i>0.242</i>
Overvoltage and Undervoltage with/ without memory Overvoltage and	≂24240	≂0.055	Off delay (0.130 s)	2 C/O 8 A	RM22UA31MR	0.110/ <i>0.242</i>
Undervoltage with memory window	≂24240	≂1100	Off delay (0.130 s)	2 C/O 8 A	RM22UA32MR	0.110/ 0.242
	≂24240	≂15500	Off delay (0.130 s)	2 C/O 8 A	RM22UA33MR	0.110/ <i>0.242</i>
	~ 380415	~15500	Off delay (0.130 s)	2 C/O 8 A	RM22UA33MT	0.110/ <i>0.242</i>
Overvoltage and Undervoltage without memory	≂ 110240	≂80300	On/Off delay (0.130 s)	2 C/O 8 A	RM22UB34	0.090/ <i>0.198</i>

Zelio Control - Measurement and control relays

RM22JA and RM35JA



RM22JA21MR



RM35JA32MT

Presentation

Multifunction current control relays RM22JA and RM35JA monitor the following functions.

Functions	RM22JA21MR	RM22JA31MR	RM35JA 32MR/32MT
Overcurrent (without memory)			
Overcurrent (with/without memory)			
Undercurrent (with/without memory)			
Overcurrent and undercurrent (with/without memory) (windows mode)			

Function performed
Function not performed

These control relays enable:

Automatic a.c. or d.c. recognition

- Selection between overcurrent and undercurrent
- Measurement as true rms value
- Selectable memory function
- Dial pointer LED indicator for relay power ON status
- Relay output status LED

The settings are protected by a sealable cover and the control status is indicated by a LED. The relays are designed for clip-on mounting on Din rail mount.

Applications

- Excitation control of d.c. machines
- Load state control of motors and generators
- Control of current drawn by a 3-phase motor
- Monitoring of heating or lighting circuits
- Control of pump draining (undercurrent)
- Control of overtorque (crushers)
- Monitoring of electromagnetic brakes or clutches.



 Configuration: selection of operating mode <I (undercurrent), >I (overcurrent), >I> (overcurrent and undercurrent), MEMORY - NO MEMORY (with or without memory)

- 2 Current threshold setting potentiometer I %
- 3a Hysteresis adjustment potentiometer Hys
- **3b** Hysteresis/overcurrent and undercurrent window mode adjustment potentiometer **Hys**/>**I**>
- 4 Time delay adjustment potentiometer Tt
- 5 Diagnostic button
- 6 Overcurrent setting potentiometer >I

R Yellow LED: indicates relay output state.



Current control relays RM22JA and RM35JA

Operating principle

The current control relays monitor:

Current of 1-phase and DC supplies

An adjustable time delay, on crossing the thresholds, provides immunity to transients, so preventing spurious triggering of the output relay.

Overcurrent + Undercurrent control relays with/without memory: RM22JA•1MR/ RM35JA32M•

- The operating mode is fixed by the user:
- Undercurrent with or without memory
- Overcurrent with or without memory

The position of the configuration switch and the operating mode is read by the product on energization:

If the configuration switch is set to an unacceptable position, the product detects a fault, the output relay stays open and the LEDs flash to indicate the position error.

If the configuration switch position is changed while the device is operating, all the LEDs flash, but the product continues to operate normally with the function selected at the time of energization before position change.

■ If the configuration switch is returned to the original position selected prior to the last energization, the LED's return to their normal state.

The undercurrent or overcurrent threshold value is set by means of a potentiometer graduated as a percentage of the scale value of I to be monitored. The hysteresis is adjusted by means of a potentiometer graduated from 5...50 %of the threshold setting. The hysteresis value must not exceed the limit values of the measuring range.

Overcurrent without Memory

If the current controlled exceeds the threshold setting for a time greater than that set on the front panel (0.1...30 s), the output relay opens and LED R goes off. During the time delay, this LED flashes.

As soon as the current drops below the value of the threshold setting minus the hysteresis, the relay instantly closes.

Overcurrent with Memory

If "Memory" mode is selected, the relay opens when crossing of the threshold is detected and then stays in that position. The power must be switched off to reset the product.





RM22JA and RM35JA

Operating principle (continued)

Overcurrent + Undercurrent control relays with/without memory: RM22JA•1MR/ RM35JA32M• (continued)

Undercurrent without Memory

If the current controlled falls below the threshold setting for a time greater than that set on the front panel (0.1...30 s), the output relay opens and LED R goes off. During the time delay, this LED flashes.

As soon as the voltage rises above the value of the threshold setting plus the hysteresis, the relay instantly closes.

Undercurrent with Memory

If "Memory" mode is selected, the relay opens when crossing of the threshold is detected and then stays in that position. The power must be switched off to reset the product.

Tt

Ti

Function diagrams

R/R1/R2

Function: Undercurrent detection <</p>

Ti

without memory

Relays

Output



Tt



Note: Ti is not used for this model.

Overcurrent + Undercurrent control relay in windows mode: RM22JA•1MR/ RM35JA32M•

These relays operate in window mode where they check that the current controlled stays between a minimum and a maximum threshold.

■ The undercurrent or overcurrent threshold values are set by means of two graduated potentiometers clearly indicating the I to be monitored. The hysteresis is fixed at 5 % of the threshold setting.

If the current controlled exceeds the high threshold setting or falls below the low threshold setting for a time greater than that set time on the front panel (0.1...30 s), the output relay opens and LED R goes out. During the time delay, this LED flashes.
 As soon as the current falls below the high threshold setting value minus the

hysteresis, or rises above the low threshold setting value plus the hysteresis, the relay instantly closes.

On energization of the device with a fault measured, the relay stays open.

Function diagrams

■ Functions: Overcurrent and Undercurrent control in window mode <I<

Without memory



References

Zelio Control - Measurement and control relays Current control relays RM22JA and RM35JA





RM22JA31MR



A1 A2 E3 E2

RM35JA32MR

RM35JA32MT

Function	Rated supply voltage	Measurement range	Time delay	Output	Reference	Weight
	V	mA				kg/lb
Overcurrent without memory	≂24240	≂41000	No	2 C/O 8 A	RM22JA21MR	0.110/ <i>0.242</i>
Overcurrent with/ without memory Undercurrent with/ without memory Overcurrent and	≂24240	≂41000	Off delay (0.130 s)	2 C/O 8 A	RM22JA31MR	0.110/ <i>0.242</i>
undercurrent (windows mode)						
with/without memory	≂24240	≂150015000	Off delay (0.130 s)	2 C/O 8 A	RM35JA32MR	0.120/ <i>0.264</i>
	~ 380415	~150015000	Off delay	2 C/O 8 A	RM35JA32MT	0.120/

Zelio Control - Measurement and control relays

RM22LA and RM22LG



RM22LG11MR



RM22LA32MT

Presentation

Level control relays RM22LA and RM22LG control one or two levels, with fill or empty function:

Functions	RM22LA 32MR/32MT	RM22LG 11MR/11MT
Level 1/Level 2		
Fill operation		
Empty operation		
Low sensitivity		
Standard sensitivity		
High sensitivity		

Function performed Function not performed

The RM22 liquid level control relays enable:

Dial pointer LED indicator for relay power ON status

Relay output status LED

The settings are protected by a sealable cover and the control status is indicated by a LED. The relays are designed for clip-on mounting on Din rail.

Applications

These devices monitor the levels of conductive liquid.

They control the actuation of pumps or valves to regulate levels. They are also suitable for protecting submersible pumps against dry running, or protecting tanks from "overflow". They can also be used to control dosing of liquids in mixing processes and to protect heating elements in the event of non immersion. They have a transparent, hinged cover on their front panel to avoid any accidental alteration of the settings. This cover can be directly sealed.

- Application examples for compatible liquids
- □ spring, town, industrial and sea water
- metallic salt, acid or base solutions
- liquid fertilizers
- □ non concentrated alcohol (< 40 %)
- □ liquids in the food-processing industry: milk, beer, coffee, etc.



R Yellow LED: indicates relay output state.

1 Configuration: selection of the operating mode: Fill or Empty, and the sensitivity range. LS/St/HS

- 2 Sensitivity control potentiometer (k Ω or %)
- 3 Configuration: selection of Number of levels; and On/Off time Delay
- 4 Time delay control potentiometer Tt
- 5 Diagnostic button

Liquid level control relays RM22LA and RM22LG

Operating principle

The liquid level control relays are designed to control levels of:

Conductive liquid

Relay controls the levels of conductive liquids and measures the levels by means of resistive probes.

The operating principle is based on measurement of the apparent resistance of the liquid between two submerged probes. When this value is less than the threshold setting on the front panel of the device, the relay changes state. To avoid electrolytic phenomena, an a.c. current runs across the probes.

The control of one single level can be achieved by using the 2nd selector switch. In this case, the Max. level probe stays up in the air and an adjustable time delay avoids any wave effect. These two products activate their output relay when a tank is either emptying or filling.

Level control relay with adjustable sensitivity range

In these relays, a selector configuration switch on the front panel allows selection of the required sensitivity range and the empty or fill function. A second switch allows selection of the number of levels (1 or 2) and the type of time delay in the case of level 1 mode.

The configuration of these switches is taken into account on energization. If the configuration switch is set to an unacceptable position, the product detects a fault, the output relay stays open and the LEDs flash to signal the position error.

 If the configuration switch position is changed while the device is operating, all the LEDs flash, but the product continues to operate normally with the function selected at the time of energization preceding the change of position.

■ If the configuration switch is returned to the original position selected prior to the last energization, the LED's return to their normal state.

Control of two levels, empty and fill function

empty function

level: 2, function:

- \checkmark **LS** (Low Sensitivity: 250 Ω ...5 k Ω),
- \checkmark **St** (Standard Sensitivity: 5 kΩ...100 kΩ),
- \checkmark **HS** (High Sensitivity: 50 k Ω ...1 M Ω).

The output relay stays open until the liquid reaches the Max. level probe. As soon as the Max. level is reached, the contact closes and then allows emptying of the tank (valve opens, pump starts, ...). When the level drops below the Min. level, the contact opens to stop the emptying process.

fill function

- level: 2, function:
 - 🗹 LS (Low Sensitivity: 250 Ω…5 kΩ),
 - $\mathbf{\Delta}$ St (Standard Sensitivity: 5 k Ω ...100 k Ω),
 - \mathbf{I} **HS** (High Sensitivity: 50 k Ω ...1 M Ω).

The output relay stays energized until the liquid reaches the Max. level probe. As soon as the Max. level is reached, the contact opens and the pump stops. When the level drops below the Min. level, the contact closes again and pumping re-starts to raise the level.

Function diagram

■ Fill/Empty function (Two levels)



Liquid level control relays RM22LA and RM22LG

Operating principle (continued)

Level control relay with adjustable sensitivity range (continued)

- Control of one level, empty function
- □ level: 1 on delay functions:
 - \checkmark **LS** (Low Sensitivity: 250 Ω...5 kΩ),

 - $\stackrel{\Box}{\forall}$ **HS** (High Sensitivity: 50 kΩ...1 MΩ).

When the liquid level rises above the probe for a time greater than the time delay value Tt set on the front panel, the relay is energized and stays energized until the liquid level drops back to the probe.

If the liquid drops back below the set level before the end of the time delay, the relay does not energize.

Function diagram

_



Control of one level, empty function

- level: 1 off delay functions:
- LS (Low Sensitivity: 250 Ω ...5 k Ω),
- \checkmark **St** (Standard Sensitivity: 5 k Ω ...100 k Ω),
- $\forall HS$ (High Sensitivity: 50 k Ω ...1 M Ω).

When the liquid level rises above the probe, the relay instantly energizes and stays energized until the liquid again reaches the probe level for a time Tt set on the front panel.

If the liquid drops back below the set level before the end of the time delay period, the relay stays energized.

Function diagram

П



Control of one level, fill function

- □ level: 1 on delay functions:
 - \mathbf{LS} (Low Sensitivity: 250 Ω ...5 k Ω),
 - $\mathbf{\Delta}$ **St** (Standard Sensitivity: 5 k Ω ...100 k Ω),
 - \mathbf{I} **HS** (High Sensitivity: 50 k Ω ...1 M Ω).

When the liquid level drops below the probe for a time greater than the time delay value Tt set on the front panel, the relay is energized and stays energized until the liquid level rises back up to the probe.

If the liquid rises back above the set level before the end of the time delay period, the relay does not energize.

Function diagram



Operation (continued), references

Zelio Control - Measurement and control relays Liquid level control relays

RM22LA and RM22LG

Operating principle (continued)

Level control relay with adjustable sensitivity range (continued)

- □ level: 1 off delay functions:

 - $\begin{array}{c} \checkmark \\ \textbf{LS} (Low Sensitivity: 250 \ \Omega...5 \ k\Omega), \\ \hline \\ \textbf{St} (Standard Sensitivity: 5 \ k\Omega...100 \ k\Omega), \\ \end{array}$
 - \Box **HS** (High Sensitivity: 50 k Ω ...1 M Ω).

When the liquid level drops below the probe, the relay instantly energizes and stays energized until the liquid level again reaches the probe level and stays above it for a time greater than the time delay period Tt set on the front panel. If the liquid drops back below the set level before the end of the time delay period, the relay stays energized.



Referen	References							
Function	Rated supply voltage	Measurement range	Time delay	Output	Reference	Weight		
	V	Ω				kg/ <i>lb</i>		
 Level 1/ Level 2 Fill operation Empty operation 	≂24240	5 K100 K	No	1 C/O 8 A	RM22LG11MR	0.100/ <i>0.220</i>		
	~ 380415	5 K100 K	No	1 C/O 8 A	RM22LG11MT	0.100/ <i>0.220</i>		
	≂24240	2501 M	On/Off delay (0.130 s)	2 C/O 8 A	RM22LA32MR	0.110/ 0.242		

\sim 380415	2501 M	On/Off	2 C/O 8 A	RM22LA32MT	0.110/
		delay			0.242
		(0.130 s)			



RM22LG11MR



RM22LA32MR



RM22LG11MT

RM22LA32MT



Vecchia gamma	NUOVA GAMMA
RM4JA01B	RM22JA21MR
RM4JA01F	RM22JA21MR
RM4JA01M	RM22JA21MR
RM4JA31F	RM22JA31MR
RM4JA31M	RM22JA31MR
RM4JA31MW	RM22JA31MR
RM4JA31Q	obsoleto,nessuna sostituzione
RM4JA32F	RM35JA32MR
RM4JA32M	RM35JA32MR
RM4JA32MW	RM35JA32MR
RM4JA32Q	RM35JA32MT
RM4UA01B	RM22UA21MR
RM4UA01F	RM22UA21MR
RM4UA01M	RM22UA21MR
RM4UA02B	RM22UA22MR
RM4UA02F	RM22UA22MR
RM4UA02M	RM22UA22MR
RM4UA03B	RM22UA23MR
RM4UA03F	RM22UA23MR
RM4UA03M	RM22UA23MR
RM4UA31F	RM22UA31MR
RM4UA31M	RM22UA31MR
RM4UA31MW	RM22UA31MR
RM4UA31Q	obsoleto,nessuna sostituzione
RM4UA32F	RM22UA32MR
RM4UA32M	RM22UA32MR
RM4UA32MW	RM22UA32MR
RM4UA32Q	obsoleto,nessuna sostituzione
RM4UA33F	RM22UA33MR
RM4UA33M	RM22UA33MR
RM4UA33MW	RM22UA33MR
RM4UA33Q	RM22UA33MT
RM4UB34	RM22UB34
RM4UB35	RM22UB34
RM4TA01	RM22TA31
RM4TA02	RM22TA33
RM4TA31	RM22TA31
RM4TA32	RM22TA33
RM4TG20	RM22TG20
RM4TR31	RM22TR31
RM4TR32	RM22TR33
RM4TR33	RM22TR31
RM4TR34	RM22TR33
RM4TR35	obsoleto,nessuna sostituzione
RM4TU01	RM22TU21

RM4TU02	RM22TU23
RM4LA32B	RM22LA32MR
RM4LA32F	RM22LA32MR
RM4LA32M	RM22LA32MR
RM4LA32MW	RM22LA32MR
RM4LA32Q	RM22LA32MT
RM4LG01B	RM22LG11MR
RM4LG01F	RM22LG11MR
RM4LG01M	RM22LG11MR
RM4LG01Q	RM22LG11MT