



RM35 L●●●MW

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Presentation

Level control relays RM35 LM33MW and RM35 LV14MW control one or two levels, with fill or empty function:

- RM35 LM33MW: control by resistive level probe,
- RM35 LV14MW: control by discrete sensor.

Settings are protected by a sealable cover.

Control status is indicated by a LED.

The relays are designed for clip-on mounting on 35 mm rail

Applications

These devices monitor the levels of conductive liquid or non-conductive material. 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 RM35 LM33MW:

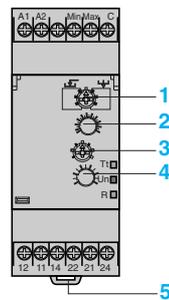
- spring, town, industrial and sea water,
- metallic salt, acid or base solutions,
- liquid fertilizers,
- non concentrated alcohol (< 40 %),
- liquids in the food-processing industry: milk, beer, coffee, etc.

■ Application examples for RM35 LV14MW:

- chemically pure water,
- fuels, liquid gasses (inflammable),
- oil, concentrated alcohol (> 40 %),
- ethylene, glycol, paraffin, varnish and paints.

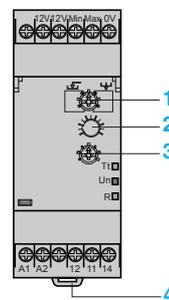
Description

RM35 LM33MW



- 1 Configuration: selection of operating mode: ∇ / ∇ and of sensitivity range. **LS, St, HS.**
- 2 Sensitivity adjustment potentiometer. %
- 3 Switch for selecting the number of levels.
- 4 Time delay adjustment potentiometer. **Tt**
- 5 Spring for clip-on mounting on 35 mm rail.

RM35 LV14MW



- 1 Configuration: selection of operating mode: ∇ / ∇ and of sensor type PNP, NPN.
- 2 Time delay adjustment potentiometer. **Tt**
- 3 Switch for selecting the number of levels.
- 4 Spring for clip-on mounting on 35 mm rail.

Tt Yellow LED: indicates timing status.

Un Green LED: indicates that supply to the relay is on.

R Yellow LED: indicates relay output state.

Operating principle

Control relays RM35 LM and RM35 LV are designed to control levels of:

- Conductive liquid for RM35 LM,
- Any other material for RM35 LV.

Relay RM35 LM measures the levels by means of resistive probes.

Relay RM35 LM controls the levels of conductive liquids.

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. A selector switch on the front panel allows selection of the required function and sensitivity range. 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.

Relay RM35 LV measures the levels by means of discrete sensors.

These two products activate their output relay when a tank is either emptying or filling.

A green LED indicates that the supply is ON.

A yellow LED indicates the state of the output relay.

A yellow LED indicates that timing is in progress.

The green and yellow LEDs flash to indicate an unacceptable setting position.

Level control relay: RM35 LM33MW

Configuration

A selector switch on the front panel allows selection of the required sensitivity range and of 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 1 level mode.

The configuration of these switches is taken into account on energisation.

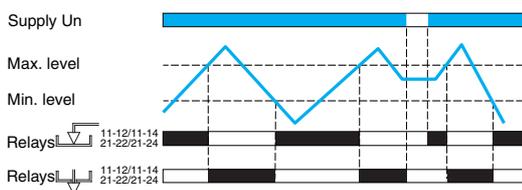
If the switch is set to an unacceptable position, the product detects a fault, the output relay stays open and the LEDs flash to signal the position error.

If the 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 energisation preceding the change of position.

The LED's return to their normal state if the switch is returned to the original position selected prior to the last energisation.

Function diagram

■ Fill/Empty function



■ Control of two levels

empty function

level: 2, function:

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

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.

Note: When two levels are controlled, the anti-wave time delay function is not active.

fill function

level: 2, function:

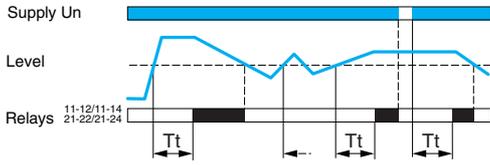
- **LS** (Low Sensitivity: 250 Ω...5 kΩ),
- **St** (Standard Sensitivity: 5 kΩ...100 kΩ),
- **HS** (High Sensitivity: 50 kΩ...1 MΩ).

The output relay stays energised 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.

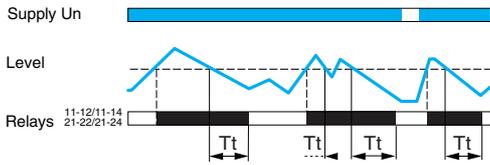
Note: When two levels are controlled, the anti-wave time delay function is not active.

Function diagrams

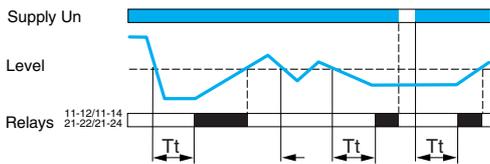
■ Empty function T on



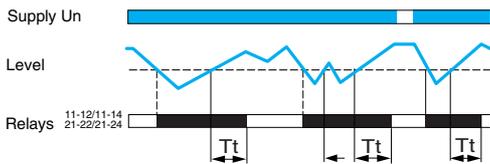
■ Empty function T off



■ Fill function T on



■ Fill function T off



Level control relay: RM35 LM33MW (continued)

Configuration (continued)

■ Control of one level, empty function

- level: 1 - on delay functions:
 - ∇ **LS** (Low Sensitivity: 250 Ω ...5 k Ω),
 - ∇ **St** (Standard Sensitivity: 5 k Ω ...100 k Ω),
 - ∇ **HS** (High Sensitivity: 50 k Ω ...1 M Ω).

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 energised and stays energised until the liquid level drops back down to the probe. If the liquid drops back down to below the set level before the end of the time delay, the relay does not energise.

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

When the liquid level rises above the probe, the relay instantly energises and stays energised until the liquid again reaches the probe level for a time **Tt** set on the front panel. If the liquid drops back down to below the set level before the end of the time delay period, the relay stays energised.

■ Control of one level, fill function

- level: 1 - on delay functions:
 - ∇ **LS** (Low Sensitivity: 250 Ω ...5 k Ω),
 - ∇ **St** (Standard Sensitivity: 5 k Ω ...100 k Ω),
 - ∇ **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 energised and stays energised until the liquid level rises back up to the probe. If the liquid rises back up to above the set level before the end of the time delay period, the relay does not energise.

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

When the liquid level drops below the probe, the relay instantly energises and stays energised 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 down to below the set level before the end of the time delay period, the relay stays energised.

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Level control relay: RM35 LV14MW

Configuration

A selector switch on the front panel allows selection of the function (empty or fill) and the type of sensor.

A second switch allows selection of the number of levels (1 or 2) and the type of time delay in the case of 1 level mode.

The configuration of these switches is taken into account on energisation.

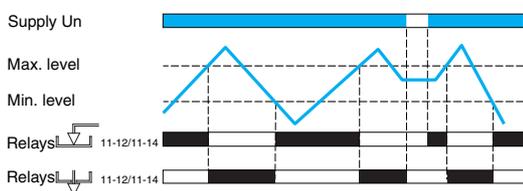
If the switch is set to an unacceptable position, the product detects a fault, the output relay stays open and the LEDs flash to signal the position error.

If the 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 energisation preceding the change of position.

The LED's return to their normal state if the switch is returned to the original position selected prior to the last energisation.

Function diagram

Fill/Empty function



Control of two levels

empty function. Level: 2

The output relay stays open until the material level reaches the Max. 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. probe, the contact opens to stop the emptying process.

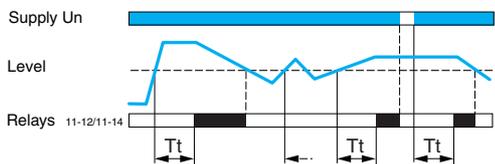
fill function. Level: 2

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

Note: When two levels are controlled, the anti-wave time delay function is not active.

Function diagrams

Empty function T on



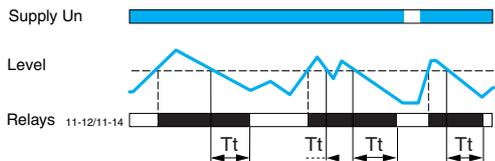
Control of one level, empty function

level: 1 - on delay

When the material level rises above the probe for a time greater than the time delay value T_t set on the front panel, the relay is energised and stays energised until the material level drops back down to the probe.

If the level rises above the probe before the end of the time delay period, the relay does not energise.

Empty function T off

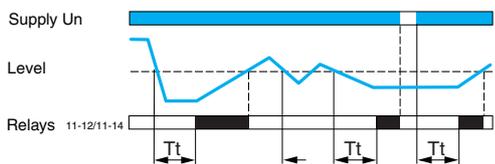


level: 1 - off delay

When the material level rises above the probe, the relay instantly energises and stays energised until the material level again reaches the probe and stays below it for a time greater than the time delay value T_t set on the front panel.

If the level drops back down to below the probe before the end of the time delay period, the relay stays energised.

Fill function T on



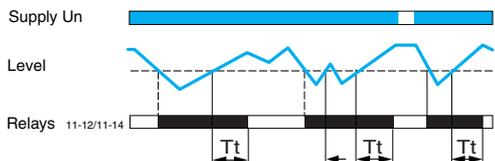
Control of one level, fill function

level: 1 - on delay

When the material level drops below the probe for a time greater than the time delay value T_t set on the front panel, the relay is energised and stays energised until the material level again reaches the probe.

If the level rises above the probe before the end of the time delay period, the relay does not energise.

Fill function T off



level: 1 - off delay

When the material level drops below the probe, the relay instantly energises and stays energised until the material level again reaches the probe and stays above it for a time greater than the time delay period T_t set on the front panel.

If the level drops back down to below the probe before the end of the time delay period, the relay stays energised.

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Environment characteristics

Conforming to standards			NF EN 60255-6 and IEC 60255-6
Product certifications	Pending		UL, CSA, GL, C-Tick, GOST
Marking			CE: 73/23/EEC and EMC 89/336/EEC
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 20...+ 50
Permissible relative humidity	Conforming to IEC 60068-2-30		2 x 24 hours...+ 95 % RH at + 55 °C (without condensation)
Vibration resistance	Conforming to IEC 60068-2-6		0.035 mm from 10...150 Hz
Shock resistance	Conforming to IEC 60068-2-6		5 gn
Degree of protection Conforming to IEC 60529	Casing		IP 30
	Terminals		IP 20
Degree of pollution	Conforming to IEC 60664-1		3
Overvoltage category	Conforming to IEC 60664-1		III
Insulation resistance	Conforming to IEC 60664-1/60255-5		> 500 MΩ, --- 500 V
Rated insulation voltage	Conforming to IEC 60664-1	V	250
Insulation test voltage Conforming to IEC 60664-1/60255-5	Dielectric test	kV	2, ~ 50 Hz, 1 min.
	Shock wave	kV	4 (1.2/50 μs)
Connection Maximum c.s.a. Conforming to IEC 60947-1	Solid cable without cable end	mm ²	1 conductor: 0.5...4 (AWG 20...AWG 11) 2 conductors: 0.5...2.5 (AWG 20...AWG 14)
	Flexible cable with cable end	mm ²	1 conductor: 0.2...2.5 (AWG 24...AWG 12) 2 conductors: 0.2...1.5 (AWG 24...AWG 16)
Tightening torque	Conforming to IEC 60947-1		0.6...1N.m / 5.3...8.8 Lbf.In
Housing material			Self-extinguishing plastic
Power ON indicator			Green LED
Relay state indicator			Yellow LED
Timing indicator			Yellow LED
Mounting position without derating	In relation to normal vertical mounting plane		Any position
Mounting	Conforming to IEC/EN 60715		On  rail

Supply characteristics

Supply voltage Un	V	~ / --- 24...240
Operating range	V	~ / --- 20.4...264
Voltage limits	Of the power supply circuit	- 15 %, + 10 %
Frequency	Of the power supply circuit	50/60 Hz ± 10 %
Galvanic isolation, supply/measurement		Yes
Maximum power consumption at Un	VA	~ 5
	W	--- 1.5
Immunity to microbreaks	ms	~ 90, --- 100

Immunity to electromagnetic interference

Electromagnetic compatibility		Immunity NF EN 61000-6-2 2002 / IEC 61000-6-2 Emission NF EN 61000-6-4 NF EN 61000-6-3 IEC 61000-6-4 IEC 61000-6-3
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Measurement circuit and input characteristics

Relay type		RM35 LM33MW	RM35 LV14MW
Measurement range		250 Ω...1 MΩ	–
Sub-measurement range	LS	250 Ω...5 kΩ	–
	St	5 kΩ...100 kΩ	–
	HS	50 kΩ...1 MΩ	–
Sensitivity adjustment		5...100 % of the range	–
Setting accuracy		± 10 % of the full scale / ± 20 % for the HS range	
Measurement error with temperature variation		0.5 % / °C	
Maximum voltage at the probe terminals	V	12	
Maximum current across the probes	mA	< 1	40
Maximum probe cable length	m	100	100
Maximum capacity of probe cable	nF	1 for LS, 2.2 for St and 4.7 pour HS	10
Delay on pick-up	ms	600	500

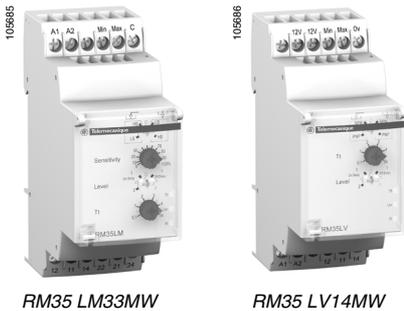
Time delay characteristics

Relay type		RM35 LM33MW	RM35 LV14MW
Time delay on crossing the threshold	s	0.1...5, 0 + 10 %	
Repeat accuracy (with constant parameters)		± 2 %	
Reset time	s	1.75	4 if 1 line broken / 1 if 2 lines broken

Output characteristics

Type of output		2 C/O contacts	1 C/O contact
Contact type		Cadmium-free	
Nominal current	A	5	
Maximum switching voltage	V	$\sim/\text{---}$ 250	
Rated breaking capacity	VA	1250	
Minimum breaking current	mA	10/ --- 5 V	
Maximum breaking current	A	$\sim/\text{---}$ 5	
Electrical durability		1 x 10 ⁵ operating cycles	
Mechanical durability		30 x 10 ⁶ operating cycles	
Maximum operating rate		360 operations/hour under full load	
Utilisation categories	Conforming to IEC 60947-5-1	AC-12, AC-13, AC-14, AC-15, DC-12, DC-13	

References



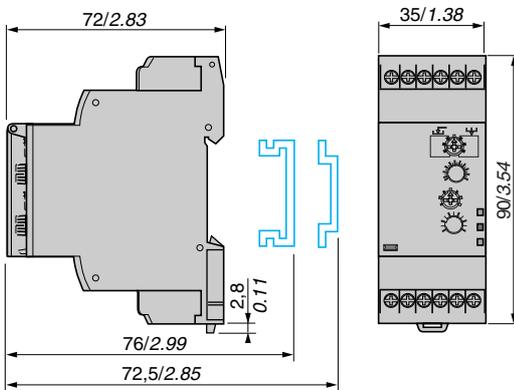
RM35 LM33MW

RM35 LV14MW

Function	Supply voltage	Output	Reference	Weight
	V			kg
Detection by resistive probes (see page 3/58)	$\sim/\text{---}$ 24...240	2 C/O 5 A	RM35 LM33MW	0.130
Detection by discrete sensors (see page 3/60, references XX5 12A●●●)	$\sim/\text{---}$ 24...240	1 C/O 5 A	RM35 LV14MW	0.130

Dimensions

RM35 LM33MW, RM35 LV14MW

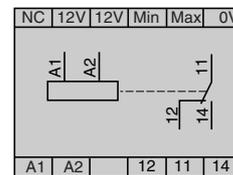
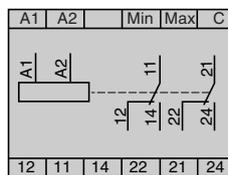


mm/in.

Schemes

RM35 LM33MW

RM35 LV14MW





RM35 S0MW

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Presentation

Speed control relay RM35 S0MW monitors:

- Underspeed:
 - without memory,
 - with memory,
 - with inhibition by external contact S2.
- Overspeed:
 - without memory,
 - with memory,
 - with inhibition by external contact S2.

Speed control relay RM35 S0MW measures via:

- A 3-wire PNP or NPN proximity sensor input,
- A Namur proximity sensor input,
- A 0-30 V voltage input,
- A volt-free contact input.

It operates with either N/O or N/C sensors.
The adjustable time between impulses is 0.05 s...10 min.
The power-on inhibition time is adjustable from 0.6 to 60 s.
Inhibition is controlled by an external contact.

Settings are protected by a sealable cover.

Control status is indicated by a LED.

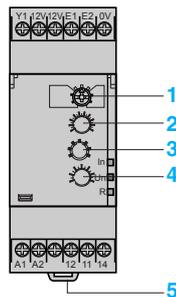
The relay is designed for clip-on mounting on 35 mm rail

Applications

- Monitors speed or rate of rotary or linear movements in the following applications:
 - conveyors/conveyor belts,
 - packaging,
 - mechanical handling.

Description

RM35 S00MW



- 1 Configuration: selection of operating mode: Underspeed or overspeed. **Underspeed/Overspeed** with or without memory. **Memory - No Memory**
- 2 Speed threshold setting potentiometer. **Value**
- 3 Speed range selector switch
- 4 Starting inhibition time delay adjustment potentiometer. **Ti**
- 5 Spring for clip-on mounting on 35 mm rail.

In Yellow LED: indicates inhibition status (time-delay or S2 input).

Un Green LED: indicates that supply to the relay is on.

R Yellow LED: indicates relay output state.

Operating principle

Relay RM35 S0MW monitors the speed (rate, frequency) of a process (conveyor, conveyor belt, etc.) via discrete sensors: 3-wire PNP or NPN proximity sensor, or 0-30 V voltage input, or NAMUR proximity sensor, or volt-free contact. It can be used for monitoring underspeed or overspeed.

Speed control relay: RM35 S0MW

■ Measurement

The cycle of the process being monitored is the series of impulses characterised by a two-state signal: high and low. The speed measurement is obtained by measuring the period of this signal, from the first change of state detected (either rising or falling edge).

Digital processing of the signal allows the disparity between the signals to be calculated.

At power up, or after appearance (or reappearance) of the sensor signal, detection (characterisation) of the signal requires processing of one or more periods (maximum of two). During this time, control is inoperative.

■ Operating mode

Using the switch, select one of the four operating modes:

- Underspeed without memory,
- Underspeed with memory,
- Overspeed without memory,
- Overspeed with memory.

■ Underspeed control

At the end of the starting inhibition time delay "Ti", as soon as the speed measured drops below the threshold setting, the output relay changes state from "closed" to "open".

It returns to its initial state when the speed is again higher than the threshold plus hysteresis (fixed at 5% of the threshold setting).

When power is restored, after a break having lasted at least 1 s, the relay is in the on ("normal") state during the time delay and stays in that state for as long as the speed remains higher than the threshold.

When relay RM35 S has been configured in "memory" mode, if underspeed is detected, the output relay stays in the off ("alarm") state whatever the further evolution of the process speed.

It will not be able to return to the on ("normal") state until contact S2 closes (for at least 50 ms).

If, when S2 re-opens, the speed is not high enough, the relay returns to the locked, off ("alarm") state.

Relay RM35 S can also be reset by a power break (at least 1 s); the relay then returns to the on ("normal") state for at least the duration of the time delay, whatever the process speed.

At power up, in order to allow the process being monitored to reach its nominal operating speed, relay RM35 S is inhibited for a time delay adjustable from 0.6...60 s. This time delay can be adjusted (shortened or lengthened) during inhibition.

Relay RM35 S can also be inhibited by closing of contact S2: on starting, for example, if the process run up to speed time is greater than 60 s, or at any time during operation.

Whether it results from a starting inhibition time delay or closing of S2, inhibition keeps the output relay in the "closed" position and is signalled by illumination of the inhibition LED.

If, after lifting of inhibition (end of starting inhibition time delay or opening of contact S2), the signal detection phase has not been completed, the relay drops out after the set wait time between two impulses (measured as from the end of inhibition).

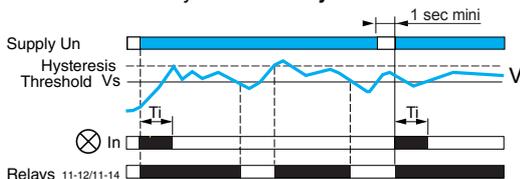
Inhibition must last as long as is necessary for the product to detect at least 2 periods. When the signal has not been 'characterised' by the end of the inhibition period, the "inhibition" LED flashes for as long as speed measurement is impossible.

It is also possible to inhibit relay RM35 S at any time, during operation, by closing S2.

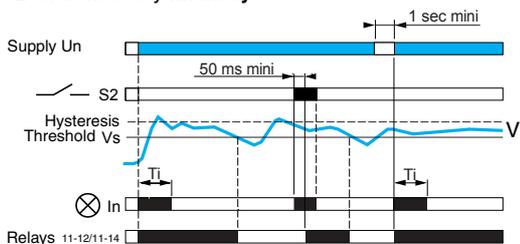
Function diagrams

■ Function: Underspeed control - Underspeed

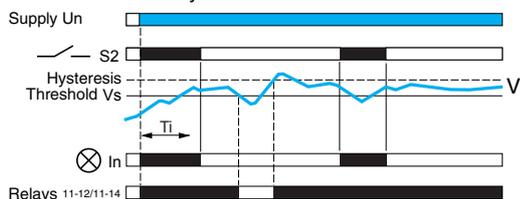
Without memory - No Memory



With memory Memory



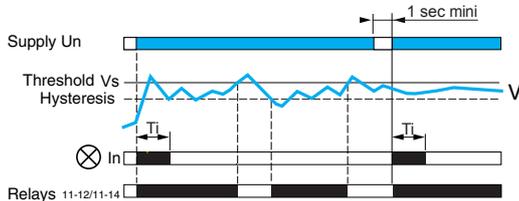
With inhibition by S2 - Inhib/S2



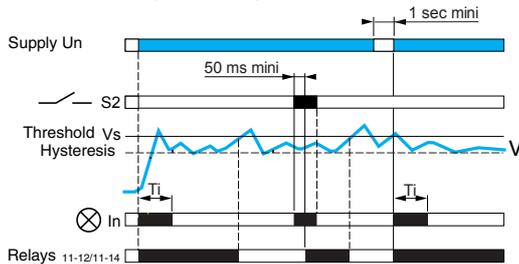
Function diagrams

■ Function: overspeed control - Overspeed

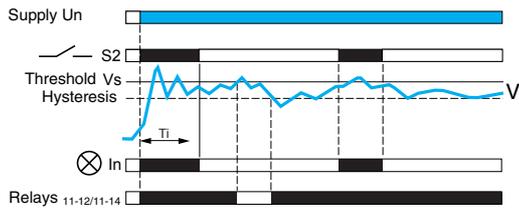
□ Without memory - No Memory



□ With memory - Memory



□ With inhibition by S2. - Inhib./S2



Speed control relay: RM35 S0MW (continued)

■ Overspeed control

At the end of the starting inhibition time delay, "Ti", as soon as the speed measured is higher than the threshold setting, the output relay changes state from "closed" to "open".

It returns to its initial state when the speed is again lower than the threshold minus hysteresis (fixed at 5% of the threshold setting).

When power is restored to relay RM35 S, after a break having lasted at least 1 s, the relay is in the on ("normal") state during the time delay and stays in that state for as long as the speed remains lower than the threshold.

When relay RM35 S has been configured in "memory" mode, if overspeed is detected, the output relay stays in the off ("alarm") state whatever the further evolution of the process speed.

It will not be able to return to the on ("normal") state until contact S2 closes (for at least 50 ms).

If, when S2 re-opens, the speed is too high, the relay returns to the locked off ("alarm") state.

Relay RM35 S can also be reset by a power break (at least 1 s); the relay then returns to the on ("normal") state for at least the duration of the time delay, whatever the process speed.

At power up, in order to allow the process being monitored to reach its nominal operating speed, relay RM35 S is inhibited for a time delay adjustable from 0.6...60 s. This time delay can be modified (shortened or lengthened) during inhibition.

Relay RM35 S can also be inhibited by closing of contact S2: on starting, for example, if the process run up to speed time is greater than 60 s, or at any time during operation.

Whether it results from a starting inhibition time delay or closing of S2, inhibition keeps the output relay in the "closed" position and is signalled by illumination of the inhibition LED.

If, after lifting of inhibition (end of starting inhibition time delay or opening of contact S2), the signal detection phase has not been completed, the relay drops out after the set wait time between two impulses (measured as from the end of inhibition).

Inhibition must last as long as is necessary for the product to detect at least 2 periods. When the signal has not been 'characterised' by the end of the inhibition period, the "inhibition" LED flashes for as long as speed measurement is impossible.

It is also possible to inhibit relay RM35 S at any time, during operation, by closing S2.

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Environment characteristics			
Conforming to standards			NF EN 60255-6 and IEC 60255-6
Product certifications	Pending		UL, CSA, GL, C-Tick, GOST
Marking			CE: 73/23/EEC and EMC 89/336/EEC
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 20...+ 50
Permissible relative humidity	Conforming to IEC 60068-2-30		2 x 24 hours...+ 95 % RH at + 55 °C (without condensation)
Vibration resistance	Conforming to IEC 60068-2-6		0.035 mm from 10...150 Hz
Shock resistance	Conforming to IEC 60068-2-6		5 gn
Degree of protection Conforming to IEC 60529	Casing		IP 30
	Terminals		IP 20
Degree of pollution	Conforming to IEC 60664-1		3
Overvoltage category	Conforming to IEC 60664-1		III
Insulation resistance	Conforming to IEC 60664-1, 60255-5		> 500 MΩ, --- 500 V
Rated insulation voltage	Conforming to IEC 60664-1	V	250
Insulation test voltage	Dielectric test	kV	2, ~ 50 Hz, 1 min.
	Shock wave	kV	4
Mounting position without derating	In relation to normal vertical mounting plane		Any position
Connection Maximum c.s.a. Conforming to IEC3 60947-1	Solid cable without cable end	mm ²	1 conductor: 0.5...4 (AWG 20...AWG 11) 2 conductors: 0.5...2.5 (AWG 20...AWG 14)
	Flexible cable with cable end	mm ²	1 conductor: 0.2...2.5 (AWG 24...AWG 12) 2 conductors: 0.2...1.5 (AWG 24...AWG 16)
Tightening torque	Conforming to IEC 60947-1		0.6...1 N.m / 5.3...8.8 Lbf.In
Housing material			Self-extinguishing plastic
Power ON indicator			Green LED
Relay state indicator (R)			Yellow LED
Inhibit status indication			Yellow LED
Mounting	Conforming to IEC/EN 60715		On 35 mm □ rail
Supply characteristics			
Rated supply voltage Un		V	~--- 24...240
Operating range		V	~--- 20.4...264
Polarity on d.c. supply			No
Voltage limits	Of the power supply circuit		- 15 %, + 10 %
Frequency	Of the power supply circuit		50/60 Hz ± 10 %
Galvanic isolation, supply/measurement			Yes
Maximum power consumption			~ 5 VA and --- 3 W
Immunity to microbreaks		ms	50
Sensor supply characteristics			
Nominal voltage		V	12 ± 0,5
Available current		mA	50 for ~--- 24 V ≤ Un ≤ ~--- 240 V 40 for Un < ~--- 24 V at 25 °C
Immunity to electromagnetic interference			
Electromagnetic compatibility			Immunity NF EN 61000-6-2 / IEC 61000-6-2 Emission NF EN 61000-6-4, NF EN 61000-6-3, IEC 61000-6-4, IEC 61000-6-3

3

Measurement circuit and input characteristics

Input circuit	3-wire sensor (E1)		PNP or NPN, 12 V, 50 mA max
	NAMUR sensor (E2)		12 V, 1.5 kΩ
	Volt-free contact input (E1)		12 V, 9.5 kΩ
	Voltage input (E1)		Voltage range: 0 V min, 30 V max Input resistance: 9.5 kΩ High state: 4.5 V min Low state: 1 V max
Minimum impulse time	At high state	ms	5
	At low state	ms	5
Measurement range			0.05...0.5 s 0.1...1 s 0.5...5 s 1...10 s 0.1...1 min 0.5...5 min 1...10 min
Threshold setting			10...100 % of the range
Fixed hysteresis			5 % of the threshold setting
Setting accuracy			± 10 % of the full scale value
Repeat accuracy (with constant parameters)			± 0.5 %
Measurement error with voltage variation			< 1 % over the whole range
Measurement error with temperature variation			± 0,1 % / °C max
Frequency of input signals		Hz	1.7 mHz min, 20 Hz max

Time delay characteristics

Response time on crossing the threshold		ms	15 max
Repeat accuracy (with constant parameters)			± 0.5 %
Reset time in memory mode	Contact S2	ms	50 minimum
	Supply Un	s	1
Inhibition time delay	On energisation		0.6...60 s +10 % of the full scale value
Delay on pick-up		ms	50

Output characteristics

Output type			1 C/O contact
Contact type			Cadmium-free
Nominal current		A	5
Maximum switching voltage		V	$\sqrt{\text{---}}$ 250
Rated breaking capacity		VA	1250
Minimum breaking current		mA	10/ --- 5 V
Electrical durability			1 x 10 ⁵ operating cycles
Mechanical durability			30 x 10 ⁶ operating cycles
Maximum operating rate			360 operations/hour under full load
Utilisation categories	Conforming to IEC 60947-5-1		AC-12, AC-13, AC-14, AC-15, DC-12, DC-13, DC-14

Reference



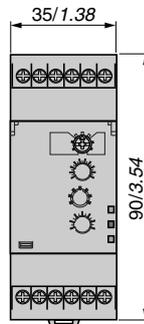
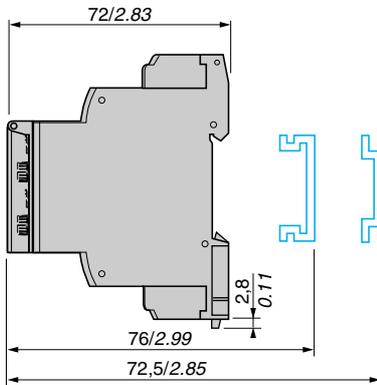
RM35 S0MW

Function	Supply V	Measurement Input	Output	Reference	Weight kg
<ul style="list-style-type: none"> Underspeed, Overspeed 	~ / \approx 24...240	<ul style="list-style-type: none"> 3-wire PNP or NPN proximity sensor (1), Namur proximity sensor, 0-30 V voltage, Volt-free contact. 	1 C/O 5 A	RM35 S0MW	0.130

(1) See page 3/80.

Dimensions

RM35 S0MW

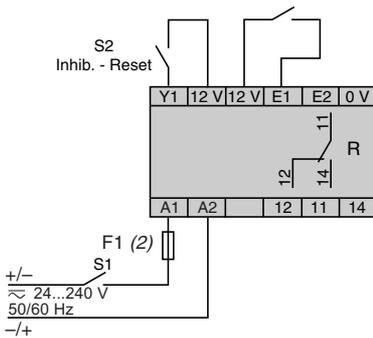


mm/in.

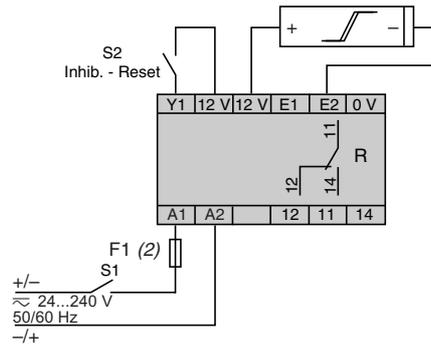
Schemes

RM35 S0MW

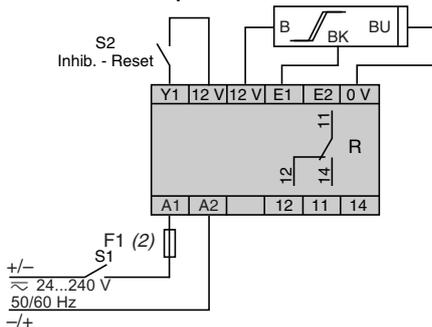
Contact input



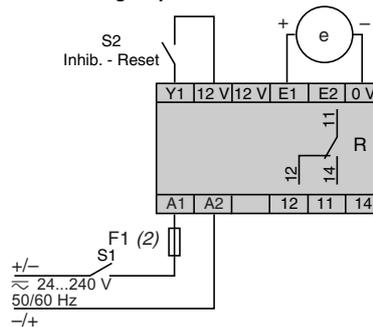
Namur proximity sensor input



NPN/PNP sensor input



0-30 V voltage input



(2) A quick-blow fuse or circuit-breaker.