



Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Frequency control relays
Relay name	RM35HZ21FM
Relay monitored parameters	Overfrequency and underfrequency 50 or 60 Hz
Time delay type	On crossing the threshold adjustable 0.1...10 s, +/- 10 %
Switching capacity in VA	1250 VA
Minimum switching current	10 mA at 5 V DC
Power consumption in VA	<= 6 VA AC
Measurement range	40...70 Hz frequency
Utilisation category	AC-12 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 DC-14 conforming to IEC 60947-5-1

Complementary

Reset time	2000 ms for time delay
Maximum switching voltage	250 V AC/DC
[Us] rated supply voltage	120...277 V AC
[Us] rated supply voltage	120...277 V AC
Supply voltage limits	102...308 V AC
Control circuit frequency	40...70 Hz
Width	1.38 in (35 mm)
Output contacts	1 C/O + 1 C/O
Contacts material	Cadmium free
Nominal output current	5 A
Input frequency	70 Hz
Measuring cycle	<= 200 ms measurement cycle as true rms value
Run-up delay at power-up	0.5 s
Hysteresis	0.3 % fixed
Measurement accuracy	+/- 10 % of the full scale value in time delay +/- 10 % of the full scale value in input
Repeat accuracy	+/- 0.5 % input and measurement circuit +/- 0.5 % time delay
Measurement error	+/- 0.05 %/°C with temperature variation < +/- 1 % over the whole range with voltage variation
Threshold setting	-10...2 Hz -2...10 Hz
Marking	CE : 73/23/EEC CE : EMC 89/336/EEC
Overvoltage category	III conforming to IEC 60664-1
Insulation resistance	> 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60255-5 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60664-1 > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60255-5 > 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60664-1

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	1 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60255-5 > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60664-1
[Ui] rated insulation voltage	400 V conforming to IEC 60664-1
Control circuit voltage limits	- 15 % + 10 % Un
Supply frequency	50/60 Hz +/- 10 %
Insulation	No galvanic insulation between supply and measurement
Operating position	Any position without derating
Connections - terminals	Screw terminals 1 x 0.5...1 x 4 mm ² - AWG 20...AWG 11, solid cable without cable end Screw terminals 2 x 0.5...2 x 2.5 mm ² - AWG 20...AWG 14, solid cable without cable end Screw terminals 1 x 0.2...1 x 2.5 mm ² - AWG 24...AWG 12, flexible cable with cable end Screw terminals 2 x 0.2...2 x 1.5 mm ² - AWG 24...AWG 16, flexible cable with cable end
Tightening torque	5.31...8.85 lbf.in (0.6...1 N.m) conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	1 LED green power ON 1 LED yellow correct frequency (high R1) 1 LED yellow correct frequency (low R2)
Mounting support	35 mm symmetrical DIN rail conforming to EN/IEC 60715
Electrical durability	100000 cycles
Mechanical durability	30000000 cycles
Operating rate	<= 360 operations/hour under full load

Environment

immunity to microbreaks	10 ms
electromagnetic compatibility	Emission standard for industrial environments conforming to EN/IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Immunity for industrial environments conforming to NF EN/IEC 61000-6-2
standards	IEC 60255-6 NF EN 60255-6
product certifications	CSA C-Tick GL GOST UL
ambient air temperature for storage	-40...158 °F (-40...70 °C)
ambient air temperature for operation	-4...122 °F (-20...50 °C)
relative humidity	95 % at 131 °F (55 °C) conforming to IEC 60068-2-30
vibration resistance	0.35 mm (f = 5...57.6 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1 1 gn (f = 57.6...150 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1
shock resistance	15 gn 11 ms conforming to IEC 60255-21-1
IP degree of protection	IP20(terminals) conforming to IEC 60529 IP30 (casing) conforming to IEC 60529
pollution degree	3 conforming to IEC 60664-1
dielectric test voltage	2 kV AC 50 Hz
non-dissipating shock wave	4 kV

Offer Sustainability

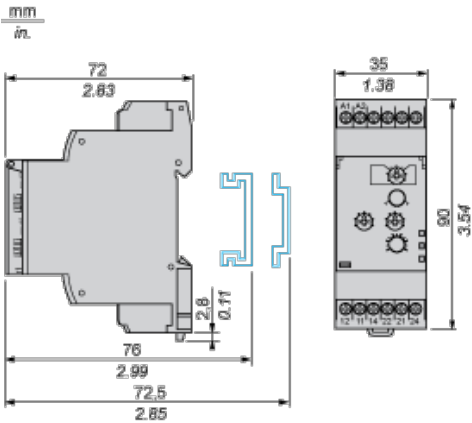
Green Premium product	Green Premium product
Compliant - since 0701 - Schneider Electric declaration of conformity	Compliant - since 0701 - Schneider Electric declaration of conformity
Reference not containing SVHC above the threshold	Reference not containing SVHC above the threshold
Available	Available
Available	Available
WARNING: This product can expose you to chemicals including:	WARNING: This product can expose you to chemicals including:
Lead and lead compounds, which is known to the State	Lead and lead compounds, which is known to the State of California to cause cancer

Contractual warranty

Warranty period	18 months
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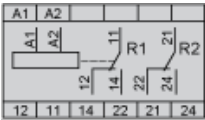
Frequency Control Relay

Dimensions and Mounting



Frequency Control Relay

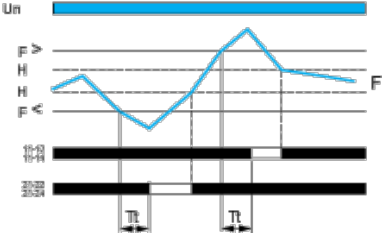
Wiring Diagram



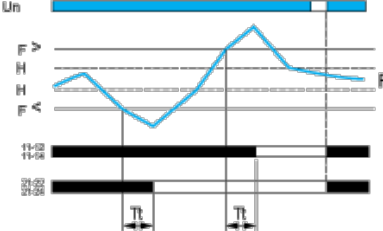
Function Diagrams

Over-Frequency and Under-Frequency Control on 50 Hz or 60 Hz Supplies

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

- Tt Time delay after crossing of threshold from 0.1 s to 10 s
- Un Supply voltage
- F Monitored frequency
- H Hysteresis
- F> Over-frequency threshold
- F< Under-frequency threshold

11-12, 11-14 R1 output relay connections

21-22, 21-24 R2 output relay connections

Relay status: black color = energized.

NOTE: In "Memory" mode, the relay opens after the time delay and stays in that position when crossing of the threshold is detected. The power supply voltage must be switched off to reset the product.