Product datasheet

Specifications



frequency control relay RM35-HZ - range 40..70 Hz

Local distributor code:

389834900 RM35HZ21FM

EAN Code: 3389119405201

Main

Range of product	Harmony Control Relays
Relay type	Frequency control relays
Product or component type	Frequency control relay
Relay name	RM35HZ21FM
Relay monitored parameters	Overfrequency and underfrequency 50 or 60 Hz
Time delay type	Adjustable 0.1...10 s, +/- 10 % Tt- time delay upon fault
Switching capacity in VA	1250 VA
Minimum switching current	10 mA at 5 V DC
Maximum power consumption in VA	6 VA AC
Measurement range	40...70 Hz
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 time delay
Maximum switching voltage	250 V AC/DC
[Us] rated supply voltage	120...277 V AC
[Un] rated nominal voltage	120...277 V AC, non self-powered
Supply voltage limits	102…308 V AC
Control circuit frequency	40...70 Hz
Width	35 mm
Output contacts	1 C/O + 1 C/O
Contacts material	Cadmium free
nominal output current	5 A
maximum input frequency	70 Hz
Maximum measuring cycle	200 ms measurement cycle as true rms value
delay at power up	0.5 s
Hysteresis	0.3 % fixed
Measurement accuracy	+/- 10 % of the full scale value in input +/- 10 % of the full scale value in time delay

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Repeat accuracy	+/- 0.5 % for input and measurement circuit +/- 0.5 % for time delay
Measurement error	+/- 0.05 %/°C with temperature variation < +/- 1 % over the whole range with voltage variation
Threshold setting	-2...10 Hz -10...2 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 > 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
operating voltage tolerance	- 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 mm² (20 AWG...11 AWG) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm² (20 AWG...14 AWG) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm² (24 AWG...12 AWG) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm² (24 AWG...16 AWG) flexible with cable end
Tightening torque	0.6…1 N.m conforming to IEC 60947-1
Housing material	Polycarbonate
local signalling	1 LED green for power ON 1 LED yellow for correct frequency (high R1) 1 LED yellow for correct frequency (low R2)
Mounting support	35 mm symmetrical DIN rail conforming to IEC 60715
Electrical durability	100000 cycles
Mechanical durability	30000000 cycles
Operating rate	<= 360 operations/hour full load
Control type	Without test button

Environment

Immunity to microbreaks	10 ms
Electromagnetic compatibility	Emission standard for industrial environments conforming to IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to 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	GL UL CSA C-Tick GOST

Ambient air temperature for storage	-40…70 °C
Ambient air temperature for operation	-20…50 °C
Relative humidity	95 % at 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 for 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

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.600 cm
Package 1 Width	8.000 cm
Package 1 Length	9.700 cm
Package 1 Weight	126.000 g
Unit Type of Package 2	S03
Number of Units in Package 2	48
Package 2 Height	30.000 cm
Package 2 Width	30.000 cm
Package 2 Length	40.000 cm
Package 2 Weight	6.838 kg

Logistical informations

Country of origin	ID

Contractual warranty

Warranty (in months)	18

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

Environmental Data explained >

How we assess product sustainability >

Environmental footprint

Total lifecycle Carbon footprint	**36 kg CO2 eq.**
Carbon footprint of the manufacturing phase [A1 to A3]	**8 kg CO2 eq.**
Carbon footprint of the distribution phase [A4]	**0 kg CO2 eq.**
Carbon footprint of the installation phase [A5]	**0 kg CO2 eq.**
Carbon footprint of the use phase [B2, B3, B4, B6]	**27 kg CO2 eq.**
Carbon footprint of the end-of-life phase [C1 to C4]	**0.2 kg CO2 eq.**
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances

Packaging made with recycled cardboard	**Yes**
Packaging without single use plastic	**Yes**
EU RoHS Directive	Compliant By Exemption
REACh Regulation	Reference contains Substances of Very High Concern above the threshold

Use Again

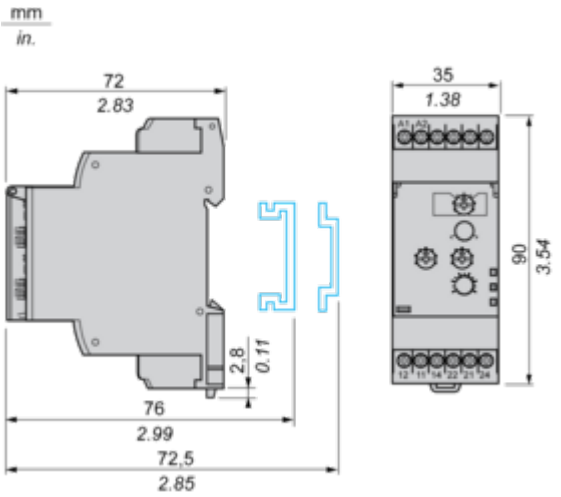
Repack and remanufacture

Recyclability potential, in %	**8**
End of life manual availability	End of Life Information
Take-back	**No**

Dimensions Drawings

Frequency Control Relay

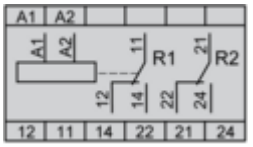
Dimensions and Mounting



Connections and Schema

Frequency Control Relay

Wiring Diagram

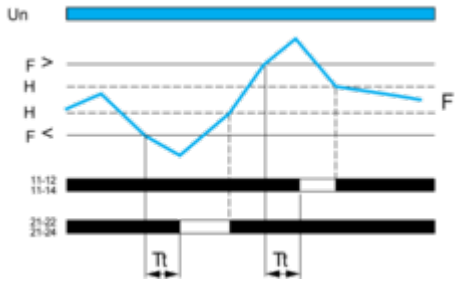


Technical Description

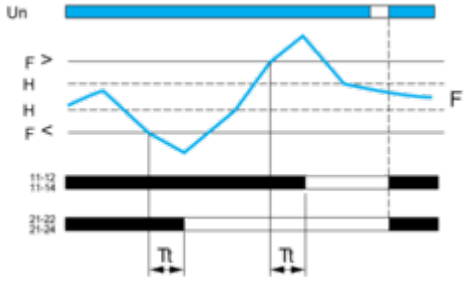
Function Diagrams

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

Without memory ("No Memory" mode)



With memory ("Memory" mode)



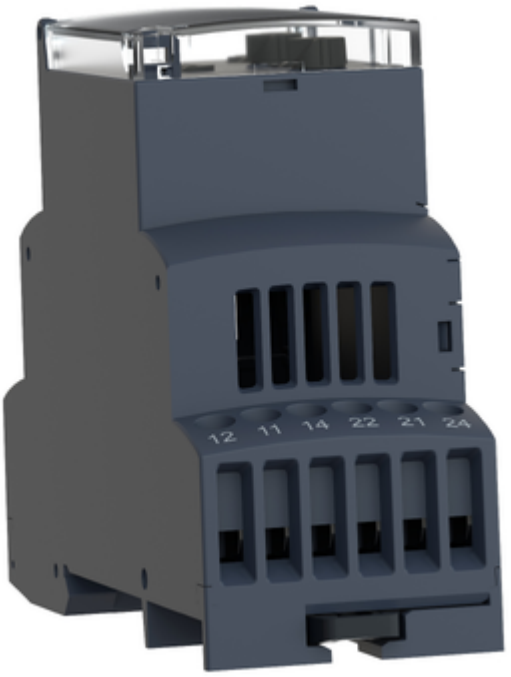
Legend

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.

Image of product / Alternate images

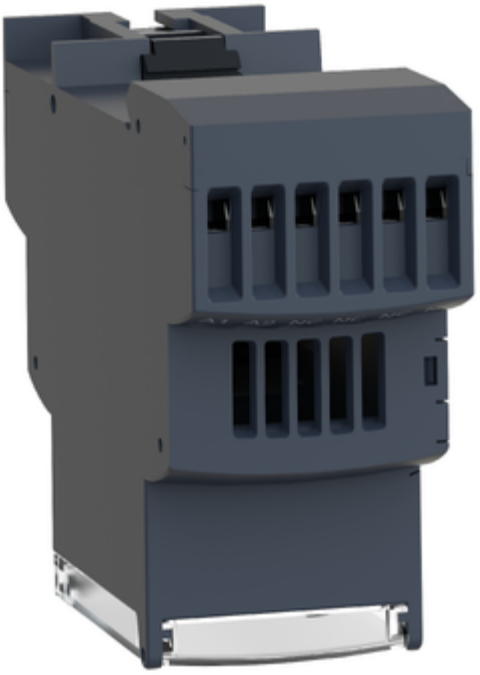
Alternative

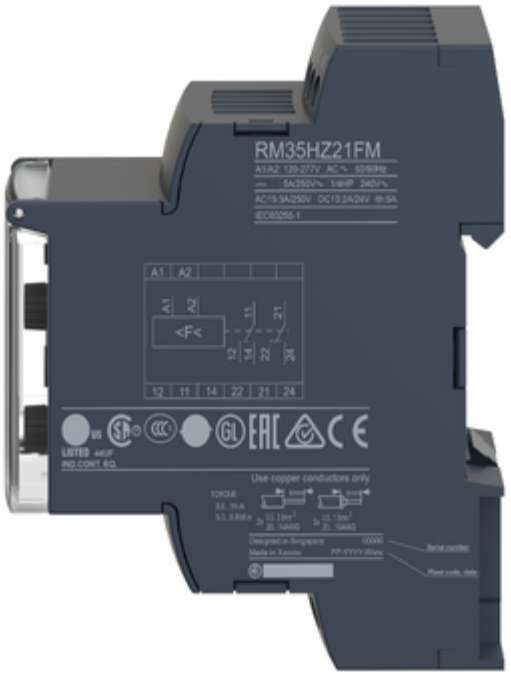




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RM35HZ21FM
A1 A2
<F<
12 11 14 22 21 24
Use copper conductors only

