Product datasheet
Characteristics

RM35S0MW
speed control relay RM35-S - 24..240 V AC/DC

Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Speed control relays
Relay name	RM35S
Relay monitored parameters	Overspeed Underspeed
Time delay range	0.6...60 s adjustable on energisation delay (tolerance: 0...10 % of the full scale value)
Switching capacity in VA	1250 VA
Minimum switching current	10 mA at 5 V DC
[Us] rated supply voltage	24...240 V AC/DC
Power consumption in VA	<= 5 VA AC
Measurement range	0.05...0.5 s 0.1...1 min 0.1...1 s 0.5...5 min 0.5...5 s 1...10 min 1...10 s
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	>= 50 ms contact S2 in memory mode on time delay 1 s supply Un in memory mode on time delay
Maximum switching voltage	250 V AC/DC
Supply voltage limits	20.4...264 V AC/DC
Power consumption in W	<= 3 W DC
Width	35 mm
Output contacts	1 C/O
Contacts material	Cadmium free
Nominal output current	5 A
Run-up delay at power-up	0.05 s
Hysteresis	5 % of threshold
Measurement accuracy	+/- 10 % of the full scale value
Repeat accuracy	+/- 0.5 % for input and measurement circuit +/- 0.5 % for time delay
Measurement error	+/- 0.1 %/°C with temperature variation < +/- 1 % over the whole range with voltage variation
Input frequency	0.0017...20 Hz
Response time	15 ms max on crossing the threshold
Polarity	Reversible polarity on DC supply
Threshold setting	10...100 %
[Us] rated supply voltage	11.5...12.5 V
Supply current for sensors	40 mA for < 24 V AC at 25 °C 40 mA for < 24 V DC at 25 °C 50 mA for 24...240 V AC

	50 mA for 24...240 V DC
Impulse duration	>= 5 ms high state >= 5 ms low state
Input compatibility	3-wire sensor (E1) PNP or NPN, 12 V, 50 mA NAMUR sensor (E2), 12 V, 1.5 kOhm Voltage input (E1), 0...30 V, 9.5 kOhm, high state >= 4.5 V low state <= 1 V Volt-free contact input (E1), 12 V, 9.5 kOhm
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	250 V conforming to IEC 60664-1
Control circuit voltage limits	- 15 % + 10 % Un
Supply frequency	50/60 Hz +/- 10 %
Operating position	Any position without derating
Connections - terminals	Screw terminals 1 x 0.5...1 x 4 mm² - AWG 20...AWG 11, solid cable without cable end Screw terminals 2 x 0.5...2 x 2.5 mm² - AWG 20...AWG 14, solid cable without cable end Screw terminals 1 x 0.2...1 x 2.5 mm² - AWG 24...AWG 12, flexible cable with cable end Screw terminals 2 x 0.2...2 x 1.5 mm² - AWG 24...AWG 16, flexible cable with cable end
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	1 LED green for power ON 1 LED yellow for inhibit 1 LED yellow for relay (R)
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	50 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...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

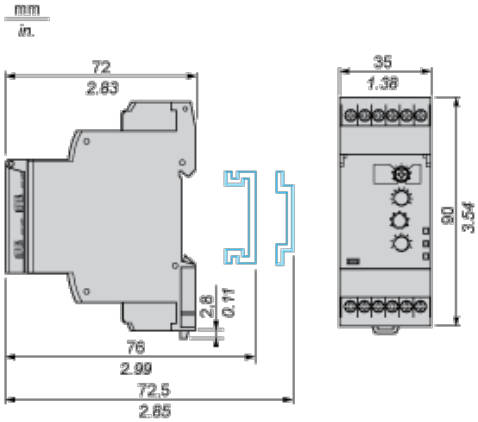
dielectric test voltage	2 kV AC 50 Hz
non-dissipating shock wave	4 kV

Offer Sustainability

Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 0701 - Schneider Electric declaration of conformity
REACh	Reference not containing SVHC above the threshold
Product environmental profile	Available
Product end of life instructions	Available

Speed Control Relays

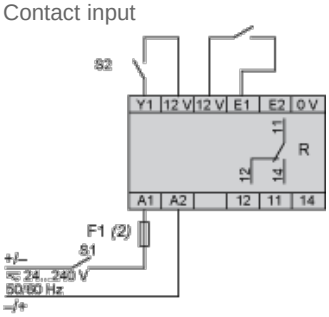
Dimensions and Mounting



Speed Control Relays

Wiring Diagrams

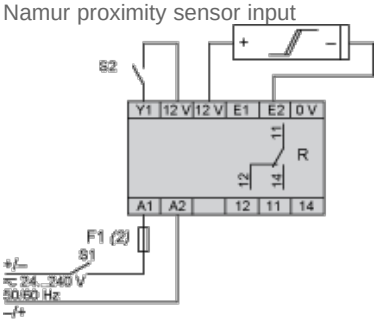
Contact input



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

S2 Inhibit - Reset

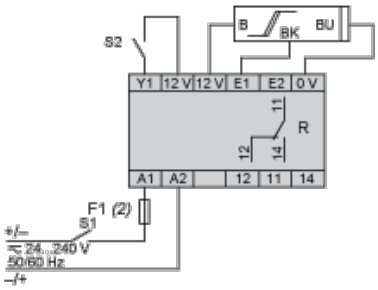
Namur proximity sensor input



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

S2 Inhibit - Reset

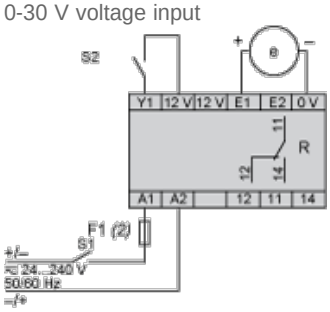
NPN/PNP sensor input



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

S2 Inhibit - Reset

0-30 V voltage input



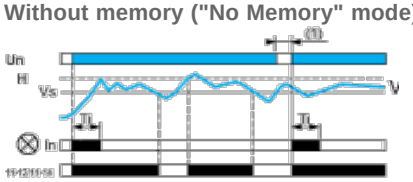
(2) A quick-blow fuse or circuit-breaker.

S2 Inhibit - Reset

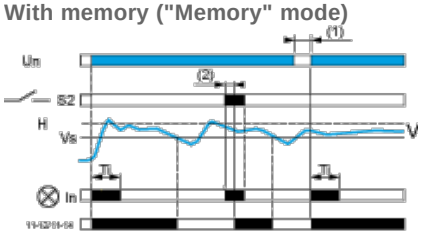
Function Diagrams

Underspeed Control

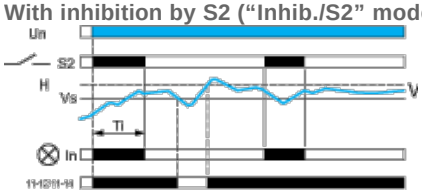
Without memory ("No Memory" mode)



With memory ("Memory" mode)

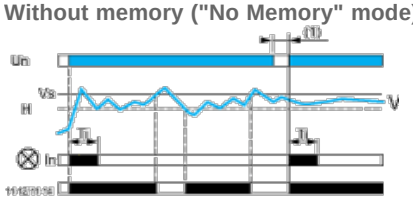


With inhibition by S2 (“Inhib./S2” mode)

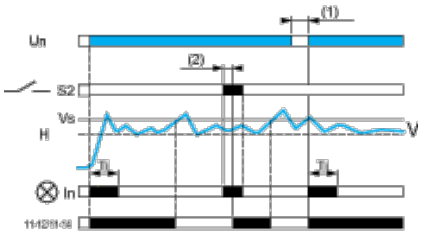


Overspeed Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

Ti Starting inhibition time delay

Un Supply voltage

V Monitored speed

H Hysteresis

Vs Overspeed threshold

S2 Inhibition external contact

In LED indicating the inhibition status

(1) Power break to reset the output relay

(2) S2 contact closure to make the output relay return to normal state

11-12/11-14 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.

With inhibition by S2 (“Inhib./S2” mode)