



Main

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| Range of product | Zelio Control |
| Product or component type | Modular measurement and control relays |
| Relay type | Current control relay |
| Relay name | RM35JA |
| Relay monitored parameters | Overcurrent or undercurrent detection Overcurrent or undercurrent in window mode |
| Time delay | Adjustable 0.3...30 s, 0 + 10 % on crossing the threshold Tt Adjustable 1...20 s, 0 + 10 % on energisation Ti |
| Switching capacity in VA | 1250 VA |
| Minimum switching current | 10 mA at 5 V DC |
| Maximum switching current | 5 A AC |
| Power consumption in VA | <= 3.5 VA AC |
| Measurement range | 50...500 mA E3-M terminals 2...500 mA current 2...20 mA E1-M terminals 10...100 mA E2-M terminals |
| Utilisation category | DC-14 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-12 conforming to IEC 60947-5-1 |

Complementary

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|-----------------------------|-----------------------------------------------------------------------------------------------|
| Reset time | 1500 ms for time delay |
| Maximum switching voltage | 250 V AC |
| [Us] rated supply voltage | 24...240 V AC/DC, 50/60 Hz +/- 10 % |
| Supply voltage limits | 20.4...264 V AC/DC |
| Operating voltage tolerance | - 15 % + 10 % Un |
| Power consumption in W | <= 0.6 W DC |
| Control circuit frequency | 40...70 Hz +/- 10 % |
| Resistance across terminals | 0.2 Ohm E3-M terminals 5 Ohm E1-M terminals 1 Ohm E2-M terminals |
| Output contacts | 2 C/O |
| Nominal output current | 5 A |
| Measuring cycle | <= 30 ms measurement cycle as true rms value |
| Hysteresis | 5...50 % of threshold setting |
| Delay at power up | 0.3 s |
| Measurement accuracy | +/- 10 % of the full scale value |
| Repeat accuracy | +/- 2 % for time delay +/- 0.5 % for input and measurement circuit |
| Measurement error | 1 by volt over the whole range with voltage variation 0.05 %/°C with temperature variation |
| Polarity | No DC |
| Threshold setting | 10...100 % |

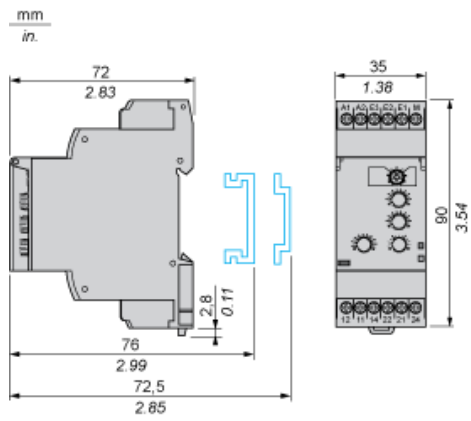
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| Marking | CE : 73/23/EEC CE : EMC 89/336/EEC |
| Overvoltage category | III conforming to IEC 60664-1 |
| Insulation resistance | > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60664-1 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60255-5 > 500 MOhm at 500 V DC between supply 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 measurement and relay output conforming to IEC 60664-1 > 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60255-5 |
| [Ui] rated insulation voltage | 250 V conforming to IEC 60664-1 |
| Operating position | Any position without derating |
| Connections - terminals | Screw terminals 2 x 0.2...2 x 1.5 mm ² - AWG 24...AWG 16, flexible cable with 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 0.5...2 x 2.5 mm ² - AWG 20...AWG 14, solid cable without cable end Screw terminals 1 x 0.5...1 x 4 mm ² - AWG 20...AWG 11, solid cable without cable end |
| Tightening torque | 0.6...1 N.m conforming to IEC 60947-1 |
| Housing material | Self-extinguishing plastic |
| Local signalling | LED yellow for relay ON LED green for power ON |
| 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 |
| Contacts material | Cadmium free |
| Width | 35 mm |
| Product weight | 0.13 kg |

Environment

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|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Immunity to microbreaks | 50 ms |
| Electromagnetic compatibility | Immunity for industrial environments conforming to NF EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Emission standard for industrial environments conforming to EN/IEC 61000-6-4 |
| Standards | EN/IEC 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 | 1 gn (f = 57.6...150 Hz) conforming to IEC 60255-21-1 0.35 mm (f = 5...57.6 Hz) conforming to IEC 60068-2-6 |
| Shock resistance | 15 gn for 11 ms conforming to IEC 60255-21-1 |
| IP degree of protection | IP30 (casing) conforming to IEC 60529 IP20 (terminals) conforming to IEC 60529 |
| Pollution degree | 3 conforming to IEC 60664-1 |
| Dielectric test voltage | 2 kV AC 50 Hz, 1 min conforming to IEC 60664-1 2 kV AC 50 Hz, 1 min conforming to IEC 60255-5 |
| Non-dissipating shock wave | 4 kV conforming to IEC 61000-4-5 4 kV conforming to IEC 60664-1 4 kV conforming to IEC 60255-5 |

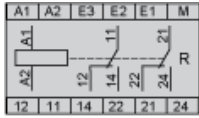
Current Control Relays

Dimensions and Mounting



Current Control Relays

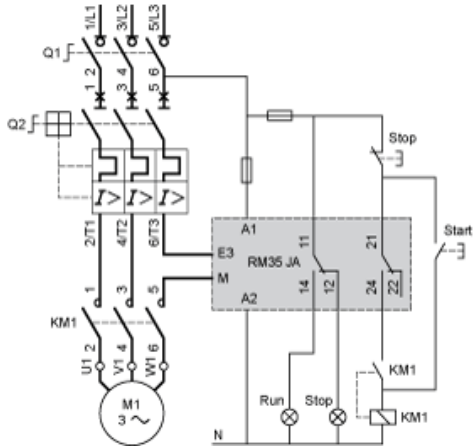
Wiring Diagram



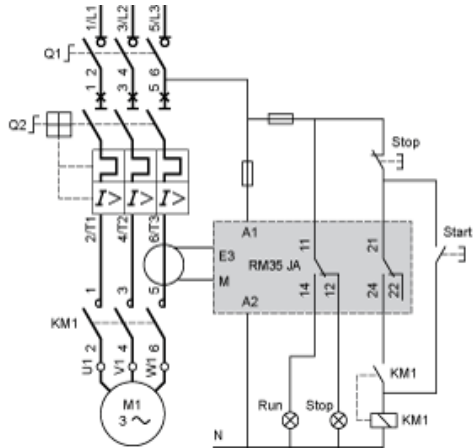
Application Schemes

Example: Detection of Jamming on a Crusher (Overcurrent Function)

Current measured ≤ 15 A



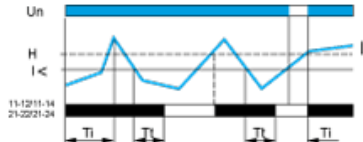
Current measured > 15 A



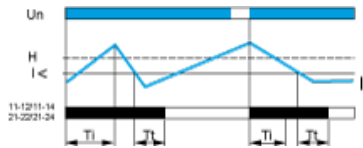
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

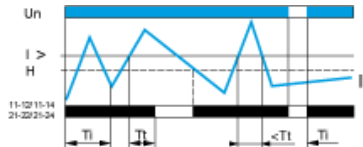


With memory ("Memory" mode)



Overcurrent Detection

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

- Ti Starting inhibition time delay
- Tt Time delay after crossing of threshold
- Un Supply voltage
- I Monitored current
- H Hysteresis
- I> Overcurrent threshold
- I< Undercurrent threshold
- 11-12/11-14, 21-22/21-24 Output relay connections

Relay status: black color = energized.

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