Product datasheet
Characteristics

RM35BA10
pump control relay RM35-BA - range 1..10 A

Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Pump control relays
Product specific application	For 3-phase and single-phase pump
Relay name	RM35BA
Relay monitored parameters	Overcurrent and undercurrent control Phase failure on 3-phase supply Phase sequence on 3-phase supply
Time delay type	Ti on energisation adjustable 1...60 s, +/- 10 % Reset on terminal Y2 fixed 0.3 s Tt 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
Maximum switching current	5 A AC/DC
Power consumption in VA	<= 5 VA AC
Measurement range	1...10 A AC
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

Complementary

Reset time	2000 ms
Maximum switching voltage	250 V AC/DC
[Us] rated supply voltage	208...480 V AC 3 phases 230 V AC single phase
[Us] rated supply voltage	208...480 V AC 3 phases 230 V AC 1 phase
Supply voltage limits	183...528 V AC
Control circuit voltage limits	- 15 % + 10 % Un
Resistance across terminals	0.01 Ohm E1-L2 terminals
Width	35 mm
Output contacts	1 C/O
Nominal output current	5 A
Measuring cycle	<= 140 ms as true rms value
Run-up delay at power-up	0.5 s
Hysteresis	5 % of threshold
Measurement accuracy	+/- 10 % of the full scale value
Repeat accuracy	+/- 1 % for input and measurement circuit +/- 1 % for time delay
Measurement error	+/- 0.05 %/°C 1 % by volt over the whole range
Response time	< 300 ms in the event of a fault
Input current	11 A permanent at 25 °C E1-L2 terminals 50 A non repetitive < 1 s at 25 °C E1-L2 terminals
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 60255-5 > 500 MOhm at 500 V DC between measurement and relay output conforming to 60664-1 > 1 MOhm at 500 V DC between supply and measurement conforming to 60255-5 > 500 MOhm at 500 V DC between supply and relay output conforming to 60664-1 > 500 MOhm at 500 V DC between measurement and relay output conforming to 60255-5 > 1 MOhm at 500 V DC between supply and measurement conforming to 60664-1
[Ui] rated insulation voltage	400 V conforming to IEC 60664-1
Supply frequency	50/60 Hz +/- 10 %
Operating position	Any position
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 fault 1 LED yellow for relay 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

Environment

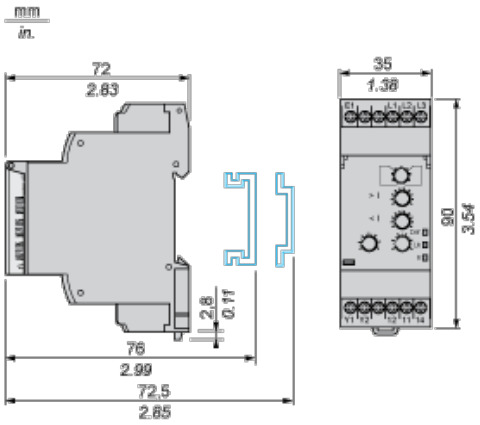
immunity to microbreaks	500 ms
electromagnetic compatibility	Emission standard for industrial environments conforming to EN/IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Immunity for industrial environments conforming to NF EN/IEC 61000-6-2
standards	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	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 strength	2 kV AC 50 Hz (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

3-Phase and Single-Phase Pump Control Relays

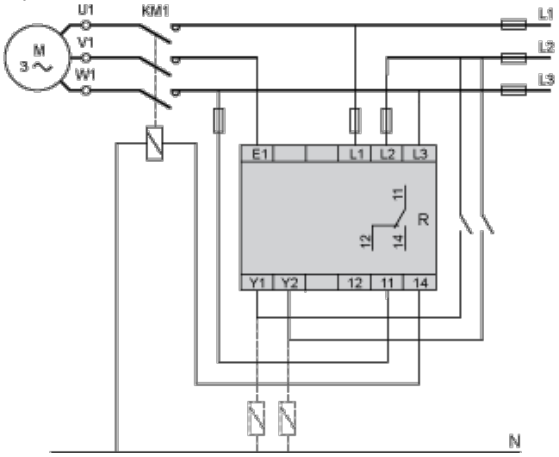
Dimensions and Mounting



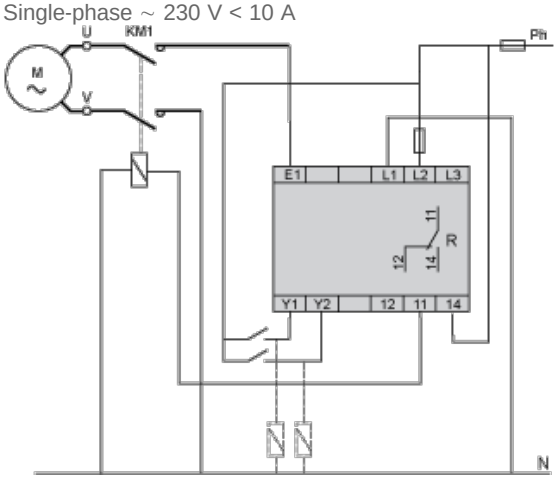
3-Phase and Single-Phase Pump Control Relays

Wiring Diagrams

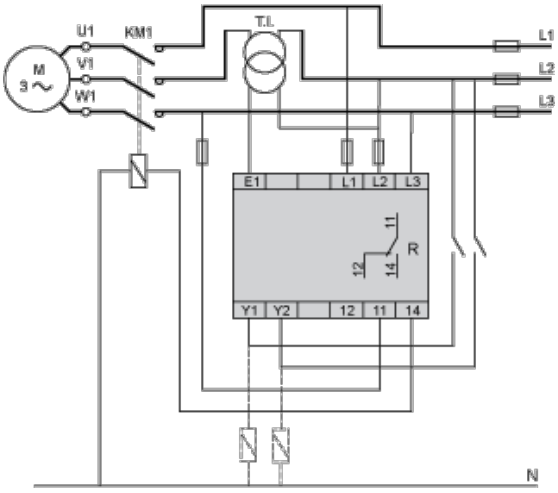
3-phase < 10 A



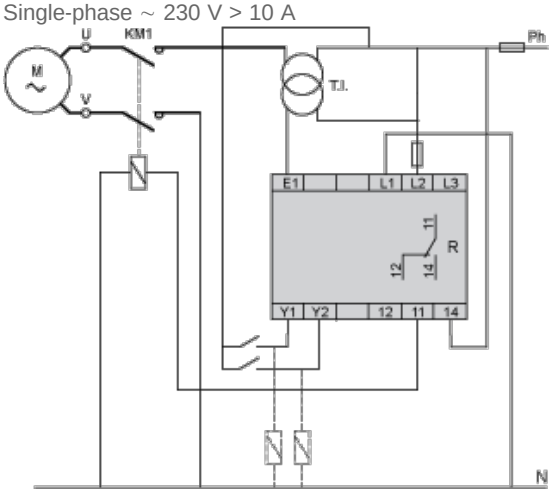
Single-phase ~ 230 V < 10 A



3-phase > 10 A



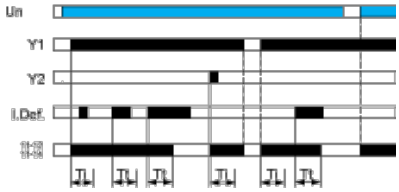
Single-phase ~ 230 V > 10 A



Function Diagrams

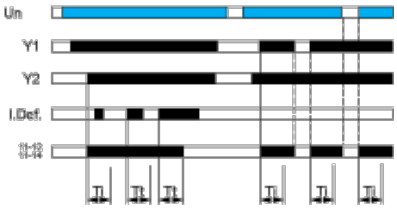
Single Control Mode

This mode is designed to control a pump via an external signal. The relay output is closed when the signal is present at Y1 (contact closed). Y2 can be used to reset the relay after a current fault.



Double Control Mode

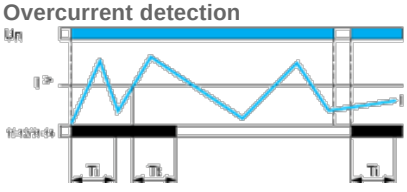
This mode is designed to control a pump via two external control signals (Y1 and Y2). The output relay closes when both input signals are present (Y1 and Y2 closed).



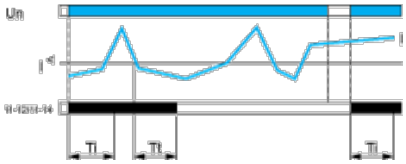
Current Control

If the control relay is configured for a single-phase supply, it monitors the current consumed by the pump. If the control relay is configured for a 3-phase supply, it monitors the current, phase sequence and phase failure.

Overcurrent detection



Undercurrent Detection



Legend

Ti Time delay to inhibit fault monitoring on starting of pump
Tt Time delay in the event of a fault
Un 3-phase or single-phase power supply
I Monitored current
I < Undercurrent threshold
I > Overcurrent threshold
I. Def Presence of a current fault
11-12, 11-14 Output relay connections
Relay status: black color = energized.