Features

Special relay for alternating loads, for applications with pumps, compressors, air conditioning or refrigeration units

- 2 independent NO output, 12 A
- 4 functions
- 2 independent control signals, insulated from supply
- 110...240 V and 24 V AC/DC supply versions
- Modular housing, 35 mm wide
- 35 mm rail (EN 60715) mount
- Cd-free contact material

Screw terminal

72.42

- Multi-function (MI, ME, M2, M1)

For outline drawing see page 6

Contact specification			
Contact configuration		2 NO (2 SPST-NO)	
Rated current / Max. peak current	A	12 / 20	
Rated voltage / Max. switching voltage	V AC (50/60 Hz)	250 / 400	
Rated load AC1	VA	3,000	
Rated load AC15	VA	1,000	
Single phase motor rating (230 V AC)	kW	0.55	
Breaking capacity DC1: 30/110/220 V	A	12 / 0.3 / 0.12	
Minimum switching load	mW (V/mA)	300 (5 / 5)	
Standard contact material		AgNi	
Supply specification			
Nominal voltage (U_N)	V AC (50/60 Hz) / DC	24	110 ... 240
Rated power	in stand-by W	0.12	0.18
	with 2 active relays W/VA(50 Hz)	1.1 / 1.7	1.5 / 3.9
Operating range	V AC (50/60 Hz)	16.8...28.8	90...264
	V DC	16.8...32	90...264
Technical data			
Electrical life at rated load AC1	cycles	100 x 10^3	
Output delay time (T on function diagrams)	s	0.2...20	
Power-on activation time	s	≤ 0.7	
Minimum impulse duration	ms	50	
Insulation between supply and contacts (1.2/50 µs)	kV	6	
Dielectric strength between open contacts	V AC	1,000	
Ambient temperature	°C	–20...+50	
Protection category		IP20	
Approvals (according to type)		CE	

Ordering information

Example: 72 series Priority change relay, 2 output 12 A, supply voltage 110…240 V AC/DC.

7 2 . 4 2 . 0 . 2 3 0 . 0 0 0 0

Series

Type
4 = Priority change relay, 35 mm wide

Output
2 = 2 NO (SPST-NO)

Supply version
0 = DC / AC (50/60 Hz)

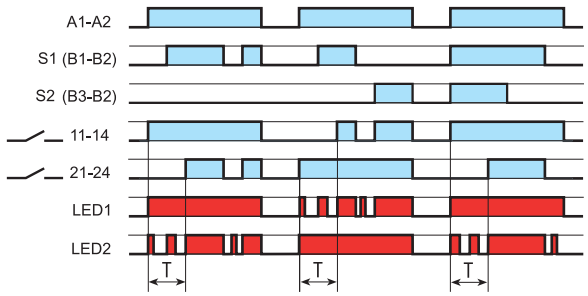
Supply voltage
024 = 24 V
230 = 110 ... 240 V

Codes
72.42.0.230.0000
72.42.0.024.0000

Technical data

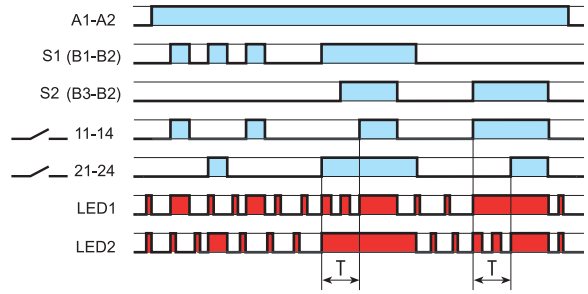
Insulation			**Dielectric strength**	**Impulse (1.2/50 µs)**
	between supply and contacts		4,000 V AC	6 kV
	between supply and control (for 110…240 V version only)		2,500 V AC	4 kV
	between open contacts		1,000 V AC	1.5 kV
EMC specifications				
Type of test			**Reference standard**	
Electrostatic discharge	contact discharge		EN 61000-4-2	4 kV
	air discharge		EN 61000-4-2	8 kV
Radiated electromagnetic field	80…1,000 MHz		EN 61000-4-3	10 V/m
	1…2.8 GHz		EN 61000-4-3	5 V/m
Fast transients	on supply terminals		EN 61000-4-4	4 kV
(burst 5/50 ns, 5 and 100 kHz)	on control terminals		EN 61000-4-4	4 kV
Voltage pulses on supply terminals	common mode		EN 61000-4-5	4 kV
(surge 1.2/50 µs)	differential mode		EN 61000-4-5	4 kV
Radiofrequency common mode	on supply terminals		EN 61000-4-6	10 V
voltage (0.15…230 MHz)	on control terminals		EN 61000-4-6	10 V
Voltage dips	70 % U_N		EN 61000-4-11	25 cycles
Short interruptions			EN 61000-4-11	1 cycle
Radiofrequency conducted emissions	0.15…30 MHz		CISPR 11	class B
Radiated emissions	30…1,000 MHz		CISPR 11	class B
Terminals				
Screw torque		Nm	0.8	
Wire strip length		mm	9	
Max. wire size			solid cable	stranded cable
		mm^2	1x6 / 2x4	1x4 / 2x2.5
		AWG	1x10 / 2x12	1x12 / 2x14
Other data				
Power lost to the environment	without contact current, 1 relay on	W	0.9	
	with rated current, 2 relays on	W	3.0	
Current absorption on control signal (B1-B2 and B3-B1)			5 mA, 5 V	

Functions



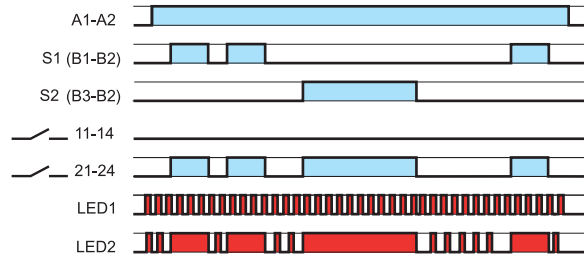
(MI) Outputs alternate on successive applications of supply voltage

- Application of the supply voltage to A1-A2 forces just one output contact to close, but the contact that closes will alternate between 11-14 and 21-24 on each successive application of the supply – ensuring even wear across both motors.
- The other output contact can be forced closed by the closure of either S1 or S2 - but to limit high current surges the other motor cannot start within T seconds of the first motor.



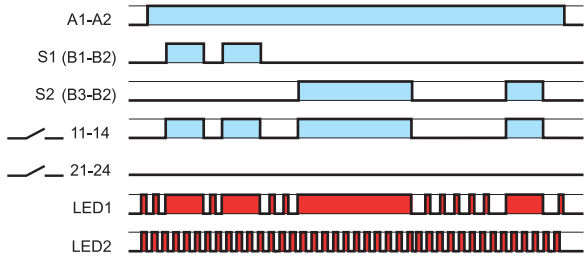
(ME) Outputs alternate according to control signal

- The supply voltage is permanently applied to A1-A2. When closed, S1 forces just one output contact to close. The contact that closes will alternate between 11-14 and 21-24 on each successive S1 closure - ensuring even wear across both motors.
- If closed, S2 forces both output contacts to close (irrespective of S1). However, to limit high current surges, both motors cannot start within T seconds of each other.



(M2) Output 2 (21-24) only

- Supply permanently applied to A1-A2.
- Closure of either S1 or S2 will close output contact 2 (21-24). Use when load 1 (11-14) is out of service.



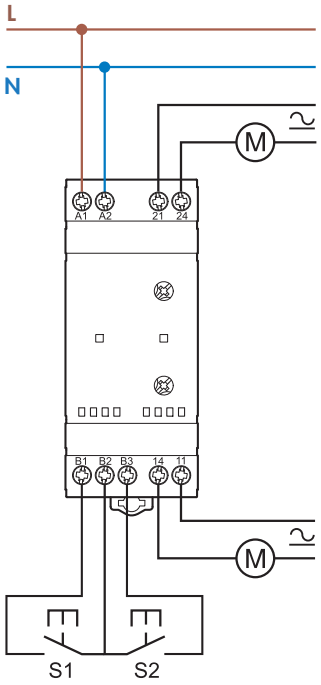
(M1) Output 1 (11-14) only

- Supply permanently applied to A1-A2.
- Closure of either S1 or S2 will close output contact 1 (11-14). Use when load 2 (21-24) is out of service.

LED indications

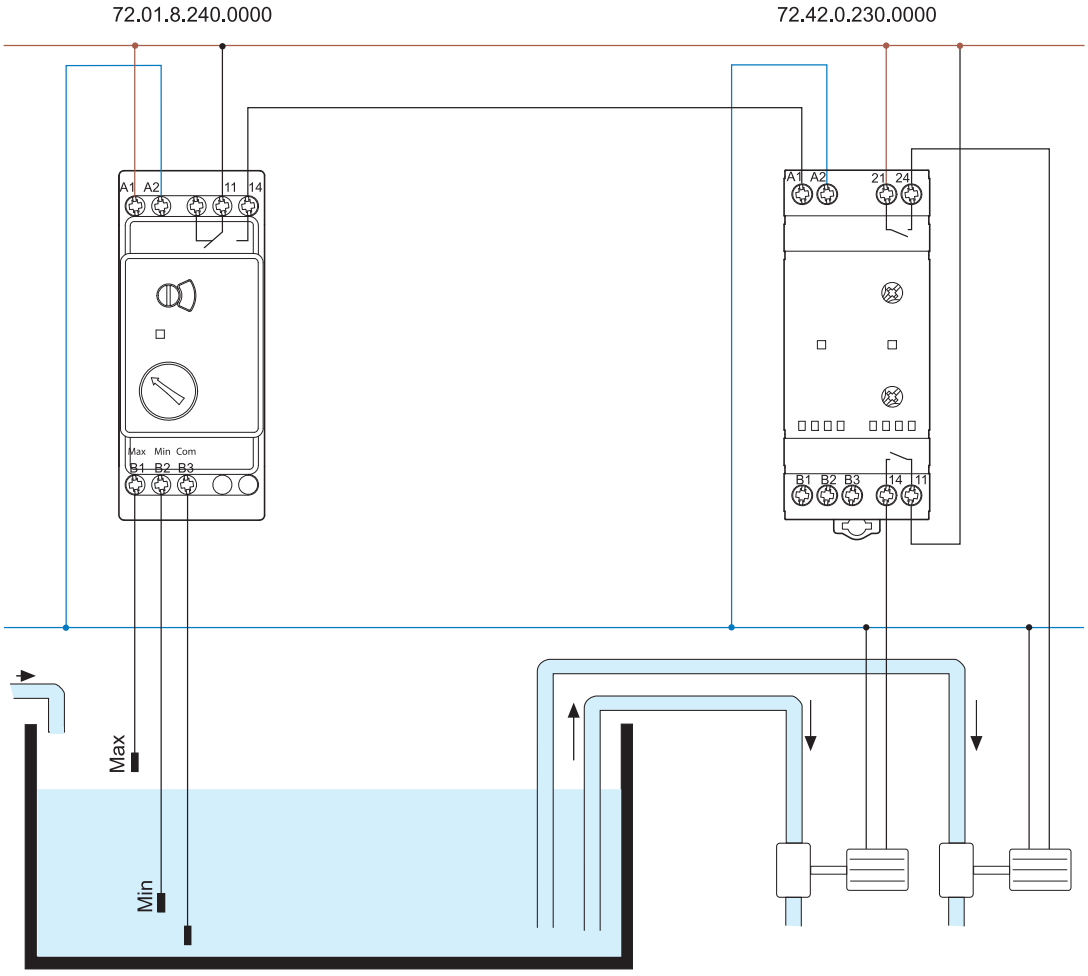
	LED
1 device in stand-by, output not activated	
2 output not activated, timing in progress	
3 output not activated (only functions M1/M2)	
4 output activated	

Wiring diagrams



MI function example

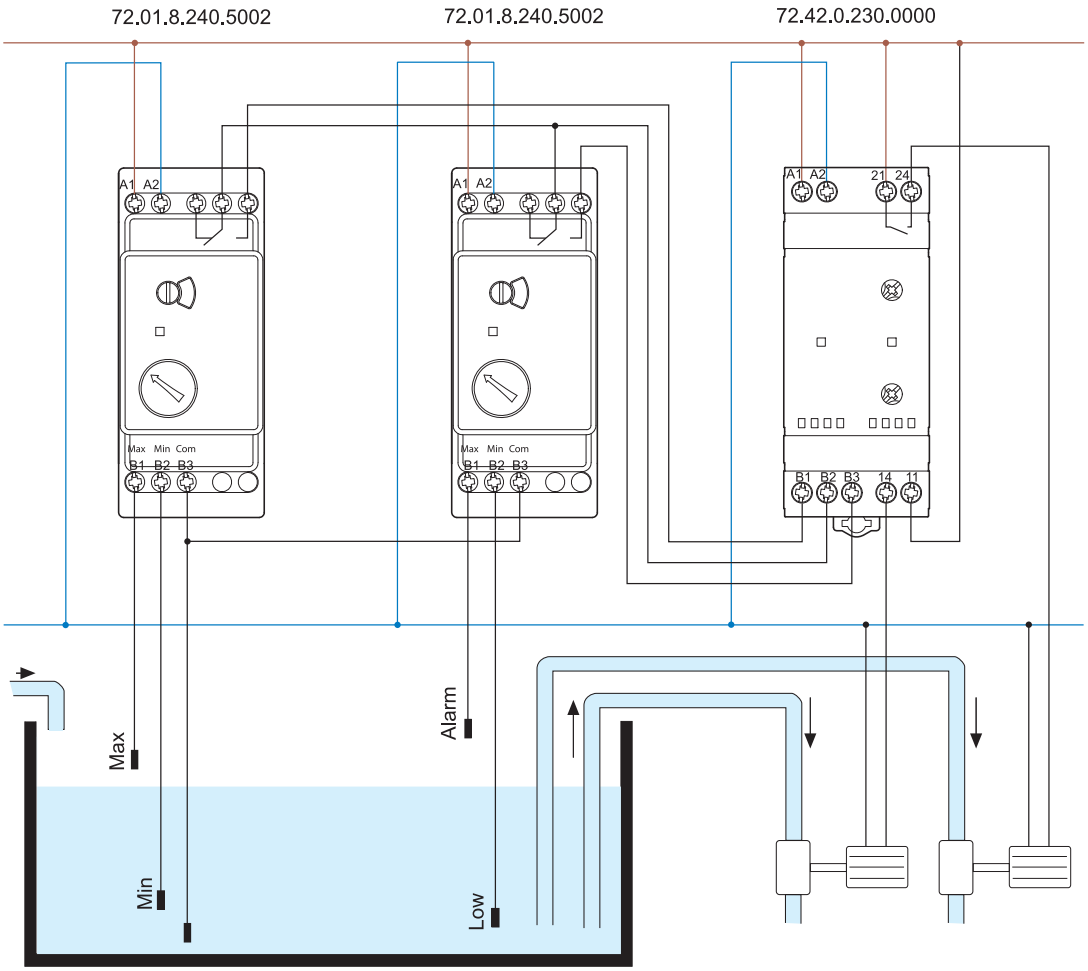
This shows the 72.42 Priority change relay working in conjunction with a single 72.01 level controller. Under normal conditions the liquid level is expected to remain within the range shown as Min to Max. In this case the function of the 72.42 will be to alternate the duty between both pumps, to even wear across both pumps.
There is no provision to run both pumps simultaneously.



ME function example

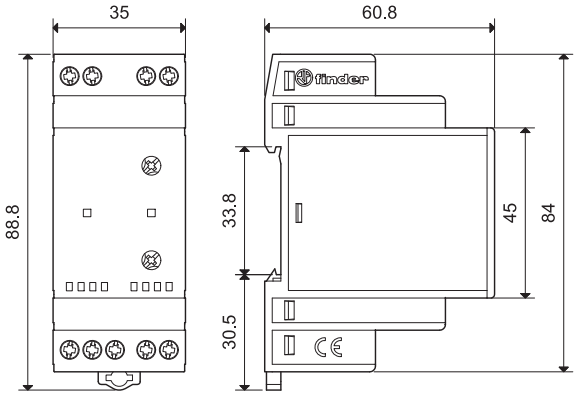
This shows the 72.42 Priority change relay working in conjunction with two 72.01 level controllers. Under normal conditions the liquid level is expected to remain within the range shown as Min to Max. In this case the function of the 72.42 will be to alternate the duty between both pumps, to even wear across both pumps.
Should the liquid level rise above the Alarm level then the function of the 72.42 will call for the simultaneous operation of both pumps, by virtue of the signal to terminal B3 from the Alarm/Low level controller.

Note: due to the low level of 72.42 control signals, it is suggested to use level controller 72.01.8.240.5002 because of its superior low load switching capability.



Outline drawings

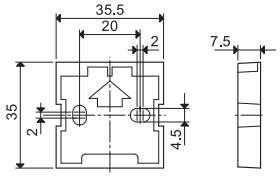
72.42
Screw terminal

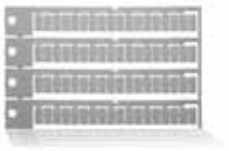


Accessories

011.01

Adaptor for panel mounting, plastic, 35 mm wide	011.01





060.72

Sheet of marker tags, plastic, 72 tags, 6 x 12 mm	060.72

019.01

Identification tag, plastic, 1 tag, 17 x 25.5 mm	019.01

020.03

Separator for rail mounting, plastic, 3 mm wide	020.03