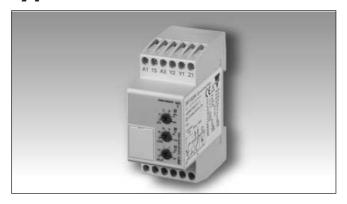
Monitoring Relays 1-Phase True RMS AC/DC Over or Under Current Type DIB71





- TRMS AC/DC over or under current monitoring relay
- Current measuring through internal shunt
- · Selection of measuring range by DIP-switches
- Measuring ranges from 0.1 mA to 5 A AC/DC
- Adjustable current on relative scale
- . Adjustable hysteresis on relative scale
- Adjustable delay function (0.1 to 30 s)
- Programmable latching or inhibit at set level
- Output: 5 A SPDT relay N.D. or N.E. selectable
- For mounting on DIN-rail in accordance with DIN/EN 50 022
- 35.5 mm DIN-rail housing
- LED indication for relay, alarm and power supply ON
- Galvanically separated power supply

Product Description

DIB71 is a precise TRMS AC/DC over or under current (selectable by DIP-switch) monitoring relays. Direct measuring or through current transformer.

Owing to the built-in latch function, the ON-position of the relay output can be maintained. Inhibit function can be used to avoid relay operation when not desired (maintenance, transitions).

The LED's indicate the state of the alarm and the output relay. Through the built-in shunt it is possible to monitor loads up to 5 A AC/DC. 35.5 mm wide housing suitable both for back and front panel mounting.

Ordering Key Housing Function Type Item number Output Power supply Measuring range

Type Selection

Mounting	Output	Measuring range	Supply: 24/48 VAC	Supply: 115/230 VAC
DIN-rail	SPDT	0.1 to 5 mA AC/DC	DIB 71 C B48 5mA	DIB 71 C B23 5mA
DIN-rail	SPDT	1 to 50 mA AC/DC	DIB 71 C B48 50mA	DIB 71 C B23 50mA
DIN-rail	SPDT	10 to 500 mA AC/DC	DIB 71 C B48 500mA	DIB 71 C B23 500mA
DIN-rail	SPDT	0.1 to 5 A AC/DC	DIB 71 C B48 5A	DIB 71 C B23 5A

Input Specifications

Input	Terminals Y1, Y2		Measuring ranges (cont.)			
Current level			5A: 0.1 to 1 A AC/DC		Internal resist. 0.03Ω	Max. curr. 6 A
Measuring ranges 5MA: 0.1 to 1 mA AC/DC 0.2 to 2 mA AC/DC	Internal resist. 100 Ω 100 Ω	Max. curr. 40 mA 40 mA	0.2 to 2 A AC/DC 0.5 to 5 A AC/DC Max. current for 1 s		0.03 Ω 0.03 Ω	6 A 6 A 15 A
0.5 to 5 mA AC/DC Max. current for 1 s	100 Ω	40 mA 100 mA	TADK2	CT (examples) 50 A/5 A	AAC _{rms} 5 to 50 A	Max. curr. 60 A
50MA: 1 to 10 mA AC/DC 2 to 20 mA AC/DC 5 to 50 mA AC/DC Max. current for 1 s	10 Ω 10 Ω 10 Ω	120 mA 120 mA 120 mA 300 mA	TAD2 TAD6 TAD12 TACO200	150 A/5 A 400 A/5 A 1000 A/5 A 6000 A/5 A	15 to 150 A 40 to 400 A 100 to 1000 A 600 to 6000 A	180 A 480 A 1200 A 7200 A
500MA:10 to 100 mA AC/DC 20 to 200 mA AC/DC 50 to 500 mA AC/DC Max. current for 1 s	1 Ω 1 Ω 1 Ω	700 mA 700 mA 700 mA 1.4 A	Contact in Disabled Enabled Latch disa	•	Terminals Z1, Y1 > 10 k Ω < 500 Ω > 500 ms	1



Output Specifications

Output Rated insulation voltage	SPDT relay 250 VAC		
Contact ratings (AgSnO ₂) Resistive loads AC 1 DC 12 Small inductive loads AC 15 DC 13	μ 5 A @ 250 VAC 5 A @ 24 VDC 2.5 A @ 250 VAC 2.5 A @ 24 VDC		
Mechanical life	≥ 30 x 10 ⁶ operations		
Electrical life	\geq 10 ⁵ operations (at 5 A, 250 V, cos φ = 1)		
Operating frequency	≤ 7200 operations/h		
Dielectric strength Dielectric voltage Rated impulse withstand volt.	2 kVAC (rms) 4 kV (1.2/50 μs)		

Supply Specifications

Power supply Rated operational voltage through terminals: A1, A2 or A3, A2	Overvoltage cat. III (IEC 60664, IEC 60038)	
B48:	24/48 VAC ± 15%	
	45 to 65 Hz, insulated	
B23:	115/230 VAC ± 15%	
	45 to 65 Hz, insulated	
Dielectric voltage		
Supply to input	4 kV (1.2/50 μs)	
Supply to output	4 kV (1.2/50 µs)	
Input to output	4 kV (1.2/50 µs)	
Rated operational power AC	3 VA	

Mode of Operation

DIB71 monitors both AC and DC over or under current through an internal shunt.

Example 1

(connection between terminals Z1, Y1 - latching function enabled)

The relay operates and latches in operating position when the measured value exceeds (or drops below) the set level for more than the set delay time. Provided that the current has dropped below (or has exceeded) the set point (see hysteresis setting), the relay releases when the interconnection between terminals Z1, Y1 is interrupted or the power supply is interrupted as well.

The red LED flashes until the delay time has expired or the measured value comes back

to a non-alarm value (see hysteresis setting).

Example 2 (Stardard CT)

(no connection between terminals Z1, Y1 - latch function disabled)

The relay operates when the measured value exceeds (or drops below) the set level for more than the set delay time. It releases when the current drops below (or exceeds) the set level (see hysteresis setting) or when power supply is interrupted.

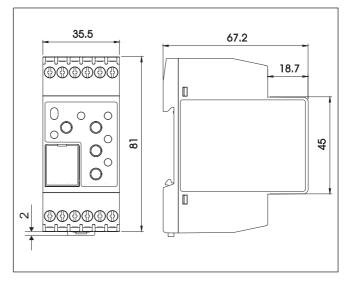
Note

When the inhibit contact is opened, if the input signal is already in alarm position, the delay time needs to elapse before relay activation.

General Specifications

Power ON delay	$1 s \pm 0.5 s$ or $6 s \pm 0.5 s$		
Reaction time	(input signal variation from		
	-20% to +20% or from +20% to -20% of set value)		
Alarm ON delay	< 100 ms		
Alarm OFF delay	< 100 ms		
	(15 min warm-up time)		
Accuracy Temperature drift	± 1000 ppm/°C		
Delay ON alarm	± 10% on set value ± 50 ms		
Repeatability	± 0.5% on full-scale		
Indication for			
Power supply ON	LED, green		
Alarm ON	LED, red (flashing 2 Hz		
	during delay time)		
Output relay ON	LED, yellow		
Environment	(EN 60529)		
Degree of protection	ÌP 20		
Pollution degree	3		
Operating temperature			
5A	-20 to 50°C, R.H. < 95%		
others	-20 to 60°C, R.H. < 95%		
Storage temperature	-30 to 80°C, R.H. < 95%		
Housing dimensions	35.5 x 81.5 x 67 mm		
Weight	Approx. 150 g		
Screw terminals			
Tightening torque	Max. 0.5 Nm		
	acc. to IEC 60947		
Approvals	UL, CSA		
CE Marking	Yes		
EMC	Electromagnetic Compatibillity		
Immunity	According to EN 61000-6-2		
Emission	According to EN 50081-1		

Dimensions





Function/Range/Level and Time Delay Setting

Adjust the input range setting the DIP switches 1 and 2 as shown in figure.

Select the desired function setting the DIP switches 3 to 6 as shown in figure.

To access the DIP switches open the plastic cover as shown in figure.

Selection of level and time delay:

Upper knob:

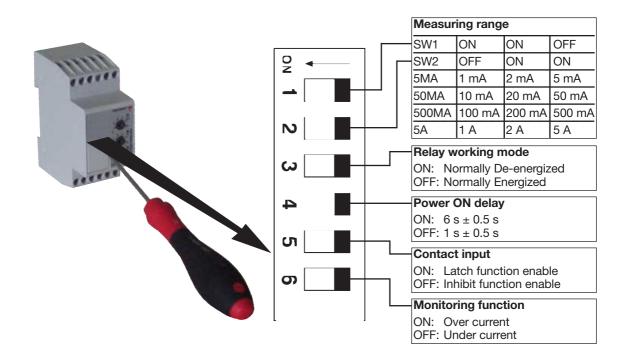
Setting of hysteresis on relative scale: 0 to 30% on set value.

Centre knob:

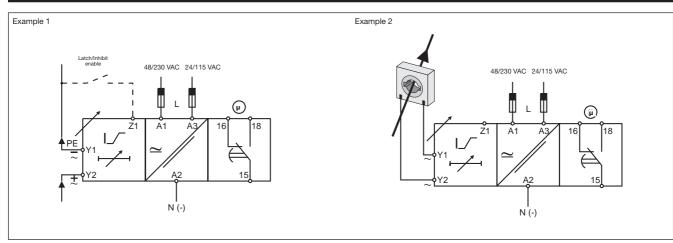
Current level setting on relative scale: 10 to 110% on full scale.

Lower knob:

Setting of delay on alarm time on absolute scale (0.1 to 30 s).



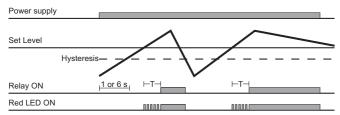
Wiring Diagrams



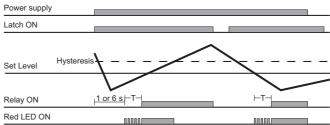


Operation Diagrams

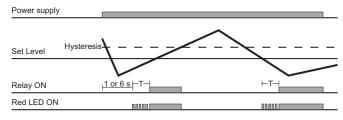
Over current - N.D. relay



Under current - Latch function - N.D. relay



Under current - N.D. relay



Over current - Inhibit function - N.D. relay

