



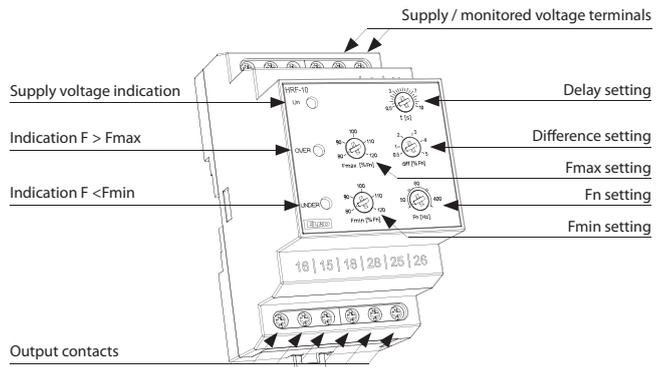
EAN code
HRF-10: 8595188144827

Technical parameters	HRF-10
Supply and monitoring terminals:	L, N
Supply voltage:	161 - 346 V
Rated frequency Fn:	50 / 60 / 400 Hz
Burden (max):	1.7 VA / 1.1 W
Overload capacity	
- continuous:	346 V
- max. 10 s:	416 V
Frequency Fmax:	adjustable 80 - 120 % Fn
Frequency Fmin:	adjustable 80 - 120 % Fn
Difference:	adjustable 0.5 - 5 % Fn
Delay (until failure):	adjustable 0.5 - 10 s
Opening level (Uopen):	161 V
Output relay - contact:	2x changeover / SPDT (AgNi) gilded
AC contact capacity:	250 V / 8 A, max. 2000 VA
DC contact capacity:	30 V / 8 A
Mechanical life:	3x10 ⁶ at rated load

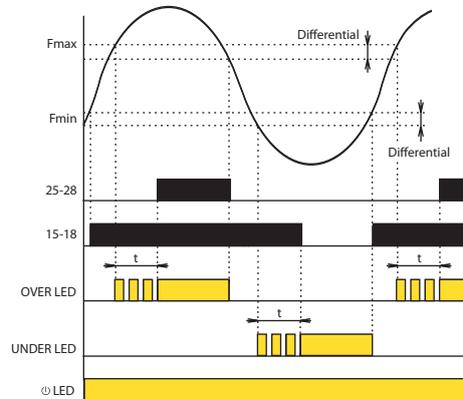
Other information	
Operational temperature:	-20 °C to 55 °C (-4 °F to 131 °F)
Storing temperature:	-30 °C to 70 °C (-22 °F to 158 °F)
Electrical strenght	
(supply - relay contact):	4 kV / 1 min.
Protection degree:	III.
Overvoltage category:	2
Pollution degree:	IP40 from front panel / IP20 terminals
Profile of connecting wires (mm ²):	max. 2x 1.5 / 1x 2.5 (AWG 12)
Dimensions:	90 x 52 x 64 mm (3.5 x 2 x 2.6")
Weight:	125 g (4.4 oz.)
Standards:	EN 60255-6, EN 60255-27, EN 61000-6-2, EN 61000-6-4

- The relay serves to monitor frequency of AC voltage, e.g. in photovoltaic power stations, generators.
- The monitored frequency 50 / 60 / 400 Hz is selected by a switch.
- Supplied from monitored voltage.
- Two adjustable levels of frequency (Fmin, Fmax) in the range of 80 - 120 % Fn.
- Adjustable difference level.
- Adjustable delay level.
- Switchable ranges of rated frequency Fn.
- 3-MODULE design, DIN rail mounting.

Device description

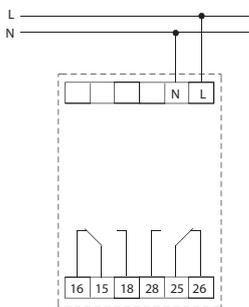


Functions



After the supply (monitored) voltage is connected, the green LED is on. If the value of the monitored frequency falls within the range between the two set levels Fmin - Fmax no red LED is on. The relay UNDER is triggered (contacts 15-16-18) and the relay OVER is disconnected (contacts 25-26-28). If the monitored frequency exceeds the set level Fmax, the relay OVER is triggered after the set delay timing elapses and the red LED OVER goes on. The red LED flashes during the timing. If the monitored frequency drops below Fmax - difference, the relay is activated without delay and the red LED OVER goes off. If the monitored frequency drops below the set level Fmin, the relay UNDER is disconnected after the set delay timing elapses and the red LED UNDER goes on. The red LED flashes during the timing. If the monitored frequency exceeds the level Fmin + the difference, the relay is triggered without delay and the red LED UNDER goes off. If the monitored voltage is lower than the opening level Uopen both the relays are disconnected and both the red LED (UNDER and OVER) start flashing slowly - indicating insufficient supply voltage.

Connection



Rated frequency setting

