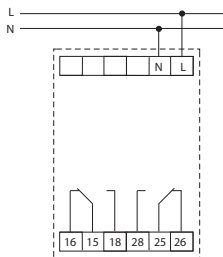




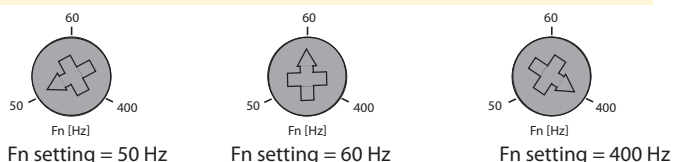
EAN code  
HRF-10: 8595188144827

Technical parameters	HRF-10
Supply and monitoring terminals:	L, N
Supply voltage:	161 - 500 V
Rated frequency $F_n$ :	(50/60/400 Hz)
Burden (max):	1.7 VA/1.1 W
Max. dissipated power ( $U_n$ + terminals):	2 W
Overload capacity	
- continuous:	500 V
- max. 10 s:	550 V
Frequency $F_{max}$ :	adjustable 80 - 120 % $F_n$
Frequency $F_{min}$ :	adjustable 80 - 120 % $F_n$
Difference:	adjustable 0.5 - 5 % $F_n$
Delay (until failure):	adjustable 0.5 - 10 s
Opening level ( $U_{open}$ ):	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:	30.000.000 operations
<b>Other information</b>	
Operational temperature:	-20 °C to 55 °C (-4 °F to 131 °F)
Storing temperature:	-30 °C to 70 °C (-22 °F to 158 °F)
Dielectrical 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 <sup>2</sup> ):	max. 2x 1.5/1x 2.5 (AWG 12)
Dimensions:	90 x 52 x 64 mm (3.5" x 2" x 2.6")
Weight:	127 g (4.5 oz.)
Standards:	EN 61000-6-2, EN 61000-6-4, EN 60255-1, EN 60255-26, EN 60255-27

### Connection

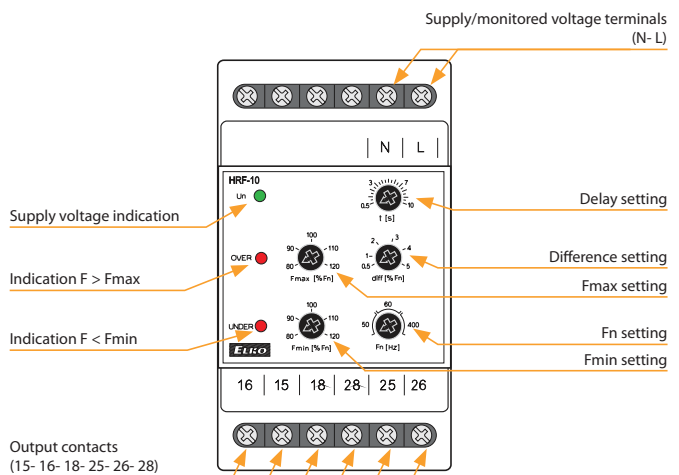


### Rated frequency setting

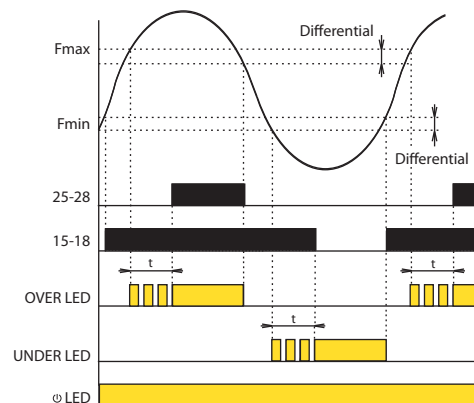


- The relay serves to monitor frequency of AC voltage, e.g. in photovoltaic power stations, generators.
- The monitored frequency 50/60/400 Hz is selected by a switch.
- Two adjustable levels of frequency ( $F_{min}$ ,  $F_{max}$ ) in the range of 80 - 120 %  $F_n$ .
- Adjustable difference level.
- Adjustable delay level.

### 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  $F_{min}$  -  $F_{max}$  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  $F_{max}$ , 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  $F_{max}$  - difference, the relay is activated without delay and the red LED OVER goes off.

If the monitored frequency drops below the set level  $F_{min}$ , 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  $F_{min}$  + 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  $U_{open}$  both the relays are disconnected and both the red LED (UNDER and OVER) start flashing slowly - indicating insufficient supply voltage.

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