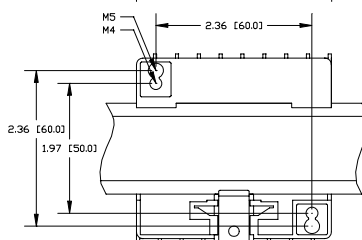
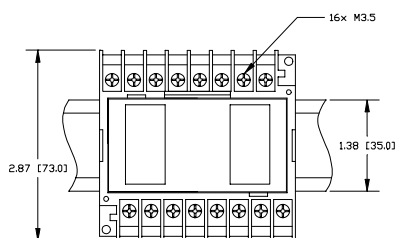
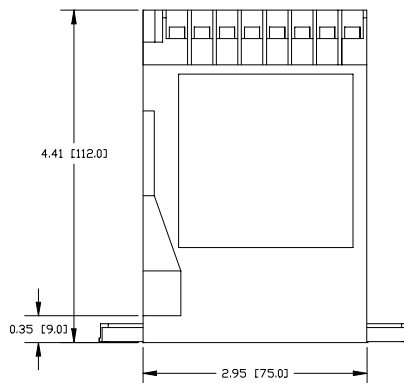


**Kilovac - WD810U-XXX Over/Under Frequency  
Din Rail Mounting**



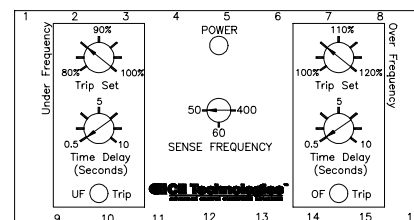
**Function:** 81 OU

- ANSI/IEEE C37.90-1978
- DIN EN50022-35
- UL Recognized



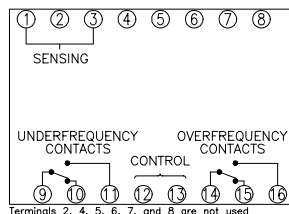
**Operation:**

Wilmar WD810U frequency relays are used to provide frequency monitoring and protection to generators, busses, power supplies, and other equipment. The relay operates at voltages from 120 to 480 Vac and at nominal frequencies of 50, 60, and 400 Hz. External controls include nominal frequency selection, under frequency (UF) trip set, over frequency (OF) trip set, UF time delay, and OF time delay. A green LED indicates power to the relay. Red LED's indicate the status of the UF and OF trips.



**Notes:**

1. Snap Mounting for DIN rail (DIN EN 50022-35) or Screw Mounting M4 (#8) or M5 (#10)
2. Max Conductor Size:  
2x 14 awg (2.5mm<sup>2</sup>) solid to DIN 46288 or  
2x 16 awg (1.5mm<sup>2</sup>) stranded w/ end sleeves



**PRODUCT SPECIFICATIONS**

Part Number	Unit	WD810U
Nominal Operating Frequency .....	Hz	50, 60 or 400, selectable
Max. Frequency @ 400 Hz Nom. ....	Hz	1000
Nominal Sensing Voltage .....	Vac	20 to 480
Maximum Sensing Voltage .....	Vac	575
Contact Form .....		C (1 each for UF and OF)
Contact Ratings .....	A	5 A resistive at 240 Vac 5 A resistive at 30 Vdc.
Time Delay Adjustment .....	s	0.5 to 10
Isolation from Control to Sense Inputs ....	Vac	2500
Operating Temperature Range .....	°C	-40 °C to +60 °C
Mechanical Life (operations) .....		1 x 10 <sup>7</sup>
Shock .....	g	10
Vibration .....		0.062" DA at 10-55
Weight .....	lb.	0.9 (0.4 Kg)

**SENSE FREQUENCY**

Frequency (nominal)	50	60	400
UF Adj. Range	40-50	48-60	360-400
OF Adj. Range	50-60	60-72	400-480

**CONTROL VOLTAGE**

Model WD810U	-001	-002	-003
Input Voltage Vdc	18 to 54	13.5 to 32	100 to 200
Input Voltage Vac	--	--	100 to 140
Power Consumption	2.5 VA (max.)		

**PART NUMBER SELECTION**

Sample Part No. WD810U-002  
**Type:** \_\_\_\_\_  
 WD810U - Over/Under Freq.  
**Control Voltage** \_\_\_\_\_  
 001 - 18 to 54 Vdc  
 002 - 13.5 to 32 Vdc  
 003 - 120 V ac/dc

### INSTALLATION

Wilmar WD810U Frequency Relays mount on standard DIN rails (DIN-EN 50022) or surface mounted using screws. To mount the relay on a DIN rail hook the top edge of the cutout on the base of the case over one edge of the DIN rail then press the opposite side of the cutout containing the release clip over the opposite side of the DIN rail. To remove or reposition the relay, lever the release clip and move the relay as required. WD810U relays should be installed in a dry location where the ambient temperature does not exceed the operating temperature range.

### MAINTENANCE

Wilmar Protective Relays are solid-state devices that require no maintenance. If the relay requires repair contact CII Technologies – Kilovac and Wilmar Products for return authorization.

### CALIBRATION

The calibration marks on the faceplate are provided only as guides. Proper calibration requires using an accurate frequency meter in parallel with the input signal.

### UNDER FREQUENCY

1. Remove the cover.
2. Set the SENSE FREQUENCY to the nominal system frequency. Adjust the Under Frequency TRIP SET fully clockwise (CW) and the TIME DELAY control fully counterclockwise (CCW).
3. Apply the desired trip frequency to the relay.
4. Slowly adjust the TRIP SET control CCW until the relay trips.
5. Set the TIME DELAY control to the desired time delay and apply nominal frequency to the relay.
6. Step down the applied frequency from nominal to just below the trip level set in Step 4 and measure the time delay.
7. Adjust the TIME DELAY and repeat steps 5 and 6 until the desired time delay is set.

### OVER FREQUENCY

1. Remove the cover.
2. Set the SENSE FREQUENCY to the nominal system frequency. Adjust the OF TRIP SET and TIME DELAY controls fully counterclockwise (CCW).
3. Apply the desired trip frequency to the relay.
4. Slowly adjust the TRIP SET control clockwise (CW) until the relay trips.
5. Set the TIME DELAY control to the desired time delay and apply nominal frequency to the relay.
6. Step down the applied frequency from nominal to just below the trip level set in Step 4 and measure the time delay.
7. Adjust the TIME DELAY and repeat steps 5 and 6 until the desired time delay is set.

