Living Industrial Partnerships

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PRODUCT SPECIFICATION

68.01 Series
Fan Diagnostic FFD

www.wernerelektrik.com

68.01 Series FFDU

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Features

- **Measures ambient temperature.**
- **Seven Segment displays to indicate ambient temperature.**
- **Two Relays :**
  - One Relays to indicate Fan Failure.
  - One Relay to indicate Over Temperature condition.
- **Measures FAN parameters in RUN/STALL condition.**
- **Programmable FAN voltage of 230V / 110V.**
- **Facility to characterize individual fan motors.**
- **Saves power and heating of Fan motors.**

Specifications

S.No.	Parameter	Description	Remarks
		Hardware Interfaces	
2	**Power Inputs**	AC 110V-230V	
3	**Auxilary Power Output**	AC 110V-230V	
4	**Display**	7 segment display 4 bit	
5	**Switches**	Switch1: SET for setting Threshold current	
		Switch2: ENTER/RUN for Start the System after Threshold setting	
		Switch3: RESET for resetting current threshold setting	
6	**Relays**	Relay1: FAN fault relay	One Fan maximum Current is 230V/500mA, This Relay will trigger when either of the FANs Faulty
		Relay2: Temperature high Relay	Over temperature detect, This relay will trigger when temperature cross Threshold
7	**LEDs**	FAN Fault LED/Temparature Failure (Dual Colour Red & Green)	RED Colour Indicates Fault in either of the Fans or Over temperature Green Colour Indicates Normal Operation
		AC POWER LED (Amber)	LED will be Turned when input Power Present
8	**Temperature Sensor**	Temperature Sensor	This will measure the On board temperature
		Hardware Features	
9	**Current Monitoring**	Current monitoring for both FANs Power lines Min Current :100mA Max Current: 500mA	
10	**Relay Control & Specifications**	Current Capacity: AC250V / 10A	
11	**Protection circuitary**	Over Voltage protection and Over Current protection For FAN Ouput and Power In AC	
		Power Supply	
12	**Input Voltage**	AC 100V-230V	
13	**Input Current**	4A (Max)	

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Specifications

S.No.	Parameter	Description	Remarks
		Environmental & Compliances	
17	Operating temperature	-10°C to +75°C	
18	Storage temperature	-20°C to +85°C	
19	Ambient humidity	5 to 90% relative humidity (non-condensing)	
20	Insulation Resistance	2000MΩ @ 1000V DC.	Between Power and Relay contact outputs
21	Dielectric Strength	1500V AC for 1 minute.	Between input Power terminals and relay contact outputs
		Mechanical	
22	FFDU Enclosure Dimesions	Planned: 132mm (L) X 76mm (B) X 58mm (H)	
23	Weight	less than 1Kg.	

ORDERING TABLE

68.01.01.10.05.24

Series
68.01 Series FFD

No. of FANs

01	1
02	2
03	3
04	4

Temperature

10	With Temp.
00	Without Temp.

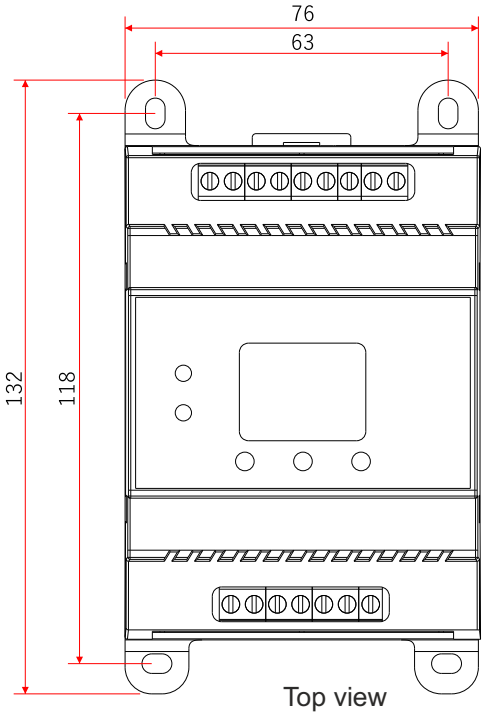
Max Load

05	500mA
10	10A
15	15A

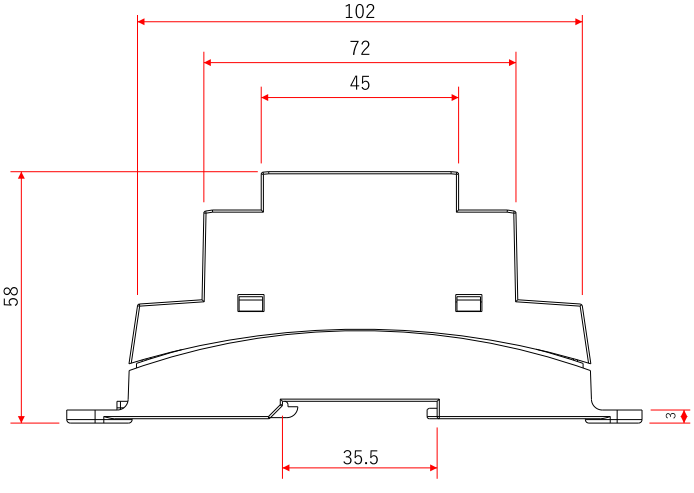
Voltage

24	24V AC/DC
23	100 - 240V AC

Mechanical Specification

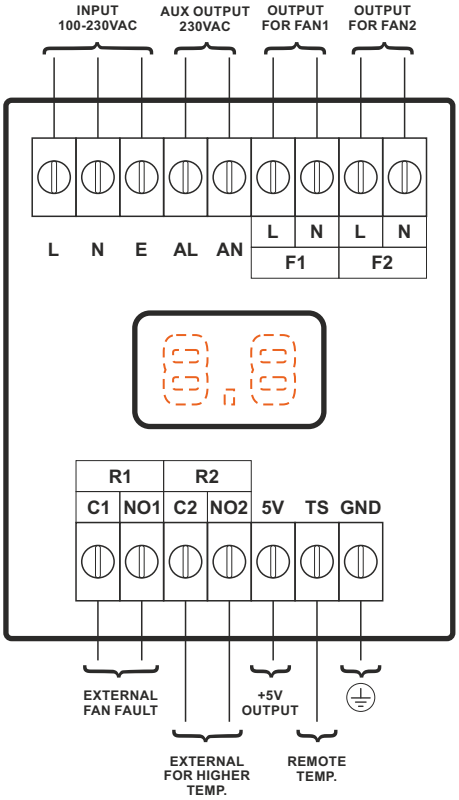


Top view



Side view

Connection Diagram



TB Connection

S.No.	Description	Text On PCB	Pin No.	Remarks
	INPUT SIDE CONNECTOR			
1	Power IN LINE (AC 230, 50Hz) FUSED at 4A	L	1	
2	Power IN NEUTRAL	N	2	
3	Power IN EARTH	IE	3	
4	AUX Power Out LINE (AC 230V, 50Hz, Max 1A)	AL	4	
5	AUX Power Out NEUTRAL	AN	5	
6	Fan1 LINE (AC 230, 50Hz, Max 1A) FUSED at 2A	F1	6	
7	Fan1 NEUTRAL		7	
8	Fan2 LINE (AC 230, 50Hz, Max 1A) FUSED at 2A	F2	8	
9	Fan2 NEUTRAL		9	
	OUTPUT SIDE CONNECTOR			
1	Relay1 NO	C1	1	
2	Relay1 COM	NO1	2	
3	Relay2 NO	C2	3	
4	Relay2 COM	NO2	4	
5	5V (50mA Max)	+5V	X	Currently NOT Enabled ON Board Temp Sensor Enabled
6	OPTIONAL REMOTE TEMP SENSE	TS	X	
7	GND	GND	X	

TECHNICAL INSTRUCTIONS

► Indications:

- Power supply : AMBER LED for Power ON.
- Fan module : 1) Dual colour LED, GREEN LED for Fan Healthy and RED LED for Fan fault common for both fans.
  2) Dual colour LED, GREEN LED for Temperature OK and RED LED for Temperature higher then preset value

► Protections:

- Fan short circuit or open circuit, power supply switches OFF to the particular fan.

► Failure Detection:

- Fan stuck fan open circuit, Fan imbalance, Speed drop, Fan coil burn.
- Temperature higher then preset value.

► KEY SWITCH DETAILS:

- **SET** – Long press to the tune FFD module and to increment preset values at the time of tuning.
- **ENT** – Press key switch to register the new set temperature.
- **RST** – Press button is used to reset the fan fault temperature condition and to decrement preset values at the time of tuning.

► Display:

- 7 segment LED display Size : 0.39 inch, colour Red, Value: 0–99.
- If fan is healthy & temperature is within the preset value, display will be showing ambient temperature in ºC.
- On failure of fan and/or temperature, the display toggles between.
  - “F1 value” if Fan 1 failed.
  - “F2 value” if Fan 2 failed.
  - “F1, F2 value” if both fans failed.
  - “F1 & TT” IF Fan 1 and temperature failed.
  - “F2 & TT” IF Fan 2 and temperature failed.
  - “F1, F2 & TT” IF both fans and temperature failed.

► Temperature sensor:

- In-built temperature sensor mounted.

► Mounting:

- Din Rail mountable.
- Plug in module is inserted on to the base & held firmly by spring clips.

► Input / output wiring:

- Screw type terminals (See connection diagram).

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