

# MFD-10

## User Manual



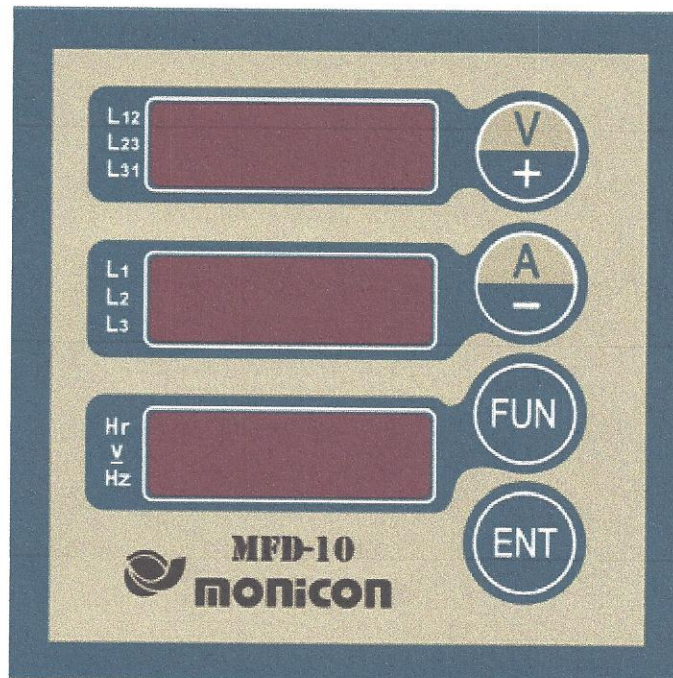
Web Site : <http://www.monicon.com.tw><sup>⊥</sup>

E-mail : [sales@monicon.com.tw](mailto:sales@monicon.com.tw)<sup>⊥</sup>

# 1. Introduction

MFD-10 is a light weight, economic power display unit designed to replace traditional gauges. It is capable of displaying three phase voltage/current, frequency, battery voltage, and running hours. The advantages of digital LED also improve the accuracy, appearance, shock and water proof. The use of Euro plugs also simplifies the installation and saves the wiring. The parameters can be setup in front panel or via computer by RS-485 interface. The remote function uses Modbus communication to transmit data to the control center for real time monitoring.

## 2. Front Panel Description



MFD-10 Front Panel

### A、LED Display

- AC voltage display (phase to phase)

L12→L23→L31→Loop display

- AC current display

L1→L2→L3→Loop display

- HR/Battery Voltage/Frequency

HR→V→Hz→Loop display

## Front buttons description

- **V(+)**

Switches between phase to phase voltage.

- **A(-)**

Switches between phase to phase current.

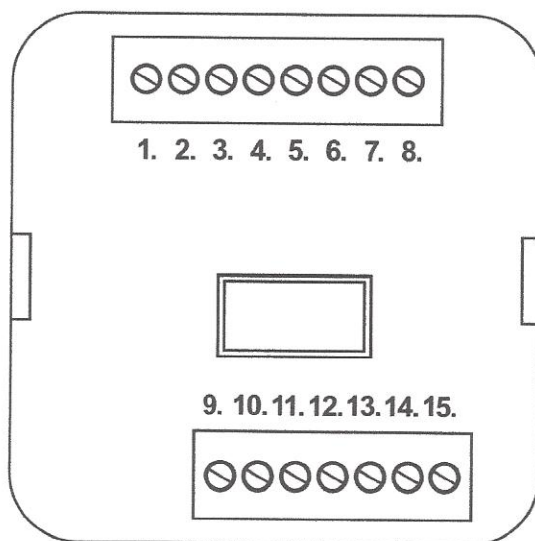
- **FUN**

Switches between running hours/battery voltage/frequency/settings.

- **ENT**

Enter / Press more than 5 seconds to enter setup mode.

## 3. Back panel description



MFD-10 Back panel

Euro Style Connectors	Pin	Description
	1	Battery input +
	2	Battery input -
	3	RS-485 D+
	4	RS-485 D-
	5	L1 CT input
	6	L2 CT input
	7	L3 CT input
	8	COM
	9	Spare
	10	L1 Voltage input
	11	Spare
	12	L2 Voltage input
	13	Spare
	14	L3 Voltage input
15	Spare	

## A - Setup mode

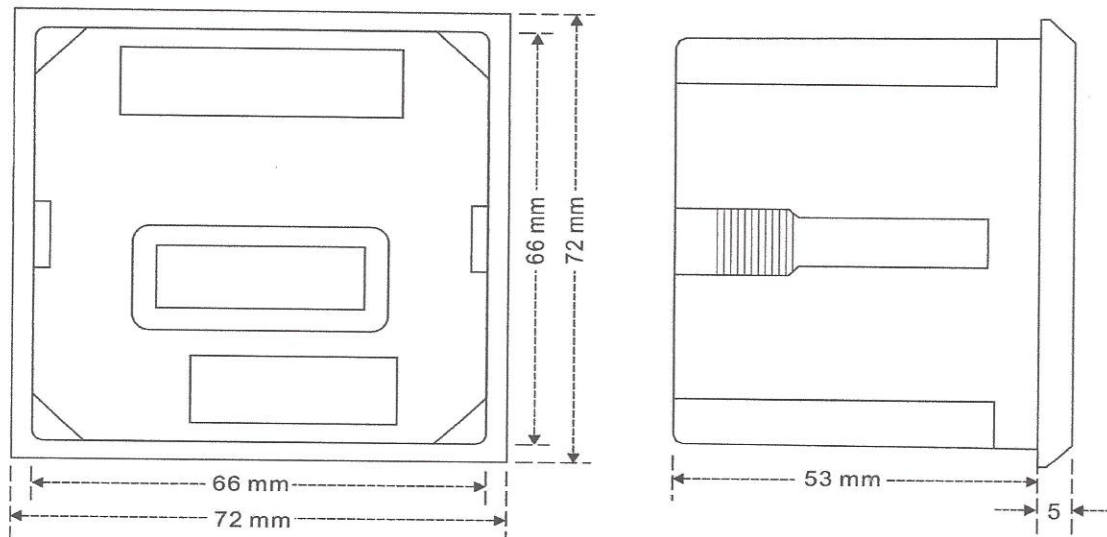
- Press ENT button for more than 5 seconds to enter P-01 setting; this parameter setting is to select single or three phase detection. Press FUN button to confirm and enter P-02 setting.
- After enter P-02 setting, the CT ratio can be setup to the following ratio: 25, 50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 750, 800, 1000, 1200, 1500, 1600, 2000, 2500, 3000, 3200, 4000, 5000, 6000. Press FUN button to confirm and enter P-03 setting.
- After enter P-03 setting, it displays total engine running hours.

## B - Voltage/current/battery voltage fine tuning

- Fine tuning the display voltage is possible by pressing V and A button for more than 3 seconds to enter tuning mode. The top LED displays current phase mode and middle LED displays values that needs to be adjusted. Press Fun button to confirm and enter next phase voltage. The last setting value is for battery voltage, press Enter to confirm and exit.



## 4. Dimention



## 5. Specification

- **Working voltage :**  
8~36 VDC
- **Power consumption :**  
Max.1.5 W °
- **Frequency range :**  
30.0~80.0 Hz
- **Battery voltage display range :**  
8~36 VDC
- **CT current :**  
5A Max
- **Communication protocol :**  
ModBus
- **Communication interface :**  
RS-485
- **Working temperature range :**  
-20 °C ~ 70 °C
- **Dimention(W \* H \* D) :**

72mm × 72 mm × 58 mm

- **Panel opening(W \* H) :**  
68 mm × 68 mm
- **Weight :**  
150g

## 6. Feature

- **Phase Voltage:** AC 0 ~ 500V (Phase-Phase)
- **Phase current:** 0 ~ 6000A
- **Engine running hours:** 0 ~ 9999HR
- **Frequency range:** 30.0 ~ 80.0 Hz
- **Battery voltage:** 8 ~ 36V
- **Parameter setting:** P1 ~ P2
- **Phase detection:** 1 or 3 phase
- **CT ratio:** 25, 50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 750, 800, 1000, 1200, 1500,  
1600, 2000, 2500, 3000, 3200, 4000, 5000, 6000