



# Multifunction Power and Energy Monitor / Power Line Supervisor

Introducing Soon

Preliminary Data



Software

## Features

- TRMS Measurement
- More than 65 Electrical Parameters on 20 display pages
- 4 Rows of 4 Digit Super Bright Red LED Display
- 3 Phase 3 Wire / 3 Phase 4 Wire (User Selectable)
- Programmable CTR, PTR & Instrument Address
- 8 digits Resolution for Energy
- Energy Import-Export (4 Quadrant Operation)
- IP54 (for meter front)
- POWER MASTER Software
- MODBUS RTU Protocol
- RS 485 Port, 5kV Isolated (Standard)
- CE Compliance with EN61010-1, EN61326-1
- Inbuilt Microcontroller Memory to store CTR, PTR & Instrument Address



MFM-144x192U



MFM-144x192UMT

- Max. Demand for KW & KVA with User Selectable Demand Interval (1 - 9999 min. for MFM-144x192UMT)
- THD for Voltage & Current (for MFM-144x192UMT)
- Password for Protection of Programmable Parameters (MFM-144x192UMT)
- Auto Scroll (5 sec.) / Manual Scroll Display (for MFM-144x192UMT)

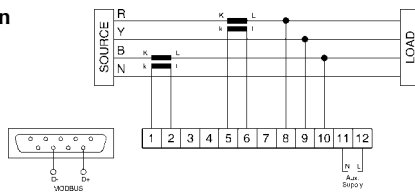
Parameters Measured	Accuracy	Phase	System
Voltage	± 0.2%	V1N, V2N, V3N, V12, V23, V31	V (System)
Current		I1, I2, I3	I (System)
Active Power	± 0.5%	W1, W2, W3	W (System)
Reactive Power	± 1%	Var1, Var2, Var3	Var (System)
Apparent Power	± 0.5%	VA1, VA2, VA3	VA (System)
Frequency	± 0.2 Hz	-	Hz (System)
Power Factor	1 <sup>o</sup> Electrical	PF1, PF2, PF3	PF (System)
Active Energy	± 1%	KWh1, KWh2, KWh3	KWh Total (Import), KWh Total (Export)
Reactive Energy	± 1%	KVarh1, KVarh2, KVarh3	KVarh Total (Ind.), KVarh Total (Cap.)
Apparent Energy	± 1%	KVAh1, KVAh2, KVAh3	KVAh Total

## Specifications

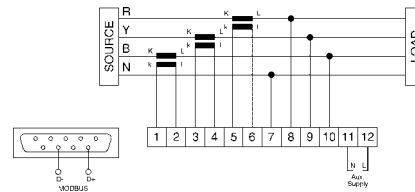
<b>Display</b>	Simultaneous Display of 4 Parameters, 4 Digits Resolution, 1" / 25.4mm Digit Height	<b>System</b>	3P2E3W / 3P3E4W (user selectable)
<b>Auxiliary Supply</b> (any one only)	230V AC ± 20%, 50Hz or 110V AC ± 20%, 50Hz	<b>Standard</b>	
<b>Input</b>		Installation Category	Cat II (IEC / EN61010-1)
Voltage/Phase	50 - 300V (max.) (Phase to Neutral)	Pollution	Degree 2 (IEC / EN61010-1)
Current/Phase	0.2A to 1.2 A (max.) or 1A to 6A (max.) (any one only)	<b>Environment</b>	
Frequency	45-55 Hz	Calibration	27°C ± 5°C
Power Factor	0.300 Lag (L) - 1.000 - 0.300 Lead (C)	Operating	0 to 50°C, RH < 70%
<b>VA Burden (Typical)</b>		Storage	-10 to 60°C, RH < 70%
Auxiliary	< 5VA	<b>Terminal Block</b>	Screw Type
Voltage Input	< 0.1VA / Phase	<b>Dimensions (mm)</b>	
Current Input	< 0.5VA / Phase	Front	144 x 192mm
		Depth (Behind Bezel)	60mm
		Panel Cut-Out	138(+0.8, 0.0) x 186(+0.8, 0.0)
		<b>Dielectric Strength</b>	2.5kV at 50Hz for 1 min.
		<b>Insulation Resistance</b>	> 20MOhms at 500V DC

**Ordering Information :** Model, Input Voltage, Input Current, Input Frequency, System (3P2E3W or 3P3E4W), CTR / PTR (if any), RS485 MODBUS Communication (Standard) & Auxiliary Supply

## Terminal Connection



3 Phase 2 Element 3 Wire



3 Phase 3 Element 4 Wire



# Multifunction Power and Energy Monitor / Power Line Supervisor

**New Preliminary Data**



Software



**MFM-96U**



**MFM-96UMT**

**Features**

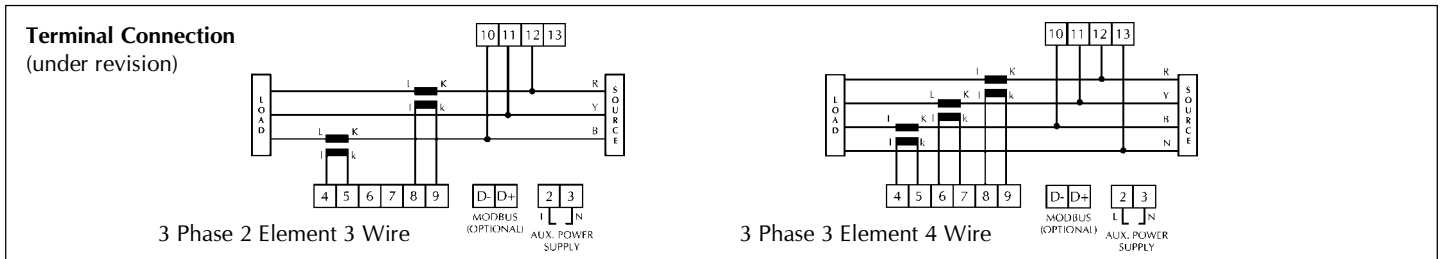
- TRMS Measurement
- More than 65 Electrical Parameters on 20 display pages
- 4 Rows of 4 Digit Super Bright Red LED Display
- 3 Phase 3 Wire / 3 Phase 4 Wire (User Selectable)
- Programmable CTR, PTR & Instrument Address
- 8 digits Resolution for Energy
- Energy Import-Export (4 Quadrant Operation)
- IP54 (for meter front)
- POWER MASTER Software
- MODBUS RTU Protocol
- RS 485 Port, 5kV Isolated (Optional for MFM-96U, Standard for MFM-96UMT)
- CE Compliance with EN61010-1, EN61326-1
- Inbuilt Microcontroller Memory to store CTR, PTR & Instrument Address
- Max. Demand for KW & KVA with User Selectable Demand Interval (1 - 9999 min. for MFM-96UMT)
- THD for Voltage & Current (for MFM-96UMT)
- Password for Protection of Programmable Parameters (MFM-96UMT)
- Auto Scroll (5 sec.) / Manual Scroll Display (for MFM-96UMT)

Parameters Measured	Accuracy	Phase	System
Voltage	± 0.2%	V1N, V2N, V3N, V12, V23, V31	V (System)
Current		I1, I2, I3	I (System)
Active Power	± 0.5%	W1, W2, W3	W (System)
Reactive Power	± 1%	Var1, Var2, Var3	Var (System)
Apparent Power	± 0.5%	VA1, VA2, VA3	VA (System)
Frequency	± 0.2 Hz	-	Hz (System)
Power Factor	1° Electrical	PF1, PF2, PF3	PF (System)
Active Energy	± 1%	KWh1, KWh2, KWh3	KWh Total (Import), KWh Total (Export)
Reactive Energy	± 1%	KVarh1, KVarh2, KVarh3	KVarh Total (Ind.), KVarh Total (Cap.)
Apparent Energy	± 1%	KVAh1, KVAh2, KVAh3	KVAh Total

**Specifications**

<b>Display</b>	Simultaneous Display of 4 Parameters, 4 Digits Resolution, 0.36" / 9.2mm Digit Height	<b>System</b>	3P2E3W / 3P3E4W (user selectable)
<b>Auxiliary Supply</b> (any one only)	230V AC ±20%, 50Hz or 110V AC ±20%, 50Hz	<b>Standard</b>	
<b>Input</b>		Installation Category	Cat II (IEC / EN61010-1)
Voltage/Phase	50 - 300V (max.) (Phase to Neutral)	Pollution	Degree 2 (IEC / EN61010-1)
Current/Phase	0.2A to 1.2 A (max.) or 1A to 6A (max.) (any one only)	<b>Environment</b>	
Frequency	45-55 Hz	Calibration	27°C ± 5°C
Power Factor	0.300 Lag (L) - 1.000 - 0.300 Lead (C)	Operating	0 to 50°C, RH < 70%
<b>VA Burden (Typical)</b>		Storage	-10 to 60°C, RH < 70%
Auxiliary	< 5VA	<b>Terminals</b>	Plug in type
Voltage Input	< 0.1VA / Phase	<b>Dimensions (mm)</b>	
Current Input	< 0.5VA / Phase	Front	96 x 96mm
		Depth (Behind Bezel)	90mm
		Panel Cut-Out	92(+0.8, 0.0) x 92(+0.8, 0.0)
		<b>Dielectric Strength</b>	2.5kV at 50Hz for 1 min.
		<b>Insulation Resistance</b>	> 20MOhms at 500V DC

**Ordering Information :** Model, Input Voltage, Input Current, Input Frequency, System (3P2E3W or 3P3E4W), CTR / PTR (if any), RS485 MODBUS Communication (Optional) & Auxiliary Supply



Introducing Soon

Preliminary Data



Software



SPVR-96U



SPVR-96UMT

**Features**

- TRMS Measurement
- More than 50 Electrical Parameters on 18 display pages
- Large LCD Display with Backlight & Annunciators
- 3 Phase 3 Wire / 3 Phase 4 Wire (User Selectable)
- Programmable CTR, PTR & Instrument Address
- 8 digits Resolution for Energy
- Energy Import-Export (4 Quadrant Operation)
- IP54 (for meter front)
- POWER MASTER Software
- MODBUS RTU Protocol

- RS 485 Port, 5kV Isolated (Optional for SPVR-96U, Standard for SPVR-96UMT)
- CE Compliance with EN61010-1, EN61326-1
- Inbuilt Microcontroller Memory to store CTR, PTR & Instrument Address
- Max. Demand for KW & KVA with User Selectable Demand Interval (1 - 9999 min. for SPVR-96UMT)
- THD for Voltage & Current (for SPVR-96UMT)
- Password for Protection of Programmable Parameters (SPVR-96UMT)
- Auto Scroll (5 sec.) / Manual Scroll Display (for SPVR-96UMT)

Parameters Measured	Accuracy	Phase	System
Voltage	± 0.2%	V1N, V2N, V3N, V12, V23, V31	V (System)
Current		I1, I2, I3	I (System)
Active Power	± 0.5%	W1, W2, W3	W (System)
Reactive Power	± 1%	Var1, Var2, Var3	Var (System)
Apparent Power	± 0.5%	VA1, VA2, VA3	VA (System)
Frequency	± 0.2 Hz	-	Hz (System)
Power Factor	1° Electrical	PF1, PF2, PF3	PF (System)
Active Energy	± 1%	KWh1, KWh2, KWh3	KWh Total (Import), KWh Total (Export)
Reactive Energy	± 1%	KVarh1, KVarh2, KVarh3	KVarh Total (Ind.), KVarh Total (Cap.)
Apparent Energy	± 1%	KVAh1, KVAh2, KVAh3	KVAh Total

**Specifications**

<b>Display</b>	3 Groups of 4 Digit LCD with Backlight & Annunciators Viewing Area : 44 x 68mm
<b>Auxiliary Supply</b> (any one only)	230V AC ±20%, 50Hz or 110V AC ±20%, 50Hz
<b>Input</b>	
Voltage/Phase	50 - 300V (max.) (Phase to Neutral)
Current/Phase	0.2A to 1.2 A (max.) or 1A to 6A (max.) (any one only)
Frequency	45-55 Hz
Power Factor	0.300 Lag (L) - 1.000 - 0.300 Lead (C)
<b>VA Burden (Typical)</b>	
Auxiliary	< 5VA
Voltage Input	< 0.1VA / Phase
Current Input	< 0.5VA / Phase

<b>System</b>	3P2E3W / 3P3E4W (user selectable)
<b>Standard</b>	
Installation Category	Cat II (IEC / EN61010-1)
Pollution	Degree 2 (IEC / EN61010-1)
<b>Environment</b>	
Calibration	27°C ± 5°C
Operating	0 to 50°C, RH < 70%
Storage	
<b>Terminals</b>	Plug in type
<b>Dimensions (mm)</b>	
Front	96 x 96mm
Depth (Behind Bezel)	90mm
Panel Cut-Out	92(+0.8, 0.0) x 92(+0.8, 0.0)
<b>Dielectric Strength</b>	2.5kV at 50Hz for 1 min.
<b>Insulation Resistance</b>	> 20MΩ at 500V DC

**Ordering Information :** Model, Input Voltage, Input Current, Input Frequency, System (3P2E3W or 3P3E4W), CTR / PTR (if any), RS485 MODBUS Communication (Optional) & Auxiliary Supply

**Terminal Connection**  
(under revision)

