DFPM971 IoT Multifunction Power Meter

Feature

Combine measuring and electricity monitoring into one

- Full parameter measuring and power quality monitoring
- Measure and alarm for residual current and cable temperature

Reliable data transfer

- 7 days data cache & retransmit
- 10 sec. keep working to posting POWER-OFF alarm
- 1 sec. real-time data upload

Multiple communication protocol

- 4G / LoRa / RS485

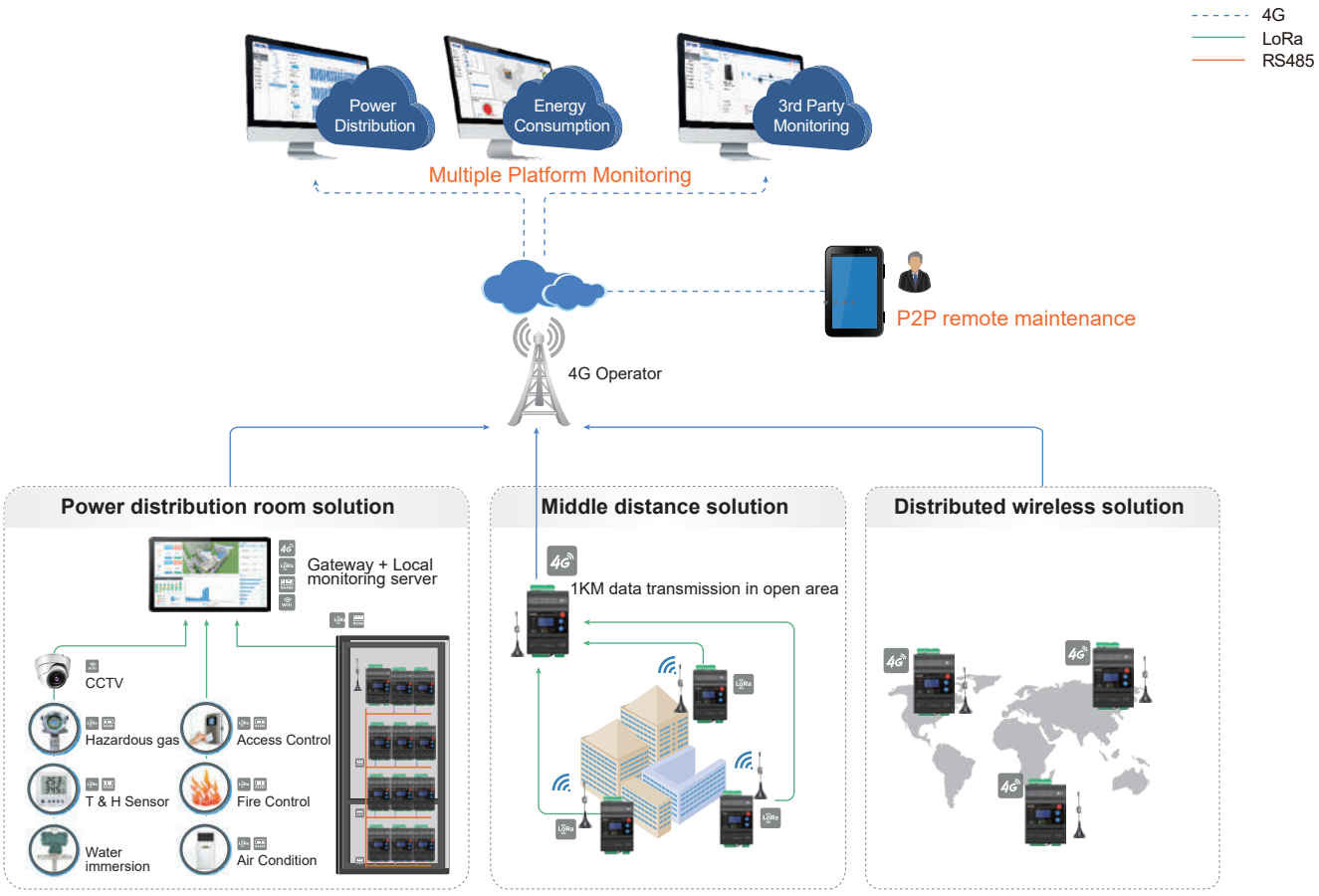
Remote support and engineering simplification

- P2P remote configuration & free maintenance
- Phase-sequence auto adjustment
- Split core CT for easy installtion



Meter + Gateway
ALL IN ONE

System Structure



DFPM971 IoT Multifunction Power Meter

Function

Measurememt

- voltage, current, active power, reactive power, apparent power, power factor, frequency, active energy, reactive energy, apparent energy, voltage and current phase angle, cable temperature, residual current, switch detection
- Latest 10 years, 12 months, 31 days historical energy

Power quality analysis

Three phase voltage/current, 63rd harmonic analysis, voltage/current unbalance

Demand calculation

- Maximum and real-time demand of power and current
- Real-time demand, daily and monthly max. demand

Communication

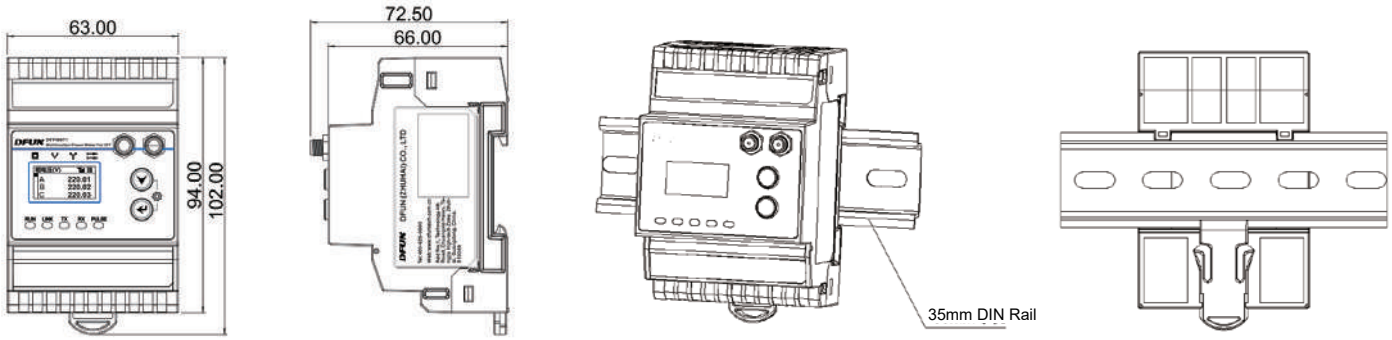
- Standard 1 RS485 and 1 infrared communication
- 4G / LoRa optional, support Modbus, Http, Mqtt communication etc, support Modbus-RTU and Modbus-TCP, register is definable
- Support break-point transfer

Setpoint alarm

Support alarming of over-voltage, under-voltage, over-current, under-current, lost phase, power over limit, over temperature, leakage current and power failure with SOE time record.

Dimension & Installation

Unit: mm



Technical Specification

Power supply	85 ~ 265VAC / 100 ~ 300VDC
Rated current	5A (external split core CT), 100A (external split core CT), 1A / 5A (internal solid core CT)
Rated voltage	3x57.7/100V, 3x220/380V
Digital input	Wet contact, external power supply: 220V, when＜60V, open, when＞140V, closed, Max. Input: 300V
Connection mode	3 Phase 4 Wire
	3 Phase 3 Wire
LTE wireless communication	LTE-FDD B1/B3/B5/B8
	LTE-FDD B34/B38/B39/B40/B41

Residual current	1 x 0-8000mA
Cable temperature	4 x 0-150℃
LoRa	470-510MHz, 1kM open area
RS485	1200-57600bps
Break-point transfer	7 days data cache (1 sampling point / 5min.)
Break-point transfer	Operation temperature: -25℃~ 55℃ Storage temperature: -40℃~ 70℃ Operation humidity: 5% ~ 95%, non-condensing

EMC standard	Electrostatic discharge immunity test	IEC61000-4-2, Level 4
	RF electromagnetic field immunity test	IEC61000-4-3, Level 3
	Electrical fast transient immunity test	IEC61000-4-4, Level 4
	Surge immunity test	IEC61000-4-5, Level 4
	Injected current immunity test	IEC61000-4-6, Level 4
	Electromagnetic emission limit	CISPR22: 2006
	Voltage sag and short-time interruption Immunity test	Passed

Parameter	Measurement range	Accuracy
Voltage	Phase voltage: 10V ~ 400V Line voltage: 10V ~ 500V	0.2%
Primary voltage	Max. 1000kV	--
Current	15mA ~ 6.5A	0.2%
Primary current	Max. 100000A	--
Frequency	40 ~ 65Hz	0.1%
Active energy	0 ~ 99999999.9 kWh	0.5%
Reactive energy	0 ~ 99999999.9 kvarh	2%
Active power	Single phase: 0 ~ ±9999MW/Mvar Total: 0 ~ ±9999MW/Mvar	0.5%
Reactive power		1.0%
Harmonic ratio	0% ~ 100%	B Level

Current Transformer

Model		Typical connecting scheme	Description
CTO			Mainbody + 3 unit 5A split core CT, the CTs will be hang on the exsited xxxA/5A cables for current signal collection.
CTO100A			Mainbody + 3 unit 100A split core CT, the CTs will be hang on the load cables for current signal collection.
CTC	-		Applied to additional large CT of 5A access scheme, Internal solid core CT converter, suitable for xxxA/5A model CT connection.

Order Information

DFPM971—①—②—③

Extension	T —— 4 channels cable temperature measurement
CT	CTO —— 3 unit 5A split core CT CTO100A —— 3 unit 100A split core CT CTC —— Internal solid core CT converter
Communication	RS485 —— 1 x RS485 LoRa —— LoRa, RS4845 4G —— LTE (4G), RS485 All —— LTE (4G), LoRa, RS485

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