DIN-RAIL ENERGY METER

Introduction

The Din-rail energy meter, an energy meter for DIN rail mounting, used for residential energy metering and smart energy project, and measuring energy usage in industrial environments. High performance DIN rail energy meters can provide cost-effective power and energy metering solutions.

Majority of meters have LCD display and certification approved. Besides, as a leading din rail energy meter manufacturer in China, we support OEM and DOM service for these din rail energy meters.

Reference Standards

Measurement standard

Basic electricity	IEC 61557-12:2007
Active energy	IEC 62053-22:2003
Reactive energy	IEC 62053-23:2003

LVD test standard

IEC/EN 61010-1	2017, CATIII-300V

EMC test

Discharge immunity	IEC 61557-12:2007
Fast transient burst immunity	IEC 62053-22:2003
Surge (Shock) immunity	IEC 62053-23:2003

Measurement Parameter

Basic parameter	Voltage(U), Current (I)@0.2% Power (P, Q, S)@0.5% Power factor (H)@ 0.1% Frequency (Hz)@0.1%
Active energy	Consumed (Ep+)@0.5% Generated (Ep-)@0.5%
Reactive energy	Consumed (Eq+)@2.0% Generated (Eq-)@2.0%

Application

- Replace mechanical meters.
- Tenant sharing, cost sharing.
- Commercial, industrial, utility.
- Middle and low voltage systems.
- Calculation and settlement of household electricity bills.
- Metering of distribution feeders, transformers, generators, capacitor banks and motors.

BLUE JAY
Technology of Electrical Automatic

NEW MCM SERIES MULTI-CHANNEL ENERGY METER

❙ Introduction

BLUEJAY New Generation MULTI-CHANNEL ENERGY METER is engineered for precise energy monitoring in both residential and industrial settings. It offers flexible channel configurations from 1 to 24, supporting both single-phase and three-phase measurements for diverse applications.

Designed with rigorous safety standards, the meter meets CATIII-300V requirements and can withstand voltages up to 4KV. It also provides versatile communication options, including RS485 and Ethernet, with optional modules such as DI, DO, PO, and AO for enhanced system integration.

❙ Main Features

• 0.5s High accuracy energy measurement;

• Single-phase and three-phase measurements;

• Supports 1 to 24 channels multi-channel configuration;

• Residential and industrial energy monitoring applications;

• CATIII-300V voltage safety standards;

• Up to 4KV withstand capability;

• Communication: RS485, Modbus-RTU; Ethernet, TCP/IP optional;

• Expandable modules: DI, DO, PO, AI and AO optional;

❙ Measurement Function

Model	MCM211D	MCM243d	MCM263T	MCM283D	MCM283R
Metering features					
Basic parameters	●	●	●	●	●
Volt. harmonic distortion	●	●	●	●	●
Curr. harmonic distortion	●	●	●	●	●
Individual harmonic	●	●	●	●	●
Time of use (TOU)	●	●	●	●	●
Curr. / Volt. unbalance	●	●	●	●	●
SOE record	●	●	●	●	●
Measurement signal access					
1A & 5A	○	○	●	○	○
100mA	●	●	○	●	●
333mV	●	●	○	○	○
L-N 300V, 3P	●	●	●	●	●
L-L 480V,1P	-	●	●	●	●
Communications and I/O port					
RS-485/ Modbus RTU	●	●	●	●	●
Ethernet 10/100MB	○	○	-	○	○
Digital input/ output	○	○	○	○	○
Analog input/ output	○	○	○	○	○
Pulse output	○	○	-	○	○

●With this function   ○Optional function   -Without this function

(1) Basic parameters:Voltage,Current,Frequency,Total power factor,Active power, Reactive power,Apparent power,Active energy,Reactive energy,Individual harmonic.

❙ Ordering Information

MCM– ① ② ③

Application areas
Phase type
Function code
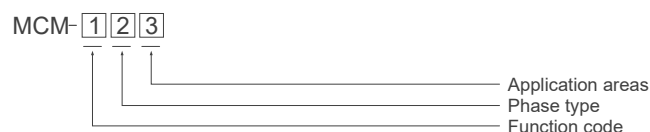
Num.	Code	Description
①	1	1 Metering ICs built-in: for 3*single phase measurement only
	2	2 Metering ICs built-in: for 6*single phase/2*three phases
	4	4 Metering ICs built-in: for 12*single phase /4*three phases
	6	6 Metering ICs built-in: for 18*single phase/6*three phases
	8	8 Metering ICs built-in: for 24*single phase /8*three phases
②	1	Single phase
	3	Three phases
③	T	T: CT access, Default 5A CT, 100mA CT optional, for industrial use t: CT access, 333 mV/100mA CT optional, for residential billing
	D	D: Direct access, for industrial use d: Direct access, for residential billing
	R	R: RJ45 current terminal, for industrial use r: RJ45 current terminal, for residential billing

Technical Characteristics

Model	MCM211D	MCM243d	MCM263T	MCM283D	MCM283R
Current measurement (TRMS)					
Power supply	DC/AC 85~265 ± 10 %, 50 / 60 Hz				
Consumption	< 10 VA				
Measurement channels	3*1P	4*3P/ 12*1P	6*3P/ 18*1P	8*3P/ 24*1P	8*3P/ 24*1P
Current measurement (TRMS)					
PT secondary	100mA,333mV optional	100mA, 333mV optional	Standard 1A/5A	100mA,333mV optional	100mA,333mV optional
Frequency	0 ... 9999A				
Overload	1.2 times rated continuous; 5 seconds for 10 times of the rated				
Input consumption	<0.2 VA				
Voltage measurement (TRMS)					
PT secondary	100VAC / 400VAC				
Overload	30 seconds for 2 times of the rated				
Input consumption	<0.2 VA				
Safety					
Voltage level	/			CATIII-300V	
Withstand voltage	2.5KV			4KV	
Communication					
Interface	RS485/Ethernet optional				
Protocol	Modbus RTU/TCP,IP				
Wireless module	Wi-Fi/4G/Bluetooth optional				

BLUE JAY®
Technology of Electrical Automatic