

19D Din-rail Energy Meter

19D series meter design for DIN-RAIL mounting, suit for residential energy metering and smart energy project. While the Modbus-RTU and pulse output communication allows seamless integration with data acquisition systems.

Various sub-models available, optional prepaid (IC card), wireless data transmit (4G/5G, Rolar etc.), expansion modules are available in built-in and external versions. Combines high performance smart energy meter, ease of integration to provide a cost-effective power and energy metering solution. Featuring a built-in LCD display designed to simplify setup and local reading of meter data.



Main Features

- 35mm DIN-rail install
- Tamper-proof design approved for revenue applications
- 10-400Vac direct voltage input, optional VTs connect
- 80A current direct input, 0.04A start current.
- Optional Multiple types CTs input: 5A/1A, 333mV, 100mA
- Compatible with both 50Hz and 60Hz systems
- Large LCD screen with backlight
- Built-in energy pulse output and alarm output
- RS-485 port built-in with Modbus-RTU
- Optional multiple tariffs and prepaid billing function
- Optional relay output
- Utility Revenue Grade Accuracy

IEC 62053-21 1.0 Class / IEC 62053-22 0.5 Class



Application

- Replace mechanical electric meter
- Tenant sub-billing
- Cost allocation
- Energy efficiency & benchmarking
- Procurement optimization
- Power availability
- Demand response / load curtailment

Specification Selection Table

MODEL	19D-22D	19D-23C	19D-34C	19D-24D	19D-37D
Basic parameter					
Wiring model	1P2W	1P2W	3P3W & 3P4W	1P2W	3P3W & 3P4W
Aux	Self-powered	85-265Vac/dc	85-265Vac/dc	Self-powered	Self-powered
Display capacity	9,999,999 kWh	9,999,999 MWh	99,999,999 MWh	99,999,999 kWh	99,999,999 kWh
Voltage rating	230V	100V, 230V	100V, 230V	230V	100V, 220V, 380V
Current	0.04-10(80)A	../5A or ../1A CTs	../5A or ../1A CTs	0.04-10(80)A	0.04-10(80)A
Measurement accuracy					
Current	0.5%	0.2%	0.2%	0.5%	0.5%
Voltage	0.5%	0.2%	0.2%	0.5%	0.5%
Active energy	Class 1	Class 0.5	Class 0.5	Class 1	Class 1
Reactive energy	Class 2	Class 1	Class 1	Class 2	Class 2
Metering Data					
Current	●	●	●	●	●
Voltage	●	●	●	●	●
Active power	●	●	●	●	●
Reactive power	●	●	●	●	●
Frequency	●	●	●	●	●
Power factor	●	●	●	●	●
4-quadrant energy	●	●	●	●	●
Max demand	-	-	○	○	○
Multi- tariffs	-	-	○	○	○
RTC	-	-	○	○	○
Others					
RS-485 Modbus ⁽¹⁾	●	●	●	●	●
Pulse port ⁽²⁾	1600imp/kwh	1600imp/kwh	1600imp/kwh	1600imp/kwh	1600imp/kwh
Digital output	-	-	○	-	●
Prepaid functions ⁽³⁾	-	-	-	○	○
Remote ON/OFF	-	-	-	○	○
Wireless funtions ⁽⁴⁾	-	-	-	○	○
Module width	2	3	4	4	7
Weight	130g	170g	250g	230g	310g
Temperature	-25°C to 55°C				
IP protection	IP40 front panel and IP20 casing				



(1) Communication protocol default is MODBUS-RTU, can customized for different country application.

(2) Pulse constant default is 1600imp/kwh, if need other constant, please contact sales team before order.

(3) Prepaid functions need use IC encryption card, default protocol support DL/T645-2007;

Due to inconsistent requirements in different countries, please contact sales technical support.

(4) Wireless module is build inside meter enclosure, optional 4G/5G, Lora module;

Default provide female SMA terminal on meter left side, 2dbi antenna 3 meters length cable.

19D-NX Energy Meter

19D-NX Modular multi-function meter is Blue Jay next generation din-rail meter power meter. use 3M width expand model can build max 40x3P4W or 120x1P2W energy metering system. Flexible selection of different modules can build the most suitable on-site integrated metering device.

Meter use CTs connect, provide max 0.5 class metering accuracy. default RS485 Modbus-RTU port, customized expand module can provide extra IoT module valid for different project.

Main Features

- 4M / 3M width size modular design
- Easy to install and expand operate
- 1.6" dot matrix LCD screen
- Programmable digital inputs/outputs
- Precision metering & sub-billing
- Universal series power supply (85-265VAC/DC)
- Core unit provide 15W(12Vdc) drive capacity
- Expand unit can separate use as metering node
- RS-485 Modbus/RTU Communications
- Optional Ethernet expand module
- Optional IoT expand module

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Technical characteristics

Current measurement on inputs (TRMS)

Rating of CT secondary	100mA, 50mA, 2.5mA
Measurement range	0 ... 11 kA
Input consumption	<0.1 VA
Accuracy	0.5% (IEC61557-12)
Impedance	<10mΩ
Overload capacity	1.2 times of rating, continuous 10 times of rating, 10s

Voltage measurement (TRMS)

Measurement range	18 ... 300 VAC
PT secondary	100VAC / 400VAC
Input consumption	<0.1 VA
Accuracy	0.5% (IEC61557-12)
Impedance	>1MΩ
Overload capacity	1.2 times of rating, continuous 2 times of rating, 1s

Frequency measurement

Measurement range	45 ... 65 Hz
Accuracy	±0.02Hz

Energy accuracy

Active energy	Class 1.0 (IEC 62053-22)
Reactive energy	Class 2.0 (IEC 62053-23)

Auxiliary power supply (19D-NC)

Rating	DC/AC 85~265 ± 10 %
Frequency	50 / 60 Hz
Consumption	< 10 VA

Auxiliary power supply (Expand unit)

Rating	12Vdc
Consumption	<0.9W

Communication

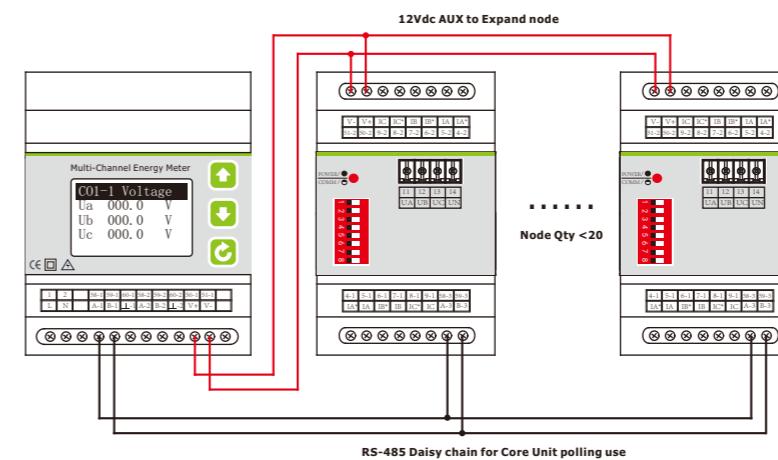
Link	RS485 (2/3 wires half duplex)
Protocol	Modbus RTU mode
MODBUS speed	4800/9600bauds

Safety

Isolation withstand voltage	AC 1KV/1min
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Residential & Commercial Meter

Typical Wiring



Notes:

- Expand module <20units
- Each expand module have DIP switch to configuration MODBUS ID
- MODBUS ID can set 1-32

Expand Module Selection

Code	Description	Features
19D-NC	Core Unit	85-265Vac/dc 2* RS485 12V (15W) load capacity
19D-N32	Three phase metering unit	12Vdc AUX 2 channels three phase single 1* RS485
19D-N16	Single phase metering unit	12Vdc AUX 6 channels single phase single 1* RS485
19D-NWL	LoRa communication module	12Vdc AUX LoRa 2.4G 1* RS485
19D-NW4G	4G communication module	12Vdc AUX 4G telecom signal, LTE 1* RS485

