

PRODUCT INTRODUCTION

PANEL METER



Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06

Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13

Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47

Россия (495)268-04-70

Казахстан (772)734-952-31

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FU2200A

Multifunction Power Meter with Data Logger

FU2200A is a three-phase multifunction power and energy meter manufactured by GFUVE. The meter provide excellent value for monitoring power and energy management systems. It may be used as data gathering devices for intelligent power distribution or plant automation systems. All monitored data is available via a standard digital RS485 communication port running the Modbus RTU protocol. It has the PC software and the data logger function, which can set by end users from 1min to 60min intervals to record. You can read the data through a PC. Also, you can share the data in the Internet LAN. By the way, it can measure the harmonics. With a wide range of models to choose from, the FU2200A power meter offers unparalleled value and functionality.



Features

1. True-RMS measuring parameters
2. ANSI and IEC 0.2 accuracy class
3. Power quality analysis
4. 4 quadrant energy
5. 2MB onboard memory, can be extended to 16M
6. Data logging
7. High-speed RS485, Ethernet port (option)
8. Measure individual harmonics from 2nd to 49th (option)
9. TOU, 4 Tariffs, 6 Seasons, 6 Schedules
10. Class leading warranty
11. With PC management software; web browse data

Applications

1. Metering of distribution feeders, transformers, generators, capacitor banks and motors
3. Medium and low voltage systems
4. Commercial, industrial, utility
5. Power quality analysis
6. Data logging
7. Monitoring system



Parameters

Electrical parameters

Power Supply (AC/DC)	AC85-400V / DC85-330V Power consumption: <4VA
Measurement Parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power(W); Reactive Power(Q); Apparent Power(S), 2nd to 49th harmonics(option)
Harmonics	Total harmonics ratio of phase-voltage Total harmonics ratio of current 2nd to 49th harmonics ratio of phase-voltage 2nd to 49th harmonics ratio of current
Maximum Value & Minimum Value	Voltage, current, frequency, active power, reactive power, apparent power, demandP, demandQ, demandS.
Computation	Forward active power energy Reverse active power energy Forward active power energy Reverse reactive power energy
Measuring Range	0-400V (0-800V is optional), 0-6A, 45-65Hz, -1 ~ 0 ~ 1
Measuring Accuracy	Voltage: 0.5%RD±0.05%FS Current: 0.5%RD±0.05%FS Active Power: 0.5%RD±0.05%FS Reactive Power: 1.5%RD +0.05%FS Apparent power: 0.5%RD +0.1%FS Power Factor: 0.5%RD Frequency: 0.05%RD Active Energy: 0.5%
Maximum Demand	Ia, Ib, Ic, ΣPtotal, ΣQtotal, ΣStotal, 15 minutes
Display	Blue back-lit LCD Display 5 display figures 4 operation keys
Communication	Support RS-485 interface port, 32 (128) Networking ModBus-TCP/IP, SNMP communication protocol Ethernet 10/100M port (RJ45)
Memory	2M onboard memory, can be extended to 16M. Data logger interval can set by end users from 1min to 60min. The default is 15min. You can read the data through a PC, also you can select the data to display and store from software.
Programmable	Measuring system: 3P4W/3P3W etc Transformation Ratio: PT 1-10000; CT 1-10000

Electrical parameters - continued

Energy pulse	Provides active & reactive energy pulse output Pulse parameters can be chosen Range: 0.1-10000kWh/kvarh Dry contact output (1Ax100V)
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P3W, 1P2W
Baud	1200-57600, Standard 38400

Mechanical parameters

Dimensions (L x W x H) (mm)	96 x 96 x 12.8
Mounting	Panel mounting Trepanning: 92x92mm The thickness of installation: 51mm

Environmental conditions

Temperature	-5 to +50 °C
Humidity	20%-95%RH, without condensation
Warranty	Three years warranty

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Parameters	Accuracy	Resolution	Measuring range	Show on the display
Voltage	0.20%	0.01V	0-400V	0.5-500kV
Current	0.20%	0.01mA	0-6.5A	5mA-50000A
Active power	0.50%	0.2W	0-2400W/phase	-9999MW to +9999MW
Reactive power	2%	0.2var	0-2400var/phase	-9999Mvar to +9999Mvar
Apparent power	0.50%	0.2VA	0-2400VA/phase	0-9999MVA
Active demand	0.50%	0.2W	0-2400W/phase	-9999MW to +9999MW
Reactive demand	2%	0.2var	0-2400var/phase	-9999Mvar to +9999Mvar
Apparent demand	0.50%	0.2VA	0-2400VA/phase	0 to 9999MVA
Power factor	0.005	0.0001	-2	-2
Frequency	0.01Hz	0.01Hz	45.000-65.000Hz	45.000-65.000Hz
Active energy	0.5%,0.2% (Option)	0.001kWh	0-999999.999kWh	0-99999999.9kWh
Reactive energy	2%	0.001kvarh	0-999999.999kvarh	0-99999999.9kvarh
Apparent energy	0.50%	0.001VAh	0-999999.999kVAh	0-99999999.9kVAh
Phase angle	0.1°	0.01°	0-359.99°	0-359.99°
Unbalance	2%	0.01%	0-300.00%	0-300.00%
PT ratio		1		1-10000
CT ratio		1		1-10000
Address code		1		1-253

Software Interface From FU2200A

Max & Min data

Max & Min Data	Readings	Parameters
Real Time Metering	Max	Min
Energy	2015-02-03 13:42:00 126.47V	2015-02-03 13:42:00 108.75V
Harmonic		
Wave & Vector		
Max & Min		
Defective		

Energy include TOU

Energy include TOU	Readings	Parameters
Energy		
Harmonic		
Wave & Vector		
Max & Min		
Defective		

Real time metering

Real Time Metering	Readings	Parameters
Energy	0.0	0.0
Harmonic		
Wave & Vector		
Max & Min		
Defective		

General parameter

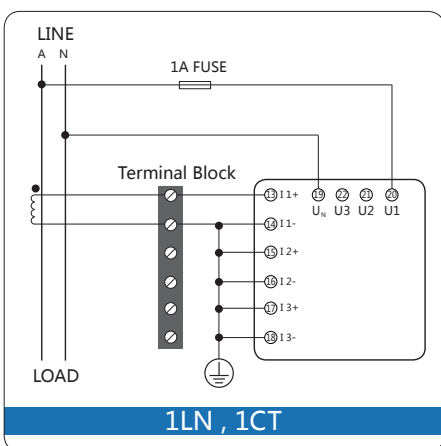
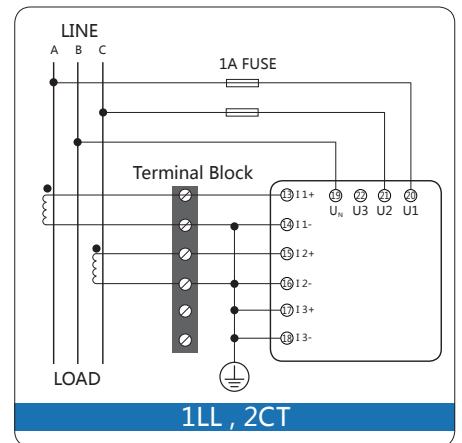
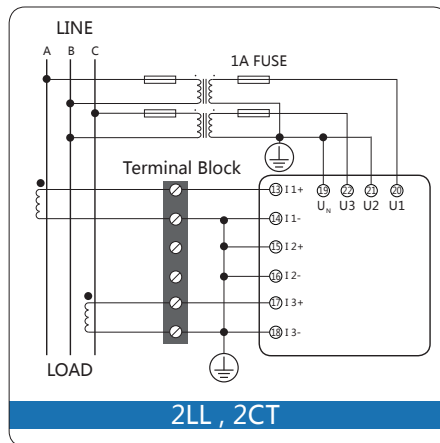
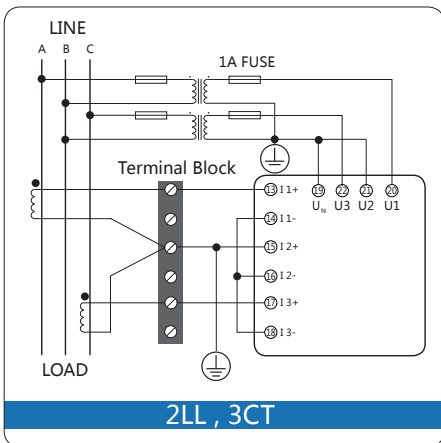
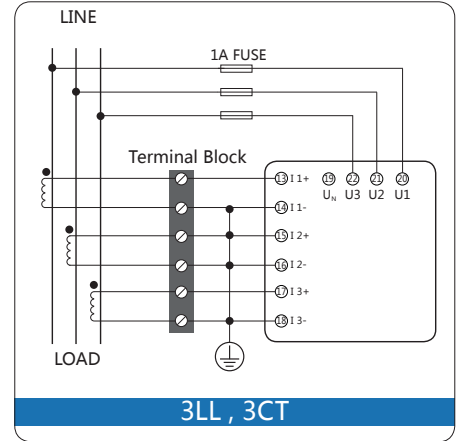
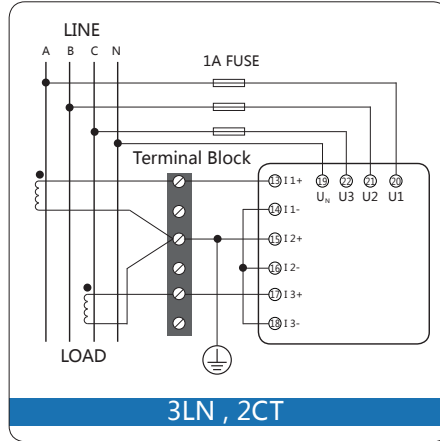
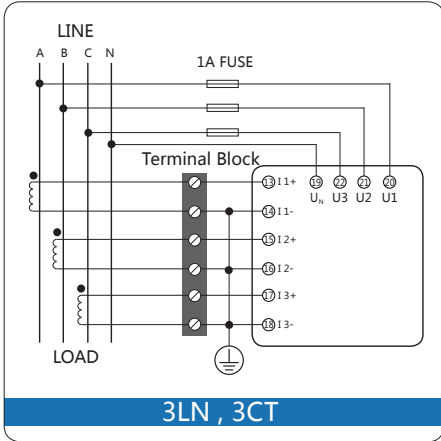
General Parameter Configuration Form

Parameters: IP Address, IP Subnet, IP Port, IP Gateway, IP DNS, IP NTP, IP SNTP, IP TFTP, IP SFTP, IP SCP, IP SSH, IP Telnet, IP Modem, IP Relay, IP Light, IP Alarm, IP Output, IP Input, IP Control, IP Status, IP Event, IP Alarm, IP Output, IP Input, IP Control, IP Status, IP Event, IP Alarm, IP Output, IP Input, IP Control, IP Status, IP Event.

Data Logging From FU2200A

No	YYYY-MM-DD hh:mm:ss	U1(V)	U2(V)	U3(V)	Ulnavg(V)	U12(V)	U23(V)	U31(V)	Ullavg(V)	I1(A)	I2(A)	I3(A)	Iavg(A)	In(A)	P1(kW)	P2(kW)	P3(kW)	Pst
1	2015-02-03 13:59:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	0.999	1.000	0.999	0.000	0.050	0.050	0.050	0
2	2015-02-03 14:00:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
3	2015-02-03 14:01:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
4	2015-02-03 14:02:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
5	2015-02-03 14:03:00	99.97	99.95	99.96	99.96	173.15	173.10	173.15	173.13	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
6	2015-02-03 14:04:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
7	2015-02-03 14:05:00	99.96	99.95	99.97	99.96	173.14	173.11	173.15	173.13	4.998	4.998	4.998	4.998	0.000	0.250	0.250	0.250	0
8	2015-02-03 14:06:00	99.96	99.95	99.97	99.96	173.14	173.11	173.15	173.13	4.999	4.998	4.998	4.998	0.000	0.250	0.250	0.250	0
9	2015-02-03 14:07:00	99.96	99.95	99.97	99.96	173.14	173.11	173.15	173.13	4.998	4.998	4.998	4.998	0.000	0.250	0.250	0.250	0

Wiring Diagram



Related Current Transformer (C.T)

Model	Primary rated current	Rated load	Aperture (mm)	Description (mm)	Weight (kg)	Material	Water-proof
LMCK055-10	300-1200A	≤10VA	φ55	180×138×52	2	PC	IP65
LMCK185-10	300-3000A	≤25VA	φ185	350×283×55	4.5	PC	IP65
LZCK310-10	300-600A	≤10VA	φ50	φ50 x φ110 x 32	1	Resin	silicon case (option)
LZCK322-10	30-600A	≤10VA	φ50	φ50 x φ110 x 52	1.6	Resin	silicon case (option)
LZCK350-10	20-600A	≤25VA	φ50	φ50 x φ110 x 105	3.1	Resin	silicon case (option)
LZCG530-10	30-600A	≤20VA	φ45	φ45 x φ120 x 65	5	Resin	silicon case (option)



FU2200B

0-800V Ethernet Power Meter with Data Logger

FU2200B is a three-phase multifunction power and energy meter manufactured by GFUVE. The meter provide excellent value for monitoring power and energy management systems. It may be used as data gathering devices for intelligent power distribution or plant automation systems. All monitored data is available via a standard digital RS485 communication port running the Modbus RTU protocol. It has the PC software and the data logger function, which can set by end users from 1min to 60min intervals to record. You can read the data through a PC. Also, you can share the data in the Internet LAN. By the way, it can measure the harmonics. With a wide range of models to choose from, the FU2200B power meter offers unparalleled value and functionality.



Features

1. True-RMS measuring parameters
2. ANSI and IEC 0.2 accuracy class
3. Power quality analysis
4. 4 quadrant energy
5. 2MB onboard memory, can be extended to 16M
6. Data logging
7. High-speed RS485, Ethernet port (option)
8. Measure individual harmonics from 2nd to 49th (option)
9. TOU, 4 Tariffs, 6 Seasons, 6 Schedules
10. Class leading warranty
11. With PC management software; web browse data

Applications

1. Metering of distribution feeders, transformers, generators, capacitor banks and motors
3. Medium and low voltage systems
4. Commercial, industrial, utility
5. Power quality analysis
6. Data logging
7. Monitoring system



Parameters

Electrical parameters	
Power Supply (AC/DC)	AC85-400V / DC85-330V Power consumption: <4VA
Measurement Parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power(W); Reactive Power(Q); Apparent Power(S), 2nd to 49th harmonics(option)
Harmonics	Total harmonics ratio of phase-voltage Total harmonics ratio of current 2nd to 49th harmonics ratio of phase-voltage 2nd to 49th harmonics ratio of current
Maximum Value & Minimum Value	Voltage, current, frequency, active power, reactive power, apparent power, demandP, demandQ, demandS.
Computation	Forward active power energy Reverse active power energy Forward active power energy Reverse reactive power energy
Measuring Range	0-800V, 0-10A, 45-65Hz, -1 ~ 0 ~ 1
Measuring Accuracy	Voltage: 0.5%RD±0.05%FS Current: 0.5%RD±0.05%FS Active Power: 0.5%RD±0.05%FS Reactive Power: 1.5%RD +0.05%FS Apparent power: 0.5%RD +0.1%FS Power Factor: 0.5%RD Frequency: 0.05%RD Active Energy: 0.5%
Maximum Demand	Ia, Ib, Ic, ΣPtotal, ΣQtotal, ΣStotal, 15 minutes
Display	Blue back-lit LCD Display 5 display figures 4 operation keys
Communication	Support RS-485 interface port, 32 (128) Networking ModBus-TCP/IP, SNMP communication protocol Ethernet 10/100M port (RJ45)
Memory	2M onboard memory, can be extended to 16M. Data logger interval can set by end users from 1min to 60min. The default is 15min. You can read the data through a PC, also you can select the data to display and store from software.
Programmable	Measuring system: 3P4W/3P3W etc Transformation Ratio: PT 1-10000; CT 1-10000

Electrical parameters - continued

Energy pulse	Provides active & reactive energy pulse output Pulse parameters can be chosen Range: 0.1-10000kWh/kvarh Dry contact output (1Ax100V)
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P3W, 1P2W
Baud	1200-57600, Standard 38400

Mechanical parameters

Dimensions (L x W x H) (mm)	96x96x12.8
Mounting	Panel mounting Trepanning: 92x92mm The thickness of installation: 51mm

Environmental conditions

Temperature	-5 to +50 °C
Humidity	20%-95%RH, without condensation
Warranty	Three years warranty

Index

Parameters	Accuracy	Resolution	Measuring range	Show on the display
Voltage	0.20%	0.01V	0-800V	0.5-500kV
Current	0.20%	0.01mA	0-10A	5mA-50000A
Active power	0.50%	0.2W	0-2400W/phase	-9999MW to +9999MW
Reactive power	2%	0.2var	0-2400var/phase	-9999Mvar to +9999Mvar
Apparent power	0.50%	0.2VA	0-2400VA/phase	0-9999MVA
Active demand	0.50%	0.2W	0-2400W/phase	-9999MW to +9999MW
Reactive demand	2%	0.2var	0-2400var/phase	-9999Mvar to +9999Mvar
Apparent demand	0.50%	0.2VA	0-2400VA/phase	0 to 9999MVA
Power factor	0.005	0.0001	-2	-2
Frequency	0.01Hz	0.01Hz	45.000-65.000Hz	45.000-65.000Hz
Active energy	0.5%,0.2% (Option)	0.001kWh	0-999999.999kWh	0-99999999.9kWh
Reactive energy	2%	0.001kvarh	0-999999.999kvarh	0-99999999.9kvarh
Apparent energy	0.50%	0.001VAh	0-999999.999kVAh	0-99999999.9kVAh
Phase angle	0.1°	0.01°	0-359.99°	0-359.99°
Unbalance	2%	0.01%	0-300.00%	0-300.00%
PT ratio		1		1-10000
CT ratio		1		1-10000
Address code		1		1-253

Software Interface From FU2200B

Max & Min data

Max & Min Data	Readings	Parameters
Real Time Metering	Energy	Energy
Harmonic	Wave & Vector	Wave & Vector
Max & Min	Max & Min	Max & Min
Block1	Block1	Block1
Block2	Block2	Block2
Block3	Block3	Block3
Block4	Block4	Block4
DeviceInfo	DeviceInfo	DeviceInfo

Energy include TOU

Energy include TOU	Readings	Parameters
Energy include TOU	Energy include TOU	Energy include TOU
Block1	Block1	Block1
Block2	Block2	Block2
Block3	Block3	Block3
Block4	Block4	Block4

Real time metering

Real Time Metering	Readings	Parameters
Real Time Metering	Real Time Metering	Real Time Metering
Block1	Block1	Block1
Block2	Block2	Block2
Block3	Block3	Block3
Block4	Block4	Block4

General parameter

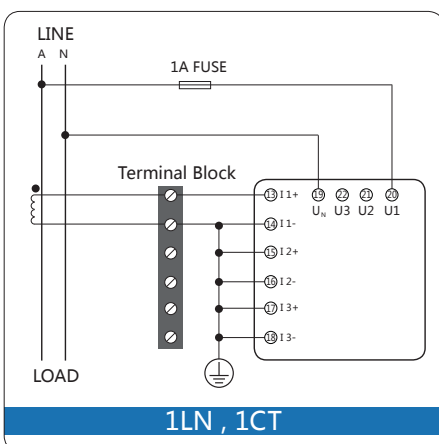
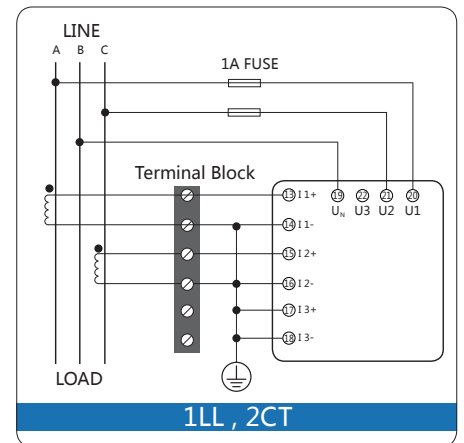
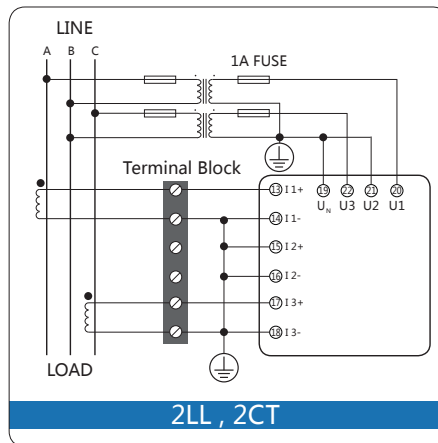
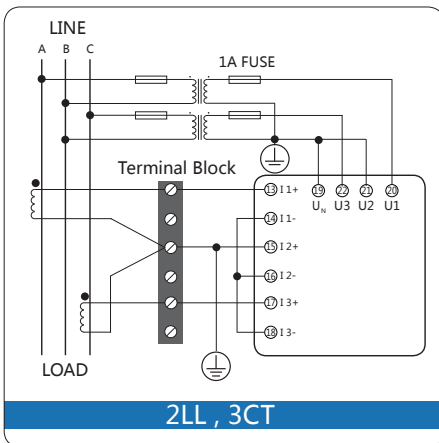
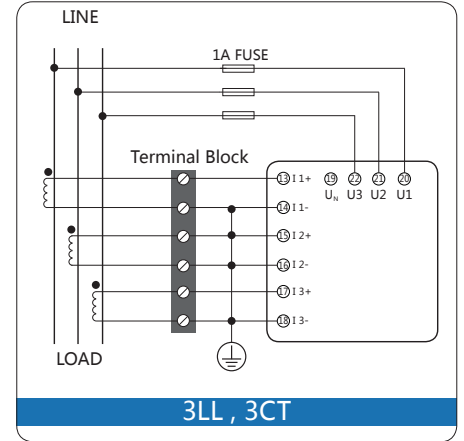
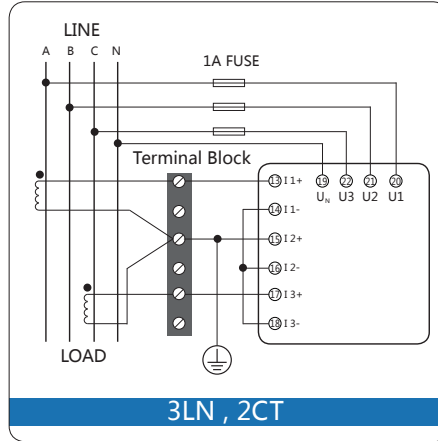
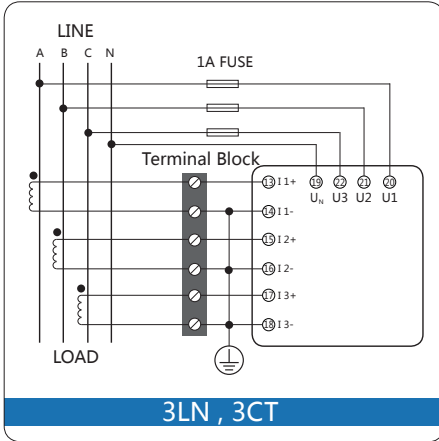
General Parameter Configuration Form

Parameters: IP Address, IP Subnet, IP Port, IP Gateway, IP DNS, IP NTP, IP SNTP, IP DHCP, IP WPA, IP WPA2, IP WPA3, IP WPA4, IP WPA5, IP WPA6, IP WPA7, IP WPA8, IP WPA9, IP WPA10, IP WPA11, IP WPA12, IP WPA13, IP WPA14, IP WPA15, IP WPA16, IP WPA17, IP WPA18, IP WPA19, IP WPA20.

Data Logging From FU2200B

No	YYYY-MM-DD hh:mm:ss	U1(V)	U2(V)	U3(V)	Ulnavg(V)	U12(V)	U23(V)	U31(V)	Ullavg(V)	I1(A)	I2(A)	I3(A)	Iavg(A)	In(A)	P1(kw)	P2(kw)	P3(kw)	Pst
1	2015-02-03 13:59:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	0.999	1.000	0.999	0.000	0.050	0.050	0.050	0
2	2015-02-03 14:00:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
3	2015-02-03 14:01:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
4	2015-02-03 14:02:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
5	2015-02-03 14:03:00	99.97	99.95	99.96	99.96	173.15	173.10	173.15	173.13	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
6	2015-02-03 14:04:00	99.96	99.95	99.96	99.95	173.14	173.10	173.14	173.12	1.000	1.000	1.000	1.000	0.000	0.050	0.050	0.050	0
7	2015-02-03 14:05:00	99.96	99.95	99.97	99.96	173.14	173.11	173.15	173.13	4.998	4.998	4.998	4.998	0.000	0.250	0.250	0.250	0
8	2015-02-03 14:06:00	99.96	99.95	99.97	99.96	173.14	173.11	173.15	173.13	4.999	4.998	4.998	4.998	0.000	0.250	0.250	0.250	0
9	2015-02-03 14:07:00	99.96	99.95	99.97	99.96	173.14	173.11	173.15	173.13	4.998	4.998	4.998	4.998	0.000	0.250	0.250	0.250	0

Wiring Diagram



Related Current Transformer (C.T)

Model	Primary rated current	Rated load	Aperture (mm)	Description (mm)	Weight (kg)	Material	Water-proof
LMCK055-10	300-1200A	≤10VA	φ55	180×138×52	2	PC	IP65
LMCK185-10	300-3000A	≤25VA	φ185	350×283×55	4.5	PC	IP65
LZCK310-10	300-600A	≤10VA	φ50	φ50 x φ110 x 32	1	Resin	silicon case (option)
LZCK322-10	30-600A	≤10VA	φ50	φ50 x φ110 x 52	1.6	Resin	silicon case (option)
LZCK350-10	20-600A	≤25VA	φ50	φ50 x φ110 x 105	3.1	Resin	silicon case (option)
LZCG530-10	30-600A	≤20VA	φ45	φ45 x φ120 x 65	5	Resin	silicon case (option)



FU2000

Multifunction Electrical Digital Power Meter

FU2000 is a multifunction electrical digital power meter, it can measure all the electrical parameters in the circuit, and it has RTC, calendar and one pulse output (option).

Features

1. Multifunction power meter
2. Measure all the electrical parameters
3. It has RTC, calendar
4. Accuracy class can reach 0.5s
5. Pulse output is optional
6. LCD display



Parameters

Electrical parameters	
Power supply (AC/DC)	AC 85-265V/DC 85-330V, DC18-90V (option) Power Consumption: <4VA
Measurement parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power (W); Reactive Power (Q); Apparent Power(S)
Computation	Forward active power energy Reverse active power energy Forward active power energy Reverse reactive power energy
Measuring range	30-600V, 0-6A, 45-65Hz, -1 ~ 0 ~ 1
Measuring accuracy	Frequency: 0.1% Electric energy: 0.5%, 1.0% Voltage : 0.2%±0.1V Current : 0.2%±0.001A Power : 0.5% ±0.4W Power Factor : 0.5% ±0.001
Display	LCD Display, 128X64 Lattice, English and Chinese interface, 4 Displays. Green back-lit 4 operation keys.
Communication	RS-485 interface port support, 32(128) Networking, ModBus- RTU communication protocol.

Electrical parameters - continued

Programmable	Measuring system: 3P4W/3P3W etc. Transformation ratio: PT, CT Communication: Address: 1-247; Baud: 1200-19200; Parity Bit: N/E/O RTC: year; month; day; hour; minute; second Energy: reset
Energy pulse (optional)	One active energy pulse output Pulse constant: 5000kWh Photocoupler output (0.1Ax30V)
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P2W, 1P3W
RTC	Accuracy drift less than 2.5min/year

Mechanical parameters

Dimensions (mm)	Mounting Panel: 120x120 Thickness: 21 Depth: 118
Mounting	Panel mounting Trepanning: 92x92mm

Environmental conditions

Temperature	-25 to +55 °C
Humidity	20%-95%RH, without condensation

FU2010

Small Electric Solar Three Phase Power Meter

FU2010 is a multi-function small electric solar three phase power meter without displaying. It can measure all the parameters in one circuit. Simple hardware circuit and high reliability. One DC4-20mA output is optional. It is a versatile transducer.



Features

1. Multi-function power meter
2. Can be as a versatile transducer
3. Simple hardware circuit and high reliability
4. High accuracy class

Parameters

Electrical parameters	
Power supply (AC/DC)	AC85-265V / DC85-330V or 18-90V DC Power consumption: <3VA
Measurement parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power (W); Reactive Power (Q) ; Apparent Power(S)
Computation	Forward active power energy Reverse active power energy Forward active power energy Reverse reactive power energy
Measuring range	30-600V, 0-6A, 45-65Hz, -1 ~ 0 ~ 1
Measuring accuracy	Frequency: 0.1% Electric energy: 0.5%, 1.0% Voltage : 0.2%±0.1V Current : 0.2%±0.001A Power : 0.5% ±0.4W Power Factor : 0.5% ±0.001
Display	Indication of power supply, energy pulse and communication.
Communication	Support RS485 interface port, 32 (128) networking, Modbus-RTU communication protocol.
Analog output (expansion module)	DC 4-20mA output, programmable to any measured parameters.

Electrical parameters - continued

Programmable	Measuring system: 3P4W/3P3W etc. Transformation ratio: PT, CT. Communication: Address: 1-247; Baud: 1200-19200; Parity bit: N/E/O Energy: reset
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P2W, 1P3W

Mechanical parameters

Dimensions (L x W x H) (mm)	110x75x72.6
Mounting	35mm DIN sliding-way or M4 screws

Environmental conditions

Temperature	-15 to +55 °C
Humidity	20%-95%RH, without condensation

FU2030

Multifunction Mini Digital Panel Power Meter

FU2030 is a multifunction mini digital panel power meter, measure all the electrical parameters, compute four quadrants energy, work in wide temperature range.

Features

1. Multifunction digital panel power meter
2. Work in wide temperature range
3. Multiple connection modes
4. Measure all the electrical parameters
5. Analog output module is optional



Parameters

Electrical parameters	
Power supply (AC/DC)	AC 85-265V/DC 85-330V Power consumption: <6VA
Measurement parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power (W); Reactive Power (Q); Apparent Power (S)
Computation	Forward active power energy Reverse active power energy Forward active power energy Reverse reactive power energy
Measuring range	30-600V, 0-6A, 45-65Hz, -1 ~ 0 ~ 1
Measuring accuracy	Frequency: 0.1% Electric energy: 0.5%, 1.0% Voltage : 0.2%±0.1V Current : 0.2%±0.001A Power : 0.5% ±0.4W Power Factor : 0.5% ±0.001
Display	LED Display, 4 Displays. 4 operation keys.
Communication	RS-485 interface port support, 32 (128) Networking, ModBus-RTU communication protocol.
Analog output (expansion module)	DC 4-20mA output, programmable to any measured parameters.

Electrical parameters - continued

Programmable	Measuring System : 3P4W/3P3W etc. Transformation Ratio : PT, CT. Communication: Address: 1-247; Baud: 1200-19200; Parity Bit: N/E/O Energy: Reset
Energy pulse (optional)	One active energy pulse output Pulse constant: 5000kWh Photocoupler output (0.1Ax30V)
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P2W, 1P3W
RTC	Accuracy drift less than 2.5min/year

Mechanical parameters

Dimensions (mm)	Mounting panel: 120x120 Thickness: 21 Depth: 118
Mounting	Panel mounting Trepanning: 92x92mm

Environmental conditions

Temperature	-25 to +55 °C
Humidity	20%-95%RH, without condensation

FU2040

Three Phase Stop Digital Solar Power Meter

FU2040 is a LCD display three phase stop digital solar power meter, metering and displaying all the measured parameters in one circuit and computing four quadrants energy. This model can work in wide temperature range.

Features

1. Can measure all the electrical parameters
2. Can compute four quadrants energy.
3. High accuracy 0.5s
4. PT, CT transformation ratio is settable
5. Can work in wide temperature range



Parameters

Electrical parameters	
Power supply (AC/DC)	AC 85-265V / DC 85-330V Power consumption: <4VA
Measurement parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power (W); Reactive Power (Q); Apparent Power (S)
Computation	Forward / Reverse active / reactive power energy
Measuring range	30-600V, 0-6A, 45-60Hz
Measuring accuracy	Frequency: 0.1% Electric energy: 0.5%, 1.0% Voltage : 0.2%±0.1V Current : 0.2%±0.001A Power : 0.5% ±0.4W Power Factor : 0.5% ±0.001
Display	LCD display; 3 display; 4 operation keys
Communication	Support RS485 interface port, 32(128) networking, Modbus-RTU communication protocol.
Programmable	Measuring system: 3P4W/3P3W etc Transformation ratio : PT, CT Communication: Address: 1-247; Baud: 1200-19200; Parity bit: N/E/O Energy: reset

Electrical parameters - continued

Energy Pulse	Provides active & reactive energy pulse output Pulse parameters can be chosen Range: 0.1-10000kWh/kvarh Dry contact output (1Ax100V)
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P2W, 1P3W
Communication	RS485 Port, Baud: 1200-57600, Standard 38400; Ethernet Port (option)

Mechanical parameters

Dimensions (mm)	Mounting panel: 72x72 Thickness: 13 Depth: 60
Mounting	Panel mounting Trepanning: 68x68mm

Environmental conditions

Temperature	-25 to +50 °C
Humidity	20%-95%RH, without condensation

FU2200

RS485 Three Phase Stop Digital Power Meter

FU2200 is a powerful three phase stop digital power meter, it can measure and display all the electrical parameters as well as harmonics ratio of current and voltage. Four modules can be plugged-in together: RS-485 communication, digital input/output, energy pulse and DC 4-20mA analog output module, in order to meet all kinds of demands.



Features

1. Can measure all the electrical parameters
2. Four modules can choose
3. Can measure the harmonics
4. High accuracy 0.5s
5. PT, CT transformation ratio is settable

Parameters

Electrical parameters	
Power supply (AC/DC)	AC85-265V / DC85-330V, DC18-90V (optional) Power consumption: <4VA
Measurement parameters	Voltage (Ph-N); Voltage (Ph-Ph); Current; Frequency; PF; Active Power(W); Reactive Power(Q) ; Apparent Power(S), 3 rd -19 th harmonics
Harmonics	Total harmonics ratio of phase-voltage Total harmonics ratio of current 3 rd -19 th harmonics ratio of Phase-voltage (RS485 output) 3 rd -19 th harmonics ration of current (RS485 output)
Maximum value	Max. value for voltage/current Max. value for active power Max. value for reactive power Max. value for apparent power
Computation	Forward active power energy Reverse active power energy Forward active power energy Reverse reactive power energy

Electrical parameters - continued

Measuring range	30-600V, 0-6A, 45-65Hz, -1 ~ 0 ~ 1
Measuring accuracy	Frequency: 0.1% Electric energy: 0.5%, 1.0% Voltage : 0.2%±0.1V Current : 0.2%±0.001A Power : 0.5% ±0.4W Power factor : 0.5% ±0.001
Display	Wide screen angle; Light blue back-lit LCD display; 5 display figures; 6 operation keys.
Communication (expansion)	Support RS485 port with expansion module FM-485, Modbus-RTU communication protocol. 32 (128) meters are connected as a network.
Programmable	Measuring system: 3P4W/3P3W etc. Transformation ratio : PT,CT. Communication: Address: 1-247; Baud: 1200~19200; Parity bit: N/E/O Energy: reset
Energy pulse (expansion)	FM-E2 provides active & reactive energy pulse output. 6 pulse parameters can be choose. Range: 0.1-10000kWh/kvarh; Dry contact output (1AX100V).
Data collection (expansion)	Each FM-K2 module can collect 2-ways dry contact counting
Control (expansion module)	Each FM-K2 provides 2 relay contact outputs, which can be controlled by communication or the measured parameters.
Analog output (expansion module)	Each FM-A20 module provides 2 ways of DC 4-20mA outputs, the function-relations can be set according to the measured parameters.
Connection mode	3P4W, 3P4W BAL, 3P3W, 3P3W BAL, 1P2W, 1P3W

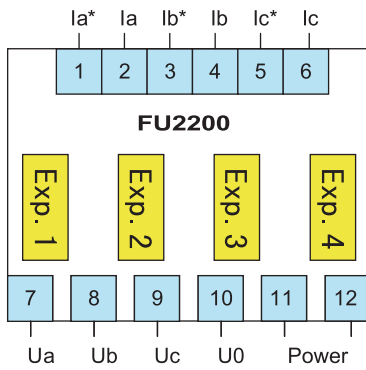
Mechanical parameters

Dimensions (mm)	Mounting panel: 96x96 Thickness: 20 Depth: 60 (without expansion module) 80 (without expansion module)
Mounting	Panel mounting Trepanning: 92x92mm

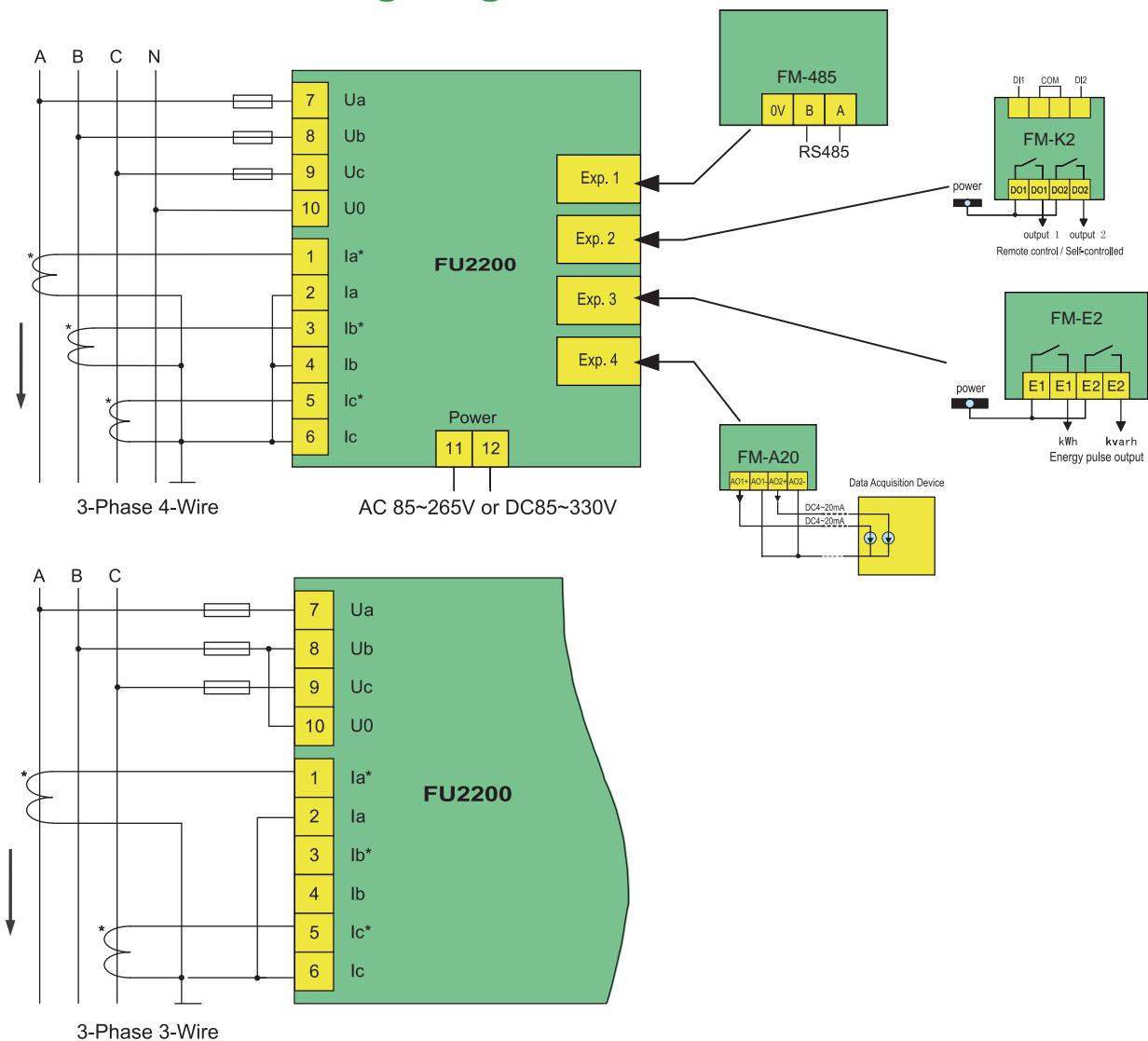
Environmental conditions

Temperature	-25 to +50°C
Humidity	20%-95%RH, Without condensation

Terminal Diagram



Reference Connecting Diagram



FU9000

Three Phase Current And Voltage Display Meter

FU9000 series three phase current and voltage display meter has replaced the traditional digital meters. This product has the function of traditional products, also has programmable functions, DC4-20mA analog output, RS485 communication interface port and the switching power output functions. This product has high accuracy, excellent EMC and good appearance and so on.



Parameters

Name	Measurement type
Programmable	PT, CT ratio, address, baud rate and other parameters.
Accuracy	0.5 class
Display figures	4 bits
Rated input	Current: 1A, 5A Voltage: 100V, 220V, 380V
Over range	Current: 1.2 times continuous, 10 times/10s ; Voltage: 2 times continuous
Frequency	50±5Hz or 60±10Hz (Option)
Power supply	AC220V ± 20% or DC100-300V (Customization)
Power consumption	<3VA
Insulation strength	2KV/Min. 2mA
Insulation resistance	≥100MΩ
MTBF	≥50000Hrs
Working environment	Temperature: -25 to +55°C Humidity: ≤98% RH, without condensation
Real-time output	DC4-20mA, load capacity: ≤400Ω
Data output	RS485 port (Modbus-RTU protocol)
Switching input	Remote signal input (self power supply): AC or DC 220V
Switching output (self-control)	Normally open contact output: AC 250V / DC 30V, 5A

Model Description

FU9 - Dimension - Product code - Function code - Display	
Dimension code	0: 48 x 48 x 100mm
	1: 72 x 72 x 73mm
	2: 120 x 120 x 81mm
	3: 96 x 96 x 98mm
Product code	0: Three AC current
	1: Three AC voltage
	2: Three AC current and voltage combined
Function code	0: Display only
	1: RS485
	2: 1DO
	3: 1AO
	4: 1DO + RS485
	5: 1AO + RS485
	6: 1DO + 1AO
	7: 1DO + 1AO + RS485
	8: 2DO + 1AO
	9: 2DO + RS485
	A: 1DI + 1DO + RS485
	B: 2DI + 2DO + RS485
Display	(Nothing): LED
	Y: LCD

Remark:

- 1) FU9000 series products have no button, without output.
- 2) Power terminal blocks numbered 15, 16 for LCD products.

FU8000

Single Phase Current And Voltage Display Meter

FU8000 series single phase current and voltage display meter has replaced the traditional digital meter products. This product has the function of traditional products, also has programmable functions, such as DC4-20mA analog output, RS-485 communication interface port and the switching power output function. It has high accuracy, excellent EMC and good appearance and so on.



Features

1. It has programmable function
2. DC4-20mA analog output
3. High accuracy, excellent EMC and good appearance
4. RS-485 communication interface port

Parameters

Name	Measurement type
Programmable	PT, CT ratio, address, baud rate and other parameters.
Accuracy	0.5 class, frequency 0.2 class
Display figures	4 bits (4½ bits for DC)
Rated input	Current: 1A,5A; Voltage: 100V, 220V, 380V; Temperature: PT100,J,K,T,E thermocouple.
Over range	Current: 1.2 times continuous, 10 times/10s ; Voltage: 2 times continuous
Frequency	50Hz / 60Hz ±10%
Power supply	AC220V ± 20% or DC100-300V (Customization)
Power consumption	<3VA
Insulation strength	2KV/min. 2mA
Insulation resistance	≥100MΩ
MTBF	≥50000Hrs
Working environment	Temperature: -25 to +55°C Humidity: ≤98% RH, without condensation
Real-time output	DC4-20mA, load capacity: ≤400Ω

Name	Measurement type
Data output	RS485 port (Modbus-RTU protocol)
Switching input	Remote signal input (self power supply): AC or DC 220V
Switching output (self-control)	Normally open contact output: AC 250V / DC 30V, 5A

Model Description

FU8 - Dimension code- Product code - Function code - Display	
Dimension code	0: 48 x 48 x 100mm
	2: 120 x 120 x 81mm
	3: 96 x 96 x 98mm
	4: 96 x 48 x 112mm
Product code	0: Single phase AC current
	1: Single phase AC voltage
	2: One route DC current
	3: One route DC voltage
	4: Frequency
	5: Single phase power factor
	6: Temperature
	8: All of the electric parameters
Function code	0: Display only
	1: RS485
	2: 1DO
	3: 1AO
	4: 1DO + RS485
	5: 1AO + RS485
	6: 1DO + 1AO
	7: 1DO + 1AO + RS485
	8: 2DO + 1AO
	9: 2DO + RS485
	A: 1DI + 1DO + RS485
	B: 2DI + 2DO + RS485
Display	(Nothing): LED
	Y: LCD

FU8X6X

DC4-20mA Output Temperature Digital Meter

FU8X6X series DC4-20mA output temperature digital meter has replaced the traditional digital meter products. This product has the function of traditional products, also has programmable functions, DC4-20mA analog output, RS485 communication interface port and the switching power output function. It has high accuracy, excellent EMC, and pleasing in appearance and so on.



Features

1. Temperature digital meter
2. DC4-20mA analog output
3. RS485 communication interface port
4. High accuracy, excellent EMC and good appearance
5. Switching power output function

Parameters

Name	Measurement type
Programmable	PT, CT Ratio, address, baud rate and other parameters.
Accuracy	0.5 class
Display figures	4 bits (4½ bits for DC)
Rated input	Temperature: PT100,J,K,T,E thermocouple.
Over range	Current: 1.2 times continuous, 10 times/10s ; Voltage: 2 times continuous
Frequency	50Hz / 60Hz ±10%
Power supply	AC220V ± 20% or DC100-300V (Customization)
Power consumption	<3VA
Insulation strength	2KV/Min. 2mA
Insulation resistance	≥100MΩ
MTBF	≥50000Hrs
Working Environment	Temperature: -25 to +55°C Humidity: ≤98% RH, without condensation
Real-time output	DC4-20mA, load capacity: ≤400Ω

Name	Measurement type
Data output	RS485 port (Modbus-RTU protocol)
Switching input	Remote signal input (self power supply): AC or DC 220V
Switching output (Self-control)	Normally open contact output: AC 250V / DC 30V, 5A

Model Description

FU9 - Dimension - Product code - Function code - Display	
Dimension code	0: 48 x 48 x 100mm
	1: 72 x 72 x 73mm
	2: 120 x 120 x 81mm
	3: 96 x 96 x 98mm
	3: 96 x 48 x 112mm
Product code	6: Temperature
Function code	0: Display only
	1: RS485
	2: 1DO
	3: 1AO
	4: 1DO + RS485
	5: 1AO + RS485
	6: 1DO + 1AO
	7: 1DO + 1AO + RS485
	8: 2DO + 1AO
	9: 2DO + RS485
	A: 1DI + 1DO + RS485
B: 2DI + 2DO + RS485	
Display	(Nothing): LED
	Y: LCD

FU8072

Digital Temperature And Humidity Meter

FU8072 temperature and humidity meter are made of PIC single chip microprocessor, with stable performance and high reliability. It can be set the upper and lower limits warning value of the temperature, humidity according to the need, with LED indicator light and the contact output.



Features

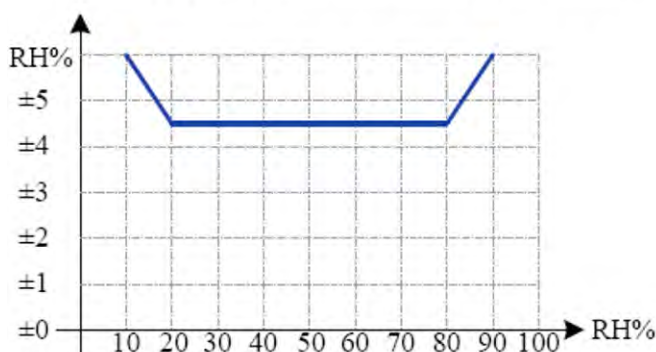
1. Digital temperature and humidity type to measure the probe
2. Wide measuring range, high accuracy
3. Reasonable structural design and flexible installation

Parameters

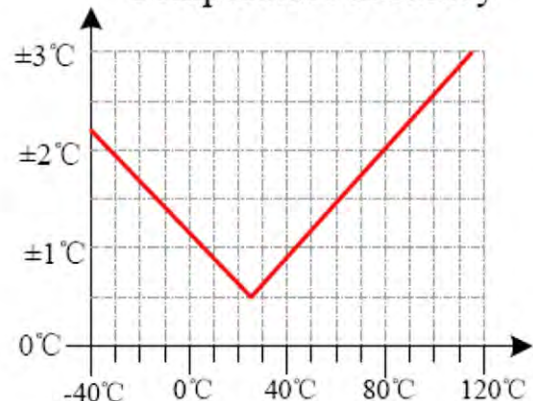
Technical Index

Measuring range	Temperature: -25 to +60°C Humidity: 0-100%
Switching output	AC 250V/DC 30V, 5A
Power supply	AC 220V
Power consumption	3VA
Dimension	48mm x 48mm x 100mm
Installation mode	45mm x 45mm

Relative Humidity absolute accuracy

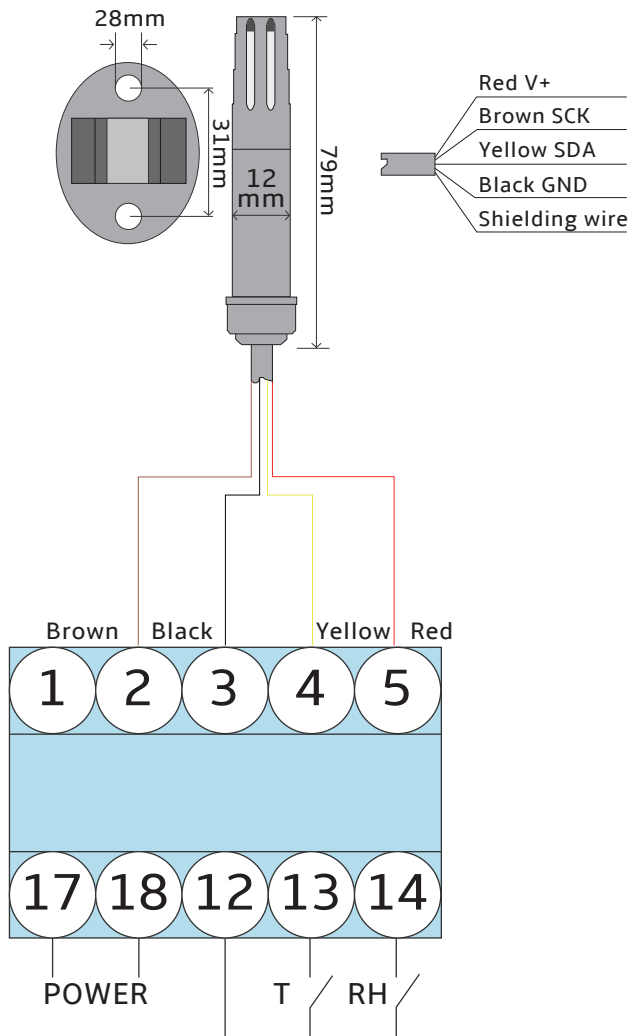


Temperature accuracy



Accuracy and input range of the corresponding diagram

Wiring diagram



FUD-I/U

Single Phase AC Voltage Current Transducer

*Changing the measured AC current/voltage to the DC current/voltage output according to the linear scale;
 Excellent temperature characteristic and good working stability;
 Configuration compactness and brevity.*



Features

1. Single phase current/voltage transducer
2. AC current/voltage transducer
3. Accuracy class can reach 0.2%
4. AC input range can be customized
5. DC output range can be customized

Parameters

Technical Index	
Standard	GB/T 13850-1998, IEC688:1992
Accuracy	0.2%, 0.5%
Consumption	≤3VA
Accuracy drift	Annual variation <0.2%
Insulation voltage	AC 2kV/min.1mA (Between input-output/power)
Insulation resistance	≥20MΩ (DC500V)
Surge voltage	5KV (Peak value), 1.2/50μs
Response time	≤350ms
Input range	AC 0-10A, AC 0-500V (Option), 50/60Hz
Absorbed power	<0.5VA/450V, <0.2VA/100V, <0.1VA/5A
Overload	Current: 2 times continuous, 30 times/1s; Voltage: 2 times continuous
Load resistance	Current output: RL ≤550Ω Voltage output: RL ≥2kΩ
Working environment	Temperature: -10 to +50°C RH: 20-90%, without condensation
Storage conditions	Temperature: -40 to +70°C RH: 20-95%, without condensation

Technical Index

Installation	35mm DIN sliding-way or M4 screws
Dimension	55mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-Output

Type	I: Single phase AC current transducer U: Single phase AC voltage transducer Ir: Single phase AC real RMS current transducer Ur: Single phase AC real RMS voltage transducer
AC input	A1: 0-1A, A2: 0-5A, A3: 0-10A. V0: 0-70V, V1: 0-120V, V2: 0-250V, V3: 0-300V, V4: 0-450V, V5: 0-500V.
Power supply	P1: AC110V±10%, P2: AC220V±15%, P3: AC110V-330V.
DC output	O1: 0-5V, O2: 1-5V, O3: 0-20mA, O4: 4-20mA, O5: RS485.

Example 1: FUD-I-A2-P2-O4

FUD series single phase AC current transducer	Input: AC0-5A Power supply: AC220V±15% Output: DC4-20mA
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Example 2: FUD-Ur-V3-P2-O4

FUD series single phase AC real RMS voltage transducer	Input: AC 0-300V Power supply: AC220V±15% Output: DC4-20mA
--	--

Please check the type, input range, output range and power supply when your order the product.

FUD-3I/3U

Three Phase AC Current Voltage Transducer

Change the measured AC current/voltage to the DC current/voltage output according to the linear scale

Excellent temperature characteristic and good working stability

Configuration compactness and briefness

Features

1. Three phase current / voltage transducer
2. AC current / voltage transducer
3. Accuracy class can reach 0.2%
4. AC input range can be customized
5. DC output range can be customized



Parameters

Technical Index	
Standard	GB/T 13850-1998, IEC688:1992
Accuracy	0.2%, 0.5%
Consumption	≤3VA
Accuracy drift	Annual variation <0.2%
Insulation voltage	AC 2kV/min.1mA (Between input- output / power)
Insulation resistance	≥20MΩ (DC500V)
Surge voltage	5KV (Peak value), 1.2/50μs
Response time	≤350ms
Input range	AC 0-10A, AC 0-500V (Option), 50/60Hz
Absorbed power	<0.5VA/450V, <0.2VA/100V, <0.1VA/5A
Overload	Current: 2 times continuous, 30 times /1s;
Load resistance	Current output: RL ≤550Ω Voltage output: RL ≥2kΩ
Working environment	Temperature: -10 to +50°C RH: 20-90%, without condensation
Storage conditions	Temperature: -40 to +70°C RH: 20-95%, without condensation
Installation	35mm DIN sliding-way or M4 screws
Dimension	110mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-Output

Type	3I: Three phase AC current transducer 3U: Three phase AC voltage transducer
AC input	A1: 0-1A, A2: 0-5A, A3: 0-10A. V0: 0-70V, V1: 0-120V, V2: 0-250V, V3: 0-300V, V4: 0-450V, V5: 0-500V.
Power supply	P1: AC110V±10%, P2: AC220V±15%, P3: AC110V-330V.
DC output	O1: 0-5V, O2: 1-5V, O3: 0-20mA, O4: 4-20mA, O5: RS485.

Example 1: FUD-3I-A2-P2-O4

FUD series three phase AC current transducer	Input: AC 0-5A Power supply: AC220V±15% Output: DC4-20mA
--	--

Example 2: FUD-3U-V2-P2-O4

FUD series three phase AC voltage transducer	Input: AC 0-250V Power supply: AC220V±15% Output: DC4-20mA
--	--

Please check the type, input range, output range and power supply when your order the product.

FUD-P3/Q3

3P3W Active And Reactive Power Transducer

FUD-P3/Q3 3P3W active reactive power transducer can be customized for multi-power-combined transducer of current, voltage, power and all power measurement in 3P3W, support RS485 port. It adopted SCM technique; excellent stability. Delivering the direction of measured power accurately, applicable for active/reactive power measurement in 3P3W.

Features

1. 3P3W active power transducer
2. 3P3W reactive power transducer
3. Accuracy class can be reach 0.2%
4. Adopted SCM technique; excellent stability
5. Applicable for 3P3W active/reactive power measurement

Parameters

Technical Index	
Standard	GB/T 13850-1998, IEC688:1992
Accuracy	0.2%, 0.5%
Consumption	≤5VA
Accuracy drift	Annual variation <0.2%
Insulation voltage	AC 2kV/min.1mA (Between input-output/power)
Insulation resistance	≥20MΩ (DC500V)
Surge voltage	5KV (Peak value), 1.2/50μs
Response time	≤350ms
Input range	AC 0-5A ,AC 0-500V(Option), 50/60Hz
Absorbed power	Per phase voltage: ≤0.5VA/100V Per phase current: <0.1VA/5A
Overload	Current: 2 times continuous, 30 times/1s;
Load resistance	Current output: RL ≤650Ω Voltage output: RL ≥2kΩ
Working environment	Temperature: -10 to +50°C RH: 20-90%, without condensation



Technical Index

Storage conditions	Temperature: -40 to +70°C
	RH: 20-95%, without condensation
Installation	35mm DIN sliding-way or M4 screws
Dimension	110mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-Output

Type	P3: 3P3W active power transducer Q3: 3P3W reactive power transducer PQ3: 3P3W active and reactive power transducer
AC input	V1: 100V, V2: 0-220V, V3: 270V, V4: 400V A1: 0-1A, A2: 0-5A.
Power supply	P1: AC110V±10%, P2: AC220V±15%, P3: AC110V-330V.
DC output	O1: 0-20mA, O2: 0-±20mA, O3: 4-20mA, O4: 4-12-20mA, O5: 0-1V, O6: 0-±1V, O7: 0-5V, O8: 0-±5V, O9: RS485.

Example 1: FUD-P3-V1-A2-P2-O8

FUD series 3P3W active power transducer	Input: AC100V, ±5A, ±866W Power supply: AC220V±15% Output: DC0-±5V
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Example 2: FUD-PQ3-V1-A2-P2-O8

FUD series 3P3W active and reactive power transducer	Input: AC100V, ±5A, ±866W(var) Power supply: AC220V±15% Output: DC0-±5V
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Please check the type, input range, output range and power supply when your order the product.

FUD-P4/Q4

3P4W Active And reactive Power Transducer

FUD-P4/Q4 3P4W active reactive power transducer can be customized for multi-power-combined transducer of current, voltage, power and all power measurement in 3P4W, support RS485 port. It adopted SCM technique; excellent stability. Delivering the direction of measured power accurately, applicable for active/reactive power measurement in 3P4W.

Features

1. Adopted SCM technique; excellent stability.
2. Delivering the direction of measured power accurately.
3. Applicable for active/reactive power measurement in 3P4W.
4. 3P4W active power transducer
5. 3P4W reactive power transducer

Parameters

Technical Index	
Standard	GB/T 13850-1998, IEC688:1992
Accuracy	0.2%, 0.5%
Consumption	≤5VA
Accuracy drift	Annual variation <0.2%
Insulation voltage	AC 2kV/min.1mA (Between input-output/power)
Insulation resistance	≥20MΩ (DC500V)
Surge voltage	5KV (peak value), 1.2/50μs
Response time	≤350ms
Input range	AC 0-5A ,AC 0-500V(option), 50/60Hz
Absorbed power	Per phase voltage: ≤0.5VA/100V Per phase current: <0.1VA/5A
Overload	Current: 2 times continuous, 30 times/1s; Voltage: 2 times continuous
Load resistance	Current output: RL ≤650Ω Voltage output: RL ≥2kΩ



Technical Index	
Working environment	Temperature: -10 to +50°C
	RH: 20-90%, without condensation
Storage conditions	Temperature: -40 to +70°C
	RH: 20-95%, without condensation
Installation	35mm DIN sliding-way or M4 screws
Dimension	110mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-Output	
Type	P4: 3P4W active power transducer Q4: 3P4W reactive power transducer PQ4: 3P4W active and reactive power transducer
AC input	V0: 57V, V1: 100V, V2: 220V, V3: 270V, V4: 400V, A1: 0-1A, A2: 0-5A.
Power supply	P1: AC110V±10%, P2: AC220V±15%, P3: AC110V-330V.
DC output	O1: 0-20mA, O2: 0-±20mA, O3: 4-20mA, O4: 4-12-20mA, O5: 0-1V, O6: 0-±1V, O7: 0-5V, O8: 0-±5V, O9: RS485.

Example 1: FUD-P4-V2-A2-P2-O8	
FUD series 3P4W active power transducer	Input: AC220V, ±5A (±3300W) Power supply: AC220V±15% Output: DC0-±5V

Example 2: FUD-Q4-V2-A2-P2-O8	
FUD series 3P4W reactive power transducer	Input: AC220V, ±5A (±3300var) Power supply: AC220V±15% Output: DC0-±5V

Please check the type, input range, output range and power supply when your order the product.

FUD-PF

Single Phase/3P3W/3P4W Power Factor Transducer

As the leading product in market, FUD-PF single phase/3P3W/3P4W power factor transducer adopts the SCM as the core with the latest algorithm to achieve precise measurement of power-factor in AC circuit.

Features

1. Single phase power factor transducer
2. 3P3W power factor transducer
3. 3P4W power factor transducer
4. Adopts the SCM as the core technology
5. With the latest algorithm



Parameters

Technical Index	
Standard	GB/T 13850-1998, IEC688:1992
Accuracy	0.5%
Consumption	≤5VA
Insulation voltage	AC 2kV/min.1mA (Between input-output/power)
Insulation resistance	≥20MΩ (DC500V)
Response time	≤300ms
Input range	AC 0-6A, 0-380V(Option), 50/60Hz
Absorbed power	Per phase voltage: ≤0.5VA/220V Per phase current: <0.1VA/5A
Overload	Current: 2 times continuous, 20 times/1s;
Load resistance	Current output: RL ≤650Ω Voltage output: RL ≥2kΩ
Working environment	Temperature: -10 to +50°C RH: 20-90%, without condensation
Storage conditions	Temperature: -40 to +70°C RH: 20-95%, without condensation
Installation	35mm DIN sliding-way or M4 screws
Dimension	110mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-PF range-Output

Type	Cos ϕ : single phase power factor transducer 3Cos ϕ : 3P3W power factor transducer 4Cos ϕ : 3P4W power factor transducer
AC input	V0: 57V, V1: 100V, V2: 220V, V3: 270V, V4: 400V, V5: User defined; A1: 1A, A2: 5A
Power supply	P1: AC110V \pm 10%, P2: AC220V \pm 15%
PF range	C1: 0(C)-1-0(L), C2: 0.5(C)-1-0.5(L), C3: 0-1
DC output	O1: 0-5V, O2: 1-5V, O3: 0-20mA, O4: 4-20mA, O5: 0-5V, O6: 4-12-20mA, O7: RS485

Example 1: FUD-Cos ϕ -V2-A2-P2-C2-O6

FUD Single phase power factor transducer	Input: AC220, 5A Power: AC220V \pm 15% Range: 0.5(C)-1-0.5(L) Output: DC4-12-20mA
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Example 2: FUD-3Cos ϕ -V2-A2-P2-C2-O6

FUD Three phase power factor transducer	Input: DC 0-300V Power supply: AC220V \pm 15% Output: DC4-20mA
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Please check the type, input range, output range and power supply when your order the product.

FUD-DI/DU

Electrical DC Current And Voltage Transducer

FUD-DI/DU electrical DC current and voltage transducer change the measured signal to a DC current / voltage output according to the linear scale; excellent temperature characteristic and good working stability, configuration compactness and briefness.



Features

1. DC voltage transducer
2. DC current transducer
3. Accuracy class can reach 0.2%
4. DC input range can be customized
5. DC output range can be customized

Parameters

Technical Index	
Standard	QB/441600 17 079-2001
Accuracy	0.2%, 0.5%
Consumption	≤3VA
Accuracy drift	Annual variation <0.2%
Insulation voltage	AC 2kV/min.1mA (Between input- output/power)
Insulation resistance	≥20MΩ (DC500V)
Surge voltage	5KV (peak value), 1.2/50μs
Response time	≤350ms
Input range	AC 0-10A, AC 0-500V (Option)
Absorbed power	≤0.1VA
Overload	Current: 2 times continuous, 20 times/1s;
Load resistance	Current output: RL ≤550Ω Voltage output: RL ≥2kΩ
Working environment	Temperature: -10 to +50°C RH: 20-90%, without condensation
Storage conditions	Temperature: -40 to +70°C RH: 20-95%, without condensation
Installation	35mm DIN sliding-way or M4 screws
Dimension	55mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-Output

Type	DI: DC current transducer DV: DC voltage transducer
AC input	A1: 0-75mA, A2: 0-100mA, A3: 0-±75mV, A4: 0-±100mV, A5: 0-20mA, A6: 4-20mA, A7: 0-5A, A8: 0-15A, V0: 0-5V, V1: 0-30V,
Power supply	P1: AC110V±10%, P2: AC220V±15%, P3: AC110V-330V.
DC output	O1: 0-5V, O2: 1-5V, O3: 0-20mA, O4: 4-20mA, O5: 1-3-5V, O6: 4-12-20mA.

Example 1: FUD-DI-A2-P2-O4

FUD series DC current transducer	Input: DC 0-100mA Power supply: AC220V±15% Output: DC4-20mA
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Example 2: FUD-DU-V3-P2-O4

Details: FUD series DC voltage transducer	Input: DC 0-300V Power supply: AC220V±15% Output: DC4-20mA
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Please check the type, input range, output range and power supply when your order the product.

FUD-F

Multiple Range Variable Frequency Transducer

As the leading product in market, FUD-F multiple range variable frequency transducer adopts SCM as the core with the latest algorithm to achieve precise measurement of frequency in AC circuit.

Features

1. Frequency transducer
2. Multiple range frequency transducers
3. Adopt the SCM as the core technology
4. With the latest algorithm
5. Accuracy class can reach 0.1%



Parameters

Technical Index	
Standard	GB/T 13850-1998, IEC688:1992
Accuracy	0.1%, 0.2%
Consumption	≤3VA
Insulation voltage	AC 2kV/min.1mA (Between input- output/power)
Response time	≤300ms
Input range	AC100-400V(option), 45Hz-60Hz
Absorbed power	≤0.22VA/220V, ≤0.10VA/100V
Overload	2 times continuous
Load resistance	Current output: $R_L \leq 650\Omega$ Voltage output: $R_L \geq 2k\Omega$
Working environment	Temperature: -10 to +50°C RH: 20-90%, without condensation
Storage conditions	Temperature: -40 to +70°C RH: 20-95%, without condensation
Installation	35mm DIN sliding-way or M4 screws
Dimension	55mm x 75mm x 120mm

Model Description

FUD-Type-Input-Power Supply-Frequency range-Output

AC input	V1: 100V±40%, V2: 220V±40%, V3: 270V±40%, V4: 400V±40%, V5: User defined.
Power supply	P1: AC110V±10%, P2: AC220V±15%
Frequency range	F1: 45-55Hz, F2: 48-52Hz, F3: 40-60Hz, Fn: User defined.
DC output	O1: 0-5V, O2: 1-5V, O3: 0-20mA, O4: 4-20mA.

Example 1: FUD-F-V2-P2-F1-O4

FUD series frequency transducer	Input voltage: AC220±40% Power: AC220V±15% F range: 45-55Hz Output: DC4-20mA
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Please check the type, input range, output range and power supply when your order the product.

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