

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 qnalysis
- 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 diaplay 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 choosed 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



FU2200A

POWER METER

Software Interface From FU2200A

Max & Min data

Real time metering

Real Time Alerting						
Readings			Parameters			
Real Time Alerting						
Target	US	99.99%	UL2	173.140	13	8.39954
Issue & Vector	US2	99.99%	UL3	173.090	12	8.39954
Defining	US	99.99%	UL5	173.170	13	8.39954
Block1	US1	99.99%	UL6	173.120	14	8.39954
Block2	US2	99.99%	UL7	173.120	14	8.39954
Block3	US3	99.99%	UL8	173.120	14	8.39954
Block4	US4	99.99%	UL9	173.120	14	8.39954
Block5	US5	99.99%	UL10	173.120	14	8.39954
Block6	US6	99.99%	UL11	173.120	14	8.39954
Block7	US7	99.99%	UL12	173.120	14	8.39954
Block8	US8	99.99%	UL13	173.120	14	8.39954
Block9	US9	99.99%	UL14	173.120	14	8.39954
Block10	US10	99.99%	UL15	173.120	14	8.39954
Block11	US11	99.99%	UL16	173.120	14	8.39954
Block12	US12	99.99%	UL17	173.120	14	8.39954
Block13	US13	99.99%	UL18	173.120	14	8.39954
Block14	US14	99.99%	UL19	173.120	14	8.39954
Block15	US15	99.99%	UL20	173.120	14	8.39954
Block16	US16	99.99%	UL21	173.120	14	8.39954
Block17	US17	99.99%	UL22	173.120	14	8.39954
Block18	US18	99.99%	UL23	173.120	14	8.39954
Block19	US19	99.99%	UL24	173.120	14	8.39954
Block20	US20	99.99%	UL25	173.120	14	8.39954
Block21	US21	99.99%	UL26	173.120	14	8.39954
Block22	US22	99.99%	UL27	173.120	14	8.39954
Block23	US23	99.99%	UL28	173.120	14	8.39954
Block24	US24	99.99%	UL29	173.120	14	8.39954
Block25	US25	99.99%	UL30	173.120	14	8.39954
Block26	US26	99.99%	UL31	173.120	14	8.39954
Block27	US27	99.99%	UL32	173.120	14	8.39954
Block28	US28	99.99%	UL33	173.120	14	8.39954
Block29	US29	99.99%	UL34	173.120	14	8.39954
Block30	US30	99.99%	UL35	173.120	14	8.39954
Block31	US31	99.99%	UL36	173.120	14	8.39954
Block32	US32	99.99%	UL37	173.120	14	8.39954
Block33	US33	99.99%	UL38	173.120	14	8.39954
Block34	US34	99.99%	UL39	173.120	14	8.39954
Block35	US35	99.99%	UL40	173.120	14	8.39954
Block36	US36	99.99%	UL41	173.120	14	8.39954
Block37	US37	99.99%	UL42	173.120	14	8.39954
Block38	US38	99.99%	UL43	173.120	14	8.39954
Block39	US39	99.99%	UL44	173.120	14	8.39954
Block40	US40	99.99%	UL45	173.120	14	8.39954
Block41	US41	99.99%	UL46	173.120	14	8.39954
Block42	US42	99.99%	UL47	173.120	14	8.39954
Block43	US43	99.99%	UL48	173.120	14	8.39954
Block44	US44	99.99%	UL49	173.120	14	8.39954
Block45	US45	99.99%	UL50	173.120	14	8.39954
Block46	US46	99.99%	UL51	173.120	14	8.39954
Block47	US47	99.99%	UL52	173.120	14	8.39954
Block48	US48	99.99%	UL53	173.120	14	8.39954
Block49	US49	99.99%	UL54	173.120	14	8.39954
Block50	US50	99.99%	UL55	173.120	14	8.39954
Block51	US51	99.99%	UL56	173.120	14	8.39954
Block52	US52	99.99%	UL57	173.120	14	8.39954
Block53	US53	99.99%	UL58	173.120	14	8.39954
Block54	US54	99.99%	UL59	173.120	14	8.39954
Block55	US55	99.99%	UL60	173.120	14	8.39954
Block56	US56	99.99%	UL61	173.120	14	8.39954
Block57	US57	99.99%	UL62	173.120	14	8.39954
Block58	US58	99.99%	UL63	173.120	14	8.39954
Block59	US59	99.99%	UL64	173.120	14	8.39954
Block60	US60	99.99%	UL65	173.120	14	8.39954
Block61	US61	99.99%	UL66	173.120	14	8.39954
Block62	US62	99.99%	UL67	173.120	14	8.39954
Block63	US63	99.99%	UL68	173.120	14	8.39954
Block64	US64	99.99%	UL69	173.120	14	8.39954
Block65	US65	99.99%	UL70	173.120	14	8.39954
Block66	US66	99.99%	UL71	173.120	14	8.39954
Block67	US67	99.99%	UL72	173.120	14	8.39954
Block68	US68	99.99%	UL73	173.120	14	8.39954
Block69	US69	99.99%	UL74	173.120	14	8.39954
Block70	US70	99.99%	UL75	173.120	14	8.39954
Block71	US71	99.99%	UL76	173.120	14	8.39954
Block72	US72	99.99%	UL77	173.120	14	8.39954
Block73	US73	99.99%	UL78	173.120	14	8.39954
Block74	US74	99.99%	UL79	173.120	14	8.39954
Block75	US75	99.99%	UL80	173.120	14	8.39954
Block76	US76	99.99%	UL81	173.120	14	8.39954
Block77	US77	99.99%	UL82	173.120	14	8.39954
Block78	US78	99.99%	UL83	173.120	14	8.39954
Block79	US79	99.99%	UL84	173.120	14	8.39954
Block80	US80	99.99%	UL85	173.120	14	8.39954
Block81	US81	99.99%	UL86	173.120	14	8.39954
Block82	US82	99.99%	UL87	173.120	14	8.39954
Block83	US83	99.99%	UL88	173.120	14	8.39954
Block84	US84	99.99%	UL89	173.120	14	8.39954
Block85	US85	99.99%	UL90	173.120	14	8.39954
Block86	US86	99.99%	UL91	173.120	14	8.39954
Block87	US87	99.99%	UL92	173.120	14	8.39954
Block88	US88	99.99%	UL93	173.120	14	8.39954
Block89	US89	99.99%	UL94	173.120	14	8.39954
Block90	US90	99.99%	UL95	173.120	14	8.39954
Block91	US91	99.99%	UL96	173.120	14	8.39954
Block92	US92	99.99%	UL97	173.120	14	8.39954
Block93	US93	99.99%	UL98	173.120	14	8.39954
Block94	US94	99.99%	UL99	173.120	14	8.39954
Block95	US95	99.99%	UL100	173.120	14	8.39954
Block96	US96	99.99%	UL101	173.120	14	8.39954
Block97	US97	99.99%	UL102	173.120	14	8.39954
Block98	US98	99.99%	UL103	173.120	14	8.39954
Block99	US99	99.99%	UL104	173.120	14	8.39954
Block100	US100	99.99%	UL105	173.120	14	8.39954
Block101	US101	99.99%	UL106	173.120	14	8.39954
Block102	US102	99.99%	UL107	173.120	14	8.39954
Block103	US103	99.99%	UL108	173.120	14	8.39954
Block104	US104	99.99%	UL109	173.120	14	8.39954
Block105	US105	99.99%	UL110	173.120	14	8.39954
Block106	US106	99.99%	UL111	173.120	14	8.39954
Block107	US107	99.99%	UL112	173.120	14	8.39954
Block108	US108	99.99%	UL113	173.120	14	8.39954
Block109	US109	99.99%	UL114	173.120	14	8.39954
Block110	US110	99.99%	UL115	173.120	14	8.39954
Block111	US111	99.99%	UL116	173.120	14	8.39954
Block112	US112	99.99%	UL117	173.120	14	8.39954
Block113	US113	99.99%	UL118	173.120	14	8.39954
Block114	US114	99.99%	UL119	173.120	14	8.39954
Block115	US115	99.99%	UL120	173.120	14	8.39954
Block116	US116	99.99%	UL121	173.120	14	8.39954
Block117	US117	99.99%	UL122	173.120	14	8.39954
Block118	US118	99.99%	UL123	173.120	14	8.39954
Block119	US119	99.99%	UL124	173.120	14	8.39954
Block120	US120	99.99%	UL125	173.120	14	8.39954
Block121	US121	99.99%	UL126	173.120	14	8.39954
Block122	US122	99.99%	UL127	173.120	14	8.39954
Block123	US123	99.99%	UL128	173.120	14	8.39954
Block124	US124	99.99%	UL129	173.120	14	8.39954
Block125	US125	99.99%	UL130	173.120	14	8.39954
Block126	US126	99.99%	UL131	173.120	14	8.39954
Block127	US127	99.99%	UL132	173.120	14	8.39954
Block128	US128	99.99%	UL133	173.120	14	8.39954
Block129	US129	99.99%	UL134	173.120	14	8.39954
Block130	US130	99.99%	UL135	173.120	14	8.39954
Block131	US131	99.99%	UL136	173.120	14	8.39954
Block132	US132	99.99%	UL137	173.120	14	8.39954
Block133	US133	99.99%	UL138	173.120	14	8.39954
Block134	US134	99.99%	UL139	173.120	14	8.39954
Block135	US135	99.99%	UL140	173.120	14	8.39954
Block136	US136	99.99%	UL141	173.120	14	8.39954
Block137	US137	99.99%	UL142	173.120	14	8.39954
Block138	US138	99.99%	UL143	173.120	14	8.39954
Block139	US139	99.99%	UL144	173.120	14	8.39954
Block140	US140	99.99%	UL145	173.120	14	8.39954
Block141	US141	99.99%	UL146	173.120	14	8.39954
Block142	US142	99.99%	UL147	173.120	14	8.39954
Block143	US143	99.99%	UL148	173.120	14	8.39954
Block144	US144	99.99%	UL149	173.120	14	8.39954
Block145	US145	99.99%	UL150	173.120	14	8.39954
Block146	US146	99.99%	UL151	173.120	14	8.39954
Block147	US147	99.99%	UL152	173.120	14	8.39954
Block148	US148	99.99%	UL153	173.120	14	8.39954
Block149	US149	99.99%	UL154	173.120	14	8.39954
Block150	US150	99.99%	UL155	173.120	14	8.39954
Block151	US151	99.99%	UL156	173.120	14	8.39954
Block152	US152	99.99%	UL157	173.120	14	8.39954
Block153	US153	99.99%	UL158	173.120	14	8.39954
Block154	US154	99.99%	UL159	173.120	14	8.39954
Block155	US155	99.99%	UL160	173.120	14	8.39954
Block156	US156	99.99%	UL161	173.120	14	8.39954
Block157	US157	99.99%	UL162	173.120	14	8.39954
Block158	US158	99.99%	UL163	173.120	14	8.39954
Block159	US159	99.99%	UL164	173.120	14	8.39954
Block160	US160	99.99%	UL165	173.120	14	8.39954
Block161	US161	99.99%	UL166	173.120	14	8.39954
Block162	US162	99.99%	UL167	173.120	14	8.39954
Block163	US163	99.99%	UL168	173.120	14	8.39954
Block164	US164	99.99%	UL169	173.120	14	8.39954
Block165	US165	99.99%	UL170	173.120	14	8.39954
Block166	US166	99.99%	UL171	173.120	14	8.39954
Block167	US167	99.99%	UL172	173.120	14	8.39954</td

Energy include TOU

Real Time Metering		Headings		Parameters	
Energy		Energy (include TCU)			
Power & Vector		EProp	0.00000	Etotal	0.24000h
Max & Min		DProp	0.00000h	Dtotal	0.21000h
Block1		EProp	0.00000h	Estart	0.00000h
Block2		DProp	0.00000h	Dstart	0.00000h
Block3					
DeviceInfo		sharp1Prop	0.00000h	sharp1Total	0.00000h
		sharp1Prop	0.00000h	sharp1Start	0.00000h
		sharp1Prop	0.00000h	sharp1End	0.00000h
		sharp1Prop	0.00000h	sharp1Reset	0.00000h
		peak1Prop	0.00000h	peak1Total	0.00000h
		peak1Prop	0.00000h	peak1Start	0.00000h
		peak1Prop	0.00000h	peak1End	0.00000h
		peak1Prop	0.00000h	peak1Reset	0.00000h
		flat1Prop	0.00000h	flat1Total	0.24000h
		flat1Prop	0.00000h	flat1Start	0.00000h
		flat1Prop	0.00000h	flat1End	0.24000h
		valley1Prop	0.00000h	valley1Total	0.00000h
		valley1Prop	0.00000h	valley1Start	0.00000h
		valley1Prop	0.00000h	valley1End	0.00000h

General parameter

General Parameter		Settings		Parameters	
<input checked="" type="checkbox"/> Date/Time		<input checked="" type="checkbox"/> Address	[10]	<input checked="" type="checkbox"/> Update	[10000] hrs
<input checked="" type="checkbox"/> Date/Time		<input checked="" type="checkbox"/> P1	[10]	<input checked="" type="checkbox"/> P2	[10]
<input checked="" type="checkbox"/> Date/Time		<input checked="" type="checkbox"/> C1	[5]	<input checked="" type="checkbox"/> C2	[5]
<input checked="" type="checkbox"/> Session Schedule		<input checked="" type="checkbox"/> Minpulse	[50 pulse]	<input checked="" type="checkbox"/> Maxpulse	[50 pulse]
<input checked="" type="checkbox"/> Session Schedule		<input checked="" type="checkbox"/> PulseWidth	[1000us]	<input checked="" type="checkbox"/> PulseCount	[1000000]
<input checked="" type="checkbox"/> Session Schedule		<input checked="" type="checkbox"/> RelayMode	[level]	<input checked="" type="checkbox"/> RelayWidth	[8]
<input checked="" type="checkbox"/> Session Schedule		<input checked="" type="checkbox"/> RelayMode	[level]	<input checked="" type="checkbox"/> RelayWidth	[8]
<input checked="" type="checkbox"/> Session Schedule		<input checked="" type="checkbox"/> LCGLight	[0]	<input checked="" type="checkbox"/> DampeningWindow	[15]
<input checked="" type="checkbox"/> Session Schedule		<input checked="" type="checkbox"/> LCGLight	[0]	<input checked="" type="checkbox"/> DampeningWindow	[15]
<input checked="" type="checkbox"/> Client					
<input checked="" type="checkbox"/> Net Parameter					
<input type="button" value="Upload"/> <input type="button" value="Download"/> <input type="button" value="UnSelectAll"/>					

Data Logging From FU2200A

GFUVE PowerMeter Management System - [Ver3.4.281]

Operation Setting Tools Window Help

Readings

Parameters

DataLog1

No	YYYY-MM-DD hh:mm:ss	U1(V)	U2(V)	U3(V)	Ulavg(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)	Psi
1	2015-02-03 13:59:00	99.96	99.95	99.96	99.95	173.14	173.18	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	173.18	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	173.18	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	173.18	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	173.18	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	173.18	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	4.998	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

DeviceInfo

Read

Stop

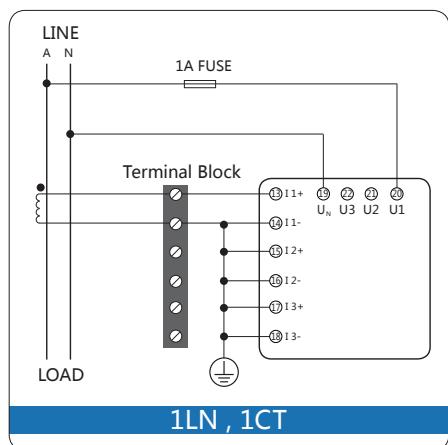
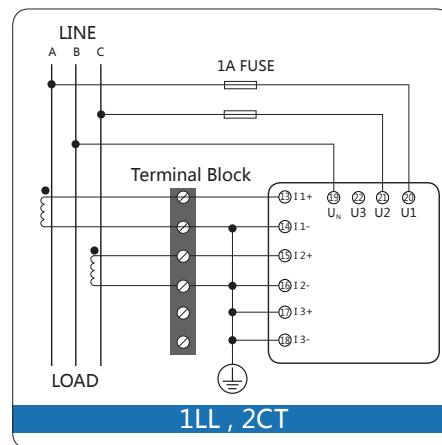
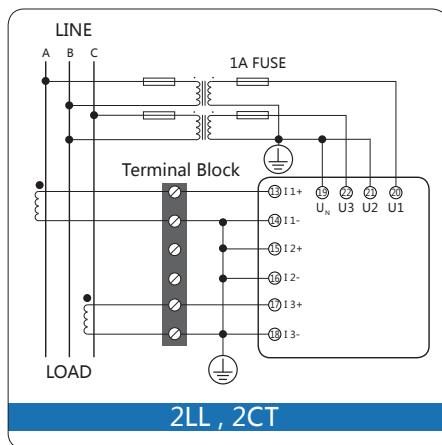
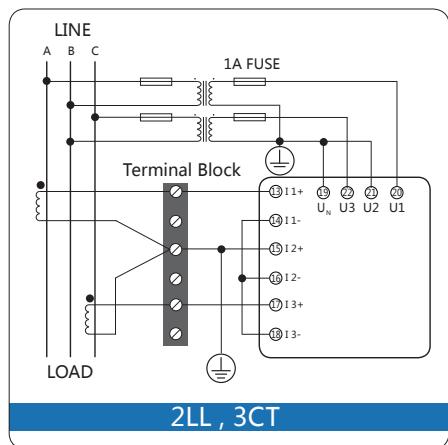
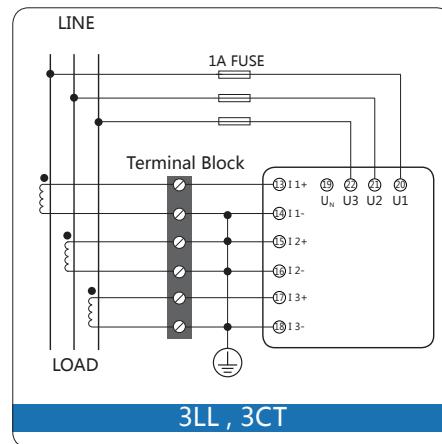
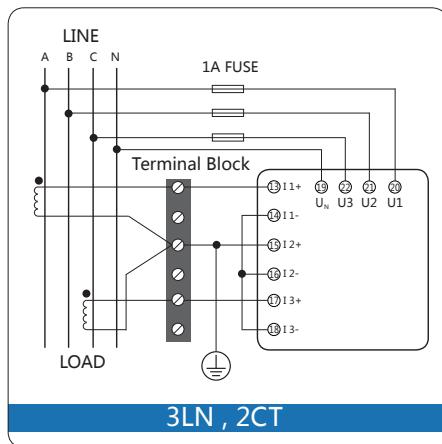
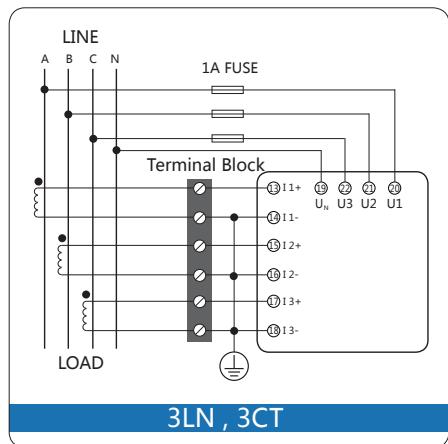
Export2Excel

Download Stamp End Success

Tx:FF FF 00 00 00 04 EE 14 23 06 00 01 00 0A 00 Rx:FF FF 00 00 00 03 EE B3 02

TCP 2015-02-03 14:05:51

Wiring Diagram



Ralated Current Transformer (C.T)

Model	Primary rated current	Rated load	Aperture (mm)	Description (mm)	Weight (kg)	Materi al	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 × φ110 × 32	1	Resin	silicon case (option)
LZCK322-10	30-600A	≤10VA	φ50	φ50 × φ110 × 52	1.6	Resin	silicon case (option)
LZCK350-10	20-600A	≤25VA	φ50	φ50 × φ110 × 105	3.1	Resin	silicon case (option)
LZCG530-10	30-600A	≤20VA	φ45	φ45 × φ120 × 65	5	Resin	silicon case (option)

