



## S96 F~J Series

SMART ENERGY ANALYZER FOR SINGLE AND THREE PHASE SYSTEMS

- Multi-parameters measurements
- Up to 63<sup>rd</sup> THD and IHD
- RS485 Modbus RTU
- Ethernet TCP gateway
- Multi-tariffs
- Digital input/output
- Accuracy class 0.2s
- Bar graph for power indication
- Backlit LCD display for full viewing angles
- Push-in installation and plug-in connection

## Introduction

The multifunction energy analyzer S96 F~J series is a top new-generation intelligent panel meter with built-in interfaces provides RS485 Modbus RTU and Ethernet TCP/IP communication. Digital input and outputs are provided for external signal counting and external device control. 30 type's parameters can be set for alarm. This series is widely used not only in the electricity transmission and power distribution system, but also in the power consumption measurement and analysis in LV/MV Intelligent power grid. The Unit can be used as a gateway for Modbus RTU/TCP.

S96 measures and displays the characteristics of 1p2w, 3p4w and 3p3w supplies, including voltage, frequency, current, power and active and reactive energy, imported or exported, Harmonic, Power factor, Max. Demand etc. Energy is measured in terms of kWh, kVAh and kVAh. Maximum demand current can be measured over preset periods of up to 60 minutes. The S96 can be configured to work with a wide range of CTs and PTs, giving the unit a wide range of operation.



### S96—5—J—2

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|-------------------------|---|
| 1: 100mA                | F: Basic version<br>G: 4DI + 2DO<br>H: Ethernet TCP Port<br>I: Ethernet Port + 4DI + 2DO<br>J: RS485-Ethernet gateway + 4DI + 2DO |
| 2: 100mV                |   |
| 3: 333mV                |   |
| 5: 1A & 5A              |   |
| 2: Aux. AC power supply |   |
| 3: Aux. DC power supply |   |

Input	
Nominal input voltage	57.7-276V AC (L-N) 173-480V AC (L-L)
Max. continuous input overload voltage	120% of nominal
Max. short duration input voltage	2 x nominal voltage for 1 second
Nominal input voltage burden	< 0.2VA per phase
Nominal input current	5A
Nom. Input current burden	< 0.1 VA
Max. continuous input overload current	120% of nominal
Max. short duration input current	20 x nominal current for 1 second

Auxiliary Power supply	
Operating range	65-480V AC/80-660V DC
Power consumption	< 2W/10VA

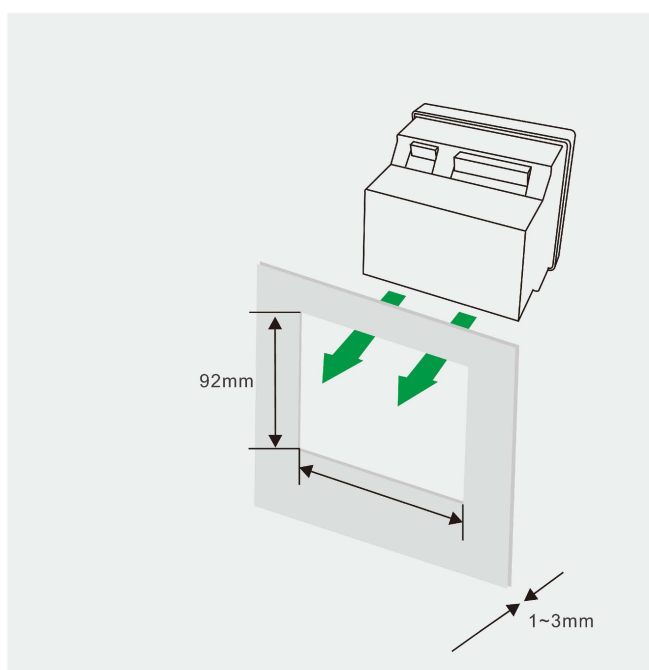
Accuracy	
Voltage (V)	0.2% of range maximum
Current (A)	0.2% of range maximum
Frequency (Hz)	0.2% of mid-frequency
Power factor (PF)	0.5% of unity (0.01)
Active power (W)	0.5% of range maximum
Reactive power (VAr)	0.5% of range maximum
Apparent power (VA)	0.5% of range maximum
Active energy (kWh)	Class 0.5S IEC62053-22
Reactive energy (kVArh)	0.5% of range maximum to IEC 62053-24
THD	2% to 63rd harmonic

Measured Range	
Voltage (V)	15 – 120% of nominal (Min 100V -self powered)
Current (A)	5 – 120% of nominal
Frequency (Hz)	45– 66 Hz
Power (W, VAr, VA)	5 – 120% of nominal (bi-directional)
Energy	8digits, up to 9999999.9 kWh
Power factor	4 quadrants
THD	Up to 63rd harmonic

Environment	
Operating temperature	– 25 °C to +55 °C
Storage temperature	–40 °C to +70 °C
Relative humidity	0 to 95%, non-condensing
Shock	30g in 3 planes
Vibration	10Hz to 60Hz, IEC 60068-2-6, 2g
Dielectric Voltage	4kV between voltage and current to earth
Altitude	3000m
Warm-up	1 minute

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU/Modbus TCP
Baud rate	2400/4800/9600/19200/38400bps
Address range	1-247
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1
Digital Input	4
Digital Output	2

Enclosure	
Enclosure Style	DIN 96 panel mount
Dimensions	96x96x70 mm
Panel cut-out	92x92mm
Panel thickness	1-3 mm
Protection rating	IP51 (Indoor)
Material	UL 94-V0
Weight	420 g
Cable size	0.05mm-4mm stranded wire
Terminals	Voltage: Shrouded screw-clamp.



## Dimensions

