

MICROSTAR P2000-D

Direct Connected

Three-Phase Smart Electricity Meter

Class 1.0

Certified by



FEATURES

- Record kWh, kvarh, kVAh including Maximum Demand
- 3 Communication ports: Optical & 2 x Serial (RJ45)
- Instantaneous reading of voltage, current, power, frequency, power factor & harmonics
- Time of Use (TOU) control with 8 tariffs and flexible programming
- Event logs with up to 200 Power Quality and Tamper events
- 4 event logs with configurable power quality or tampering events
- 9-digit LCD with large characters (10mm) including backlight
- Internal real-time clock (RTC) with super capacitor and backup battery
- Supports DLMS or IEC 62056-21 communication protocols
- Encapsulation meter case design, provides extreme weather proofing
- Read LCD and Program meter (optical port) without power supply

OPTIONS

- AMI ready hot-swappable 3G, 4G, LoRa RF and Ethernet modules
- Voltage and Current THD measurement,
- Standard 2 Load Profile sets, more available upon special request
- Replaceable battery for meter reading/programming without supply
- STS certified prepayment feature with up-to 100A internal contactor
- Remote, scheduled or event triggered Load Control
- Energy limiter with configurable daily consumption limit
- Individual Phase energy recording and display

APPLICATION

- Direct connected (Whole current)
- Industrial, Commercial or Residential
- Credit or Pre Payment modes
- Individual phase, 2 or 3 phase

BENEFITS

- High accuracy option with extended measurement options
- Bidirectional active and reactive energy recoding: 4 Quadrant
- TOU control and multi-tariff support
- Configurable LCD
- Extensive load profile recording
- Anti-tampering features & event log
- AMI ready with hot swappable communication modules
- Standard local RS485 port for easy daisy chaining
- Patented IP54 whole case design with multiple sealing provisions
- Large terminals for high current loads and resistance reduction
- Sealable finger guard with terminal and Main cover tamper detection

ELECTRICAL

Connection Type	Direct connected (Whole current)
Measurement Modes	3-phase 4-wire 3-element
Accuracy Class	Class 1.0
Rated Voltage	240/415V
Rated Current	10 (100) A
Starting Current	< 0.1% I _n
Rated Frequency	50 or 60 Hz
Power Consumption Voltage Circuit	< 1W, < 2.5VA per Phase

MECHANICAL

Dimensions	285 mm x 200 mm x 94mm
Weight	2 kg (approximately)
Insulation	Protective Class II
Ingress Protection	IP54
Case / Terminal Cover	High Quality Polycarbonate
Terminal Block	Flame-Retardant Polycarbonate

ENVIRONMENT

Working Temp.	-25°C to +70°C
Storage Temp.	-40°C to +85°C
Humidity	0 - 95% non condensing
Fast Transient Burst	4kV
Static Discharge	8kV Contact / 15kV Air Discharge
Impulse Voltage	12kV @ 9 Joule
AC Voltage	4kV, 50Hz

REAL-TIME CLOCK

Accuracy	< 0.5 seconds / 24 hours
Backup Battery	Lithium Battery (20 years life)
Backup Time	≥ 15 years without power
Clock Synchronization	Local or remote via AMR

DISPLAY

LCD Display	2 line, 9-digit LCD display
Display Mode	Automatic, Push Button override
Display Item	200 configurable display items
Display sets	5 sets (Optional) 1 Standard

INPUTS & OUTPUTS

Electric Pulse I/O	4 Programmable Ports
Test Pulse Output	400 - 8000 imp/kWh, kvarh
LED Pulse Output	400 - 8000 imp/kWh
Pulse Constant	Programmable

COMMUNICATION OPTIONS

Local Communication	Optical Infrared, RS232, RS485, PLC
Communication Modules	3G, 4G, LoRa RF (433Mhz), Ethernet
Communication Protocol	DLMS/COSEM, IEC62056-21

MEASUREMENT & INSTRUMENTATION

Energy	Total, Per Phase, Import/Export kWh, kvarh, kVAh; Gross or Net metering
Maximum Demand	Total & Per Phase Import/Export Kw, kvar, kVA
Automatic Billing Data Recording / MD Reset	Date & Time Programmable
Instantaneous Values	Per Phase: Current, Voltage, Power, Average Demand, Power factor, Phase Angles

LOAD PROFILE

Load Profile	2 configurable load profiles
Channels	32 channels per load profile set
Available Data	All energy, demand, & instantaneous values
Interval Period	15 to 60 minutes configurable
Memory Space	400 days 2ch, 30min interval
Data Retention	25 Years

EVENT LOG

Trigger Events	Voltage loss, Voltage Sag & Swell, Current loss, Current over limit, Power Factor, Reverse energy, Overload, Terminal and Main cover detection, Power up & Power down
Meter Program Log	Last 100 programming events

TIME OF USE (TOU) CONTROL

Number of Tariffs	8 tariffs
Daily Profiles	12 daily profiles, 14 tariff slots
Week Tables/Seasons	12 week tables, 12 seasons
Holidays	Re-Occuring and 100 special days

PREPAYMENT & LOAD CONTROL

Prepayment Feature	STS certified via token or smart card
User-Friendly Prepayment Modes	Friendly hours/days, emergency credit and vital necessity power
Load Control	Scheduled / on-demand or event triggered load control
Internal Contactor	100A internal contactor UC3 rated

