



ZAPλ 3AM+

λ~lambda range

LOGGING

ENERGY DEMAND LOGGING MULTI-TARIFF METER

Quick feature guide:

- 4 Quadrant, billing meter for active (Wh) and reactive (VArh) energy demand (VA)
- 3 Phase , CT and VT connected meter
- Class-1 accuracy / Class 0.5 / Class 0.2
- Full multi-tariff (TOU) billing meter with auto registration
- Source of Supply (SOS) metering, ideal for cogeneration
- Extensive 6 channel logging from 32 readings and event recording
- Remote automated meter data acquisition via IP or GSM-GPRS/SMS
- Large, multi function LC-Display with IEC 62056-61 OBIS code
- Replaces instrumentation with live display
- Certified compliance with standards: IEC 62053-21, IEC62053-23
- Manufactured under ISO 9001:2000 quality standards
- Engineering software included / available for download at no charge

Wh

VArh

VA

λ

~LOGGING

See specifications for configuration options

Various accessories are available for use with this product

CONFIGURATION OPTIONS

ZAPλ.3AM240V5A4w+e/g	3 phase, 4-wire, 240V, 5A, CT
ZAPλ.3AM240V5A3w+e/g	3 phase, 3 wire, 110V, 5A, CT & VT
IP communication +e	Built in Ethernet adapter
GSM GPRS/SMS +g	Built in GSM modem for Zap-BS-AMR

ELECTRICAL RATING

Standards	IEC62053-21, IEC62053-23
ZAPλ.3AM240V Voltage range	57.7/100 – 240 /415 V
	110 – 480 V
Frequency range	40 – 60 Hz
Burden voltage circuit <math><0.8W</math>, current circuit <math><0.05VA</math>	
Operating temperatures	-30 °C to + 70 °C
Storage temperatures	-45 °C to + 85 °C
Accuracy Class 1	
Protection Class 2	
Supports VT and CT connections	
Multipule meter can be installed (4 ZAPλ per set of CTs)	

DISPLAY

Instrumentation values (see instrumentation data)
Large 8-digit with configurable decimal point & multiplier (k, M) Displays primary or secondary values
IEC 62056-61 OBIS code display with digit height 11.9mm
Life in excess of 15 years

COMMUNICATIONS

Standard IEC 62056-21 flag port 9600 bps
Serial RS485/232 port
IP via Ethernet (Option)
IP via GSM-GPRS, wakeup SMS or missed call (Option)

INPUTS & OUTPUTS

15 way connector for 6 verification pulse outputs, 1 Hz pulse output and RS485. A RJ45 connector for Ethernet port (option)
Pulse output verification to IEC62053-31 standard
4 verification outputs: Active import, export energy (kWh), Reactive import, export energy (kVARh), Apparent import & export energy (kVA)
LED outputs for active & reactive energy IEC62053-31
Push buttons for display and protected programming
Voltage inputs 12V/220V for Source of supply (SoS) function trigger

SECURITY (INSTALLATION & DATA)

Meter requires only two phases or a phase & a neutral to function
User access tracking: date & time and count
Programming protection: sealed push button and password
Factory sealed case. Sealable terminal cover by owner
On power down a super capacitor, battery & backup battery ensures backup & continued RTC operation
Reverse current warning & neutral loose or disconnect warning

EVENT LOGGING

Capacity of up to 255 events. All events are date & time stamped.	
User configuration of which event to log	
Operational Events	Meter can record 200 programming events including parameter changes.
Tamper	Terminal cover open (time last 8 events)
Quality of supply (QOS) Records the cumulative count & time as well as the fail & restore times of the last 7 events. In addition the values of all voltages (Pi), currents (Ii) & power factor at occurrence & restore time for each of the following QOS faults are logged:	
Phase failure	Condition: $P_i < 20V$ for all i
Phase Voltage loss	Condition: $P_i < 70\%U_n$ & $I_i > 2\%I_n$
Phase Current loss (open CT)	Condition: $I_i < 2\%I_n$
Voltage Imbalance	Condition: If $(P_i - P_j) / I_j > 10\%$ for any i≠j.
Current Imbalance	Condition: If $I_i > 5\%$ for any I and $(I_i - I_j) / I_j > 30\%$ for any i≠j.

BILLING METERING

Active energy (kWh)	Import & Export
Reactive energy (kVarh)	Import & Export
Maximum demand modes	Block and Sliding / Rolling mode
Demand cycles	5,10,15,30 or 60 minutes
Rolling interval	2,3, or 5 minutes
Registration	Button set, or auto RTC
Automated registering & history	Last 16 and present period of energy & maximum demand for 4 tariffs
Full Time of use (TOU) & Source of supply (SOS)	Flexible control of the billing quantities for TOU and SOS

INSTRUMENTATION METERING

Harmonic values	Optional (RS485)
Phase angles	Output (RS485)
Instrumentation values via optical port, RS485 or LCD	Voltage, Current & power factor per phase (secondary value)
Power values (per sec) can be read via optical or RS485	Active (kWh), Reactive (kVARh), Apparent (kVA)

TIME OF USE (TOU) CONTROL

Switching by internal real time clock
4 seasons, configurable
10 daily time sections each selecting 4 tariffs
24 public holidays per year, 100 special days
Two different weekend days

DATA LOGGING

6 data logging channels can log any of 32 metered values (differential or cumulative) at 1 to 60 minute intervals.
kWh (import, export, ABS), kVARh (import, export, ABS, Q1, Q2, Q3, Q4), kVA (import, export, ABS), kVAh (Q1, Q2, Q3, Q4), kVAr (import, export, ABS), kW (import, export, ABS), V (phase 1,2,3) A (phase 1,2,3) Power factor (phase 1,2,3, total)
Non volatile flash memory
Capacity of 2MB (4 channels logged every 20 min will record 900 days)

MISCELLANEOUS OPTIONS

Relay output
Auxiliary voltage supply input to power meter
2 Digital input signal connectors

ACCESSORIES

Optical Coupler for flag port with magnetic base (USB)	
PR510 programmer and reader used with software	
EDAT+g for GSM/GPRS AMR at multi meter (128) installations	
EDAT+e for Internet AMR at multi meter (128) installations	
Meter Programming software	Meter reading & configuration software –download for free

CASE AND DIMENSIONS

Material	Reinforced Clear Polycarbonate
Dimensions	263 x 175 x 83 mm
Weight	<math><1.5</math> kg
Ingress rating	IP60
Markings are in accordance with IEC1036	
Property ownership marking (optional) Meter serial number and connection diagrams part of case markings	

