

FAP - three phase electricity meter for active energy measurement



- Manual reset of billing period can be performed:
 - using light switch
 - via optical interface using PC based software SOLEN

Additional function

FAP meter is equipped with real time clock (RTC) and automatic change-over between winter and daylight time.

All measured values are registered and stored in a non-volatile memory called EEPROM & Flash, which doesn't require a battery supply.

Screen scrolling can be performed automatically or manually using sensor placed on meter's front panel. It is also possible to add an optional manual sequence switch placed on the right side of meter's housing. When using automatic mode it is possible to define sequence of LCD screens. It may contain data from current and previous billing period.

FAP uses galvanic separation between measuring, digital-analog and communication circuits which gives assurance of accurate measurements and high resistance to overvoltages and voltage failures.

Application

FAP is 3-phase electricity meter for active energy measurements designed for transformer measurement in 3-wire power network (Aron systems).

Measuring functions

- Measurement and registration of an active energy in four tariffs
- Measurement and registration of total active energy
- Measurement and registration of three maximum demand values registered in 15, 30 or 60 minutes integration period for each tariff
- Registration of load profile applying 15, 30 or 60 minutes integration period
- Registration of 53 760 profile periods. When the integration period is set for 15 minutes the load profile registration has capacity to store 560 days of data
- Number of contractual power value exceeded is also to be registered in the meter
- Measurement and registration of active power overconsumption due to contractual power value
- Measurements of instantaneous values: P, I, U
- Registration of data for the last 12 billing periods
- Signaling and registration of voltage failures
- Voltage indicator
- Automatic reset of billing period defined by the user

Communication interfaces

In standard configuration FAP meter is equipped with optical interface (according to IEC 62056-21). Optional FAP meter may be equipped with RS485 or CLO (current loop) interface.

Parametrization and configuration

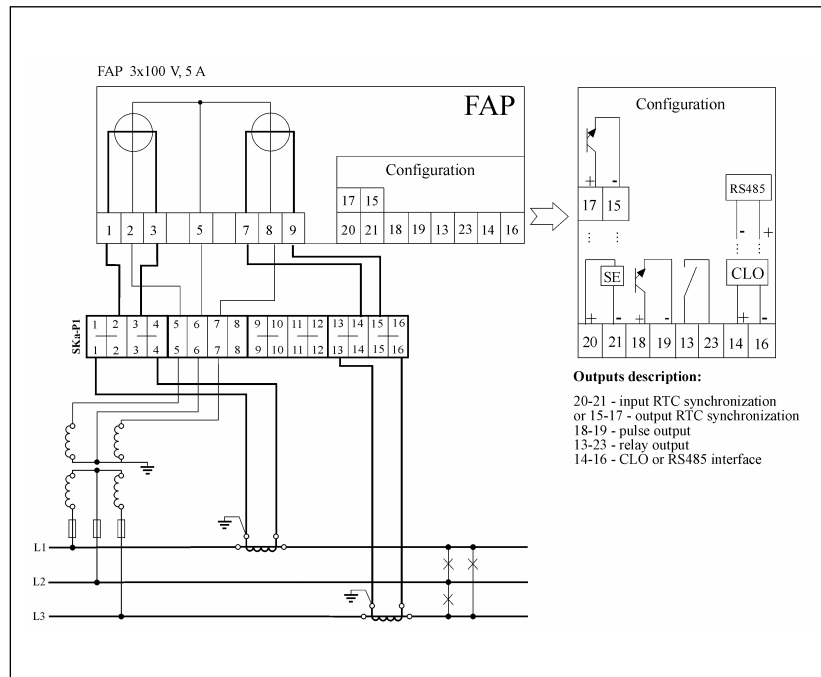
All operations in connection with downloading of tariffs parameters, tariff structure and the way the billing period is to be reset, as well as display operating modes are to be performed using specially designed software tool SOLEN.

FAP meter has got an approval certificate granted by Central Office of Measures **PLT 0413**. FAP fulfils requirements of European Directive 89/336/EWG and is given CE certificate.
 ALL FEATURES ARE SUBJECT TO CHANGE WITHOUT NOTICE ACCORDING TO PRODUCTS IMPROVEMENTS.

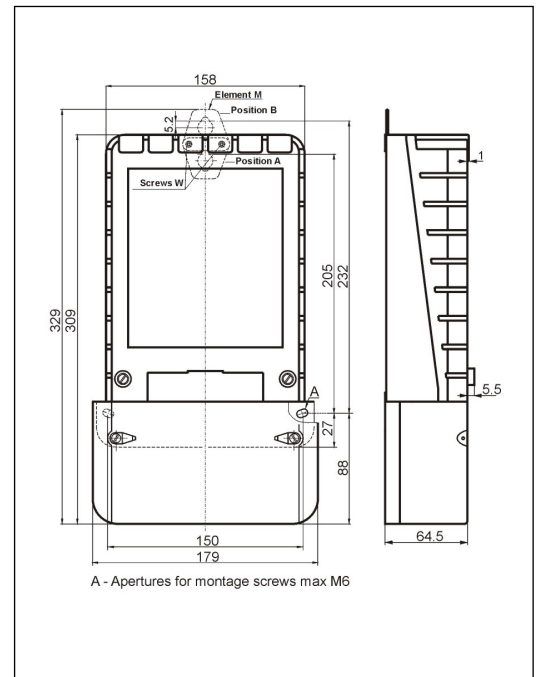
Basic technical data

Type	FAP
Measuring system	Transformer
Accuracy	1 (acc. IEC 62053-21)
Nominal voltage U_n	3 x 100 V AC
Nominal current I_n	5 A
Maximum current I_{max}	6 A
Starting current	< 10 mA
Power consumption in voltage circuits	< 1 VA i < 1 W per phase
Power consumption in current circuits	< 0,05 VA per phase
Frequency	50 Hz
Tariffication	4 tariffs
RTC (real time clock) battery supply	Lithium battery – 10 years of life time
Display	LCD display, 23x79 mm, height od digits 8 mm
Counter capacity	9999,999
Meter constant	15 000 imp. / kWh
Pulse output constant	15 000 imp. / kWh
Communication interfaces	OPTICAL (IEC 62056-21) Optional: CLO or RS485
Pulse output	Transoptor, open collector type, negative or positive pulse with duration time 50 ms $U_{nom}=24\text{ V DC}$ ($U_{max}=38\text{ V DC}$), $I_{nom}=10\text{ mA}$ ($I_{max}=20\text{ mA}$)
Synchronization input or output (optional)	Transoptor, negative or positive pulse with duration time 50 ms $U_{nom}=24\text{ V DC}$ ($U_{max}=38\text{ V DC}$), $I_{nom}=10\text{ mA}$ ($I_{max}=20\text{ mA}$)
Relay output (optional)	Maximum load of relay contacts 30 VA, $U_{max}= 280\text{ V AC}$ or 24 V DC
Electromagnetic compatibility (acc. IEC 61000-4 and IEC 62052-11)	Repetitive electrical fast transients – 4 kV; Surges caused by overvoltages - 4 kV; Static electricity discharges – 8 kV; Voltage failures and interruptions
Housing	Polycarbonate PC, Protection Class: II, IP 51
Operating temperature range	- 30 °C ... + 60 °C
Maximum operating temperature range	- 34 °C ... + 60 °C
Storage temperature range	- 40 °C ... + 70 °C
Weight	~1,58 kg

Construction of the meter assures resistance against influence of external magnetic fields caused by magnets with inductance up to 150 mT, when measure is carry out at 30 mm distance from its surface.



Connection diagram



Dimensions