



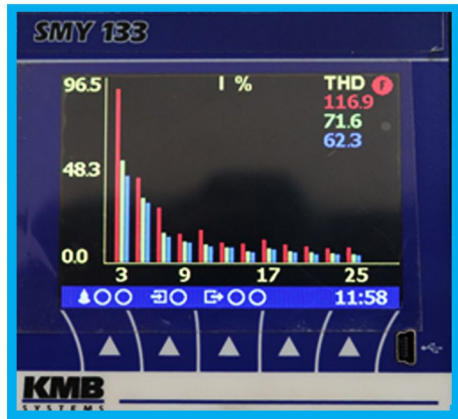
PQ SMART 133 PORTABLE POWER QUALITY ANALYSER



INTRODUCTION

❖ Foretec Electric innovative product of Three phase power quality analyzer PQ Smart 133 makes power quality analysis easier and more efficient. The PQ Smart 133 is Class S (IEC 61000-4-30 Edition III), and can be used for a wide variety of Electrical Network and applications.

❖ Portable power analyzer for three-phase and single-phase electrical networks with simultaneous measurement of power quality and recording of transients.



❖ Includes meter for energy consumed and generated.

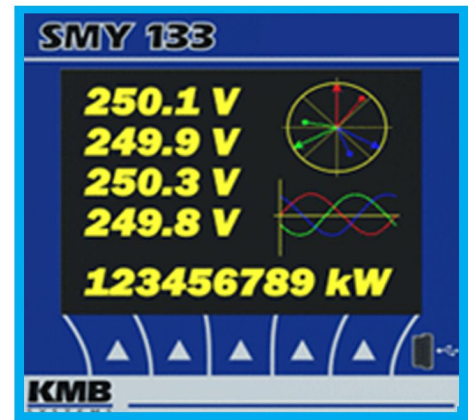
❖ Waveform in real-time display (4 channels voltage 3 channels current).

❖ It allows user to view all graphical and numeric values/parameters on PC monitor in realtime by connecting the USB or Ethernet cable. As the software is light weight, refreshment rate will be fast view for investigation over online

❖ Fully configurable display

❖ PQ Smart 133 is the best tool for visualizing and analyzing the network's problems regardless of whether it is a single-phase or three-phase network.

❖ Thanks to the graphical display of harmonics, phasors and waveforms, the user can detect anomalies in the installation simply by connecting the device.



❖ It allows recordings of the most common electrical parameters and also those specifically related to supply quality such as overvoltages, swell, sags and transients, DC offset, Harmonics, etc.

❖ Bar charts show harmonic ratios of current and voltage of each phase.

❖ Current and voltage multiplication settings over and above Transformation ratio for adequate flexibility in configuration.

❖ Short and long term voltage flicker (PST & PLT).



PORTABLE POWER QUALITY ANALYSER

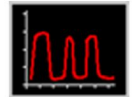
FIRMWARE MODULE

- ❖ SMY 133 with PQ module enabled do measure the power quality indices as required by EN 50160.
- ❖ It enables specific features in the power analyser required for the PQ monitoring: Flicker indices, interharmonics and voltage events as defined in EN 50160, IEC EN 61000-4-30, -4-7 and -4-15.
- ❖ This module also activates secondary archive - the PQ Main Archive, which contains aggregated value readings in the required interval.
- ❖ Module also adds an archive of voltage events - the PQ Event Archive - which contains time start/end and extremal value of every recorded voltage fluctuation.



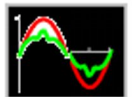
RIPPLE CONTROL SIGNALS MODULE

- ❖ Module for detection and precise recording of various waveform distortions.
- ❖ This module records the so called oscillograms of voltages and currents in extended detail, capacity and trigger options into the flash memory.



GENERAL OSCILLOGRAM MODULE

- ❖ Module for detection and precise recording of various waveform distortions.
- ❖ This module records the so called oscillograms of voltages and currents in extended detail, capacity and trigger options into the flash memory.



ENVIS SOFTWARE

- ❖ ENVIS software is a management software for energy efficiency and power quality monitoring.
- ❖ It retrieves, stores and analyses the recorded information from measuring instruments and analyzers.
- ❖ It includes visualisation and basic predefined reporting features.
- ❖ Additional functions can be added via its plugin feature.
- ❖ Data are archived into a compressed CEA file or into the SQL database.
- ❖ The ENVIS.Daq is also a basic tool for configuration, management and data acquisition.
- ❖ The software provides on-line presentation of the actual device status and allows for simple and comfortable visualization and analysis of the archived historical data.



Realtime View

TECHNICAL SPECIFICATIONS

VOLTAGE	
Measuring range (line-to-line)	20 ÷ 1040 V _{AC}
Measuring range (line-to-neutral)	10 ÷ 600 V _{AC}
Intrinsic uncertainty (tA=23±/-2°C)	+/- 0.05 % of rdg • +/- +/- 0.02 % of rng
Function Characteristics According to IEC 61000-4-30	
Frequency	CLASS A
Magnitude of the Supply	CLASS S
Flicker	CLASS S
Dips and Swells	CLASS S
Interruptions	CLASS S
Unbalance	CLASS S
Voltage Harmonics and Interharmonics	CLASS S
Mains Signalling Voltage	CLASS S
VOLTAGE UNBALANCE	
Measuring Range	0 ÷ 10 %
Measuring Uncertainty	+/- 0.3
HARMONICS (up to 50th order)	
Reference Conditions	Other harmonics up to 200 % of class 3 acc. to IEC 61000-2-4 ed.2
Measuring Range	10 ÷ 100 % of class 3 acc. to IEC 61000-2-4 ed.2
Standard of compliance	IEC - 61000-4-30/2015 (Edition III) Class S

MAINS SIGNALLING VOLTAGE (with optional firmware module "RCS" only)	
Measuring Range	0 ÷ 20 % UNOM , fMsv : 100 ÷ 3000 Hz
Measuring Uncertainty	Twice the levels of class II acc. to IEC 61000-4-7 ed.2
THD-U	
Measuring Range	0 ÷ 20 %
Uncertainty	+/- 0.5
Standard Accessories	
Power card, USB Cable, Stanley Industrial carry bag	
Voltage Probes	4 Sets each 2 Mtrs Length (R,Y,B) with Crocodile Clips
Current Probes	500 A Rogowsky 3 Sets with Integrator (or) 1000 A Rogowsky (400mm L). Ask for any other ranges
Software	Envis
Operational Temperature	-20 to 60° C
Communication Port	USB 2.0, Ethernet 10/100 Base-T and Modbus RS-485
Communication Protocol	TCP, web server, DHCP
Frequency	
f _{NOM} -Nominal Frequency	50 / 60 Hz
Measuring Range	40 ÷ 57 / 51 ÷ 70 Hz
Uncertainty	+/- 10 mHz