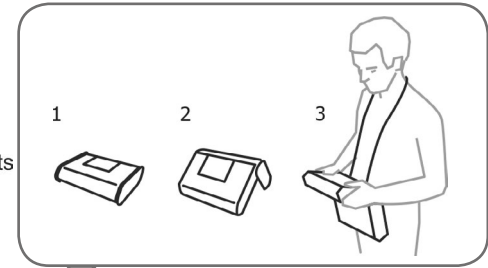
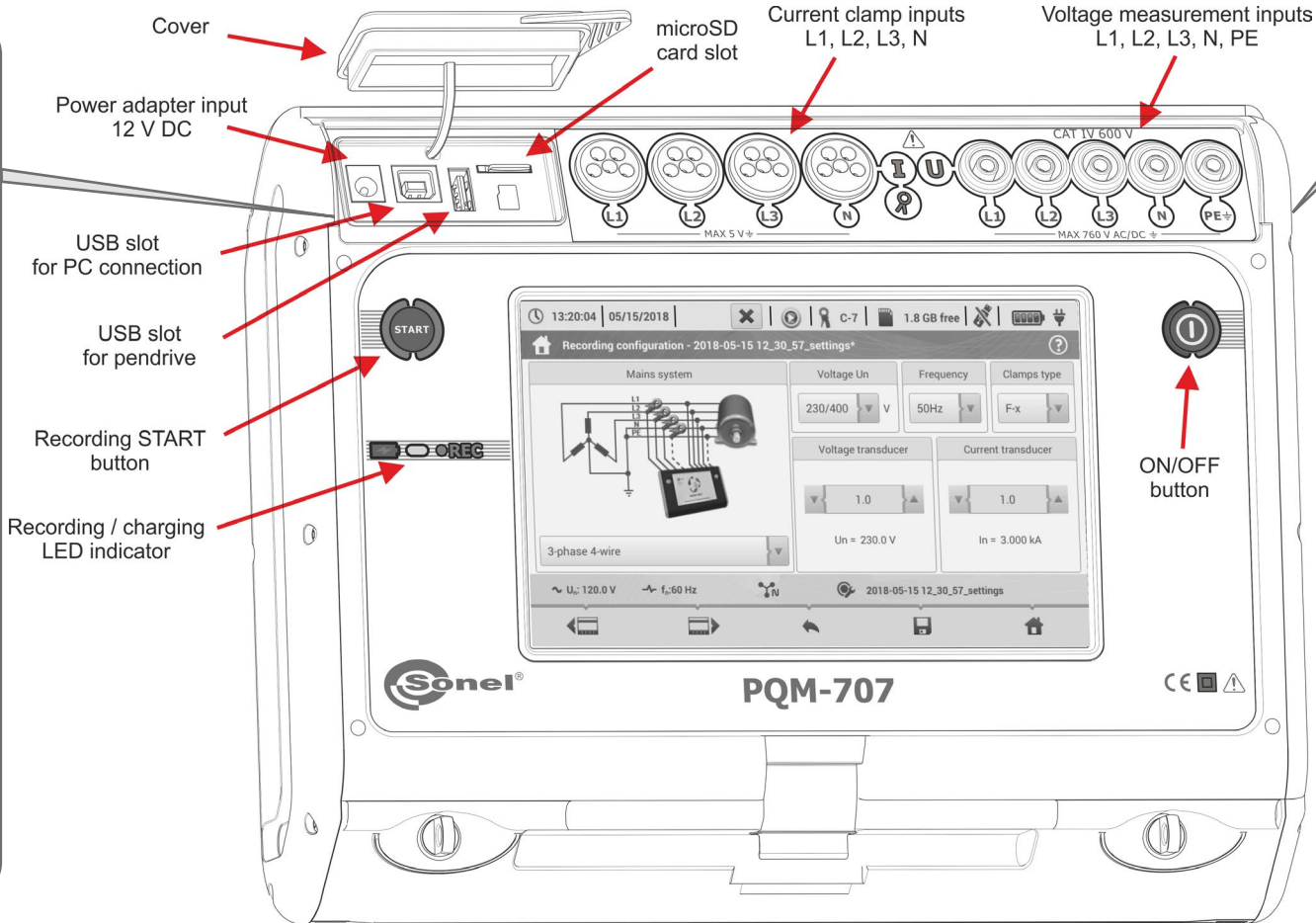
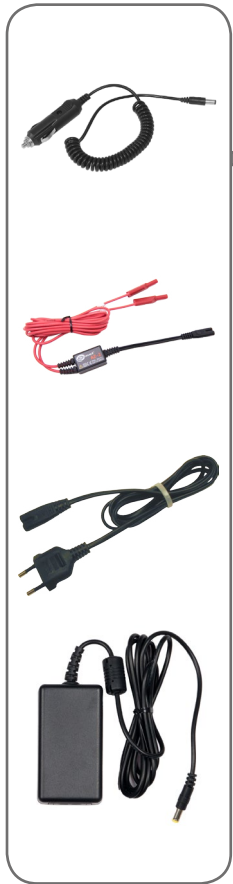


CLASS S IEC 61000-4-30
 CAT IV
600 V

v1.01 | 12.09.2019

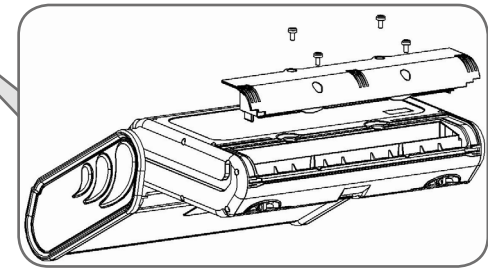
External power supply



Top bar of the display



- | | | |
|---|---|--------------------------------------|
| 1 Current date and time | 3 Range check | 6 Free memory on microSD card |
| 2 Hold/continue button of display refreshing | 4 Recording status | 7 USB Stick status |
| 5 Actual current probes connected | 8 Battery status and external supply | |



Analyzer settings

Connections

- Hardware
- Settings
 - Standard report settings
 - Files
 - Upgrades
- Managers

- Create configuration
- Edit configuration
- Set configuration as active

Analyzer settings

Hardware settings	Settings	Managers
1 Date and time	4 Regional settings	Standards
2 Clamps	5 Power saving	Files
3 Memory	6 Security	Upgrades
	7 User data	

PQM-707 - Main menu

- Recording configuration
- Inrush
- Analyzer settings
- Recording analysis
- Analyzer information

Recording configuration - 2018-05-15 12_30_57_settings*

Mains system: 3-phase 4-wire

Voltage Un: 230/400 V, Frequency: 50Hz, Clamps type: F-x

Voltage transducer: 1.0, Un = 230.0 V

Current transducer: 1.0, In = 3.000 kA



1 Set date and time

- YYYY-MM-DD or MM/DD/YYYY
- hh:mm:ss

2 Clamps

- Set current direction

3 Memory

- Check memory status
- Format memory

4 Regional settings

- Choose language
- Choose name of signals
- Choose color of signals

5 Power saving

- Instantaneous auto-off mode
- Instrument auto-off mode

6 Security

- Set lock analyzer PIN

7 User data

- User specification, contact and address

- 1-phase system
- Split-phase system
- 3-phase 4-wire system
 - 3-phase 4-wire (no U L2) / 2 1/2 element (no U L2/B)
 - Transducers: 3-phase 4-wire
- 3-phase 3-wire system
 - 3-phase open delta
 - Transducers: 3-phase 3-wire
- 3-phase 3-wire Aron / 2-elements
 - Transducers: 3-phase 3-wire Aron (2 PTs, 2-Elements)
- DC system
- DC+M system

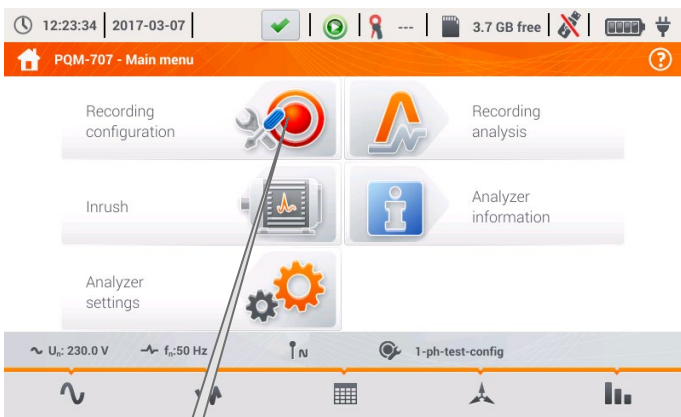
Coefficients of transducers

Voltage transducer	Current transducer
1.0	1.0
Un = 230.0 V	In = 3.000 kA

$$k_U = \frac{\text{Primary U}}{\text{Secondary U}} \quad k_I = \frac{\text{Primary I}}{\text{Secondary I}}$$

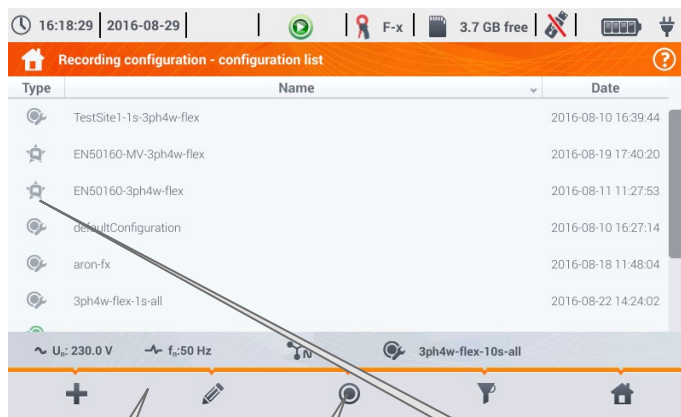
Recording

1 Before measurement adjust settings



- General settings (I and II)
- Voltage parameters
- Current parameters
- Power parameters
- Energy and factors
- Flicker and unbalance
- THD and harmonics
- Save over own name and select as active

2 Select a configuration from list



- Function icons**
- + add new configuration
 - edit selected
- Set configuration as active**
- Types of configurations**
- user - inactive
 - user - active
 - standard - inactive
 - standard - active

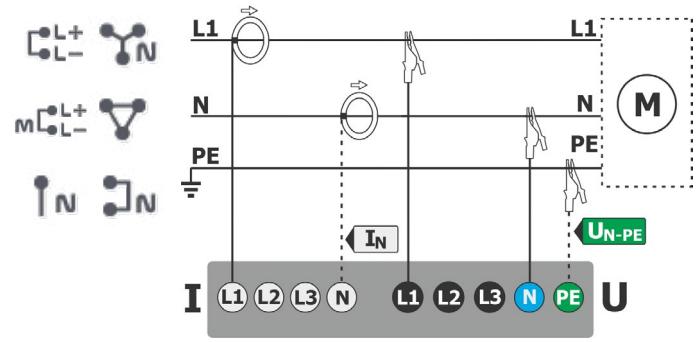
3 Insert a memory card



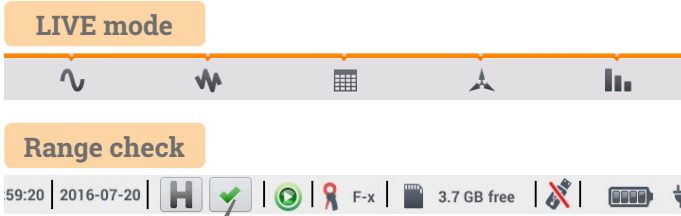
4 Check the power supply



5 Connect signals



6 Verify the connection



Parameters correctness	
✗ if the table includes is at least one ✗	Voltage values ✓
?	Current values ✓
if the table includes is at least one ? , but there is no error (no ✗)	Voltage phasors ✓
	Current phasors ✓
✓ if all measured parameters are correct	Frequency ✓

7 Start recording



- Press **START/STOP**
- LED starts to blink red**
- Status icon changes color to **red**
- Tone notice sounds: 3 short signals

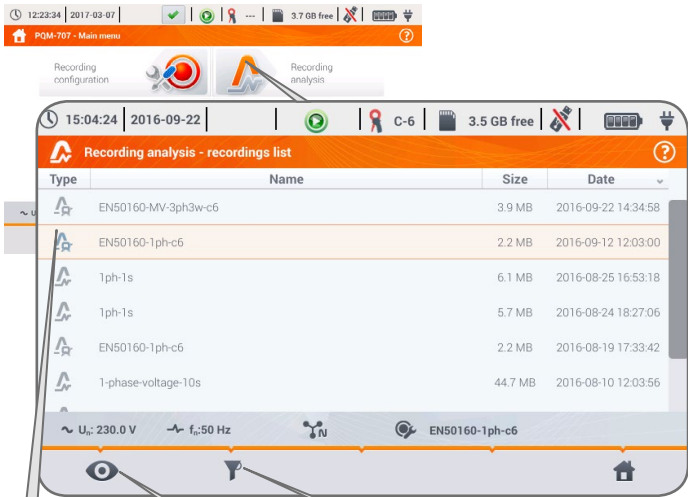
8 Stop recording



- Press **START/STOP**
- LED does not blink anymore**
- Status icon changes color to **green**
- Tone notice sounds: 1 long and 3 short signals

Data analysis

1 List of recorded measurements



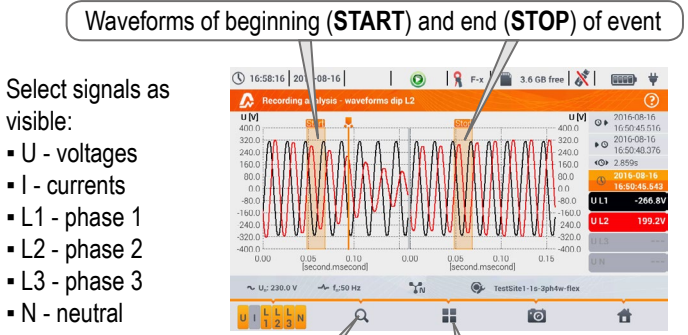
Select a measurement file from list

Analysis of the selected recording

Filtering the recordings

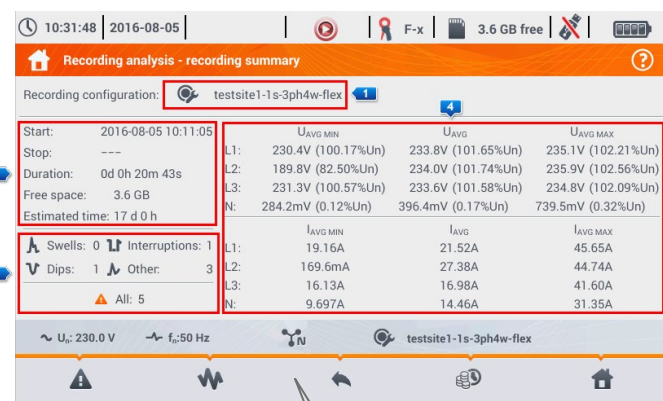
- according to standard
- according to user
- inrush current

Waveforms



- zoom of visible time window
- zoom-in horizontally
- zoom-out horizontally
- screenshot
- select view type
- go to RMS_{1/2} plot

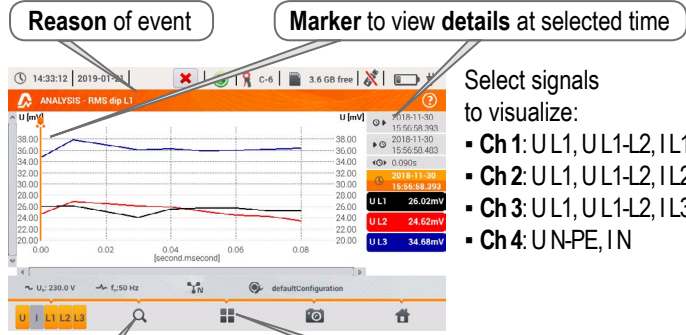
2 Recording summary window



- Configuration name
- History of recording
- Statistics of events
- Statistics of Voltage and Amps measurement

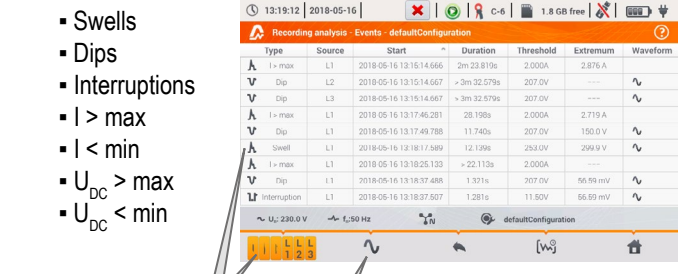
- go to list of events
- go to plots
- timeplots
- harmonics
- go to standard report (only for configuration acc. to standard)
- go to energy costs calculator (only for configuration acc. to user)

RMS_{1/2} plot



- zoom of visible time window
- zoom-in horizontally
- zoom-out horizontally
- screenshot
- select view type
- go to ANSI plot
- go to CBEMA plot

Analysis of events



Filter the list using and select an item

- go to a diagram of selected item
- waveforms
- RMS_{1/2} plot
- ANSI plot
- CBEMA plot

ANSI / CBEMA graph



- select view type
- screenshot
- zoom of visible time window

Data analysis

Timeplots

Move the markers to set the range of analyzed data

or

Set:

- start time
- duration
- end time

select parameters to view range

Selection of timeplot data

Categories, types, classes:

- Max - maximum in period
- Min - minimum in period
- Avg - average in period
- Inst - instantaneous value

go to timeplot analysis

removes all selections

Recording analysis - timeplot

Marker to view details at selected time

Select for visualization:

- Ch 1
- Ch 2
- Ch 3
- Ch 4

zoom menu

displays additional menu

additional selecting displayed timeplots

Harmonics

U _n [%]	U _n [%]
Uh2 L1 3.658%	
Uh2 L2 2.009%	
Uh2 L3 5.136%	
THDU L1 104.8%	
THDU L2 79.23%	
THDU L3 96.10%	

switching to tabular view of harmonics

additional menu

- hiding the fundamental harmonic
- [V,A] displaying in absolute units (volts and amps)
- [%] displaying in percent of fundamental

Table of harmonics

	U ₁ [%]	U ₂ [%]	U ₃ [%]
THD	2.663	2.174	2.599
h01	100.0	100.0	100.0
h02	0.031	0.064	0.061
h03	0.995	0.550	0.866
h04	0.027	0.029	0.031
h05	1.858	1.477	1.744
h06	0.018	0.022	0.023
h07	1.290	1.122	1.416
h08	0.014	0.020	0.019

switching to bargraph

additional menu

- [V,A] displaying in absolute units (volts and amps)
- [%] displaying in percent of fundamental
- screenshot

Data analysis

Energy cost calculator

- select parameters to view range
- make screenshot

Settings

- Select
- Verify
- Set costs

- go to billing zones
- go to billing zones
- back to calculator
- save

Billing zones

- Select
- Verify
- Set actual

- go to settings
- go to settings
- back to calculator
- save

Report according to standard

Before recording

After recording

Enter report settings

save settings

Analysis and saving the report

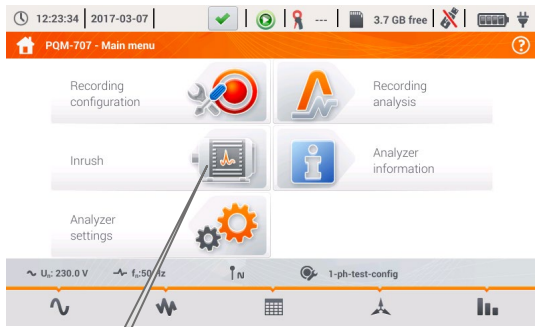
After recording

- page up
- page down

- save report
- to memory
- to USB stick

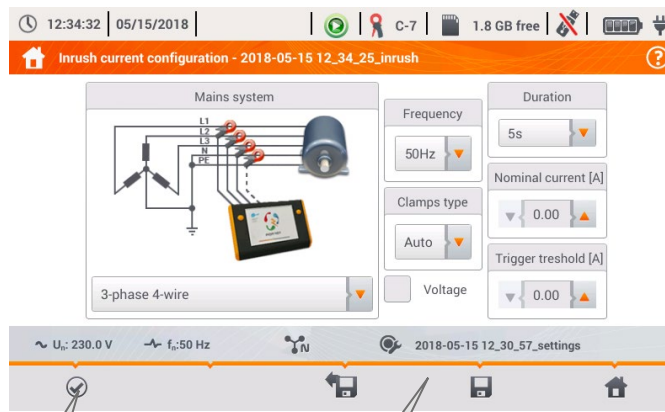
Inrush current

1 Configure the measurement



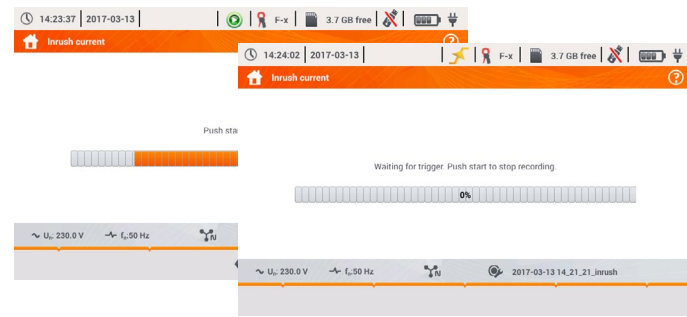
- Connection of the meter
- Configuration of
 - L mains system
 - L frequency
 - L probes type
 - L measurement duration
 - L nominal current and trigger threshold

2 Set necessary parameters



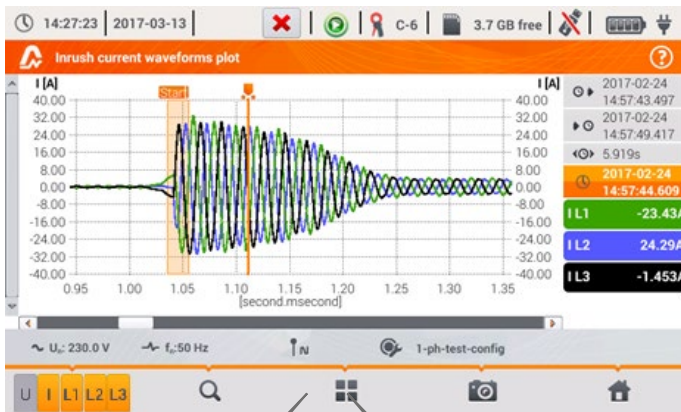
- accept settings
- get from saved
- save

3 Start the measurement



- Press **START/STOP**
- Wait for automatic threshold value
- Wait for end of recording

4 Waveform plot will appear



- zoom of visible time window
- zoom-in horizontally
- zoom-out horizontally
- screenshot

- menu bar
- waveform
- RMS plot
- characteristics

Inrush RMS plot



Characteristics of event

Inrush values

	I RMS 1/2 max [A]	I ² t [A ² s]
L1	22.81	52.89
L2	21.38	47.98
L3	21.64	51.05



Find more information in the
user manual and on our website
www.soneel.pl/en