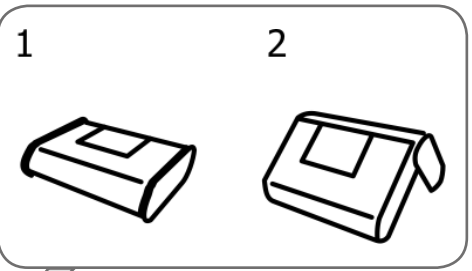
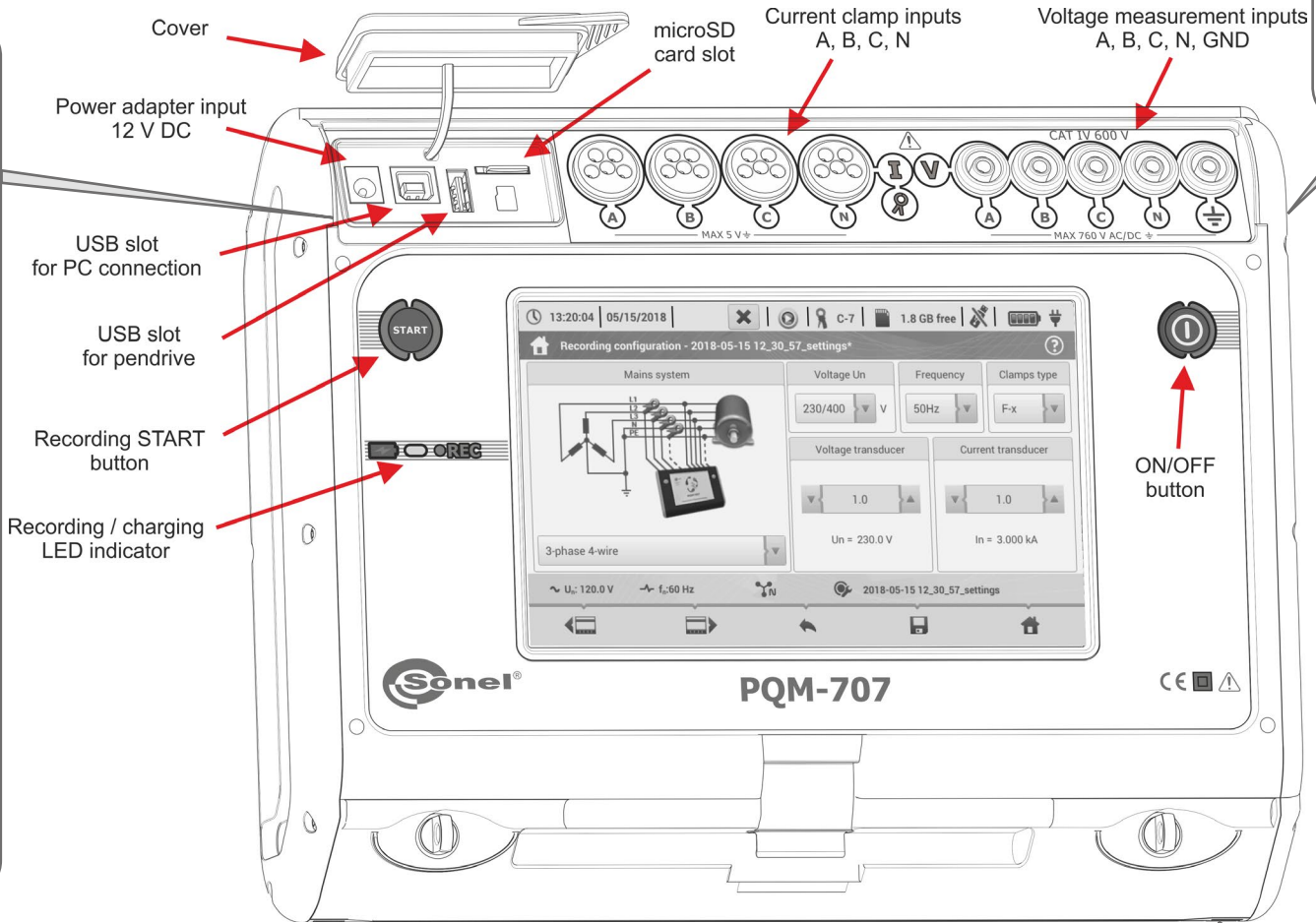


CLASS S IEC 61000-4-30
 CAT IV
600 V

v1.01.1 | 01.02.2022

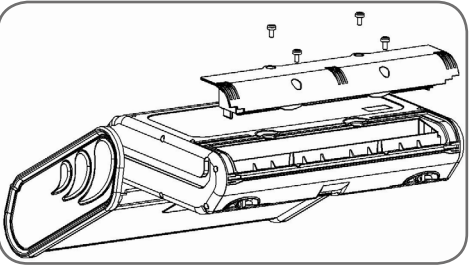
External power supply



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**
 - Date and time
 - Clamps
 - Memory
- Settings**
 - Regional settings
 - Power saving
 - Security
 - User data
 - Startup screen
 - Display
- Managers**
 - Standards
 - Files
 - Upgrades

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 V L2) / 2 1/2 element (no V 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

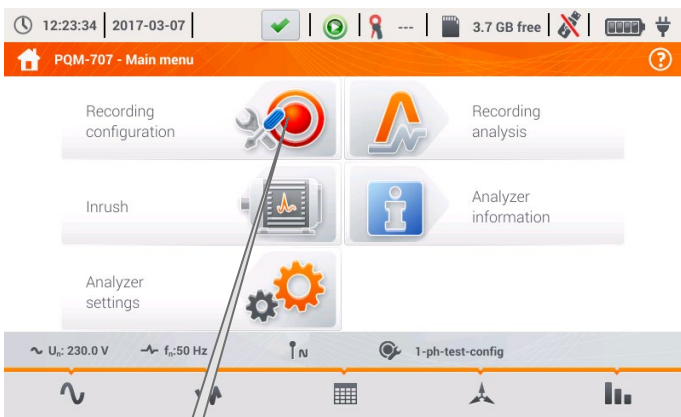
Coefficients of transducers

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

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

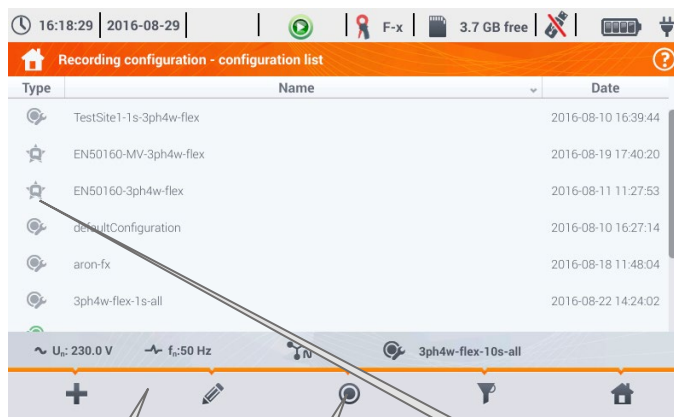
Recording

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
 - ★ inactive
 - ★🟢 active

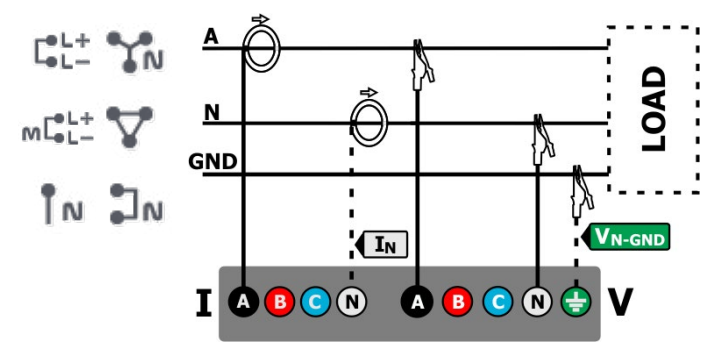
3 Insert a memory card



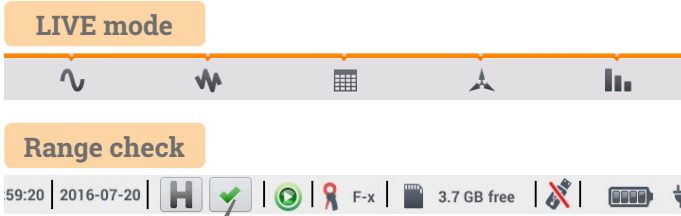
4 Check the power supply



5 Connect signals



6 Verify the connection



Range check

✘ if the table includes is at least one ✘

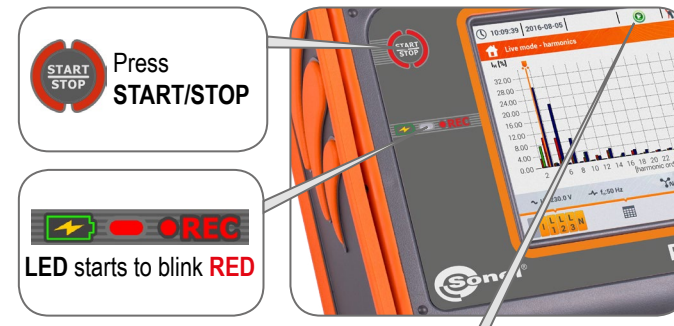
? if the table includes is at least one ? , but there is no error (no ✘)

✔ if all measured parameters are correct

Parameters correctness	
Voltage values	✔
Current values	✔
Voltage phasors	✔
Current phasors	✔
Frequency	✔

OK

7 Start recording



- ▶ → ▶ **Status icon changes color to red**
- Buzzer signals are heard: 3 short signals**

8 Stop recording

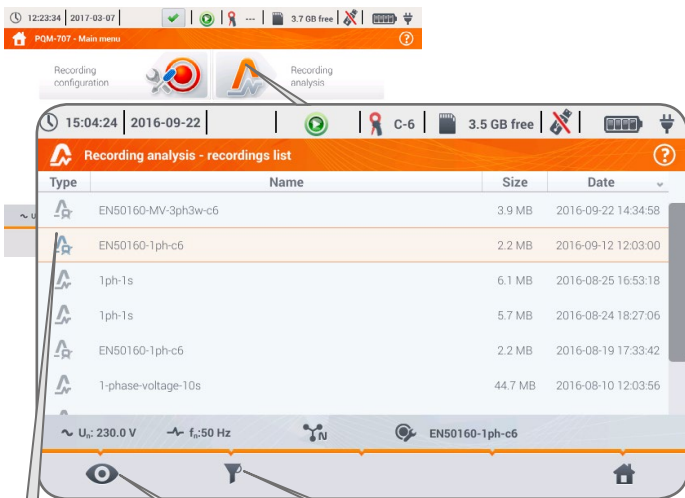


- ▶ → ▶ **Status icon changes color to green**
- Buzzer signals are heard: 1 long + 3 short signals**

Data analysis

1

List of recorded measurements



Select a measurement file from list

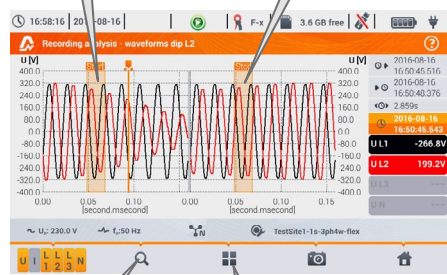
Analysis of the selected recording

Filtering the recordings

- according to standard
- according to user
- inrush current

Select signals as visible:

- U - voltages
- I - currents
- L1(A) - phase 1
- L2(B) - phase 2
- L3(C) - phase 3
- N - neutral

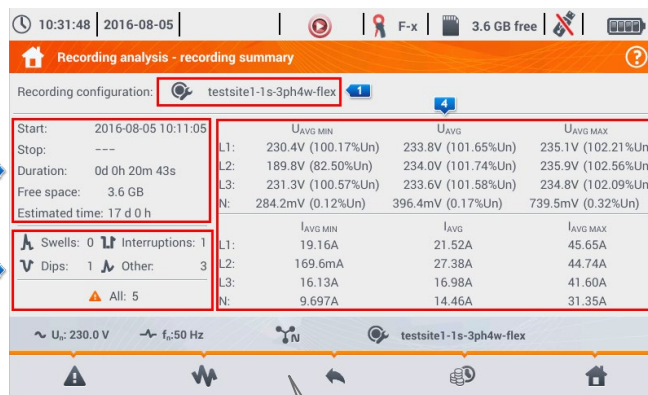


- zoom of visible time window
- zoom-in horizontally
- zoom-out horizontally
- screenshot

- select view type
- go to RMS_{1/2} plot

2

Recording summary window



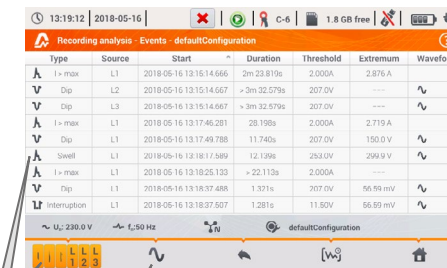
- Configuration name
- History of recording
- Statistics of events
- Statistics of Voltage and Amps measurement

- 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)



Analysis of events

- Swells
- Dips
- Interruptions
- I > max
- I < min
- U_{DC} > max
- U_{DC} < min



Filter the list using and select an item

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

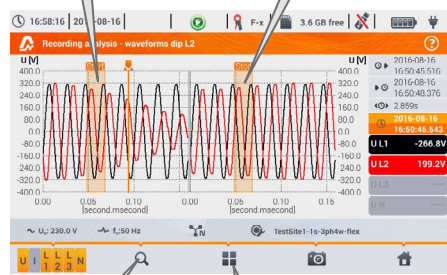


Waveforms

Waveforms of beginning (START) and end (STOP) of event

Select signals as visible:

- U - voltages
- I - currents
- L1(A) - phase 1
- L2(B) - phase 2
- L3(C) - phase 3
- N - neutral



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

- select view type
- go to RMS_{1/2} plot



RMS_{1/2} plot

Reason of event

Marker to view details at selected time

Select signals to visualize:

- Ch 1: V A, V A-B, I A
- Ch 2: V A, V A-B, I B
- Ch 3: V A, V A-B, I C
- Ch 4: V N-PE, I N



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

- select view type
- go to ANSI plot
- go to CBEMA plot



ANSI / CBEMA graph

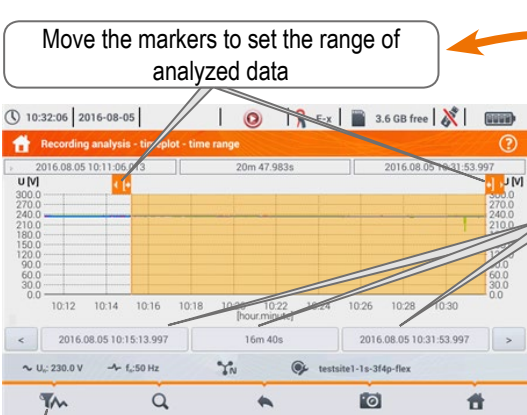
Select type of event to visualize



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

Data analysis

Timeplots



or

Set:

- start time
- duration
- end time

Selection of timeplot data

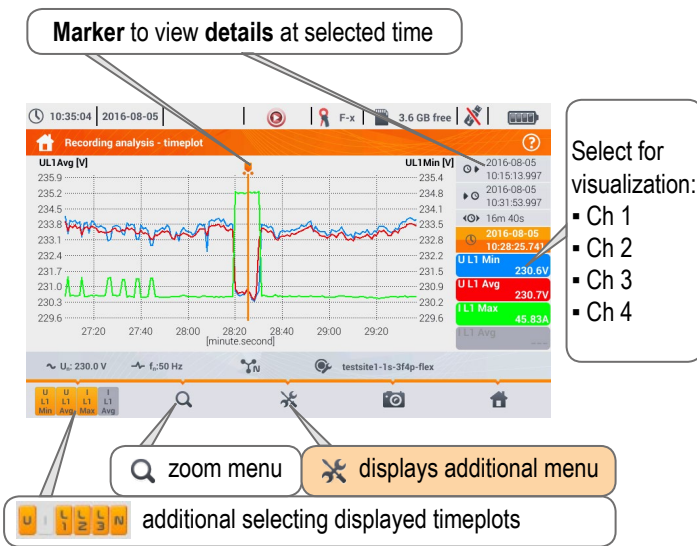
- Categories, types, classes:
- Max - maximum in period
 - Min - minimum in period
 - Avg - average in period
 - Inst - instantaneous value



go to timeplot analysis

removes all selections

Recording analysis - timeplot



Harmonics



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

	Va [%]	Vb [%]	Vc [%]
THD	67.53	99.26	19.62
h01	100.0	100.0	100.0
h02	0.900	0.379	0.209
h03	58.13	31.88	11.47
h04	0.522	0.254	0.136
h05	13.95	17.10	12.04
h06	0.222	0.165	0.063
h07	17.32	5.413	4.272
h08	0.428	0.201	0.099

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

Selecting options

After recording

Enter report settings

- ✔ save settings

Analysis and saving the report

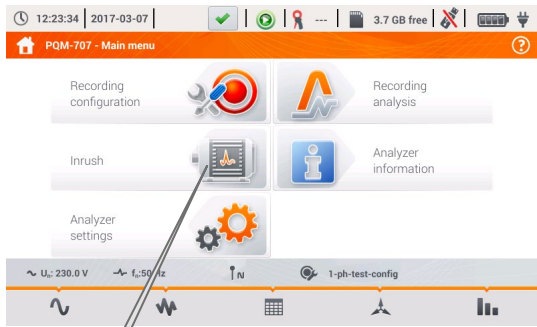
After recording

- ⏪ page up
- ⏩ page down

- 💾 save report
- 📁 to memory
- 📁 to USB stick

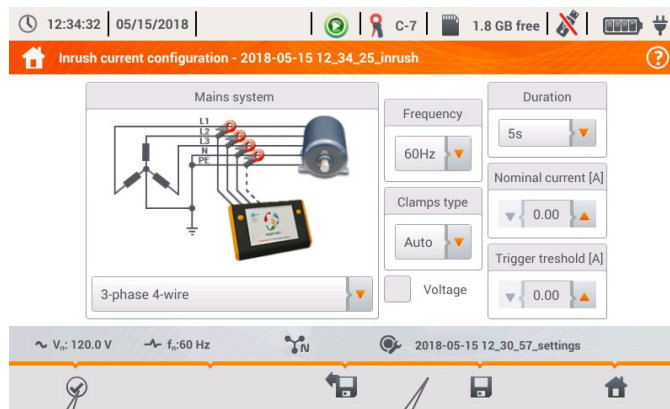
Inrush current

1 Configure the measurement



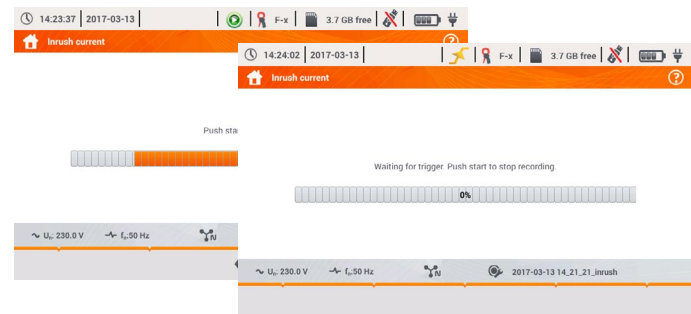
- Connection of the meter
- Configuration of
 - L mains system
 - L frequency
 - L probes type
 - L measurement duration
 - L nominal current and trigger threshold

2 Set necessary parameters



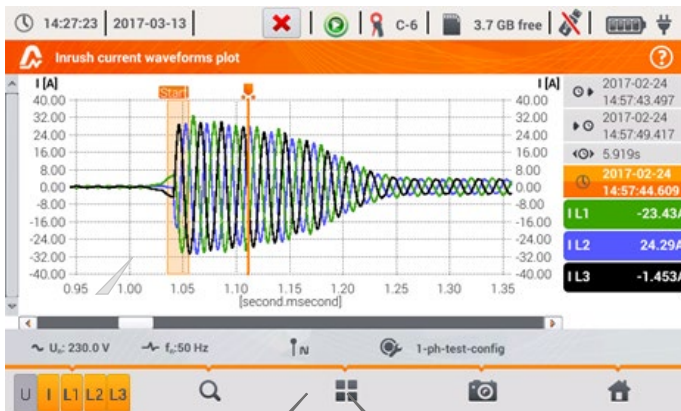
- accept settings
- get from saved
- save

3 Start the measurement



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

4 Waveform plot will appear



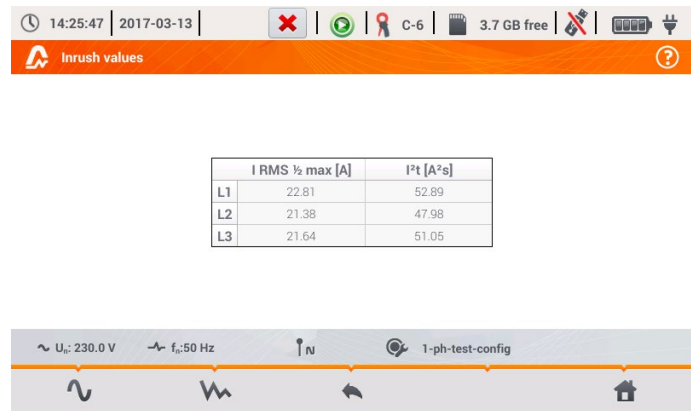
- zoom of visible time window
- zoom-in horizontally
- zoom-out horizontally
- screenshot

- menu bar
- waveform
- RMS plot
- characteristics

Inrush RMS plot



Characteristics of event





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