Sonel PQM-707
Power Quality Analyzer ● Quick Start

CE

CLASS S	CAT IV	💧 IP51
IEC 61000-4-30	600 V	

v1.01 | 19.02.2020

Connections

Sonel test & measurement

Top bar of the display

General correctness

❌ if the table of Parameter correctness includes is at least one ❌

❓ if the table of Parameter correctness includes is at least one ❓ , but there is no error (no ❌)

✔ if all measured parameters in the table of Parameter correctness are correct

| 1 | | 2 | 3 | 4 | 5 | | 6 | | 7 | | 8 |

🕐 16:59:20 | 2016-07-20 | **H** | ✔ | ▶ | 🔑 F-x | 💾 3.7 GB free | 🔌 | 🔋 | 🔌

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

Measuring inputs

Currents - 4 channels
Flexible: Fx(A): 1...3000 A
CT: C-4: 1...1000 A
C-6: 0.01...10 A
C7: 0.1...100 A

Voltages - 5 channels
A, B, C, N, GND
AC: MAX 760 V_{RMS}
DC: ±1150 V
referred to protective earth terminal (GND)

External power supply

DC supply input
12 V ± 10%
max. 2.5 A

Cover
microSD card slot
Current clamp inputs A, B, C, N
Voltage measurement inputs A, B, C, N, GND

Power adapter input 12VDC

USB slot for PC connection

USB slot for pendrive

Recording START button

Recording / charging LED indicator

START

ON/OFF button

External power supply
CAT II 300 V
100 to 240 V AC, 50 to 60 Hz
12 V 2.5 A DC

Sonel PQM-707

Battery

Li-Ion BATTERY

10.8 V
3.35 Ah

1   2

DC system

DC+M system

1-phase

Split-phase

3-phase 3-wire

3-phase 3-wire (CT, VT)

3-phase 4-wire

3-phase 4-wire (CT, VT)

Select a configuration from list

16:18:29 | 2016-08-29 | F-x | 3.7 GB free

Recording configuration - configuration list

Type	Name	Date
	TestSite1-1s-3ph4w-flex	2016-08-19 15:33:44
★	EN50160-MV-3ph4w-flex	2016-08-19 17:40:20
★	EN50160-3ph4w-flex	2016-08-11 11:27:53
	defaultConfiguration	2016-08-10 16:27:14
	aron-fx	2016-08-18 11:48:04
	3ph4w-flex-1s-all	2016-08-22 14:24:02

Uₙ: 230.0 V | fₙ:50 Hz | 3ph4w-flex-10s

Select configuration from list

Set configuration as active

Connect signals

Start recording

Press **START/STOP**

LED starts to blink **RED**

▶ → ▶ **Status icon** changes color to **red**

Buzzer signals are heard: 3 short signals

Stop recording

Press **START/STOP**

LED does not blink anymore

▶ → ▶ **Status icon** changes color to **green**

Buzzer signals are heard: 1 long + 3 short signals

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① **Configure the measurement** ▶ ② **Record**

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

- Wait for automatic threshold value
- Wait for end of recording

③ **Analyse waveform plot**

- ▦ menu bar
- ∿ waveform
- ⩗ RMS plot
- ▦ characteristics

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

Parameters correctness

Voltage values	✓
Current values	✓
Voltage phasors	✓
Current phasors	✓
Frequency	✓

✓ OK

12:23:34 | 2017-03-07 | ✓ | --- | 3.7 GB free

🏠 **PQM-707 - Main menu**

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

Uₙ: 230.0 V | fₙ:50 Hz | 1-ph-test-config

09:31:0 | 2016-08-30 | F-x | 3.7 GB free

🏠 **Analyzer settings**

Hardware settings
① Date and time
② Clamps
Memory

Settings
Regional settings
③ Power saving
④ Security

Managers
⑤ User data
Standards
Startup screen
Files
Display
Upgrades

Uₙ: 230.0 V | fₙ:50 Hz | 3ph4w-flex-10s-all

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① **Set date and time**

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

② **Set current probe direction**

L1/A Default | L2/B Default | L3/C Default | N Default

③ **Power saving**

- Instantenous auto-off mode
- Instrument auto-off mode

④ **Security**

- Set lock analyzer PIN

⑤ **User data**

- User specification, contact and address

List of recorded measurements

15:04:24 | 2016-09-22 | C-6 | 3.5 GB free

Recording analysis - recordings list

Type	Name	Size	Date
	EN50160-MV-3ph3w-c6	3.9 MB	2016-09-12 14:34:58
	EN50160-1ph-c6	2.2 MB	2016-09-12 12:03:00
	1ph-1s	6.1 MB	2016-08-25 16:53:18
	1ph-1s	5.7 MB	2016-08-24 18:27:06
	EN50160-1ph-c6	2.2 MB	2016-08-19 17:33:42
	1-phase-voltage-10s	44.7 MB	2016-08-10

Uₙ: 230.0 V | fₙ:50 Hz | EN50160-1ph-c6

Select a measurement file from list

Analysis of the selected recording

Recording summary window

10:31:48 | 2016-08-05 | F-x | 3.6 GB free

🏠 **Recording analysis - recording summary**

Recording configuration: testsite1-1s-3ph4w-flex

Start: 2016-08-05 10:11:05	Uₐᵥ𝒈	Uₐᵥ𝒈	Uₐᵥ𝒈 ₘₐₓ
Stop: ---	L1: 230.4V (100.17%Un)	233.8V (101.65%Un)	235.1V (102.21%Un)
Duration: 0d 0h 20m 43s	L2: 189.8V (82.50%Un)	234.0V (101.74%Un)	235.9V (102.56%Un)
Free space: 3.6 GB	L3: 231.3V (100.57%Un)	233.6V (101.58%Un)	234.8V (102.09%Un)
Estimated time: 17 d 0 h	N: 284.2mV (0.12%Un)	396.4mV (0.17%Un)	739.5mV (0.32%Un)

Swells: 0	Interruptions: 1	Iₐᵥ𝒈 ₘᵢₙ	Iₐᵥ𝒈	Iₐᵥ𝒈 ₘₐₓ
Dips: 1	Other: 3	L1: 19.16A	21.52A	45.65A
		L2: 169.6mA	27.38A	44.74A
All: 5		L3: 16.13A	16.98A	41.60A
		N: 9.697A	14.46A	31.35A

Uₙ: 230.0 V | fₙ:50 Hz | testsite1-1s-3ph4w-flex

⚠ 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)

1 Configuration name
2 History of recording
3 Statistics of events
4 Statistics of Voltage and Amps measurement

⚠ **Analysis of events**

- Swells
- Dips (sags)
- Interruptions
- I > max
- I < min
- V_DC > max
- V_DC < min

🗎 **Report according to standard**

Before recording

⚙ ▶ User data ▶ Enter personal information

After recording

🗎 ▶ Enter report settings ▶ ✓

[∿] **Timeplot of trends**

Set:
- start time
- duration
- end time

▐▐ **Bargraph of harmonics**

Energy cost calculator

Recording time	Energy	Single zone tariff C11 [EUR]	Multi-zone tariff C12 [EUR]
2017-03-03 16:26:00	[kWh]		
2017-03-06 13:22:34	288.3	62.12	68.16
2d 20h 56m 34s			
2d 20h 53m 59s			

Uₙ: 230.0 V | fₙ:50 Hz | 1-ph-test-config