

v1.01 | 19.02.2020

**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	USB	Battery
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**  
**C-7: 0.1...100 A**

**Voltages - 5 channels**  
L1, L2, L3, N, PE  
AC: **MAX 760 V<sub>RMS</sub>**  
DC: **±1150 V**  
referred to protective earth terminal (PE)

**External power supply**

DC supply input: **12 V ± 10% max. 2.5 A**

Power adapter input: 12VDC

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

USB slot for PC connection

USB slot for pendrive

Recording START button

Recording / charging LED indicator

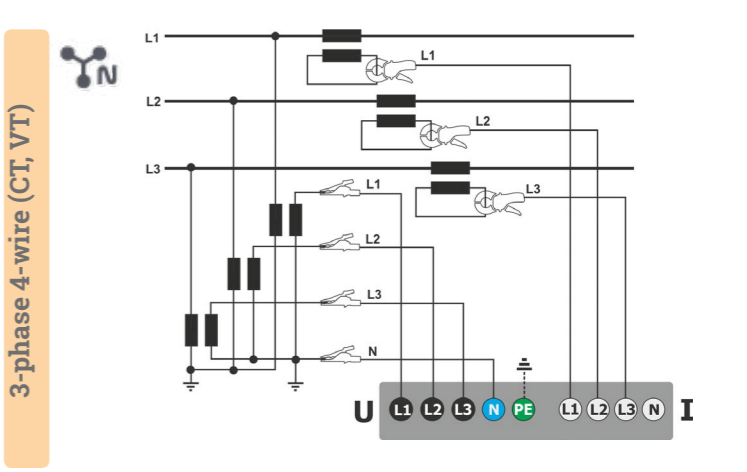
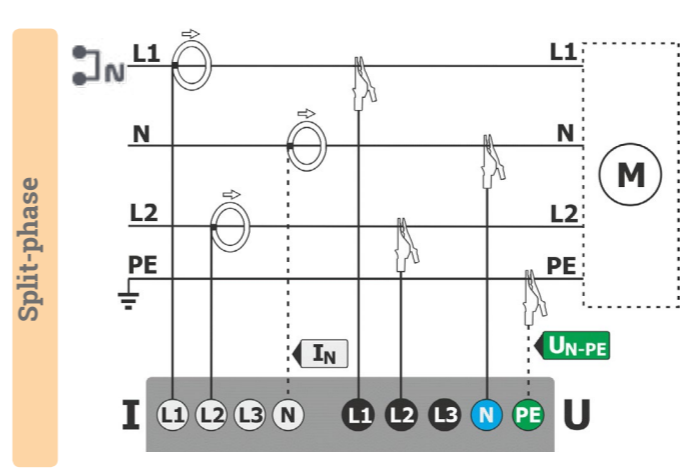
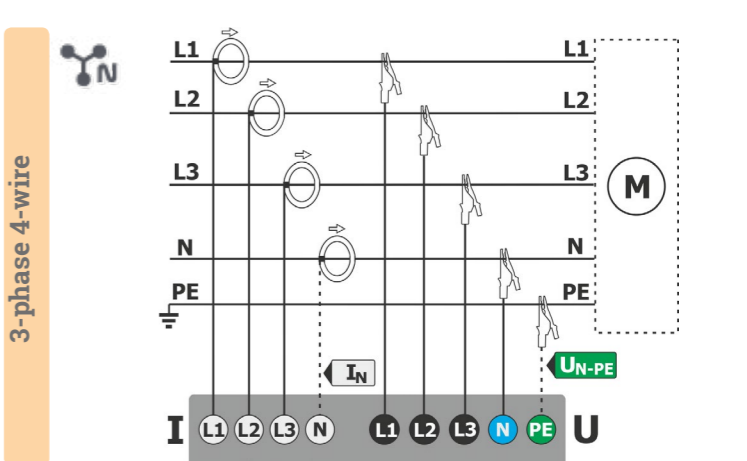
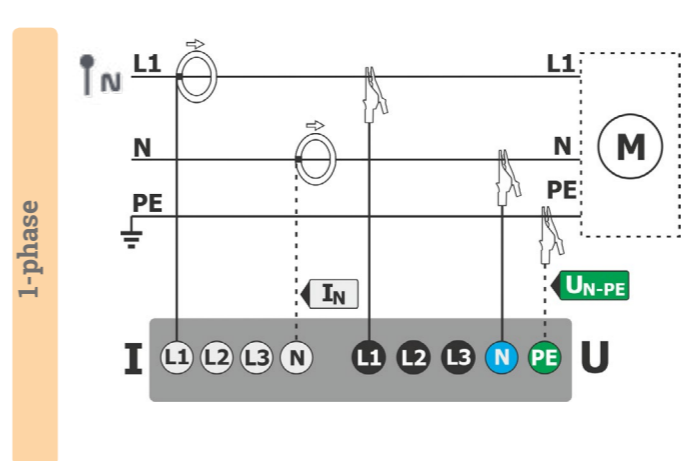
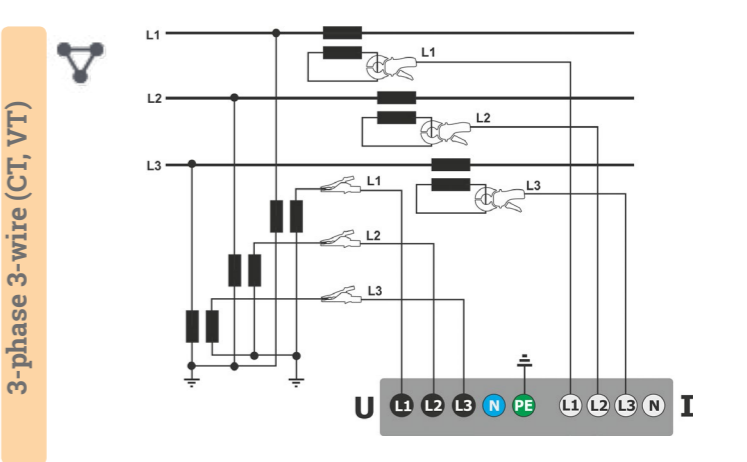
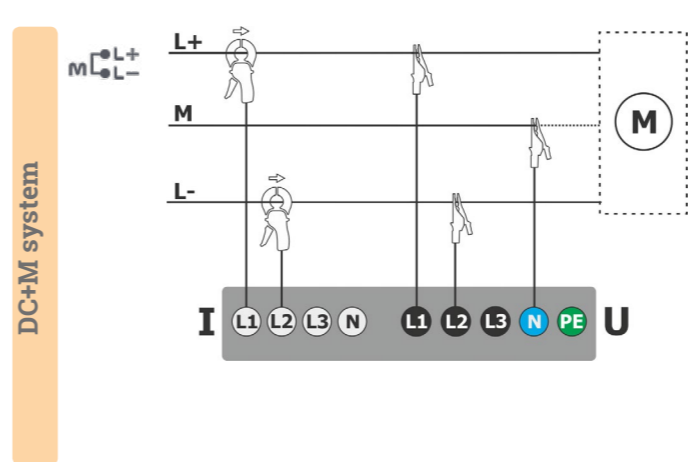
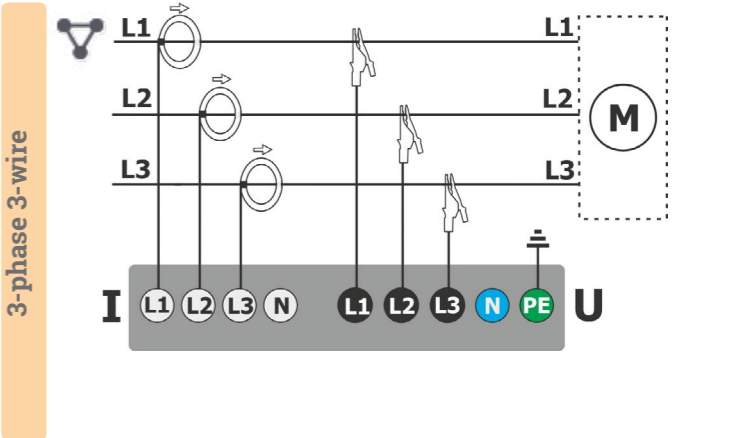
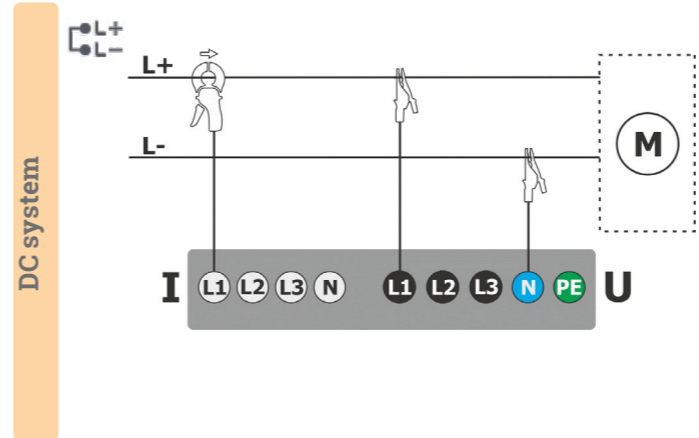
ON/OFF button

**Battery**

Li-Ion BATTERY

11.1 V  
3.4 Ah

1. Open the battery compartment cover.
2. Insert the battery into the compartment.
3. Close the cover.



### 1 Select a configuration from list

Type	Name	Date
	TestSite1-1s-3ph4w-flex	2016-08-29 10:39:41
	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

**Select configuration from list**

**Set configuration as active**

### 2 Connect signals

### 3 Start recording

**Press START/STOP**

**LED starts to blink RED**

**Status icon changes color to red**

**Buzzer signals are heard: 3 short signals**

### 4 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**

### 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 Record**
- 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 ✓

**START STOP**

**Recording configuration**

**Recording analysis**

**Inrush**

**Analyzer information**

**Analyzer settings**

### Analyzer settings

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

### 1 Set date and time

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

### 2 Set current probe direction

### 3 Power saving

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

### 4 Security

- Set lock analyzer PIN

### 5 User data

- User specification, contact and address

### 1 List of recorded measurements

Type	Name	Size	Date
	EN50160-MV-3ph3w-c6	3.9 MB	2016-08-22 14:34:08
	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 10:11:05

**Select a measurement file from list**

**Analysis of the selected recording**

### 2 Recording summary window

**1 Configuration name**

**2 History of recording**

**3 Statistics of events**

**4 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 (sags)
- Interruptions
- $I > \max$
- $I < \min$
- $U_{DC} > \max$
- $U_{DC} < \min$

### Report according to standard

**Before recording**

**User data** → **Enter personal information**

### Timeplot of trends

**Set:**

- start time
- duration
- end time

### After recording

**Enter report settings**

### Bargraph of harmonics

### Energy cost calculator

Recording time	Energy	Single zone tariff	Multi zone tariff
	[kWh]	C11 [EUR]	C12 [EUR]
2017-03-03 16:25:00	288.3	62.12	68.16