



# Me VOLT

MeVOLT  
Medium voltage sensor revenue meter

## MAIN FEATURES

### MeVOLT Sensor meter for medium voltage revenue metering applications

- MeVOLT is the first commercially available revenue meter direct connected through sensors to medium voltage system
- Based on utilization of advanced ABB Low-power Passive Instrument Transformers (Voltage divider sensor and Rogowski coil current sensor), guaranteeing a stable performance over the full operation range

Easy installation for wide  
range of applications

## FIELDS OF APPLICATION

- Newly manufactured MV switchgears with factory integrated sensors directly in the switchgear – internal measurements for industrial enterprises
- Renewable energy sources – to provide accurate performance measurement of individual sections (individual Wind Power Plant turbines, Photo Voltaic Power Plants, Hydro Power Plant generators etc.)
- Newly built metering points for Local Distribution Networks
- Retrofitting into existing MV switchgears - creation of new measurements in existing switchgears
- SmartGrids development - new measurement points for Ring Main Units (RMUs) for distribution networks

## MeVOLT BENEFITS

1

### Cost Savings

cost-effective solution compared to traditional voltage and current instrument transformers metering systems

2

### Energy Efficiency

efficient energy measurement and reduces energy losses due to utilization of low-power sensor technology

3

### Flexibility

provides flexibility in sensor selection for wide range of voltage and current requirement with a possibility to subsequent upgrade

4

### Space Optimization

significantly reduces space requirements due to its compact design

5

### Safety Enhancement

helps mitigate the risk of faults and hazards in medium voltage systems, promoting a safer operational environment

6

### Environmental

significantly lower requirements for raw material resources in comparison to voltage and current instrument transformer metering systems

7

### Versatility

suitable for various applications within medium voltage networks, including renewables, distribution systems, and industrial facilities

8

### Technologically Advanced

leverages advantages of LPIT sensor technology for accurate and reliable voltage and current measurements

9

### Easy Installation

simplifies the installation process, allowing for quicker deployment, minimizing downtime and streamlining integration into existing systems

10

### Extendibility

optional modules for functionality extension

## ADVANTAGES OF THE MEVOLT SOLUTION WITH ABB SENSORS

- MV Switchgear – no measurement cubicle is required as MV sensors can be easily integrated in Incoming/Outgoing feeders – savings when purchasing a new switchgear
- Simple establishment of new metering points on individual outlets of any switchgear
- Wide range of sensor designs for retrofit options (RMU switchgears)
- Optimized overall costs including installation compared to traditional electricity meters with instrument transformers for MV networks.
- One sensor for the entire range of measured values simplifies switchgears design and enables pre-stocking
- Low weight, simple manipulation and easy installation



## MAIN FEATURE OVERVIEW

MID approved 3-phase precise class 0.5S  
Active Energy, Re-active energy and Power  
Demand Meter

Multiple Tariffs & Time-Of-Use

Event recorder for logging internal diagnostic events, control events and I/O operations

Class A Power quality analysis and reading

- Sags/swells, interruptions, frequency, variations,
- Flicker, voltage unbalance, harmonic and interharmonic voltages
- Programmable thresholds and hysteresis

Harmonics & Inter-harmonics

Waveform & data recorder

Optional hot swap modules

## APPROVED SENSORS SPECIFICATION

**Current sensor - KEVCD, KECA C and KECA D families based on Rogowski coil principle**

- Rated primary current: 80 A,
- Rated secondary voltage: 150 mV at 50 Hz, 180 mV at 60 Hz
- Maximal current: 4 kA

**Voltage sensor - KEVCD, KEVA B and KEVA C families based on Resistive voltage dividers**

- Ratio: 10 000 : 1

## TECHNICAL SPECIFICATION

### Connection type

- 3 x current sensors
- 3 x voltage sensors

### Measurement accuracy

- MID Class A
- EN 62052-11
- EN 62053-22 Class 0.5S
- EN 62053-24 Class 0.5S

### Primary current ratings

- 0 – 4 kA r.m.s.

### Primary voltage ratings

- 0 – 38.1 kV

### Frequency

- 50 Hz / 60 Hz

### Power supply

- 90 – 264 VAC (50 Hz / 60 Hz)
- 120 – 375 VDC

### Digital I/O ports

- 4 inputs / 2 outputs

## COMMUNICATION CAPABILITIES

- Infrared port (Modbus RTU/ASCII and DNP3.0 protocols)
- RS-232/485 universal serial communications port (Modbus RTU/ASCII and DNP3.0 protocols)
- Ethernet port (Modbus/TCP or DNP3.0/TCP protocols)
- USB (Modbus RTU protocol)
- Cellular GPRS modem (Modbus/TCP or DNP3.0/TCP protocols)
- 1-ms satellite-synchronized clock - IRIG-B
- IEC 61850 protocol

## STANDARDS COMPLIANCE

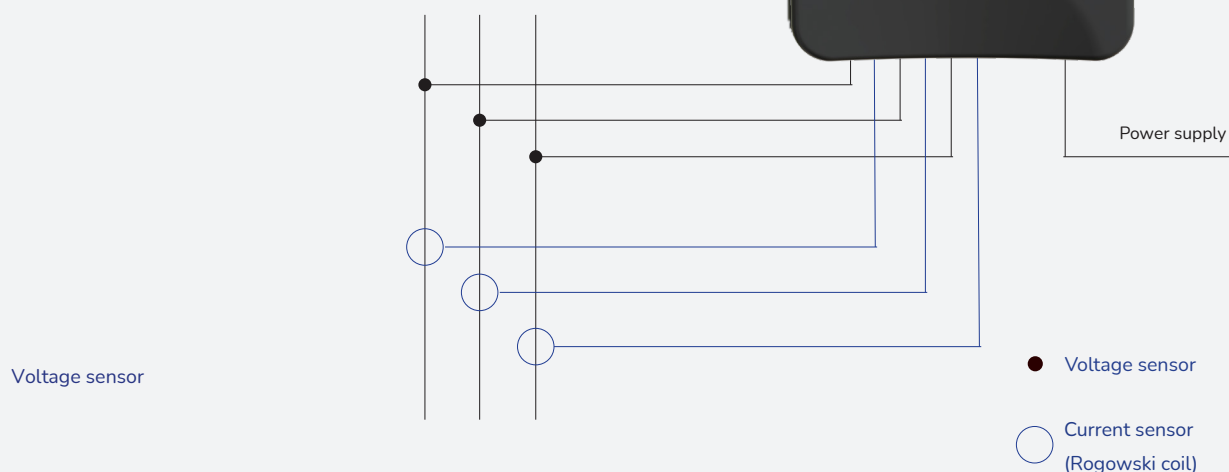
	IEC standards
<b>EMC Immunity &amp; emission</b>	IEC 61000-2
	EN 61000-4-x
	EN 62052-11
	EN 55022; CISPER 22
<b>Safety</b>	IEC 61010-1
<b>Measurements and Accuracy</b>	EN 62052-11
	EN 62053-22 Class 0.5S
	EN 62053-24 Class 0.5S
<b>Power Quality</b>	IEC 61000-4-30

## INSTALLATION DIAGRAM



## VERSIONS

	I1, I2, I3 using ABB KECA current sensors	IEC
<b>AC Current inputs</b>	<b>Nominal current</b>	<b>40A</b>
<b>E<sup>2</sup>MeVOLT – 80A</b>	Current measurable range	0 A–200 A r.m.s
	<b>Nominal current</b>	<b>400A</b>
<b>E<sup>2</sup>MeVOLT – 800A</b>	Current measurable range	0 A–2000 A r.m.s
	<b>Nominal current</b>	<b>800A</b>
<b>E<sup>2</sup>MeVOLT – 1600A</b>	Current measurable range	0 A–4000 A r.m.s



ELEXIM, a.s.  
Riegrovo nám. 179/14  
767 01 Kroměříž

