MeVOLT

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 easially integrated in Incoming/Outgoing feeders – savings when purchasing a new witchgear
- 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

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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

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

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

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

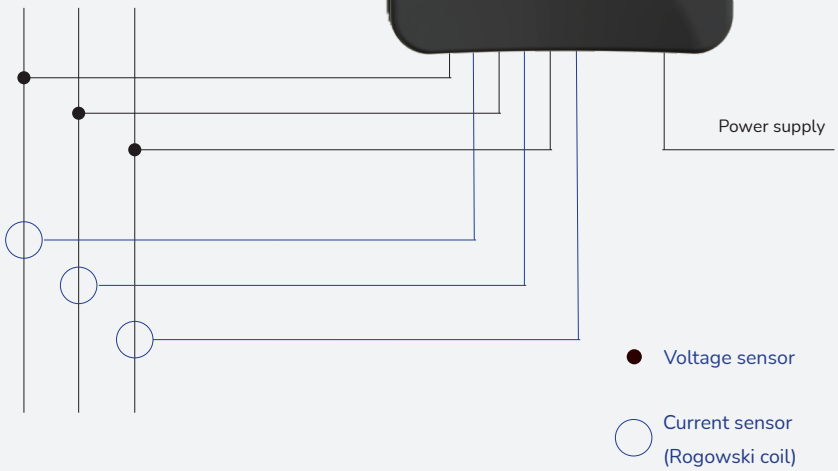
STANDARDS COMPLIANCE

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

VERSIONS

AC Current inputs	I1, I2, I3 using ABB KECA current sensors IEC	
E²MeVOLT – 80A	**Nominal current**	**40A**
	Current measurable range	0 A–200 A r.m.s
E²MeVOLT – 800A	**Nominal current**	**40A**
	Current measurable range	0 A–2000 A r.m.s
E²MeVOLT – 1600A	**Nominal current**	**800A**
	Current measurable range	0 A–4000 A r.m.s

INSTALLATION DIAGRAM



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