

EQ METERS

Three phase 690 volt electricity meters

Extra high functionality electricity meters



EQ meters A44 in extra high functionality versions for 690 Volt can be used in stand-alone applications or metering network installations with the option of inbuilt M-Bus or Modbus.

General features

The A series meters are ideal for many applications and installations. The meters support a wide voltage range as well as a wide temperature range. The display is pixel-oriented and can display up to four quantities at the same time. Navigating the meter is easily done via the push-buttons below the display. The same meters can be used in 3- or 4-wire installations by settings. To configure the meter settings, the set button must be accessed and this button is protected against unauthorized use when the transparent lid on the front of the meter is closed and sealed. The power consumption of the meter is low, less than 2.2 VA, makes them economical in the long run – an important feature especially for large meter populations.

Communication

Data from A44 in 690 volt version can be collected via pulse output or serial communication. The meters are equipped with a solid state output for 5-240 V AC/DC external supply. It can be used for pulses proportionally to the measured energy or various alarms. The meter is also available with built-in serial communication interfaces for Modbus RTU (RS-485) or M-Bus as option.

Tariff handling

The A44 have up to 4 tariffs that could be controlled either by the internal clock or through serial communication.

The compact and versatile EQ meters A44 are three phase meters with outstanding performance. They can be used in most of the common applications for reliable and trustworthy metering of energy usage. The type A44 552-110 and A44 553-110 meters can be used for 690 Volt without any additional voltage transformers

Approvals

The A44 meters are type approved according to IEC as well as type approved and verified according to Measure Instruments Directive 2014/32/EU (MID). The type approval is according to standards that covers most relevant technical aspects of the meter. These include climate conditions, electromagnetic compatibility (EMC), electrical requirements, mechanical requirements and accuracy.

Instrumentation

The extra high functionality A44 version support reading of large number of instrument values.

- Active, Reactive and Apperent power - Total and per phase
- Currents - Per phase and neutral
- Voltages - Per phase to neutral and phase to phase
- Power factors - Total and per phase
- Frequency
- Harmonics on Voltage & Currents
- Total harmonics (THD) on Voltages & Currents

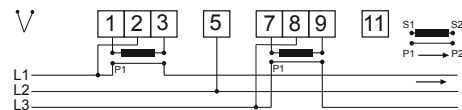
Ordering detail

A44 CT/VT connected 6A, 7 DIN with IR port, 3x57.7/100 ...400/690 V AC, Accuracy cclass C (Cl. 0,5S), Reactive Cl.2

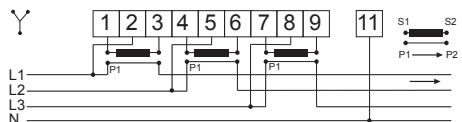
I/O	Type	Order code
CTVT connected electricity meter, RS-485, active and reactive measurements		
1 + 1 fixed	A44 552 - 110	2CMA170549R1000
CTVT connected electricity meter, M-Bus, active and reactive measurements		
1 + 1 fixed	A44 553 - 110	2CMA170548R1000

Wiring diagram

3 wire connection, 2 elements



4 wire connection, 3 elements



Dimensions

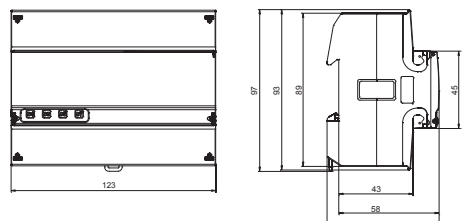


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Voltage/current inputs	
Nominal voltage	400 V AC
Voltage range	3 x 57.7/100 ... 400 /690 V AC (-20% - +15%)
Frequency	50 or 60 Hz ± 5%
Power dissipation voltage circuits	2.2 VA (1.0 W) total at 230 V AC
Power dissipation current circuits	0.001 VA (0.001 W) per phase at I_n/I_{ref}
Rated current I_n	1 A
Transitional current I_{tr}	0.05 A
Maximum current I_{max}	6 A
Minimum current I_{min}	0.01 A
Starting current I_{st}	< 1 mA
Terminal wire area	0.5 - 10 mm ²
Recommended tightening torque	1.2 Nm
Communication	
Terminal wire area	0.5 - 1 mm ²
Recommended tightening torque	0.25 Nm
Transformer ratios	
Configurable voltage ratio (VT)	Primary voltage 1-999999 V, secondary voltage 1-999 V
Configurable current ratio (CT)	Primary current 1-9999 A, secondary current 1-9 A
Pulse indicator (LED)	
Pulse frequency	5000 imp/kWh
Pulse length	40 ms
Accuracies	
Accuracy Class	C (Cl. 0,5 S) and reactive Cl.2
Active energy	0.5%
Display	
Display of energy	Pixel-oriented display (LCD, Back lighted)
Rows	Up to four rows of values
Character size	6 mm (2 rows) and 4 mm (4 rows)
Environmental	
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +85°C
Humidity	75% yearly average, 95% on 30 days/year
Resistance to fire and heat	Terminal 960 °C, cover 650°C (IEC 60695-2-1)
Resistance to water and dust	IP20 on terminal block without protective enclosure and IP51 in protective enclosure, according to IEC 60529.
Mechanical environment	Class M2 in accordance with the Measuring Instrument Directive (MID), (2014/32/EU).
Electromagnetic environment	Class E2 in accordance with the Measuring Instrument Directive (MID), (2014/32/EU).
Output	
Current	2 - 100 mA
Voltage	5 - 240 V AC/DC
Pulse output frequency	Programmable: 1 - 999999 imp/kWh/MWh
Pulse length	Programmable: 10 - 990 ms
Terminal wire area	0.5 - 1 mm ²
Recommended tightening torque	0.25 Nm
Input	
Voltage	0 - 240 V AC/DC
OFF	0 - 5 V AC/DC
ON	57 - 240 V AC/24 - 240 V DC
Min. pulse length	30 ms
Terminal wire area	0.5 - 1 mm ²
Recommended tightening torque	0.25 Nm
EMC compatibility	
Impulse voltage test	8 kV 1.2/50 µs (IEC 60060-1)
Surge voltage test	4 kV 1.2/50 µs (IEC 61000-4-5)
Fast transient burst test	4 kV (IEC 61000-4-4)
Immunity to electromagnetic HF-fields	80 MHz - 2 GHz at 10 V/m (IEC 61000-4-3)
Immunity to conducted disturbance	150 kHz - 80 MHz (IEC 61000-4-6)
Immunity to disturbance with harmonics	2 kHz - 150 kHz
Radio frequency emission	EN 55022, class B (CISPR22)
Electrostatic discharge	15 kV (IEC 61000-4-2)
Standards	IEC 62052-11, IEC 62052-31, IEC 62053-21 class 1 & 2, IEC 62053-22 class 0.5 S, IEC 62053-23 class 2, IEC 62054-21, GB/T 17215.211-2006, GB/T 17215.321-2008 class 1 & 2, GB/T 17215.322-2008 class 0.5 S, GB 4208-2008, EN 50470-1, EN 50470-3 category B & C
Mechanical	
Material	Polycarbonate in transparent front glass, bottom case, upper case and terminal cover. Glass reinforced polycarbonate in polycarbonate in terminal cover.
Dimensions	
Width	123 mm
Height	97 mm
Depth	65 mm
DIN modules	7
Weight	0.38 kg