

Three phase electricity meters A43 and A44 EQ meters in Silver version from ABB

The compact and versatile EQ meters A43 and 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.

EQ meters A43 and A44 in Silver version 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. 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 very low, less than 0.8 VA, makes them economical in the long run - an important feature especially for large meter populations.

Communication

Data from A43 and A44 in Silver version can be collected via pulse output or serial communication. The meter is equipped with solid state outputs 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 A43 and A44 have up to 4 tariffs that could be controlled either by the 2 inputs or through serial communication.

Approvals

The A43 and A44 meters are type approved according to IEC as well as type approved and verified according to MID. MID is the Measure Instruments Directive 2004/22/EC from European Commission. The type approval is according to standards that covers all relevant technical aspects of the meter. These include climate conditions, electromagnetic compatibility (EMC), electrical requirements, mechanical requirements and accuracy.

Instrumentation

The A43 and A44 meters in Silver version support reading of instrument values.

A large number of electrical properties can be read.

- Active power - Total and per phase
- Reactive power - Total and per phase
- Apperent power - Total and per phase
- Current - Total and per phase
- Voltage - Total and per phase
- Power factor
- Frequency

Ordering details

80 A direct connected, 7 DIN

Voltage V	Accuracy Class	Communi-cation	Type	Order code	Weight 1 pc
Silver					
Active and reactive energy, import/export, tariffs 1-4, tariff controll via inputs and communication, 2 output, 2 input.					
3 x 57.7/100... 288/500 V AC	Class B (Cl. 1) Reactive Cl. 2	-	A43 311 - 100	2CMA170524R1000	0.44
		RS-485	A43 312 - 100	2CMA170525R1000	0.44
	M-Bus	A43 313 - 100	2CMA170526R1000	0.44	

6 A transformer CTVT connected, 7 DIN

Voltage V	Accuracy Class	Communi-cation	Type	Order code	Weight 1 pc
Silver					
Active and reactive energy, import/export, tariffs 1-4, tariff controll via inputs and communication, 2 output, 2 input.					
3 x 57.7/100... 288/500 V AC	Class B (Cl. 1) Reactive Cl. 2	-	A44 311 - 100	2CMA170536R1000	0.35
		RS-485	A44 352 - 100	2CMA170537R1000	0.35
	M-Bus	A44 353 - 100	2CMA170538R1000	0.35	

A series

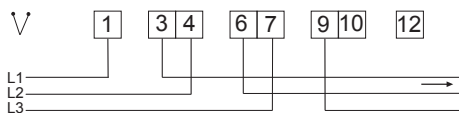
Technical data

	A43	A44
Voltage/current inputs		
Nominal voltage	3 x 230/400 V AC	
Voltage range	3 x 57.7/100 ... 288 /500 V AC (-20% - +15%)	
Power dissipation voltage circuits	0.8 VA (0.8 W) total	
Power dissipation current circuits	0.007 VA (0.007 W) per phase at 230 V AC and I_b	0.001 VA (0.001 W) per phase at 230 V AC and I_b
Base current I_b	5 A	
Rated current I_n	-	1 A
Reference current I_{ref}	5 A	-
Transitional current I_{tr}	0.5 A	0.05 A
Maximum current I_{max}	80 A	6 A
Minimum current I_{min}	0.25 A	0.01 A
Starting current I_s	< 20 mA	< 1 mA
Terminal wire area	1 - 25 mm ²	0.5 - 10 mm ²
Recommended tightening torque	3 Nm	1.5 Nm
Communication		
Terminal wire area	0.5 - 1 mm ²	
Recommended tightening torque	0.25 Nm	
Transformer ratios		
Configurable current ratio (VT)	-	1/999 - 999999/1
Configurable current ratio (CT)	-	1/9 - 9999/1
Pulse indicator (LED)		
Pulse frequency	1000 imp/kWh	5000 imp/kWh
Pulse length	40 ms	
General data		
Frequency	50 or 60 Hz ± 5%	
Accuracy Class	B (Cl. 1) or reactive Cl. 2	B (Cl. 1), C (Cl. 0.5 S) or reactive Cl. 2
Active energy	1%	0.5 %, 1%
Display of energy	Pixel oriented	
Environmental		
Operating temperature	-40°C - +70°C	
Storage temperature	-40°C - +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), (2004/22/EC).	
Electromagnetic environment	Class E2 in accordance with the Measuring Instrument Directive (MID), (2004/22/EC).	
Outputs		
Current	2 - 100 mA	
Voltage	5 - 240 V AC/DC	
Pulse output frequency	Programmable: 1 - 999999 imp/kWh	
Pulse length	Programmable: 10 - 990 ms	
Terminal wire area	0.5 - 1 mm ²	
Recommended tightening torque	0.25 Nm	
Inputs		
Voltage	0 - 240 V AC/DC	
OFF	0 - 12 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	6 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 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	

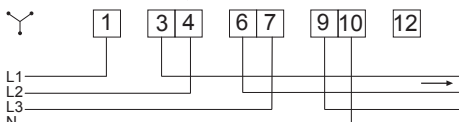
Wiring diagram

A43

3 wire connection, 2 elements

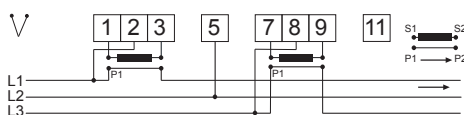


4 wire connection, 3 elements

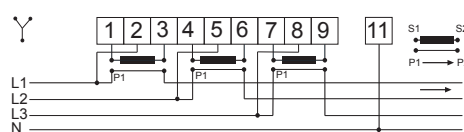


A44

3 wire connection, 2 elements



4 wire connection, 3 elements



Dimensions

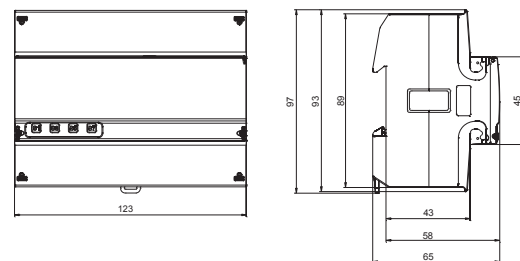


ABB AB

Meters

Low Voltage Products

Box 1005

S-61129 Nyköping, Sweden

Phone +46 155 29 50 00

www.abb.com/lowvoltage

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