D11 15 and D13 15 energy meters
Measure energy, easily

ABB
Eco
Solutions™
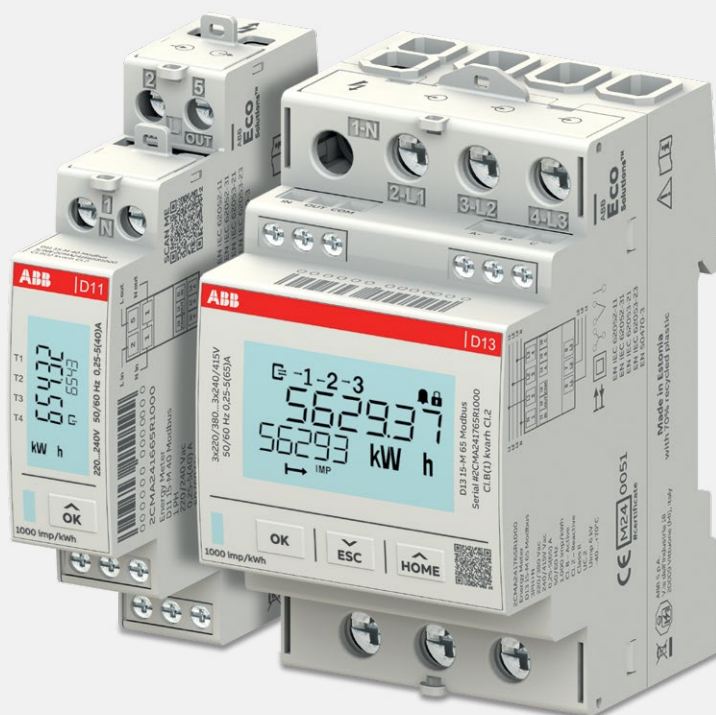
- **Improved design, optimized footprint and embedded sustainability**
- **Accurate energy monitoring MID Compliant**
- **Dual-line display and an improved menu structure**
- **First commissioning wizard**

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Energy meters are central to achieving enhanced energy efficiency, a core aspect for building and infrastructure sector growth, responsible for 40% of global energy usage.
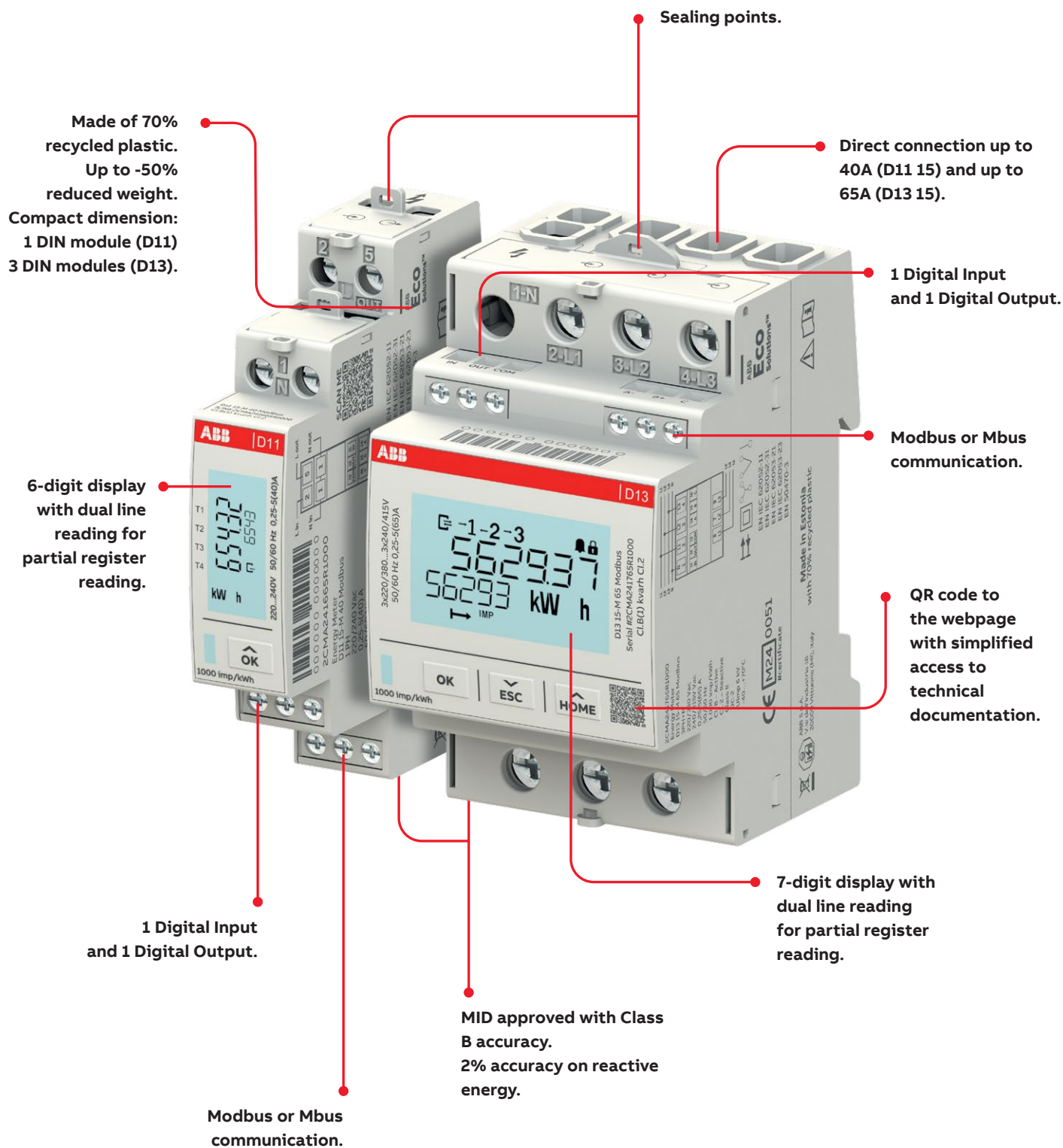
ABB metering solutions provide a consistent energy efficiency improvement.

Their adoption means not only adhering to international standards and regulations, but also driving forward the sustainable and costeffective operation in the modern real estate.

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D11 15 and D13 15
Energy meters

Sealing points.

Made of 70% recycled plastic. Up to -50% reduced weight. Compact dimension: 1 DIN module (D11) 3 DIN modules (D13).

Direct connection up to 40A (D11 15) and up to 65A (D13 15).

1 Digital Input and 1 Digital Output.

6-digit display with dual line reading for partial register reading.

Modbus or Mbus communication.

QR code to the webpage with simplified access to technical documentation.

1 Digital Input and 1 Digital Output.

7-digit display with dual line reading for partial register reading.

Modbus or Mbus communication.

MID approved with Class B accuracy. 2% accuracy on reactive energy.

Energy Meters
Discover the benefits

Energy monitoring and analysis play a pivotal role in reducing energy costs and enhancing the efficiency of electrical assets. ABB's energy meters facilitate the identification of improvement areas, benefiting owners, facility managers, and users as well. This allows buildings to operate more efficiently, thus reducing energy consumption and saving costs.

MID-certified energy meters allow utility bills to be split among different households or commercial buildings. When integrated with ABB's InSite Energy Management solution, a detailed overview of energy consumption and specific usage areas becomes possible.

The reduced number of SKUs and the optimized footprint of the devices in the panel supports the customers' requirements for size reduction and order simplification.

The latest addition to the ABB Energy Meter family - the D11 and D13 devices - bring new features and are designed to elevate the electrical system's performance by ensuring accurate measurement and simplified installation and operation.
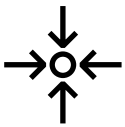
Optimized footprint
Up to -50% footprint in the panel
Compact single-phase and three-phase meters allowing to minimize overall dimensions of panels and machineries.

Improved usability
Faster installation and commissioning
Enhanced installation process, first commissioning wizard for initial settings and improved menu structure making configuration and operations simple and fast.

Embedded sustainability
Designed for minimal environmental impact
D11 and D13 are developed with sustainability in mind, thanks to the usage of 70% recycled plastic for the meter case, recycled paper for the manuals and FSC-certified cardboard with no disposable plastics for the product packaging.

Flexible connectivity
Open integration in any system
Equipped with Modbus RTU or Mbus protocols, D11 and D13 are open for integration into any system, from ABB InSite and ABB Energy and Asset Manager to 3rd party BMS and SCADA.

Optimized footprint
Up to -50% footprint in the panel

**From -25% to -50% footprint
in the panel compared to B21 and B23**:
- D11: 1 phase direct meter in 1 DIN module
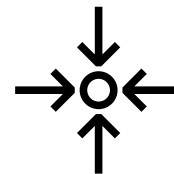- D13: 3 phase direct meter in 3 DIN module.

-70% number of order codes to be managed compared to previous ranges.

Global availability through compliance to a number of global standards:
- MID for fiscal billing in Europe;
- IEC 62053-21.

Compact dimensions

Reduced range complexity

Global product availability

Simple and intuitive
Faster installation and commissioning

Improved installation and wiring

Easy to configure

Intuitive menu structure

Enhanced installation thanks to:
- Wider Communication and I/O terminal cross sections;
- Higher cross-cut screwdriver blade;
- Less sealing with better security.

Rapid deployment and effortless customization.
With fast guided setup, wire schemes and Modbus/Mbus parameters can be configured and PIN security can be implemented.

Simple and swift configuration and operation thanks to the combination of a dual-line display and a new menu structure.

Embedded sustainability
Designed for minimal environmental impact

Developed with sustainability in mind:
- Housing made of 70% recycled plastic;
- Less weight D11 15 (70g) < B21 (140g)
  D13 15 (249g) < B23 (330g);
- Reduced self consumption:
  25% consumption of D13 respect to B23.

D11 and D13 are the first energy meters part of the ABB EcoSolutions™ program.
Providing full transparency around environmental impacts across the entire product lifecycle.

D11 and D13 utilize packaging made of FSC-certified cardboard with no disposable plastics which uses less ink and is easily foldable for efficient recycling. Moreover, the manuals for the meters are made of recycled paper.

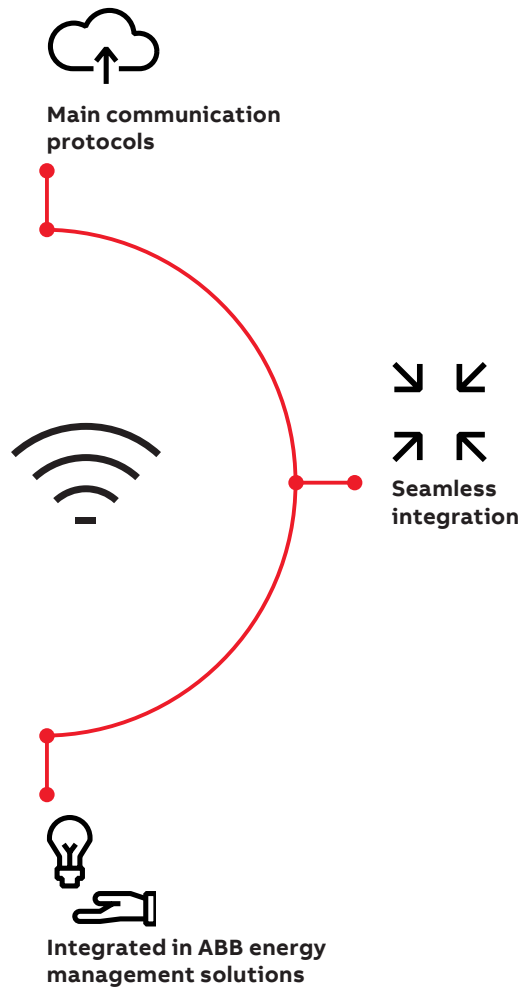**Sustainable production**

ABB EcoSolutions™

Sustainable packaging

ABB
Eco
Solutions™

Flexible connectivity
Open integration into various digital solutions

Main communication protocols

Seamless integration

Integrated in ABB energy management solutions

Meters are available with **Modbus RTU** or **Mbus** communications, allowing to openly integrate the meters in any system.

Modbus map is the same as any other ABB energy meter, enabling easy integration on new installations and seamless replacement on existing installations.
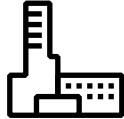
Plan to be integrated into:
- System pro M InSite SCU100 and SCU200;
- ABB Energy Manager
- Modbus KNX Gateway

D11 15 and D13 15 energy meters
## Main applications

Commercial Buildings

- Energy meters provide a full overview on the energy usage within the building and allow for precise monitoring and analysis to ensure accurate sub-billing for tenants;
- Avoiding fees and penalties from utilities is made simple with ABB's MID certified energy meter portfolio.

Industrial Plants

- Complete monitoring over where energy is consumed within the plant;
- Improvement of the energy performance reduces operational energy costs for the facility.
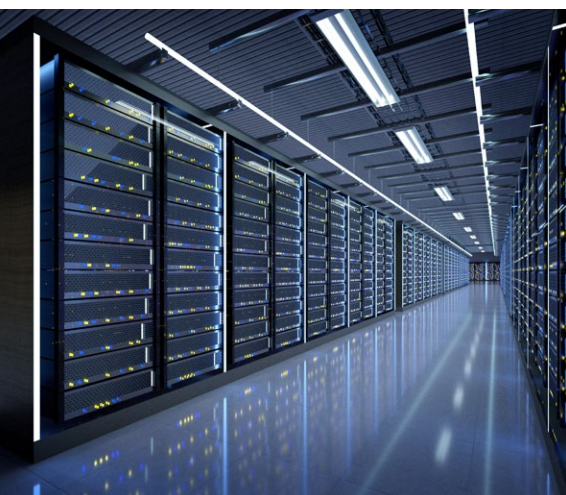
Data Centers

- The space inside the panel is optimized thanks to the 1-phase MID-certified meter, which also allows accurate fiscal billing;
- Full analysis of the energy consumption within each Data Center branch allows easy detection of potential issues, thus preventing damage to the installed equipment and avoiding any operational impact.

At ABB, we are dedicated to providing
sustainable solutions with
a limited footprint, increasing
our customers' productivity
and reducing energy consumption.

D11 15 and D13 15 energy meters
Main applications

Residential

- Full analysis and monitoring of the energy consumption of each connected appliance in the home (including solar panels, EV chargers, etc.) allows for improved energy usage and contributes to better building energy efficiency;
- Available energy consumption measuring and billing functionalities.
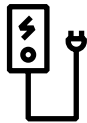
EV Charger / ESS

- Fiscal billing of the energy consumed in EV charger thanks to MID meter certification;
- Complete overview on the EV charging station's energy consumption and battery load allows for an improved battery life.

Renewables

Measuring the energy production from solar panel or winds mill to facilitate data analisys improving the energy efficiency.

We deliver best in class solutions tailored on customers' needs, enabling cost and time savings. Thanks to our optimized portfolio, we offer a fully compatible and scalable products ecosystem to Panel builders, Installers, OEM, Integrators and Distributors.

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D11 15 and D13 15 energy meters
Selection framework

The below framework is designed to streamline the process of choosing the right energy meter tailored to individual needs. By considering factors such as accuracy of energy measurement and desired features, the framework guides customers towards optimal selections. With a focus on accuracy, efficiency, and compatibility, users can confidently identify the perfect energy meter solution for their residential, commercial, or industrial requirements.

	STEEL	BRONZE	15 NEW	SILVER	GOLD	PLATINUM
Active energy	✓	✓	✓	✓	✓	✓
Class 1	✓	✓	✓	✓	✓	✓
Class 0.5				Optional	Optional	Optional
Pulse output	✓	✓	✓	✓	✓	✓
Alarm	✓	✓	✓	✓	✓	✓
Reactive energy		✓	✓	✓	✓	✓
Apparent energy		✓	✓	✓	✓	✓
Import/Export energy		✓	✓	✓	✓	✓
Tariffs			2/4* *4 via Communication	4	4	4
Resettable energy register			✓	✓	✓	✓
Fixed I/O			1DI/1DO	2DI/2DO	2DI/2DO	2DI/2DO
Configurable I/O						4
Harmonics						2-16th
Clock functions*					✓	✓
Advanced clock functions**						✓

* Tariff control, previous values, max/min demand, event log - ** Load profiles

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D11 and D13

NEW

available in: **15**

voltage: 220-240 VAC
3x230/400 VAC

D11	Single phase, up to 40A
D13	Three phase, up to 65A

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A series

available in: **STEEL** **BRONZE** **SILVER** **GOLD** **PLATINUM**

voltage: 57.7...288 VAC
57.7.../100...288 VAC
3x57.7/100 ... 288/500 VAC
3x57.7/100 ... 400/690 VAC

A41	Single phase, up to 80A
A42	Single phase, with CT/VT
A43	Three phase, up to 80A
A44	Three phase, with CT/VT

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B series

available in: **STEEL** **BRONZE** **SILVER**

voltage: 220-240 VAC
3x230/400 VAC

B21	Single phase, up to 65A
B23	Three phase, up to 65A
B24	Three phase, with CT

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D11 15 and D13 15 energy meters
Functionalities

	D11	D13
Mechanical properties		
DIN modules	1	3
Overall Dimensions	65x92x17,5	65x97x52,5
Weight	0.07 Kg	0.249 Kg
Voltage/current inputs		
Operating voltage	220 - 240 VAC +/- 20%	3 x 220-240 VAC +/- 20%
Maximum current	40 A	65 A
Rated frequency	50/60 Hz ± 5%	
Connection type	Single phase	Three phase
Direct connection	■	■
Indirect connection via CT	/	/
Indirect connection via VT	/	/
Energy Measurements		
Active energy	■	■
Reactive energy	■	■
Apparent energy	■	■
Equivalent Wh/CO_2	■	■
Equivalent Wh/CUR	■	■
Import/Export	■	■
Instantaneous Measurements		
Voltage	■	■
Current	■	■
Neutral current (Calculated)	■	■
Frequency	■	■
Active power	■	■
Reactive Power	■	■
Apparent power	■	■
Power quality measurements		
Power Factor	■	■
CosPhi	■	■
Current quadrant	■	■
Function		
Tariffs with digital Input	2	
Tariffs via communication	4	
Single Alarms	25	
Event logs	■	■
I/O		
Digital Input	1	
Digital Output	1	
Communication		
Pulse output	■	■
M-Bus	Optional	
Modbus	Optional	

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D11 15 and D13 15 energy meters
Functionalities

	D11	D13
Mechanical		
Material	Housing and terminal covers: up to 70% recycle plastic	
	Frontal Panel: UV resistant Polyester	
Accuracy		
Active Energy	Cl.1 (Class B)	
Reactive Energy	Cl.2	
Voltage/current inputs		
Protection fuse/MCB	40 A MCB, C characteristic or 40 A fuse type gL-gG	65 A MCB, C characteristic or 65 A fuse type gL-gG
Nominal voltage	220 - 240 VAC	220/380 VAC 240/415 VAC
Voltage range	220 - 240 VAC +/- 20%	3 x 220-240 VAC +/- 20%
Power dissipation voltage circuits	0.69 W	0.82 W
Power dissipation current circuits	0.032 W	0.006 W per phase
Base current Ib	5A	
Reference current Iref	5A	
Transitional current Itr	0.5 A	
Nominal Current	5A	
Maximum current Imax	40 A	65 A
Minimum current Imin	0.25 A	
Starting current Ist	20 mA	
Frequency	50/60 Hz ± 5%	
Meter constant	1.000 imp/kWh	
Wiring options		3 Phases – 4 Wires
		3 Phases – 3 Wires
		2 Phases – 3 Wires (Not MID)
	1 Phase – 2 Wires	1 Phase (Line 1) – 2 Wires
Protective class	II	
Overvoltage category	III	
Pollution degree	2	
Rated impulse voltage U_{imp}	6 kV	
Utilization category (UC)	UC-1	
Terminal characteristics		
Line terminals	Min. wire cross section	1 mm²	1 mm²
	Max. wire cross section	10 mm²	25 mm²
	Thread	M4	M5
	Screw head	PZ1	PZ2
	Tightening torque	0,8 Nm	2 Nm
	Wire stripping lenght	6 mm	13 mm
Neutral terminal	Min. wire cross section	1 mm²	2 x 1 mm²
	Max. wire cross section	10 mm²	2 x 25 mm²
	Thread	M4	M9
	Screw head	PZ1	PZ2
	Tightening torque	0,8 Nm	2 Nm
	Wire stripping lenght	6 mm	13 mm

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D11 15 and D13 15 energy meters
Technical features

		D11	D13
Communication and I/O terminals	Poles	3	
	Pitch	5/5,08 mm	
	Min. wire cross section	0,2 mm² (AWG 24)	
	Max. wire cross section	2,5 mm² (AWG 12)	
	Thread	M2	
	Screw head	PZ1	
	Tightening torque	0,5 Nm	
	Wire stripping lenght	6 mm	
Climatic condition			
Operating temperature		-40°C to +70°C	
Storage temperature		-40°C to +85°C	
Environmental conditions, operation		Indoor with extended operating temperature; dry locations	
Altitude		2.000 m	
Humidity		75% yearly average, 95% on 30 days/year	
Resistance to fire and heat		Terminal 960°C, cover 650°C (IEC 60695-2-1) – UL V0	
Resistance to water and dust		IP 20 on terminal block without protective enclosure and IP 51 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).	
User interface			
Access to device		1 pushbuttons	3 pushbuttons
Display type		Dual line display LCD	
		Configurable backlight	
Display dimensions		23,3x10,5 mm, ~ 1" as diagonal	36 x 21,1 mm, ~ 1,6" as diagonal
Number of digits counter 1		6 digits	7 digits
Number of digits counter 2		4 digits	5 digits
I/O			
Digital output			
Number of output		1	
Current		2…60mA	
Voltage		5…40 VDC (+/-10%)	
Max ON state drop Voltage		1,5V	
Pulse output frequency		Prog. 1–999999 imp/MWh, 1–999999 imp/kWh,	
		1–999999 imp/Wh	
Pulse length		10–990 ms	
Digital input			
Number of input		1	
Max Voltage (absolute rating)		44 VDC	
Off state Voltage		0…5 VDC (+/-10%)	
ON state Voltage		10…40 VDC (+/-10%)	
Min. pulse length and pulse pause		30 ms	

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D11 15 and D13 15 energy meters
Technical features

	D11	D13
Communication protocol		
M-Bus		
Baud rate	300, 600, 1200, 2400, 4800, **9600**	
Address	**1**-250	
Access level	**Open**, Open with password, close	
Modbus RTU		
Baud rate	300, 600, 1200, 2400, 4800, **9600**, 19200, 38400, 57600, 115200	
Parity	Odd, **Even**, None	
Address	**1**-247	
Pulse led		
Pulse Frequency	1000 imp/kWh	
Pulse length	40 ms	
EMC compatibility		
Impulse voltage test	6 kV 1.2/50µs (IEC 60060-1)	
Surge voltage test	4 kV 1.2/50µs (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	150kHz–80MHz, (IEC 61000-4-6)	
Immunity to electromagnetic disturbances	2–150 kHz for kWh-meters	
Radio frequency emission	EN 55022, class B (CISPR22)	
Electrostatic discharge	15 kV (IEC 61000-4-2)	
Standard		
	EN IEC 62052-11:2021/A11:2022	
	EN 50470-3:2022	
	EN 62059-32-1:2012	
	EN IEC 62052-31:2016	
	EN IEC 62053-21:2021/A11:2022	
	EN IEC 62053-23:2021/A11:2022	
	EN 50470-1:2007/A1:2018	
	Welmec Guide 11.1	
	Welmec Guide 7.2	

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D11 15 and D13 15 energy meters
Product codes

D11 15

Single phase electricity meter, 1 DIN, 40 A, 220 VAC-240 VAC

Communic. Protocol	Certif.	I/O	Energy Accuracy	Bbn 8012542	Order details		Weight 1 piece	Pack unit
				EAN	Type code	Order code	kg	pc.
-	-	1 Dig. Input + 1 Dig Output	Cl. 1 - Active Cl. 2 – Reactive	635550	**D11 15 40**	2CMA241655R1000	0.070	1
-	MID	1 Dig. Input + 1 Dig Output	Cl.B (Cl.1) - Active Cl. 2 – Reactive	635451	**D11 15-M 40**	2CMA241645R1000	0.070	1
Modbus RTU	-	1 Dig. Input + 1 Dig. Output	Cl. 1 - Active Cl. 2 – Reactive	635758	**D11 15 40 Modbus**	2CMA241675R1000	0.070	1
Modbus RTU	MID	1 Dig. Input + 1 Dig. Output	Cl.B (Cl.1) - Active Cl. 2 – Reactive	635659	**D11 15-M 40 Modbus**	2CMA241665R1000	0.070	1
Mbus	MID	1 Dig. Input + 1 Dig. Output	Cl.B (Cl.1) - Active Cl. 2 – Reactive	635857	**D11 15-M 40 Mbus**	2CMA241685R1000	0.070	1

D13 15

Three phase electricity meter, 3 DIN, 65 A, 220/380 VAC-240/415 VAC

| Communic. Protocol	Certif.	I/O	Energy Accuracy	Bbn 8012542	Order details		Weight 1 piece	Pack unit
				EAN	Type code	Order code	kg	pc.
-	-	1 Dig. Input + 1 Dig. Output	Cl. 1 - Active Cl. 2 – Reactive	636052	**D13 15 65**	2CMA241725R1000	0.249	1
-	MID	1 Dig. Input + 1 Dig. Output	Cl.B (Cl.1) - Active Cl. 2 – Reactive	635956	**D13 15-M 65**	2CMA241695R1000	0.249	1
Modbus RTU	MID	1 Dig. Input + 1 Dig. Output	Cl.B (Cl.1) - Active Cl. 2 – Reactive	636151	**D13 15-M 65 Modbus**	2CMA241765R1000	0.249	1
Mbus	MID	1 Dig. Input + 1 Dig. Output	Cl.B (Cl.1) - Active Cl. 2 – Reactive	636359	**D13 15-M 65 Mbus**	2CMA241845R1000	0.249	1

D11 15 and D13 15 energy meters
Product size and weight

Measures D13
- Height: 97mm
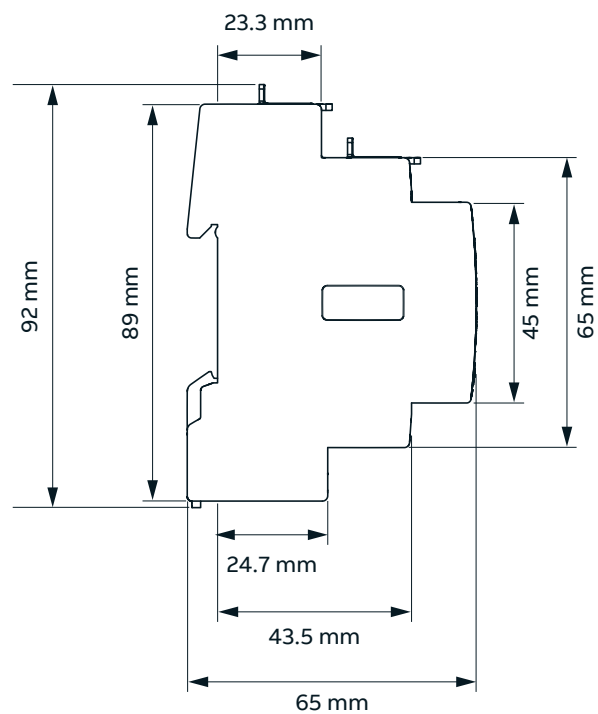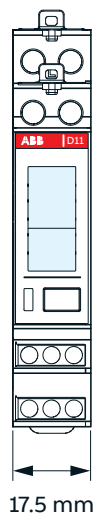- Width: 52.5mm
- Depth: 65mm

Weight: 249gr
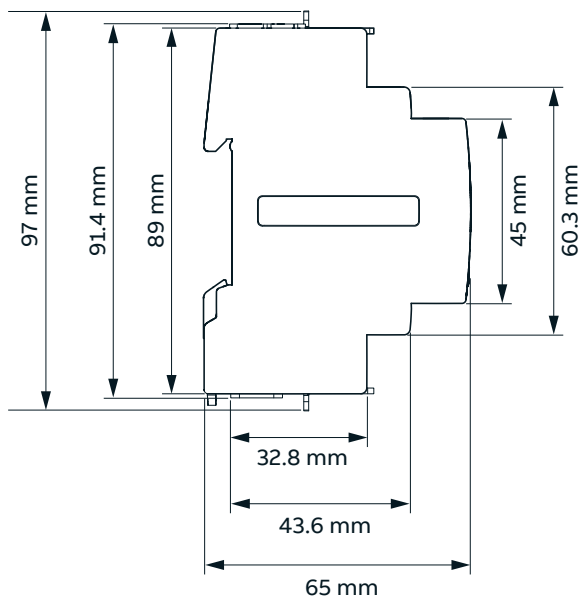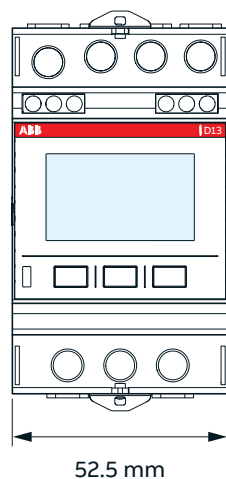
Measures D11
- Height: 92mm
- Width: 17.5mm
- Depth: 65mm

Weight: 70gr

With our metering solutions, we support a more sustainable energy consumption model, aligning with global efforts to reduce carbon footprints.

ABB

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ABB Ltd.
Electrification Business Area
Smart Buildings Division

new.abb.com/low-voltage