



Easy, different, flexible – the new micro inverter system from SMA

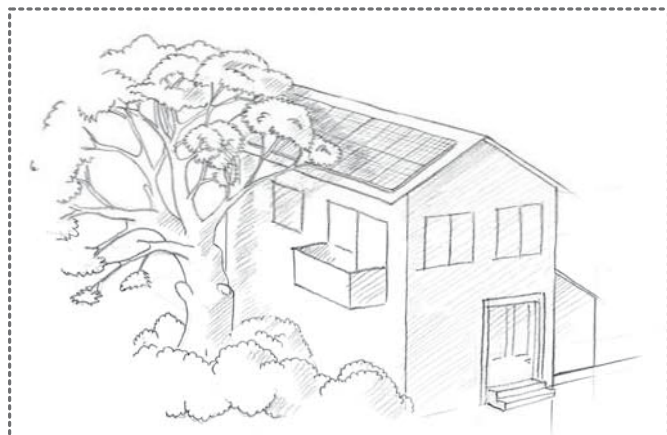
SMA's new feed-in system with micro inverters is the perfect solution for all residential systems, particularly in the low power classes. Knowledge of large-scale PV plant design is not required to install the new Sunny Boy 200/240 micro inverter and Sunny Multigate. Other advantages of the feed-in system include separate MPP tracking for each module and a modular approach to plant extension.

The perfect complement to the string concept

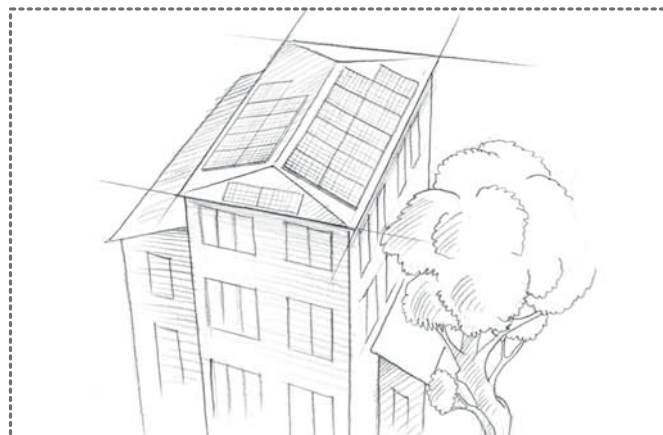
In addition to these advantages, installers and plant operators profit from the following (double) bonus: At SMA, the micro inverter and the well-known string concept can be perfectly combined. This way, existing PV plants can be expanded by the addition of a module or several PV arrays. This applies not only for modules in "inconvenient" places around dormers or partially-shaded areas, but also for the additional equipment of roof

surfaces (east/west roofs), and the subsequent attachment to balconies, for example. In this combination of existing PV plant with micro inverter system, power and flexibility are very important, because starting with Sunny Boy 200/240, up to 14 and 12 units, respectively, can be connected to the Sunny Multigate, the intelligent link between micro inverters and the power distribution grid. In short, the micro inverter concept is deployable as an individual solution, and especially in combination with the common string concept, as it is thoroughly thought-out.

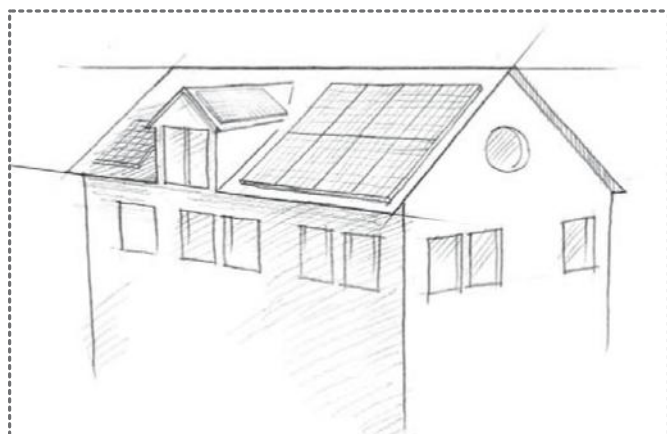
Common applications with real advantages



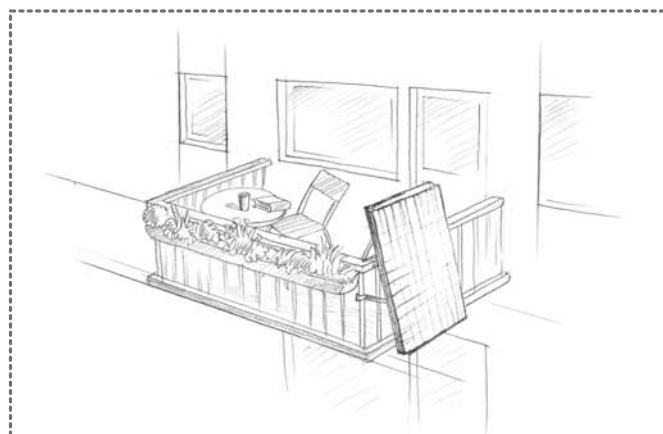
Partial shading: One MPP tracker per module ensures optimal yields, even with moving shading.



Different alignment: Even modules installed on an east-west roof under uneven irradiation conditions can be operated.



Optimal use of roof surface: "Inefficient" roof areas can now be used to generate electric current with micro inverters.



Small plants: Whether on the balcony or in the garden, even the smallest PV plant for private power generation can use the Sunny Boy 200/240.



reddot design award



High yields

- Maximum efficiency of 95.5 %
- Optimal module use with individual MPP tracking
- Ideal for partially shaded PV plants

Safe

- Galvanic isolation
- UL listing (UL 1741 / IEEE 1547)

Reliable

- Rapid diagnosis with access to measured values and event memory
- Maximum electrical endurance thanks to patented electronics design and minimum number of components

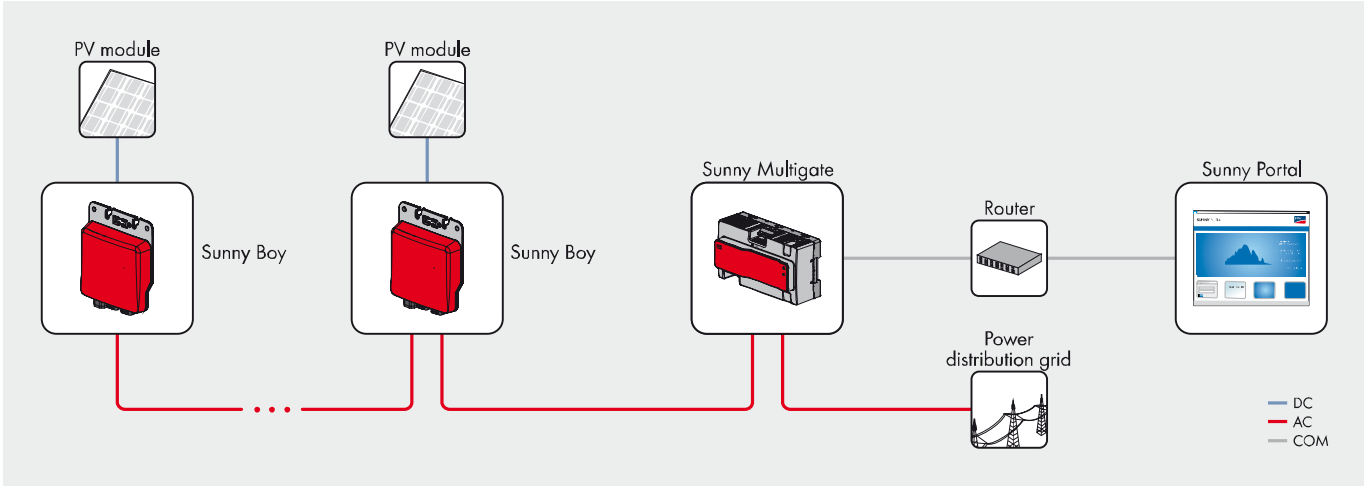
Communicative

- Free and convenient plant monitoring via Sunny Portal
- Visualization of performance data in real time
- Remote monitoring via Internet, iPhone or Android

SUNNY BOY 200-US / 240-US

Great things come in small packages

Clearly the right inverter for any module: The new micro inverter Sunny Boy 200-US / 240-US rounds off SMA's product range. It is therefore the ideal solution for differently aligned substrings as well as for PV plants with regularly shaded PV modules. In any case, due to their modular design, plants equipped with the Sunny Boy 200-US / 240-US can be realigned and upgraded at any time – for instance in the event of structural modifications, capacity expansion or depending on the financial room for maneuver. In addition, at SMA the micro inverter concept and the well-known string concept can be perfectly combined.



Technical data	Sunny Boy 200-US	Sunny Boy 240-US
Input (DC)		
Max. DC power (@ cos φ = 1)	210 W	250 W
Max. input voltage	45 V	45 V
MPP voltage range / rated input voltage	23 V ... 32 V / 29.5 V	23 V ... 32 V / 29.5 V
Min. input voltage / max. initial input voltage	23 V / 40 V	23 V / 40 V
Max. input current	8.5 A	8.5 A
Max. input current per string	8.5 A	8.5 A
Number of independent MPP inputs / strings per MPP input	1 / 1	1 / 1
Output (AC)		
Rated power (@ 240 V, 60 Hz)	200 W	240 W
Max. apparent AC power	200 VA	240 VA
Nominal AC voltage / range	2 x 120 V / 211 V - 264 V	2 x 120 V / 211 V - 264 V
AC power frequency / range	60 Hz / 59.3 Hz ... 60.5 Hz	60 Hz / 59.3 Hz ... 60.5 Hz
Rated power frequency / rated grid voltage	60 Hz / 240 V	60 Hz / 240 V
Max. output current	1 A	1 A
Power factor at rated power	1	1
Feed-in phases / connection phases	1 / 2	1 / 2
Efficiency		
Max. efficiency / CEC efficiency	95.5 % / 95 %	95.5 % / 95 %
Protective devices		
Ground fault monitoring / grid monitoring	● / ●	● / ●
DC reverse polarity protection / AC short-circuit current capability / galvanically isolated	● / ● / ●	● / ● / ●
General data		
Dimensions (W / H / D)	188.4 / 218.4 / 43.7 mm (7.4 / 8.6 / 1.7 inch)	188.4 / 218.4 / 43.7 mm (7.4 / 8.6 / 1.7 inch)
Weight	1.3 kg / 2.9 lb	1.3 kg / 2.9 lb
Operating temperature range	-40 °C ... +65 °C / -40 °F ... +149 °F	-40 °C ... +65 °C / -40 °F ... +149 °F
Topology	HF Transformer	HF Transformer
Cooling concept	Convection	Convection
Degree of protection (according to IEC 60529)	NEMA 3R	NEMA 3R
Max. permissible value for relative humidity (non-condensing)	100 %	100 %
Features		
DC connection	Connector	Connector
AC connection	Connector	Connector
Certificates and approvals (more available on request)	UL1741, UL1998, IEEE1547, FCC Part 15 [Class A & B], CAN/CSA C22.2 107.1-1	
● Standard feature ○ Optional feature — Not available		
Note: Technical data is preliminary and subject to change		
Type designation	SB 200-US-10	SB 240-US-10



reddot design award



High yields

- Maximum efficiency of 95.5 %
- Optimal module use with individual MPP tracking
- Ideal for partially shaded PV plants

Safe

- Galvanic isolation

Reliable

- Rapid diagnosis with access to measured values and event memory
- Maximum electrical endurance thanks to patented electronics design and minimum number of components

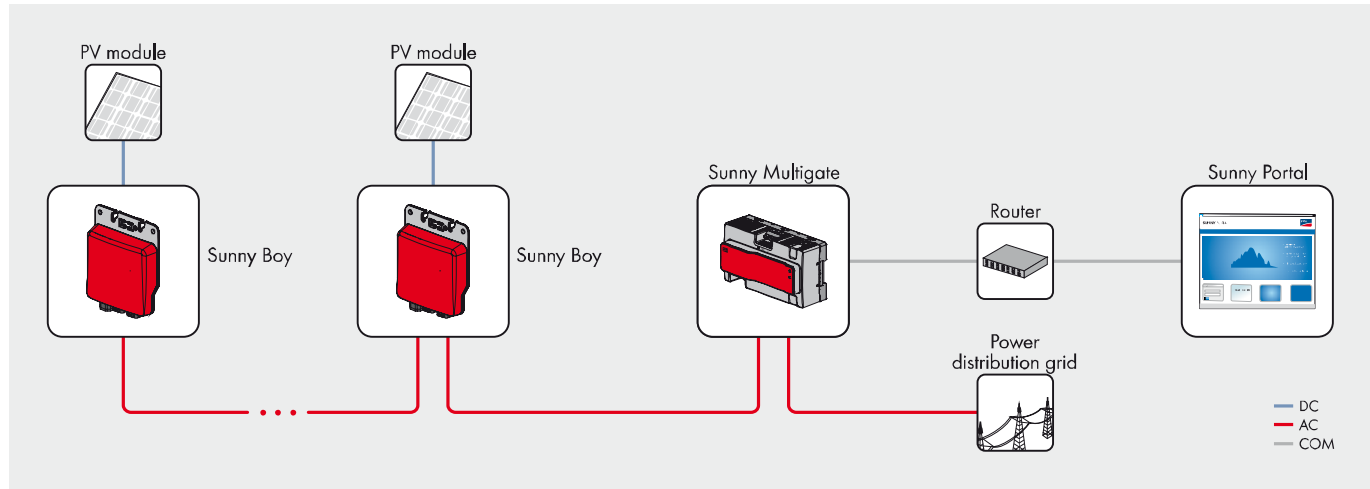
Communicative

- Convenient plant monitoring via Sunny Portal
- Visualization of performance data in real time
- Remote monitoring via Internet

SUNNY BOY 200 / 240

Great things come in small packages

Clearly the right inverter for any module: The new micro inverter Sunny Boy 200 / 240 rounds off SMA's product range. It is therefore the ideal solution for differently aligned substrings as well as for PV plants with regularly shaded PV modules. In any case, due to their modular design, plants equipped with the Sunny Boy 200 / 240 can be realigned and upgraded at any time – in the event of structural modifications, capacity expansion or depending on the financial room for maneuver. In addition, at SMA the micro inverter concept and the well-known string concept can be perfectly combined.



Technical data	Sunny Boy 200	Sunny Boy 240
Input (DC)		
Max. DC power (@ cos φ = 1}	210 W	245 W
Max. input voltage	45 V	45 V
MPP voltage range / rated input voltage	23 V ... 32 V / 29 V	23 V ... 32 V / 29 V
Min. input voltage / max. initial input voltage	23 V / 40 V	23 V / 40 V
Max. input current	8.5 A	8.5 A
Max. input current per string	8.5 A	8.5 A
Number of independent MPP inputs / strings per MPP input	1 / 1	1 / 1
Output (AC)		
Rated output power (@ 230 V, 50 Hz)	200 W	230 W
Max. apparent AC power	200 VA	230 VA
Nominal AC voltage / range	230 V / 180 V – 270 V	230 V / 180 V – 270 V
AC power frequency / range	50 Hz / 45.5 Hz ... 63 Hz	50 Hz / 45.5 Hz ... 63 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V	50 Hz / 230 V
Max. output current	1 A	1 A
Power factor at rated power	1	1
Feed-in phases / connection phases	1 / 1	1 / 1
Efficiency		
Max. efficiency / European weighted efficiency	95.5 % / 95 %	95.5 % / 95 %
Protective devices		
Ground fault monitoring / grid monitoring	● / ●	● / ●
DC reverse polarity protection / AC short-circuit current capability / galvanically isolated	● / ● / ●	● / ● / ●
General data		
Dimensions (W / H / D)	188.4 / 218.4 / 43.7 mm (7.4 / 8.6 / 1.7 inch)	188.4 / 218.4 / 43.7 mm (7.4 / 8.6 / 1.7 inch)
Weight	1.3 kg / 2.9 lb	1.3 kg / 2.9 lb
Operating temperature range	-40 °C ... +65 °C / -40 °F ... +149 °F	-40 °C ... +65 °C / -40 °F ... +149 °F
Topology	HF Transformer	HF Transformer
Cooling concept	Convection	Convection
Degree of protection (according to IEC 60529)	IP65	IP65
Max. permissible value for relative humidity (non-condensing)	100 %	100 %
Features		
DC connection	Connector	Connector
AC connection	Connector	Connector
Certificates and approvals	On request	
● Standard feature ○ Optional feature — Not available		
Note: Technical data is preliminary and subject to change		
Type designation	SB 200-10	SB 240-10



Easy to use

- Easy PV plant configuration via Sunny Explorer
- Real-time monitoring on module level

Safe

- Integrated grid disconnection point

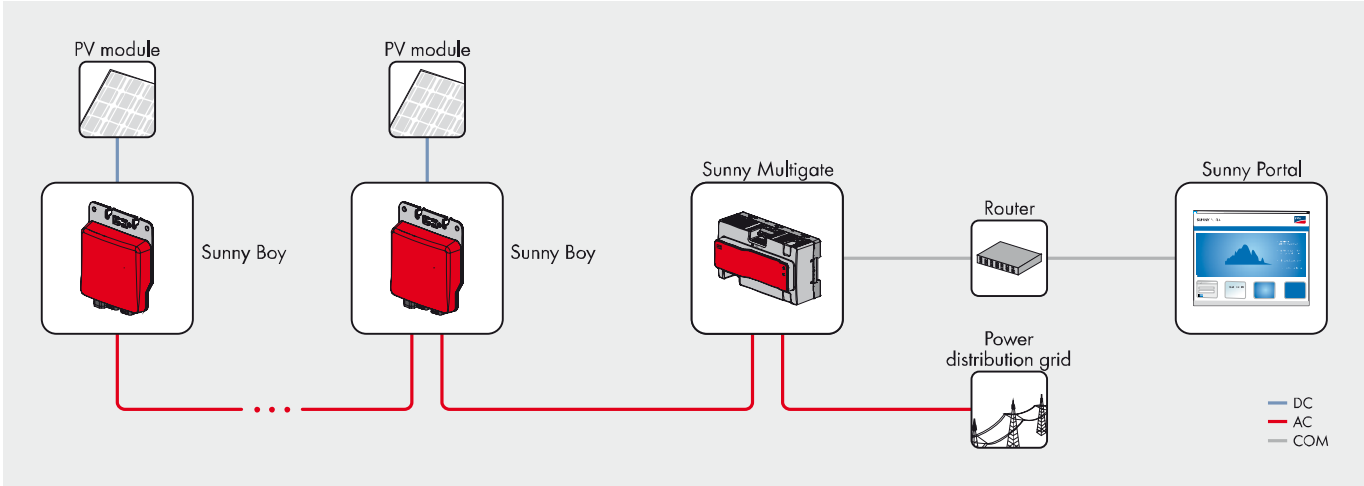
Communicative

- Integrated Webconnect function to Sunny Portal via Ethernet
- Worldwide access to PV plant via Sunny Portal

SUNNY MULTIGATE-US

The link between micro inverter and power distribution grid

Sunny Multigate-US is a smart termination point designed to connect micro inverter systems to the power distribution grid. The PV plant is directly connected to Sunny Portal via Ethernet communication and can be conveniently monitored. This enables customers to have quick access to the most important plant data – and, in particular, it allows the modules to be monitored in real time. With its free standard access to Sunny Portal, Sunny Multigate-US is the ideal product solution for intelligent energy monitoring.



Technical data	Sunny Multigate-US
Input (AC)	
Max. number of micro inverters	12 x SB 240-US-10, 14 x SB 200-US-10
Output (AC)	
Max. apparent AC power / rated power (@ 240 V, 60 Hz)	2880 VA / 2880 W
Nominal AC voltage / range	2 x 120 V / 211 V – 264 V
AC power frequency / range	60 Hz / 59.3 Hz ... 60.5 Hz
Rated power frequency / rated grid voltage	60 Hz / 240 V
Max. output current	12 A
Power factor at rated power	1
Feed-in phases / connection phases	1 / 2
Protective devices	
Grid monitoring / AC short-circuit current capability	● / ●
Max. permissible fuse protection	15 A Circuit Breaker
General data	
Dimensions (W / H / D)	162 / 90 / 63 mm (6.4 / 3.5 / 2.5 inch)
Weight	0.7 kg / 1.5 lb
Operating temperature range	-40 °C ... +45 °C / -40 °F ... +113 °F
Cooling concept	Convection
Degree of protection	TYPE 1
Communication	
Sunny Portal	SMA Webconnect via Ethernet
Features	
AC connection	Screw terminal
Interface: Webconnect	●
Certificates and approvals (more available on request)	UL1741, UL1998, IEEE1547, FCC Part 15 (Class A & B), CAN/CSA C22.2 107.1-1
Note: Technical data is preliminary and subject to change ● Standard feature ○ Optional feature — Not available	
Type designation	MULTIGATE-US-10



Easy to use

- Easy PV plant configuration via Sunny Explorer
- Real-time monitoring on module level

Safe

- Integrated grid disconnection point

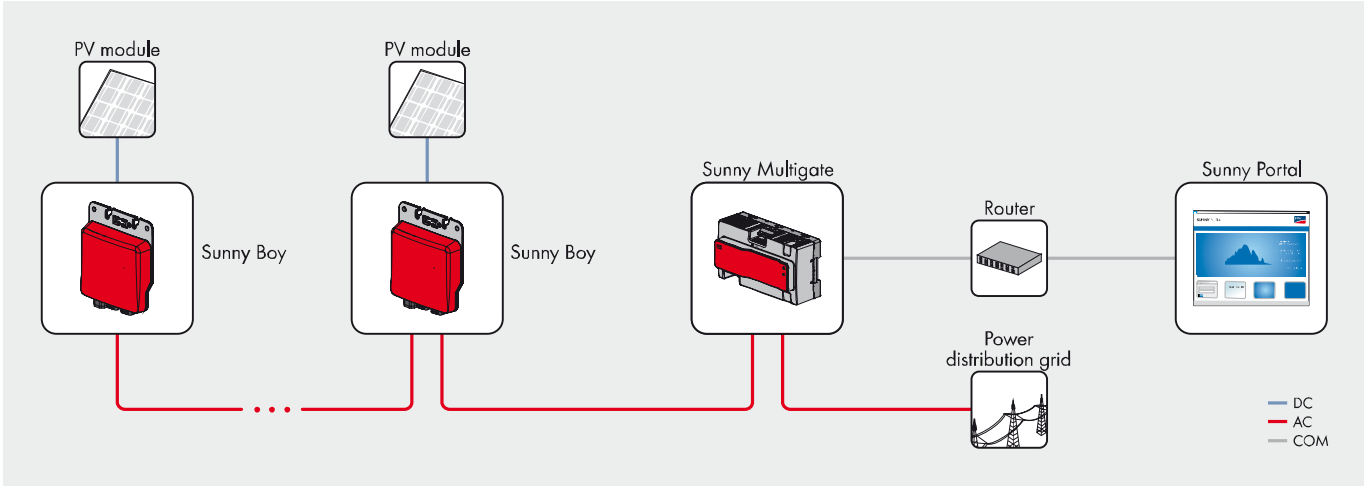
Communicative

- Integrated Webconnect function to Sunny Portal via Ethernet
- Worldwide access to PV plant via Sunny Portal

SUNNY MULTIGATE

The link between micro inverter and power distribution grid

Sunny Multigate is the intelligent termination point between the micro inverter system and the power distribution grid. The PV plant is directly connected to Sunny Portal via Ethernet communication and can be conveniently monitored. This enables customers to have quick access to the most important plant data – and, in particular, it allows the modules to be monitored in real time. With its free standard access to Sunny Portal, Sunny Multigate is the ideal product solution for intelligent energy monitoring.



Technical data	Sunny Multigate
Input (AC)	
Max. number of micro inverters	12 x SB 240-10, 14 x SB 200-10
Output (AC)	
Max. apparent AC power / rated power (@ 230 V, 50 Hz)	2 760 VA / 2 760 W
Nominal AC voltage / range	230 V / 180 V – 270 V
AC power frequency / range	50 Hz / 45.5 Hz ... 63 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V
Max. output current	12 A
Power factor at rated power	1
Feed-in phases / connection phases	1 / 1
Protective devices	
Grid monitoring / AC short-circuit current capability	● / ●
Max. permissible fuse protection	16 A
General data	
Dimensions (W / H / D)	162 / 90 / 63 mm (6.4 / 3.5 / 2.5 inch)
Weight	0.7 kg / 1.5 lb
Operating temperature range	-40 °C ... +45 °C / -40 °F ... +113 °F
Cooling concept	Convection
Degree of protection	IP20
Communication	
Sunny Portal	SMA Webconnect via Ethernet
Features	
AC connection	Screw terminal
Interface: Webconnect	●
Certificates and approvals	On request
Note: Technical data is preliminary and subject to change ● Standard feature ○ Optional feature — Not available	
Type designation	MULTIGATE-10