

Datasheet



VITOVOLT 300 Type M410WM, M415WM, M420WM

Monocrystalline photovoltaic modules in **allblack** version with 410/415/420 W_p rated output for generating power from solar energy.



- Module efficiency up to 21.1 %
- Shingled PERC cell technology
- Corrosion-resistant aluminium frame with excellent mechanical load bearing capacity for snow loads (up to 5400 Pa) and wind/suction loads (up to 2400 Pa)
- Additional output of up to 5 W_p due to positive output tolerance
- 3.2 mm anti-reflective glass for high solar yields
- High operational reliability: 2 bypass diode bridges for dependable operation
- Tested for resistance to salt spray and ammonia. Consequently suitable for use in coastal regions and areas with intensive agricultural operations.
- Certified to IEC 61215, IEC 61730, IEC 61701 and IEC 62716 to guarantee compliance with international quality standards.

Specification

Vitovolt 300	Typ e	M410WM	M415WM	M420WM
Performance data under STC				
Rated output P_{max}	W_p	410	415	420
Output tolerance	W	0/+5	0/+5	0/+5
MPP voltage U_{mpp}	V	34.4	34.4	34.5
MPP current I_{mpp}	A	11.93	12.08	12.19
Open circuit voltage U_{oc}	V	41.4	41.5	41.6
Short circuit current I_{sc}	A	12.65	12.80	12.91
Module efficiency	%	20.6	20.9	21.1
Temperature coefficients				
Output	%/K	-0.34	-0.34	-0.34
Open circuit voltage	%/K	-0.27	-0.27	-0.27
Short circuit current	%/K	0.04	0.04	0.04

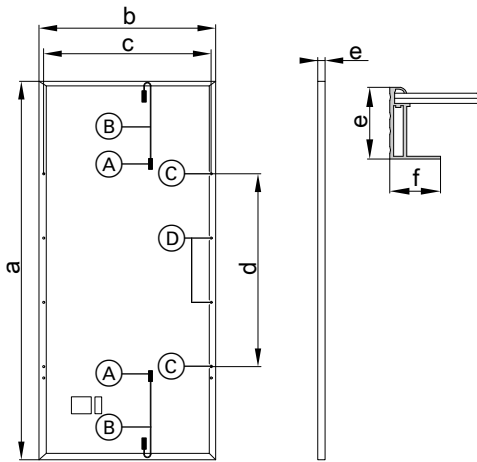
Vitovolt 300	Typ e	M410WM	M415WM	M420WM
Cell temperature at NOCT	°C	42.3	42.3	42.3
Max. system voltage	V	1500	1500	1500
Reverse current resistance	A	25	25	25

STC Insolation 1000 W/m², cell temperature 25 °C, air mass AM 1.5, measuring tolerance ±3 % (P_{max})

MPP Maximum power point (maximum output under STC)

NOCT ■ Insolation 800 W/m²
 ■ Ambient temperature 20 °C
 ■ Air mass AM 1.5
 ■ Wind speed 1 m/s
 ■ Measuring tolerance ±5 % (P_{max})

Connection dimensions



- (A) Junction box
- (B) Connecting cables
- (C) 4 drilled holes 9 x 20 mm
- (D) 4 holes for equipotential bonding, \varnothing 6 mm

a	mm	1812
b	mm	1096
c	mm	1056
d	mm	1140
e	mm	30
f	mm	30

Type of cell	Monocrystalline PERC silicon cell
Number of cells	305 (shingled 61*5)
Cell embedding	Ethylene vinyl acetate (EVA)
Frame	Anodised aluminium alloy, black or silver
Front glass	Thermally toughened safety glass 3.2 mm with anti-reflective coating
Weight	20.8 kg
Max. load due to pressure/suction	5400 Pa/2400 Pa
Junction box	IP 68, 2 diodes
Connection	Cables 1.3 m long, with 4 mm ² cross-section and Multi-Contact (MC4)
Protection class	II
Application class	A
Shipping unit	36 pce per pallet

Guarantee

Product guarantee

5 years: Viessmann warranty
 15 years: Viessmann product guarantee

Output guarantee

Min. 97 % after one year
 Min. 84.8 % linear after 25 years

Note

Product and output guarantee in accordance with the guarantee conditions of Viessmann Climate Solutions SE
 Guarantee conditions: www.vibooks.de.

Tested quality

Certified to IEC 61215, IEC 61730, IEC 61701 and IEC 62716. Manufactured in factories certified to ISO 9001 and 14001. CE designation according to current EC directives.

Subject to technical modifications.

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