

# Solar modules Roadmap & Portfolio

Outlook Q2-2024 & Q3-2024

**April 2024**

(Next update: June 2024)

# Modules Portfolio Q2-2024 & Q3-2024

Brand	Type	Celltype	Colour	Power output Q1-2024**	Power Wp/m2	Module size	Warranty manufacturer	# Pallet / container	Power Q2-2024**	Availability (Current expectation)
<b>All-Black</b>										
DMEGC	DM440M10RT-54HBB-BK	N-type M10	All-black	440/450	220	1762 x 1134 x 30mm	25 year	36/936	440/450	✓✓✓
DMEGC	DM410M10-54HBB-BK	P-type M10	All-black	410	213	1722 x 1134 x 30mm	12 year	36/936	410	✓ (Ending)
Jinko	JKM420N-54HL4-BK	N-type M10	All-black	420	215	1722 x 1134 x 30mm	25 year	36/936	420	✓ (Ending)
Jinko	JKM435N-54HL4R-BK	N-type M10	All-black	430/435	218	1762 x 1134 x 30mm	25 year	36/936	435/440	✓✓✓
Aiko	AK-A-MAH54Mb-450-BK	N-type M10	All-black	440/445	230	1722 x 1134 x 30mm	15 year	36/936		✓✓✓
Aiko	AK-A460-MAH54Mb-BK	N-type M10	All-black	455/460	231	1757 x 1134 x 30mm	15 year	36/936	455/460	May
Meyer Burger	MB-390-HJT120-HC-BK	N-type M6	All-black	390	212	1767 x 1041 x 35mm	25 year	30/840	390	✓✓✓
<b>Glas/Glas module</b>										
JA Solar	JAM54D41-435N-LB	N-type M10	All black	430/440	220	1762 x 1134 x 30mm	25 year	36/936	425/440	✓
JA Solar	JAM54D41-430N-LB	N-type M10	All black	420/430	218	1722 x 1134 x 30mm	25 year	36/936	425/440	Q3
JA Solar	JAM54D40-445N-LB	N-type M10	Black frame	440/445	223	1762 x 1134 x 30mm	25 year	36/936	445	✓
JA Solar	JAM60D42-525-LB	N-type M10	Silver frame	520/525	224	2063 x 1134 x 30mm	12 year	36/936	520/525	July
JA Solar	JAM66D42-580-MB	N-type M10	Silver frame	580	225	2278 x 1134 x 30mm	12 year	36/720	580	✓✓
Jinko	JKM440N-54HL4R-BDB	N-type M10	Black frame		220	1762 x 1134 x 30mm	25 year	36/936	435/440	July
DMEGC	DM450M10RT-B54HBB-BK	N-type M10	All-black		225	1762 x 1134 x 30mm	25 year	36/936	450	July
DMEGC	DM580M10T-B72HSW	N-type M10	Silver frame		224	2278 x 1134 x 30mm	15 year	36/720	580	July
Aiko	AK-A-MAH54Db-445-BK	N-type M10	All-black	440/445	228	1722 x 1134 x 30mm	25 year	36/936	445	✓✓✓
Aiko	AK-A455-MAH54Db-BK	N-type M10	All-black	455/460	228	1757 x 1134 x 30mm	25 year	36/936	460	May

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Brand	Type	Celltype	Colour	Power output Q1-2024**	Power Wp/m2	Module size	Warranty manufacturer	# Pallet / container	Power Q2-2024**	Availability (Current expectation)
<b>White Backsheet</b>										
DMEGC	DM535M10T-66HSW	N-type M10	Silver frame	530	225	2094 x 1134 x 35mm	12 year	31/682	530	✓✓
Risen	RSM120-8-410M (Twinsel con.)	P-type G12	Black frame	410	213	1754 x 1096 x 30mm	12 year	36/936		✓✓ (Ending)
Jinko	JKM445N-54HL4R-V-B	N-type M10	Black frame	445	222	1762 x 1134 x 30mm	15 year	36/936	450/455	✓✓
<b>Special</b>										
BISOL	BDO-305M-TERRA-ST4 (ST4)	P-type M10	Terracotta	305	156	1722 x 1134 x 30mm	15 year	35/1050	305	✓✓✓
BISOL	BDO-350M-RED-ST4 (ST4)	P-type M10	Rooftile-red	350	179	1722 x 1134 x 30mm	15 year	35/1050	350	✓
Jinko	JKM535M-72HL4-TV	N-type M10	Transparant	535	208	2274 x 1134 x 30mm	12 year	31/620	535	✓✓✓
Aiko	AK-A445-MAH54Tm-B	N-type M10	Polymer	445	223	1758 x 1137 x 30mm	12 year	36/936	445	✓✓✓

# Market trends 2024

- After several years of various module sizes seemed to be standardized at 1722x1134mm for residential roofs. Due to German regulations, which is limited at two squared meter, the standard module size is even pushed further to 1762x1134mm. Making it a perfect 2m<sup>2</sup> module. The size is a little longer, but the with is the same. Manufactureres are making a rectangular solar cell reach this module size.
- There were a lot of shortages in supply chain from 2021 till the first half of 2023. Many Chinese manufacturers increased production capacity a lot. In 2022 there was 239GW of total worldwide installation. Voor 2023 it was expected at 314GW to be installed. At this moment the productioncapacity of polysilicon, wafers, cells and modules are hundreds of gigawatts extra. For this reason there will be a very strong competition between manufacturers and some of them not able to earn back there investment. In China they say: “Winter is coming for the next 1,5 year”. The very big vertically integrated players (polysilicon till module) together with persistent parent companies have the best chance to come out of this difficult period with success.
- At this moment the stock levels in Europe are relatively high. Expectations are that this will normalize in Q2/Q3. Due to heavy competition the prediction is that pricing will stabalize at a relatively low level and maybe increase a little around Q2/Q3.
- The trend we saw from 2021 that technology is changing from P-type to N-type will finalize in 2024. N-type will be fully dominant in the residential segment and very strong in commercial already.

