

Solar panels 20-series

Solar panels with cable outlet front side mounted. Designed for boats, sea buoys, flat trucks, navigation aids, streetlamps and many other. Made in Germany.

Product characteristics

- 100% sea- & saltwater resistant
- Non-Glass-module with unbreakable Nowoflon foil
- Light-weight mounting plate made from aluminium sandwich, powder-coated white
- Cable output screwed, sealed and utterly water proof, with strain relief at the cable outlet
- Monocrystalline PERC high-performance solar cells for maximum power
- Ultra flat panel construction (5mm), at cable output max. 16mm
- Connection cable of 3m length
- On the side, the laminate overhangs the mounting plate by approx. 5mm for a maximum of corrosion protection
- Rounded corners to prevent risk of injuries
- Structured surface reduces slip risks when wet
- 100% maintenance-free, self-cleaning surface
- Installation: without rear ventilation because panels are equipped with 39 or 40 cells
- Walkable when installed on a solid surface (using boat shoes)
- Panels can be slightly bent till max. 3% (3cm/1 meter)
- 3 years warranty on power output

| 12V | Power Wp | I sc A | I max A | U oc V | Length mm | Width mm | Bore holes D=9mm | Weight netto kg | Weight brutto kg | Cable mm ² | Cell-protector |
|----------|----------|--------|---------|--------|-----------|----------|------------------|-----------------|------------------|-----------------------|----------------|
| SW-20185 | 110 | 6,34 | 5,87 | 22,2 | 1012 | 689 | 8 | 4,7 | 7,0 | 3 x 1,5 | ✓ |
| SW-20184 | 90 | 4,70 | 4,35 | 24,6 | 859 | 689 | 6 | 4,2 | 6,0 | 3 x 1,5 | ✓ |
| SW-20183 | 68 | 3,13 | 2,89 | 24,6 | 599 | 689 | 6 | 3,0 | 4,1 | 3 x 1,5 | ✓ |
| SW-20182 | 50 | 2,40 | 2,23 | 23,9 | 469 | 689 | 6 | 2,5 | 3,8 | 3 x 1,5 | ✓ |
| SW-20166 | 90 | 4,10 | 3,84 | 24,6 | 1119 | 481 | 8 | 3,6 | 5,8 | 3 x 1,5 | ✓ |
| SW-20165 | 60 | 3,10 | 2,87 | 24,6 | 772 | 481 | 8 | 2,6 | 4,1 | 3 x 1,5 | ✓ |
| SW-20164 | 45 | 2,17 | 2,01 | 24,6 | 599 | 481 | 6 | 2,0 | 2,4 | 3 x 1,5 | ✓ |
| SW-20163 | 33 | 1,59 | 1,48 | 24,1 | 426 | 481 | 6 | 1,4 | 2,3 | 2 x 1,5 | - |
| SW-20146 | 46 | 2,14 | 1,96 | 25,4 | 1154 | 273 | 8 | 2,2 | 4,4 | 3 x 1,5 | ✓ |
| SW-20145 | 30 | 1,51 | 1,40 | 25,4 | 807 | 273 | 8 | 1,6 | 3,2 | 2 x 1,5 | ✓ |
| SW-20144 | 22 | 1,11 | 1,03 | 25,4 | 634 | 273 | 6 | 1,2 | 2,5 | 2 x 1,5 | - |
| SW-20143 | 15 | 0,76 | 0,71 | 25,4 | 468 | 243 | 4 | 0,8 | 1,8 | 2 x 1,5 | - |

| 24V | Power Wp | I sc A | I max A | U oc V | Length mm | Width mm | Bore holes D=9mm | Weight netto kg | Weight brutto kg | Cable mm ² | Cell-protector |
|----------|----------|--------|---------|--------|-----------|----------|------------------|-----------------|------------------|-----------------------|----------------|
| SW-22146 | 90 | 1,92 | 1,96 | 49,8 | 1119 | 493 | 8 | 3,6 | 6,0 | 2 x 1,5 | - |
| SW-22145 | 60 | 1,27 | 1,40 | 49,8 | 772 | 493 | 8 | 2,6 | 4,0 | 2 x 1,5 | - |

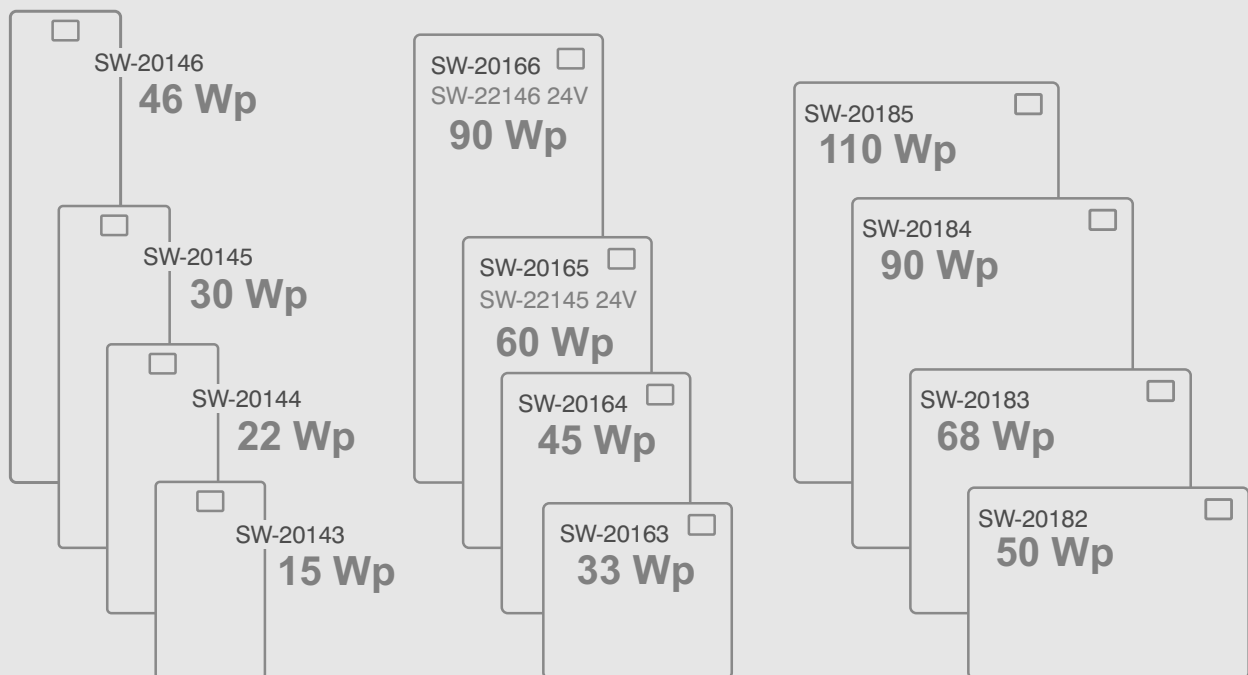
Valid for all panels: laminate: ETFE/EVA/ETFE / carrier plate: aluminium sandwich / individually packed

Environmental conditions : - 40 up to + 85 °C; thermal characteristic values of solar cells: TK I_{sc}: 0,06%/K, TK U_{oc}: -0,30%/K, TK P_{mpp}: -0,39%/K

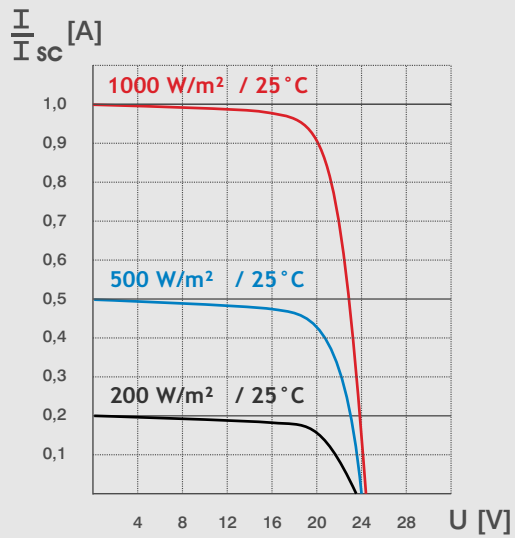
P max according to STC (standard test conditions) AM 1,5, 1000 W/m², 25°C, measuring tolerance: 10%.

Technical changes reserved. State 12/2022

Panels 20-series

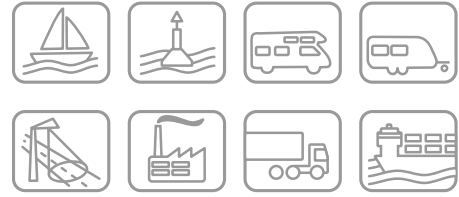


Electrical characteristic



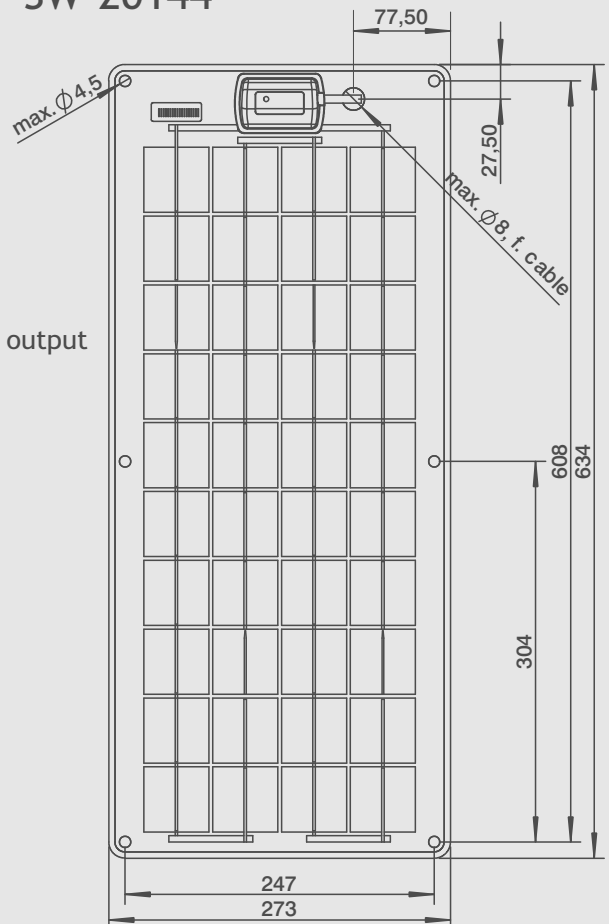
RANGE OF APPLICATIONS

- For motor boats and sailing yachts
- For camping, caravan, off road and 4x4
- For mobile current supply
- For industry, shipping and building sector

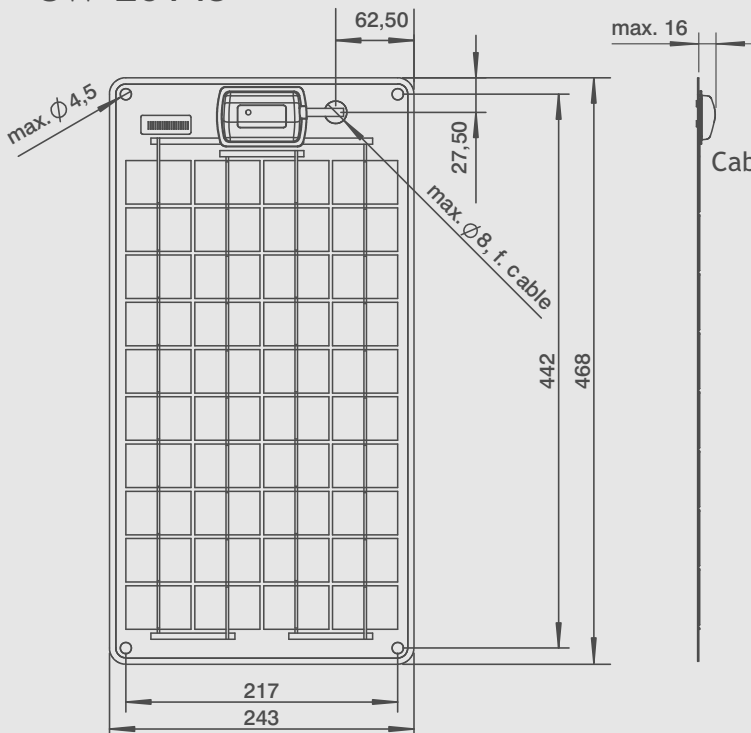


DIMENSIONS

SW-20144



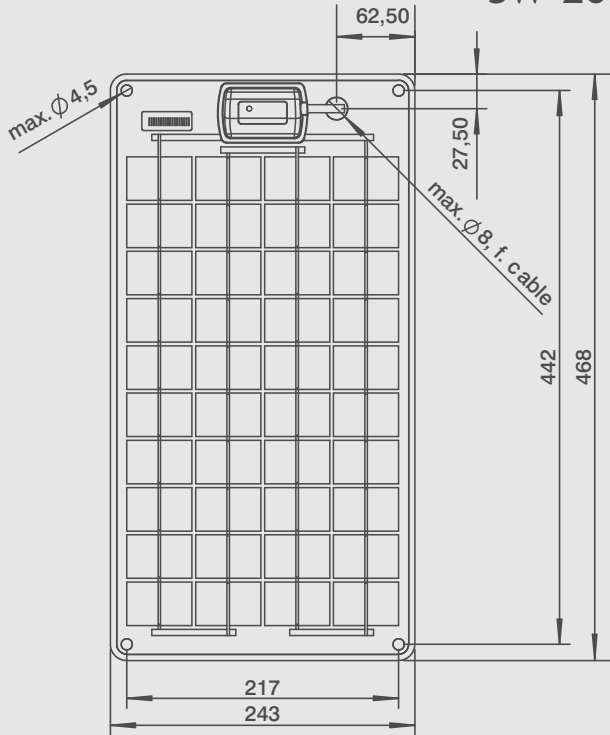
SW-20143



Technical drawings at www.sunware.de/download

DIMENSIONS

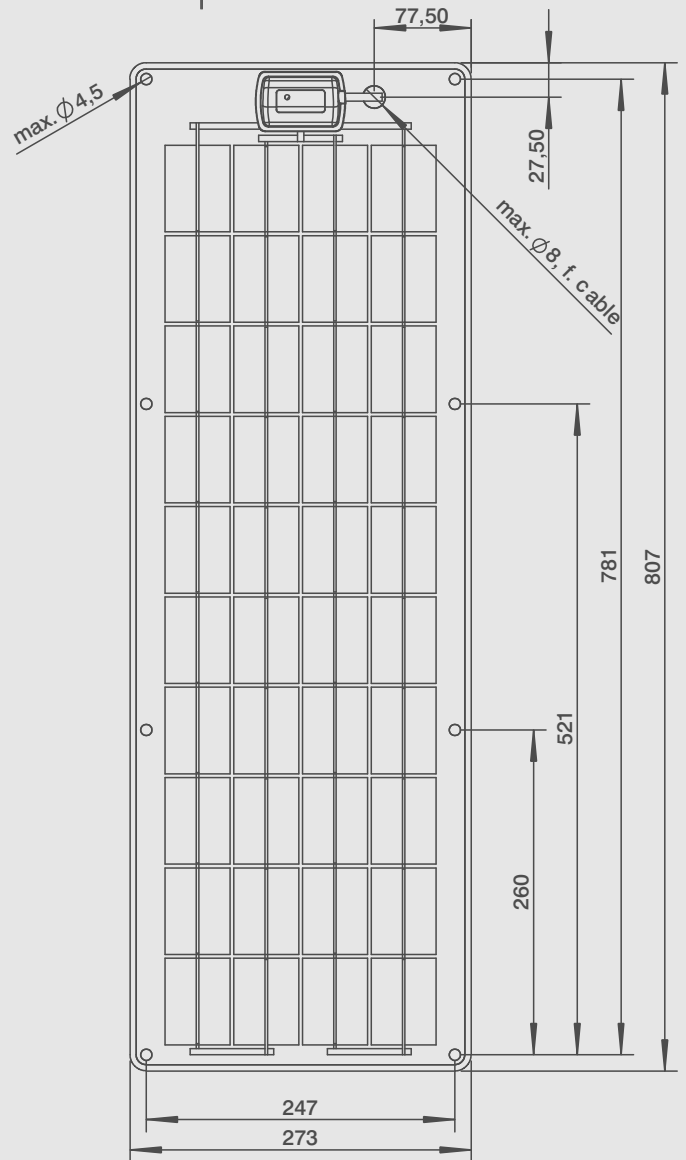
SW-20143



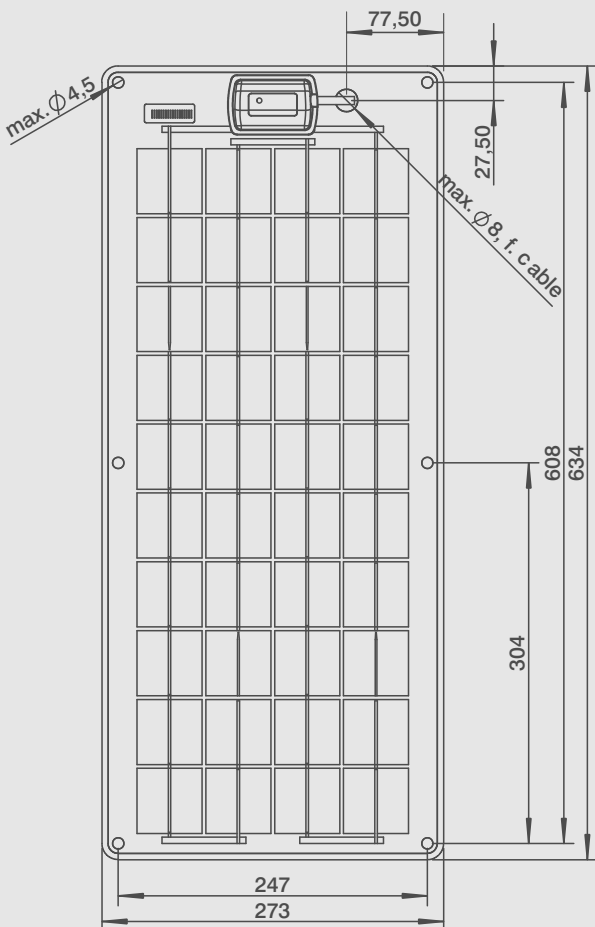
max. 16

Cable output

SW-20145



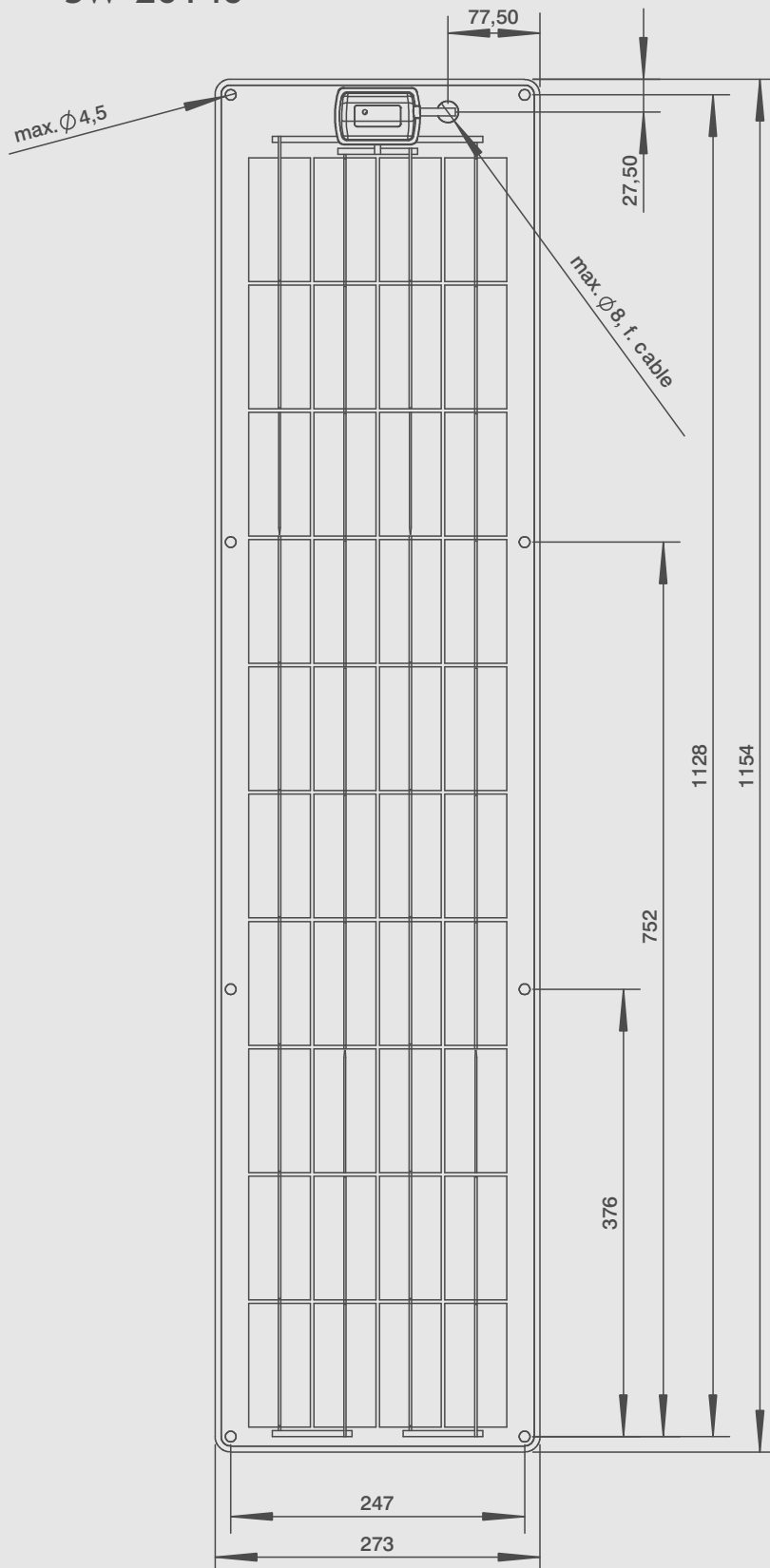
SW-20144



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DIMENSIONS

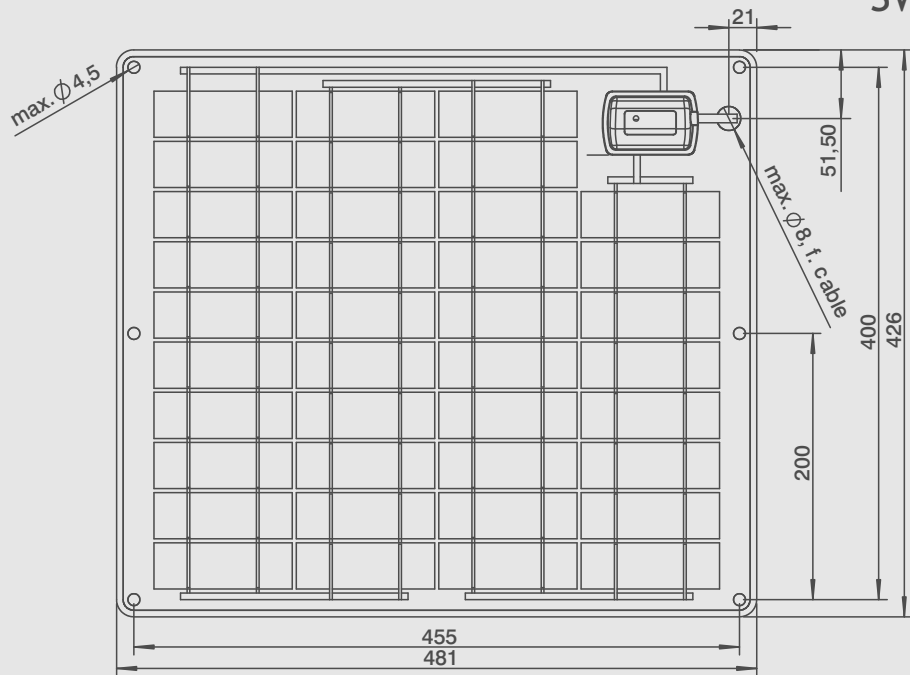
SW-20146



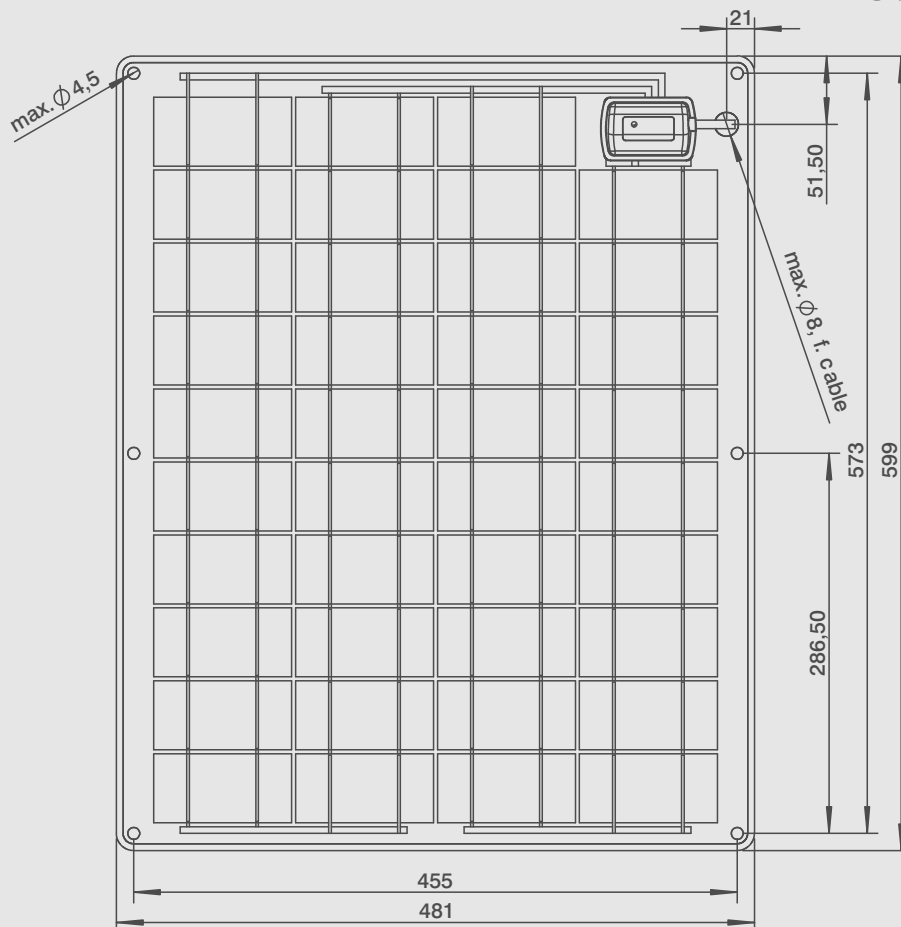
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DIMENSIONS

SW-20163



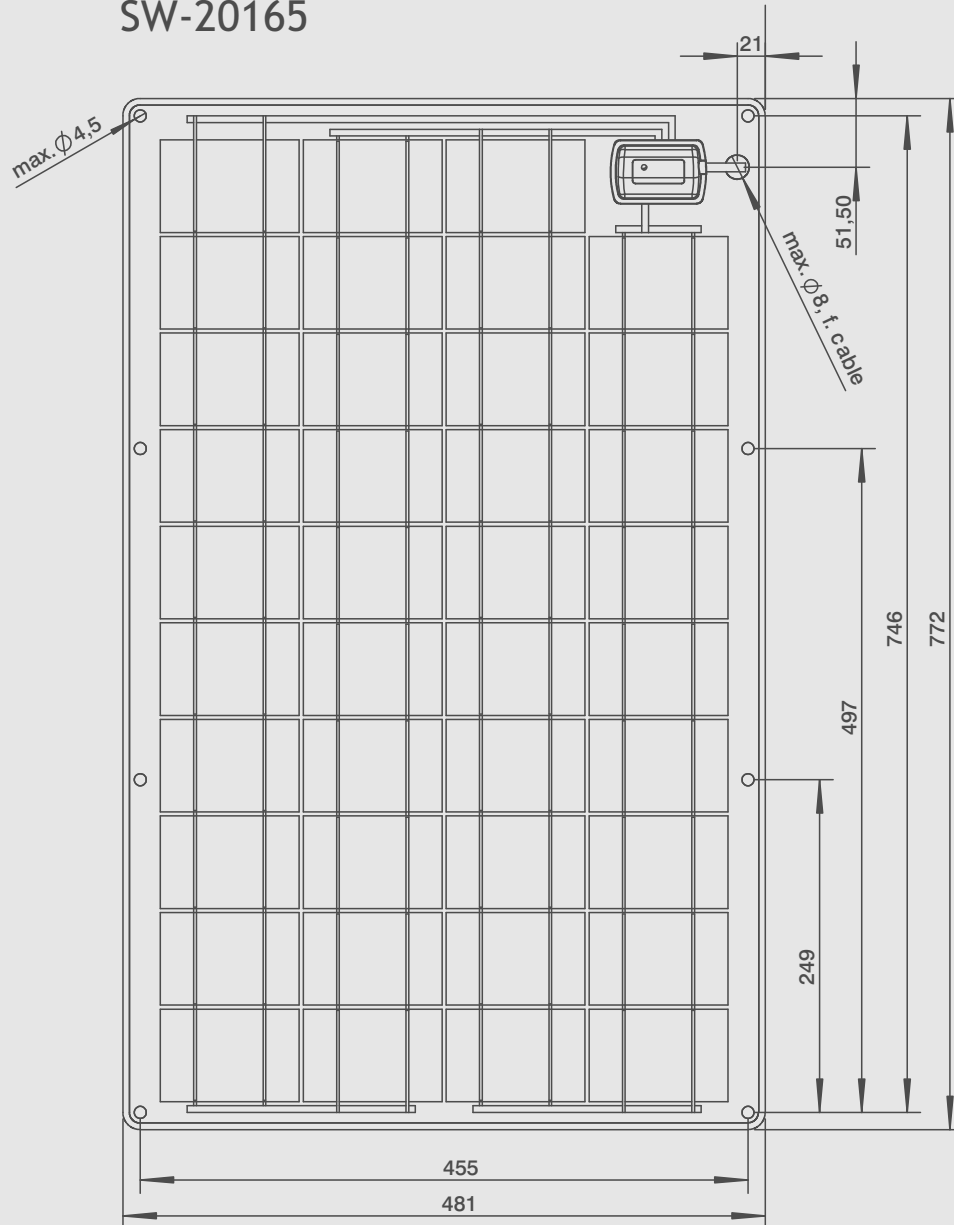
SW-20164



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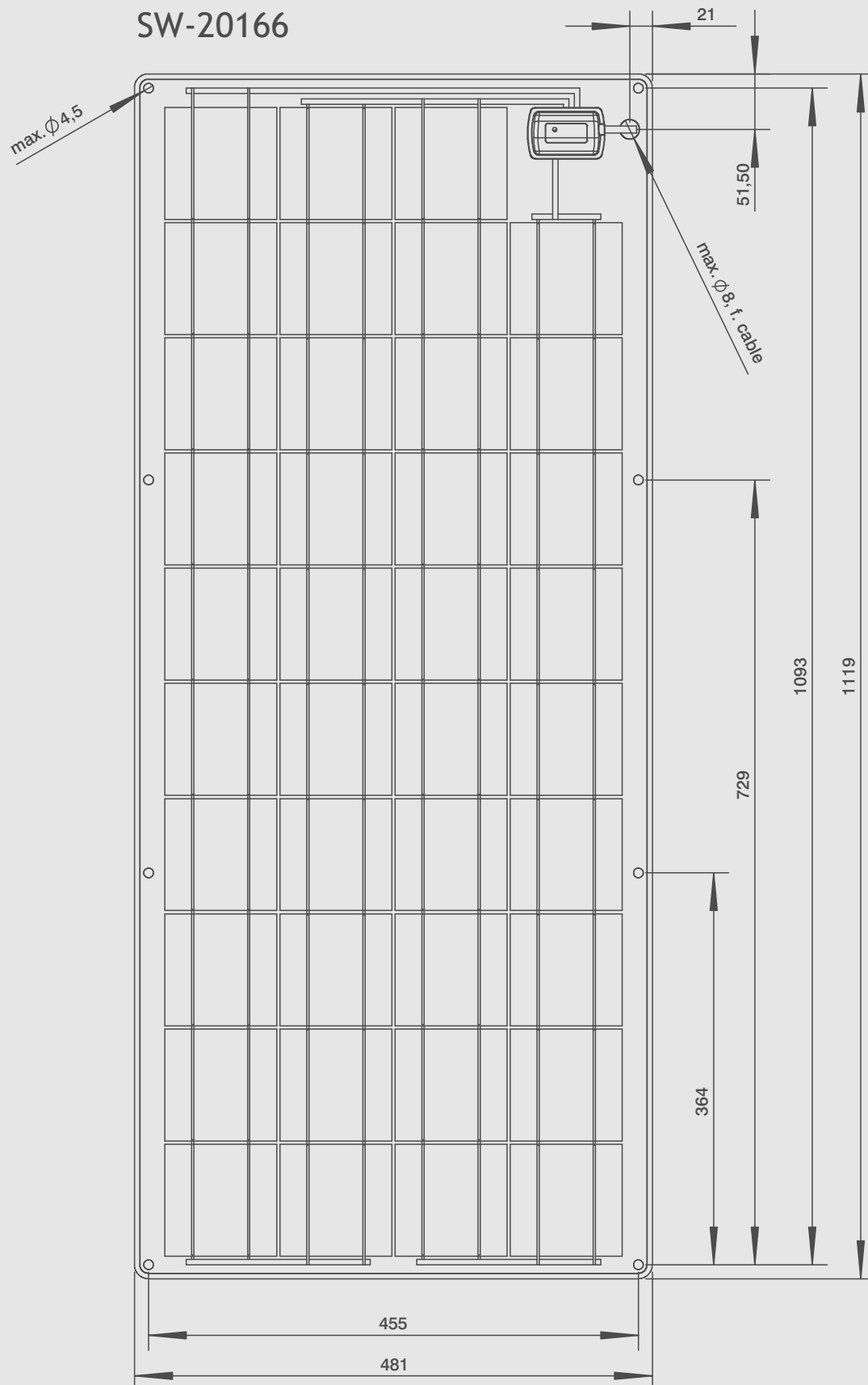
DIMENSIONS

SW-20165



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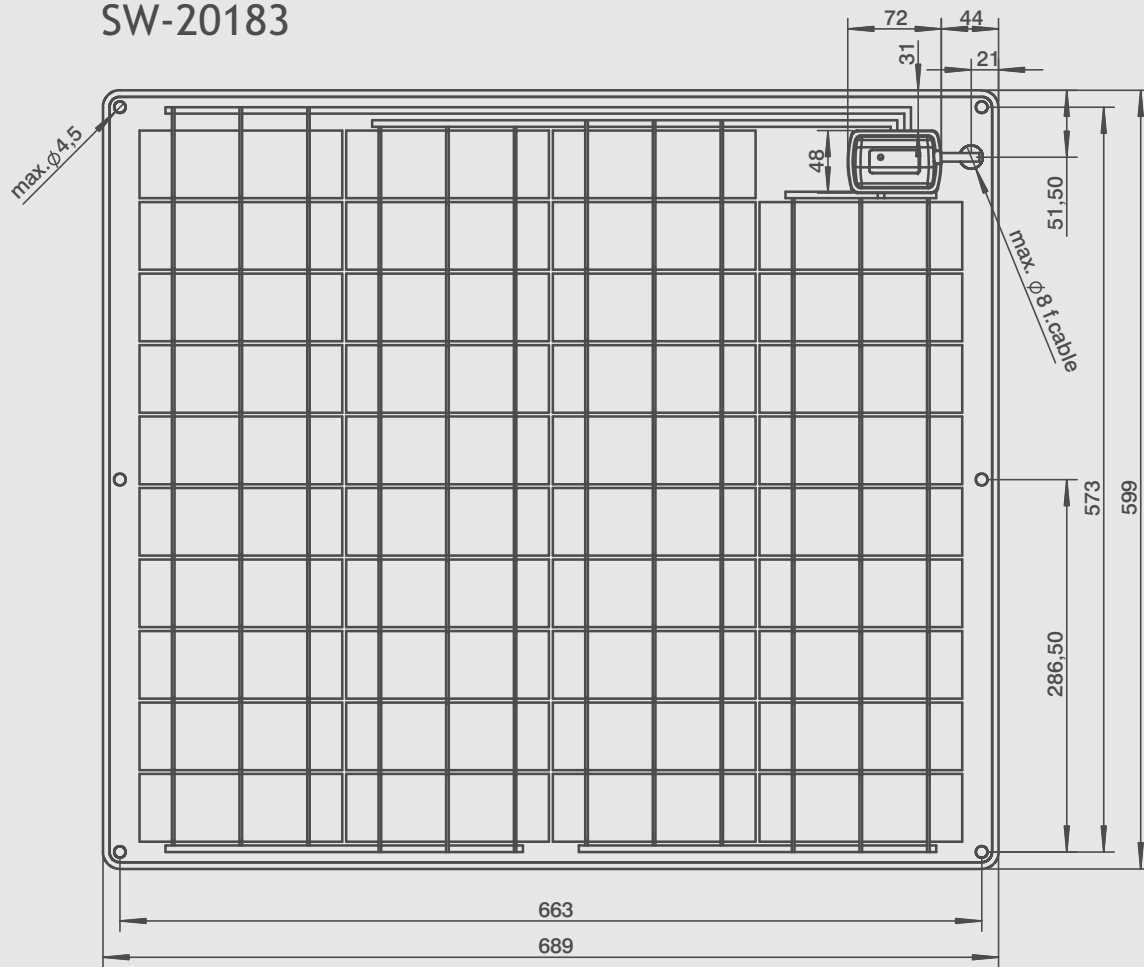
DIMENSIONS



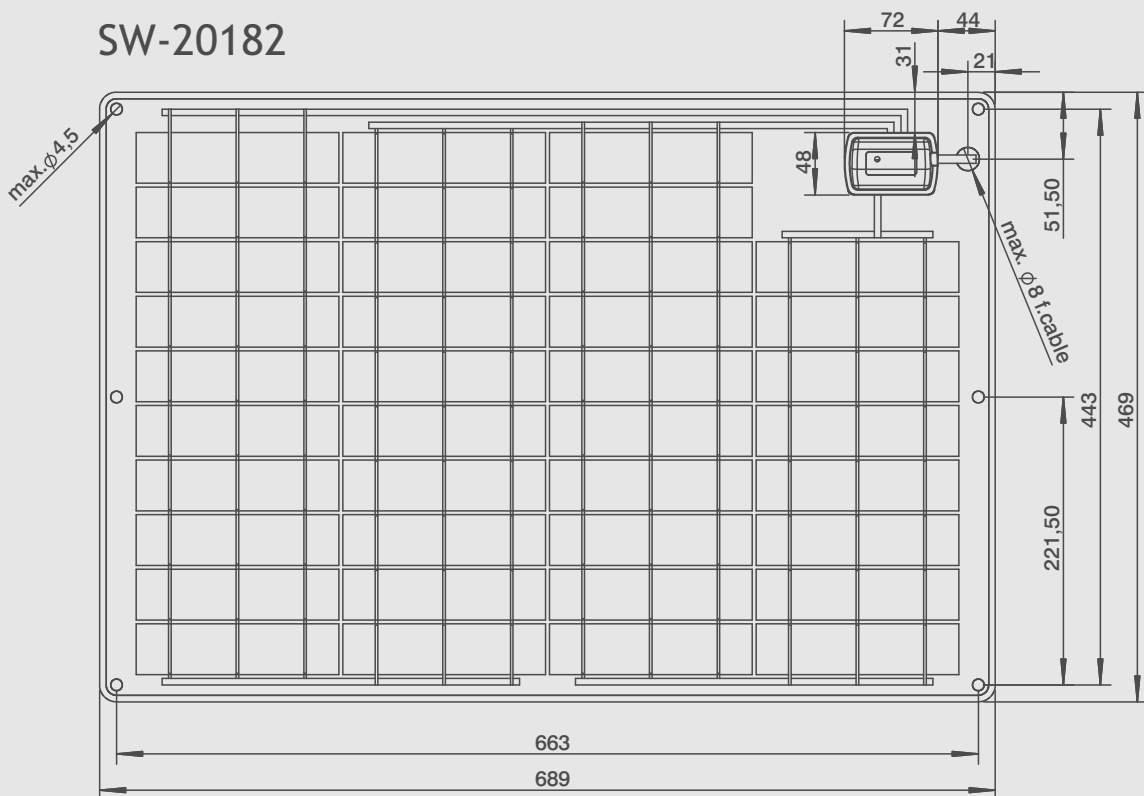
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DIMENSIONS

SW-20183

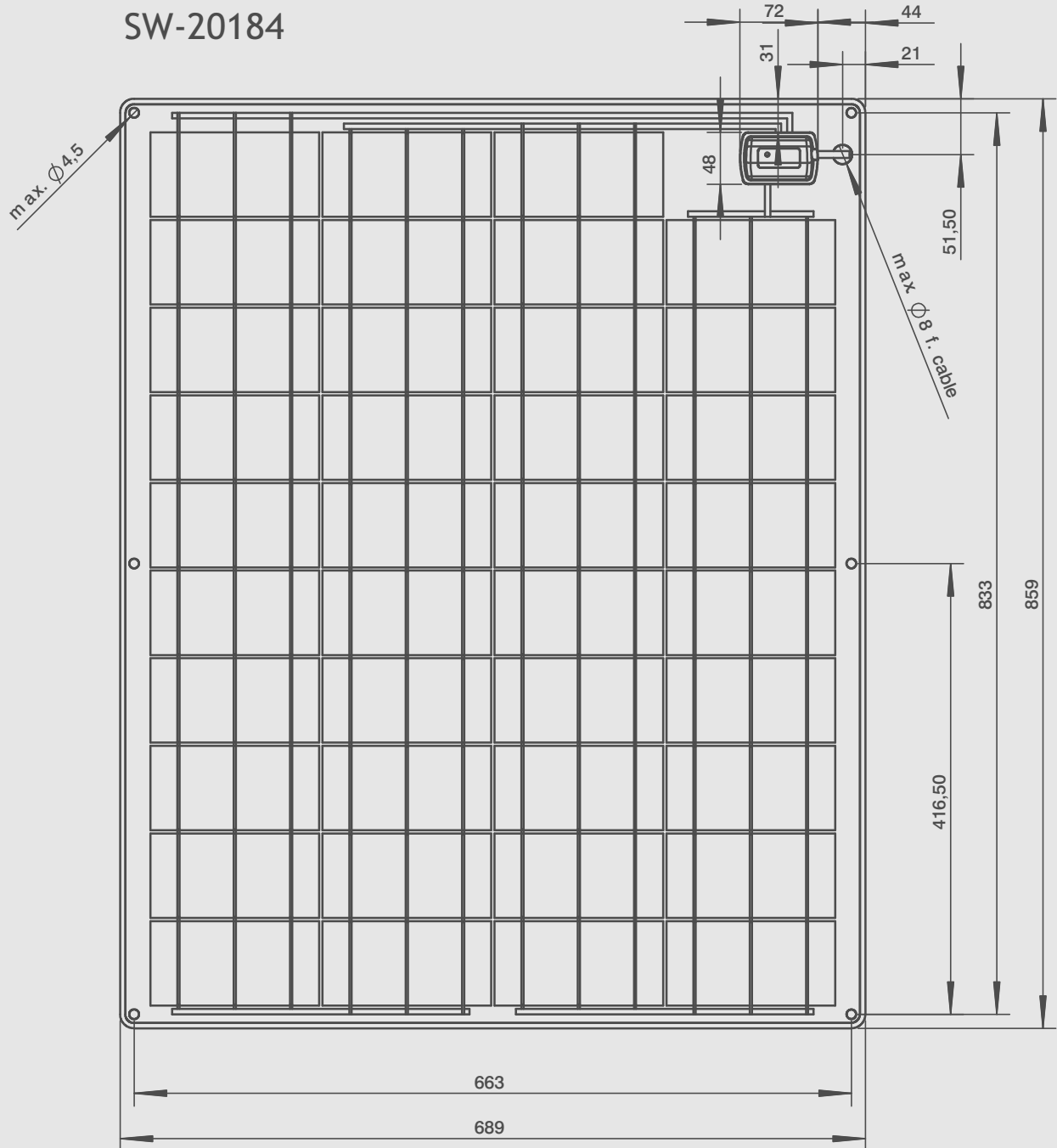


SW-20182



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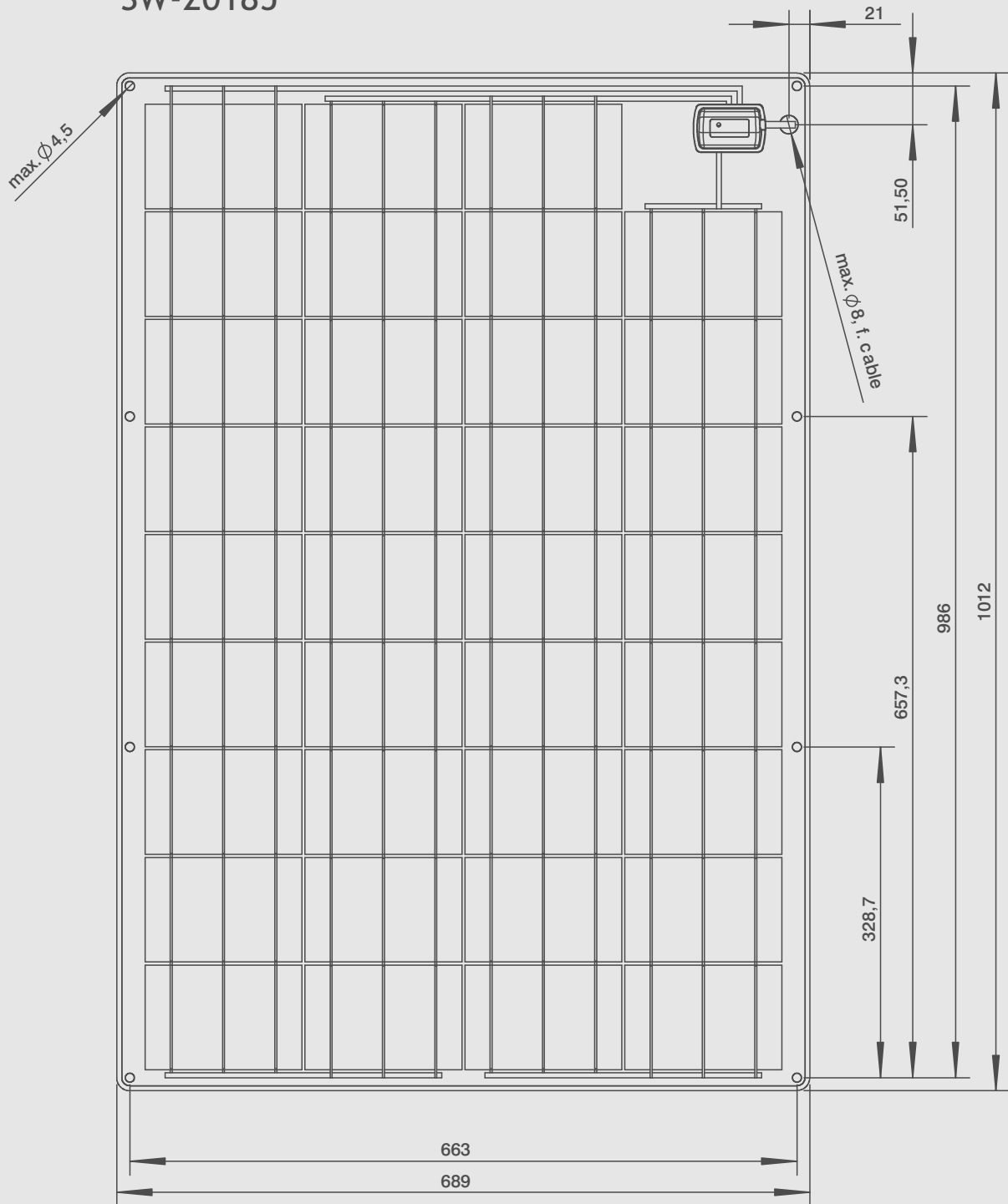
DIMENSIONS



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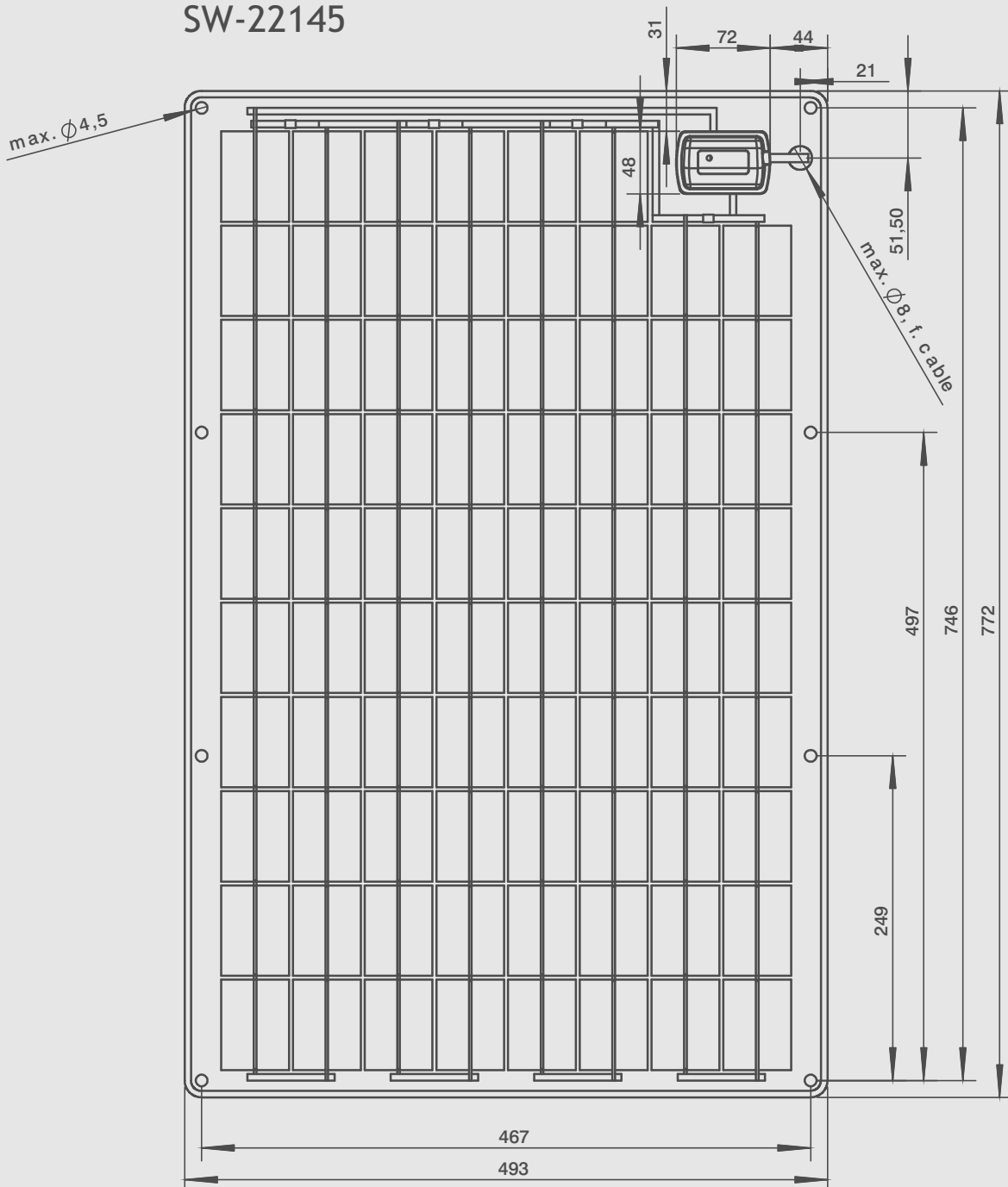
DIMENSIONS

SW-20185

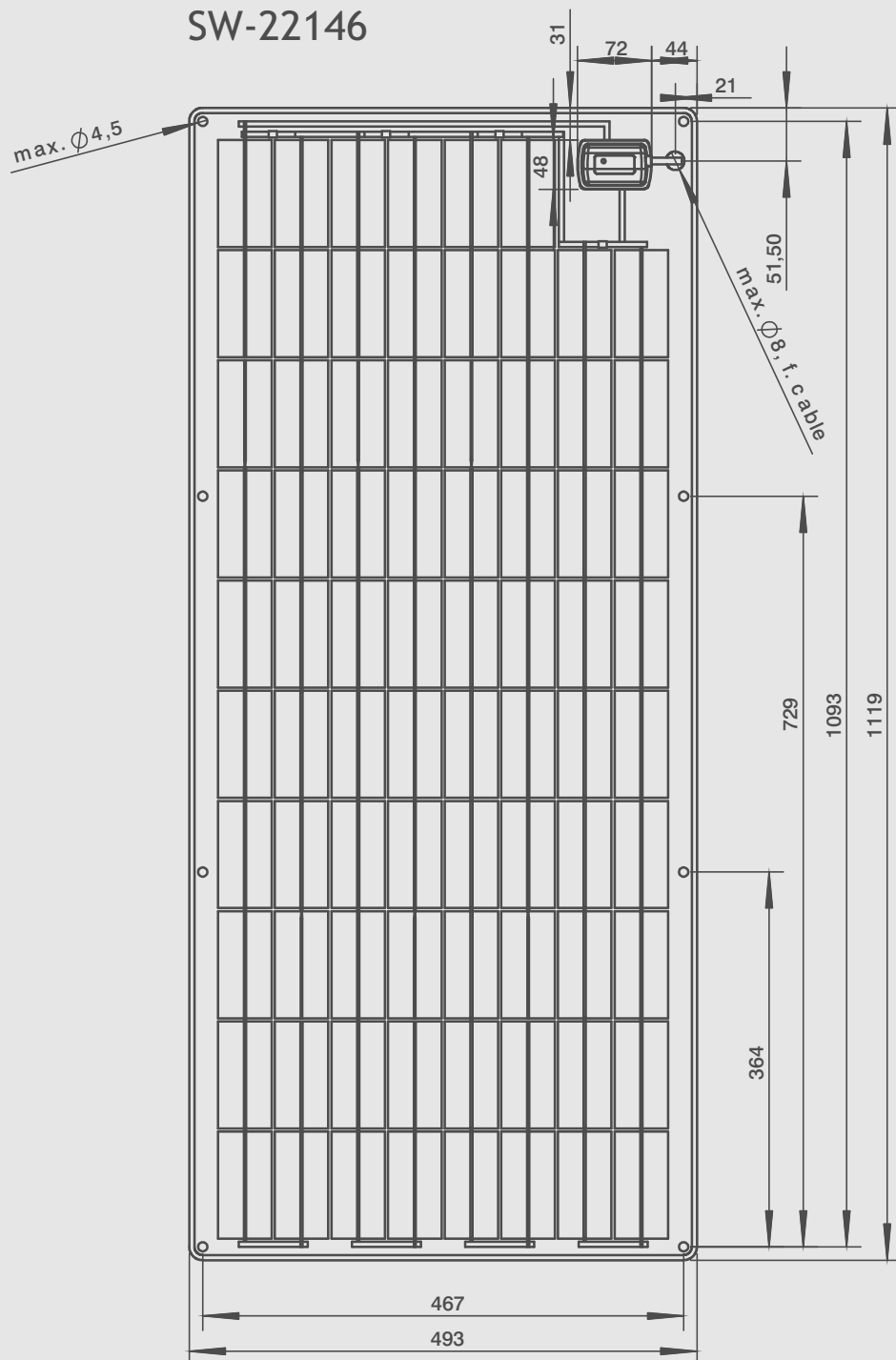


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SW-22145



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