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LAMPIRAN

Lampiran 1 Program MPPT pada *matlab function* dengan algoritma ICM

```
function Vref = MPPT_ICM (V,I)

Vrefmax =44.4;
Vrefmin = 0;
Vrefinit = 40;
deltaVref = 1;
persistent Vold Iold Vrefold;

dataType = 'double';

if isempty(Vold)
    Vold = 0;
    Iold = 0;
    Vrefold = Vrefinit;
end

dV = V - Vold;
dI = I - Iold;

if(dV == 0)
    if(dI == 0)
        Vref = Vrefold;
    else
        if(dI>0)
            Vref = Vrefold + deltaVref;
        else
            Vref = Vrefold - deltaVref;
        end
    end
else
    if(dI/dV == (-I/V))
        Vref = Vrefold;
    else
        if(dI/dV > (-I/V))
            Vref = Vrefold + deltaVref;
        else
```

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```
                Vref = Vrefold - deltaVref;
            end
        end
    end

    if Vref >= Vrefmax || Vref <= Vrefmin
        Vref = Vrefold;
    end

    Vrefold = Vref;
    Vold = V;
    Iold = I;
```

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Lampiran 2 Spesifikasi panel surya 150 WP Greentek Policrystalline

PSP -150W | **High Efficiency, High Quality PV Module**

GREENTEK

Electrical Characteristics	PSP -150W
Maximum power (Pmax)	150W
Voltage at Pmax (Vmp)	18.1V
Current at Pmax (Imp)	8.29A
Open-circuit voltage (Voc)	22.2V
Short-circuit current (Isc)	8.89A
Temperature coefficient of Voc	-(0.40 ± 0.05)%/ °C
Temperature coefficient of Isc	(0.065 ±0.01)% /°C
Temperature coefficient of power	-(0.5±0.05)%/ °C
NOCT (Air 20°C; Sun 0.8kW/m² wind 1m/s)	47±2°C
Operating temperature	-40°C to 85°C
Maximum system voltage	1000V DC
Power tolerance	+ 3%
Cells	polycrystalline silicon solar cell
No. of cells and connections	36(4X9)
Module Dimension	1482mm[58.35in.]x670mm[26.38in.]x35mm[1.18in.]
Weight	11.1kg[24.42lbs]

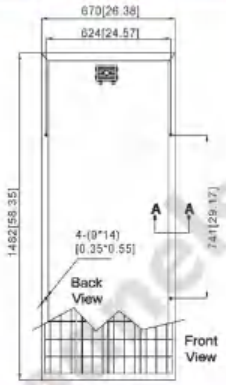
** STC:irradiance 1000W/m², AM1.5 spectrum, module temperature 25°C*
** Specifications are subject to change without notice at any time.*

ISO IEC CE

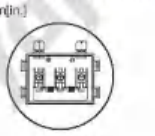
Key Features:

- High module efficiency and stable power output
- Based on leading process technology
- Outstanding electrical performance under high temperature conditions or low irradiance conditions
- Easy of installation and all-weather applications
- 5 years product warranty(materials and workmanship)
- 20 years module power output warranty
- Peak power of single module is guaranteed in +3% power tolerance
- Strong framed module,passing loaded test of 5400 Pa (IEC61215 2nd)
- *The manufacture is certified for ISO 9001:2008*

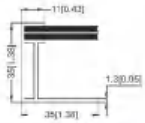
Module Diagram



Dimensions in brackets are in inches.
Un-bracketed dimensions are in millimeters.
Unit:mm[in.]



Junction Box
Top View (Lid open)



SectionA-A

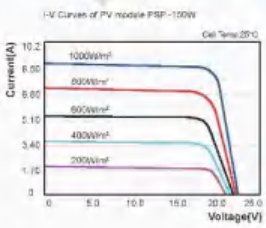
Product's Guarantee

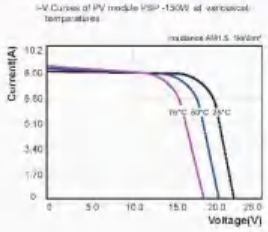
- 10 years products life warranty
- 15 years module power output no less 90%
- 20 years module power output no less 80%

Applications

- Off grid residential roof-tops
- Off grid commercial/industrial roof-tops
- Rural area applications
- Solar power system
- Other off-grid applications

I-V Curves





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