

## Management System Kalite Yönetim Sistemi

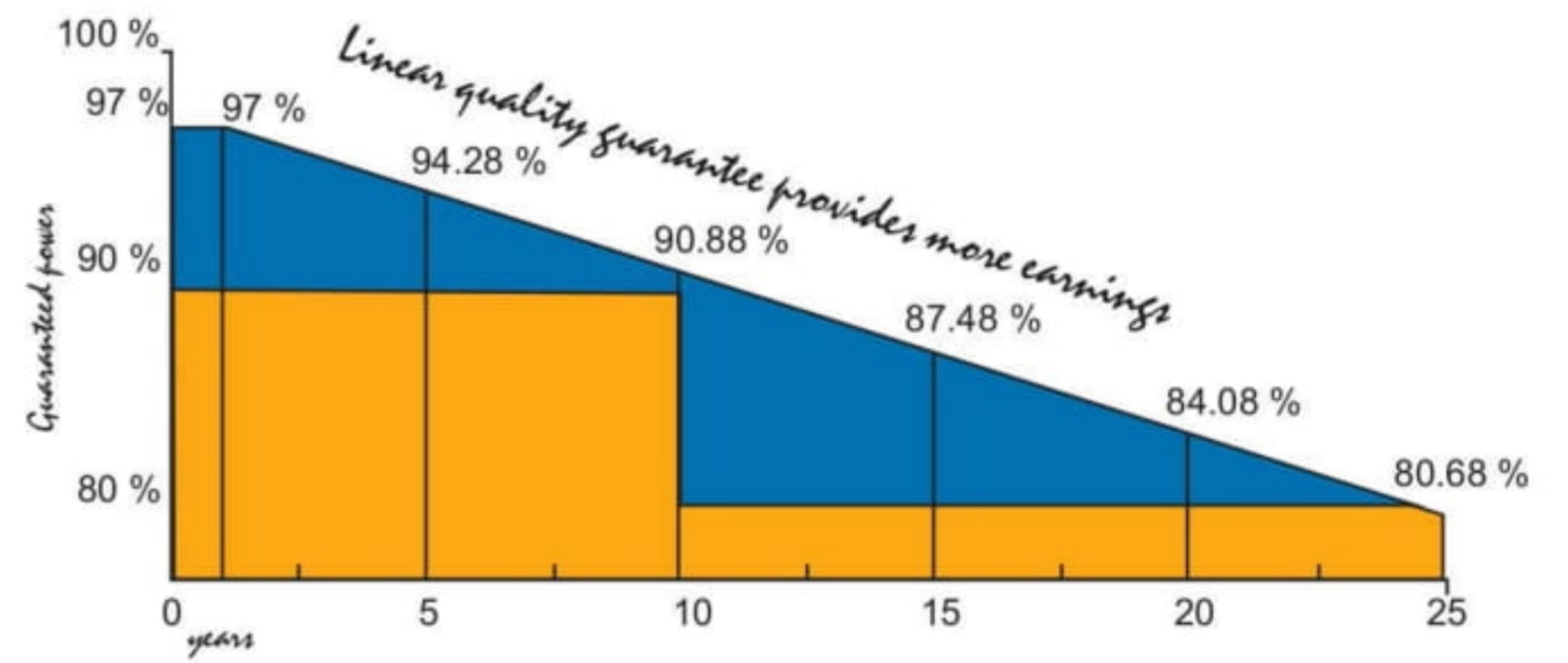


- ISO 9001 : Quality Management System  
ISO 14001 : Environmental Management System Standard  
OHSAS 18001 : International Occupational Health and Safety Assessment System Standard  
ISO 10002-2004: Customer Satisfaction Management System

## Product Certification Ürün Sertifika Standartları



- IEC 61215 (New Edition) 1500 VDC  
IEC 61730 (New Edition)  
IEC 61701 (Salt Mist Corrosion)  
IEC 62716 (Amonia Corrosion)  
IEC 62804 (Potential Induced Degradation)



Product Quality &  
Process Guarantee



Linear Power  
Guarantee



Testing  
Laboratory



LINEAR MANAGEMENT SOLUTIONS

## Structural Characteristics

Module dimensions	2094 x 1038 x 35 mm
Weight	23.5 kg
Cell	Monocrystal Half Cut Cell 166x83mm(144 Cells)
Glass	3.2 mm AR tempered glass, low iron
Frame	Anodized aluminum alloy
Junction Box	IP67
Output Wire	4.0 mm <sup>2</sup> , wire length: 1100 mm
Connector	MC4 Connector
Mechanical Load	5400 Pa



## Electric Characteristics (STC)

Model Of Modules	445-144M	450-144M	455-144M	460-144M	465-144M
Maximum power - P <sub>max</sub> (W)	445	450	455	460	465
Open-Circuit Voltage - V <sub>oc</sub> (V)	49.45	49.60	49.75	49.85	49.90
Short-Circuit Current - I <sub>sc</sub> (A)	11.34	11.42	11.52	11.60	11.68
Maximum Power Voltage - V <sub>mp</sub> (V)	41.15	41.25	41.40	41.55	41.70
Maximum Power Current - I <sub>mp</sub> (A)	10.84	10.90	10.99	11.08	11.16
Module Efficiency - η <sub>m</sub> (%)	20.43	20.65	20.84	21.02	21.24

STC: Irradiance 1000 W/m<sup>2</sup>, 25°C, AM 1.5

## Electric Characteristics (NOCT)

Model Of Modules	445-144M	450-144M	455-144M	460-144M	465-144M
Maximum power - P <sub>max</sub> (W)	335	338	342	346	350
Open-Circuit Voltage - V <sub>oc</sub> (V)	46.86	47.04	47.28	47.44	47.59
Short-Circuit Current - I <sub>sc</sub> (A)	9.14	9.21	9.27	9.33	9.39
Voltage at Maximum Power - V <sub>mp</sub> (V)	38.72	38.88	39.12	39.26	39.44
Current at Maximum Power - I <sub>mp</sub> (A)	8.64	8.72	8.76	8.80	8.83

NOCT: Irradiance 800 W/m<sup>2</sup>, 20°C, Wind Velocity 1m/s

Power Tolerance (W)	(0,+5)
Maximum system voltage (V)	1500 V
Maximum rated fuse current (A)	20


## Temperature Characteristics

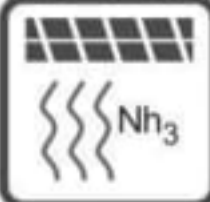
Temperature coefficient at maximum power	-0,373 (%/°C)
Temperature coefficient at open - circuit voltage	-0,307 (%/°C)
Temperature coefficient at short - circuit current	+0,050 (%/°C)
Operating temperature	-40~+85 °C
Rated operating temperature of cells	45±2 °C


## Packaging Configuration

Container	20 GP	40 GP	40 HC
Quantity/Pallet	30	30	30
Pallets/Container	10	22	22
Quantity/Container	300	660	660


## Safety

 Resistance to salt-spray corrosion (IEC61701, certified to SGS test standart)


 Resistance to ammonia corrosion (IEC62716, certified to SGS test standart)


 Fire safety (Class C, certified to SGS test standards)

## Reliability

 PID FREE Resistance to power attenuation passed SGS system voltage endurance test

## High performance

 Advanced Excellent power output of modules in low light environment

 100% double EL test enabling remarkable reduction of hidden crack rate of modules

## Curves

