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LAMPIRAN

LAMPIRAN 1

Datasheet Panel Surya

Spesifikasi	Keterangan
Max. Power (Pmax)	200W
Max. Power Voltage (Vmp)	26.9V
Max. Power Current (Imp)	7.43A
Open Circuit Voltage (Voc)	32.3V
Short Circuit Current (Isc)	8.33A
Nominal Operating Cell Temp (NOCT)	45±2°C
Max. System Voltage	1000V
Max. Series Fuse	16A
Weight	15.45Kg
Dimension	1482 x 992 x 35 mm

LAMPIRAN 2

Datasheet Inverter

Specifications :
Model : MPS-H 3.5K
Rated Power : 3500VA/3500W

INPUT
Voltage : 230VAC
Selectable Voltage Range : 170~280VAC (For Personal Computers); 90~280VAC (For Home Appliances)
Frequency Range : 50Hz/60Hz (Auto Sensing)

OUTPUT
AC Voltage Regulation (Battery Mode) : 230VAC ±5%
Surge Power : 7000VA
Efficiency (Peak) PV to Inverter : 97%
Efficiency (Peak) Battery to Inverter : 94%
Transfer Time : 10ms (For Pesonal Computers); 20ms (For Home Appliances)

BATTERY & AC CHARGER
Battery Voltage : 24VDC
Floating Charge Coltage : 27VDC
Overcharge Protection : 33VDC
Maximum Charge Current : 80A

SOLAR CHARGER
Max. PV Array Power : 5000W
MPPT Range @ Operating Voltage : 120~450VDC
Max. PV Array Open Circuit Voltage : 500VDC
Max. Charging Current : 110A
Max. Efficiency : 98%

PHYSICAL
Dimension (D x W x H) : 133 x 297 x 472mm
Nett. Weight : 12Kg
Communication Interface : USB/RS232/GPRS/WIFI Optional

LAMPIRAN 3

Datasheet Baterai

stored energy solutions for a demanding world

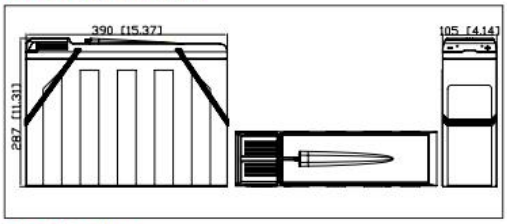
Narada

Model: 12NDF100

Acme F

The Acme F range of front access VRLA batteries has been specifically designed for applications using 19" and 23" cabinets, especially telecoms. Reliability is assured with the patented post seal and a state-of-the-art AGM design developed to comply with the latest IEC, British and Telcordia standards. A 12+ years design life and centralised venting system add to the suitability and flexibility of this superior range.

Dimensions-mm[inch]



Specifications

Battery Model	12NDF100
Nominal Voltage	12V
Rated Capacity	100Ah (10 hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	33.0kg
Internal Resistance	Approx 6.31mΩ
Temperature Ranges	Operation (maximum): -40°C to 50°C(-40°F to 122°F) Operation (recommended): 15°C to 25°C(59°F to 77°F) Storage: -20°C to 40°C(-4°F to 104°F)
Float Voltage	2.25V/cell@25°C(77°F)
Recommended Maximum Charging Current Limit	25A
Equalize and Cycle Service	2.35V~2.40V/cell@25°C(77°F)
Self Discharge	The residual capacity is above 90% after 90 days storage(25°C/77°F)
Terminal	M6 Female
Terminal Hardware Torque	8±1.0Nm
Container Material	ABS (V0 optional)

LAMPIRAN 4

Data Matahari (bersumber dari data NASA)

POWER_Point_Monthly_Timeseries_2020_2020_005d2548S_119d8637E_LST - Notepad

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-BEGIN HEADER-
NASA/POWER CERES/MERRA2 Native Resolution Monthly and Annual
Dates (month/day/year): 01/01/2020 through 12/31/2020
Location: Latitude  -5.2548   Longitude 119.8637
Elevation from MERRA-2: Average for 0.5 x 0.625 degree lat/lon region = 299.22 meters
Value for missing model data cannot be computed or out of model availability range: -999
Parameter(s):
ALLSKY_KT               CERES SYN1deg All Sky Insolation Clearness Index (dimensionless)
CLOUD_AMT               CERES SYN1deg Cloud Amount (%)
CLRSKY_KT               CERES SYN1deg Clear Sky Insolation Clearness Index (dimensionless)
ALLSKY_NKT              CERES SYN1deg All Sky Normalized Insolation Clearness Index (dimensionless)
CLRSKY_NKT              CERES SYN1deg Clear Sky Normalized Insolation Clearness Index (dimensionless)
TOA_SW_DWN              CERES SYN1deg Top-Of-Atmosphere Shortwave Downward Irradiance (kW-hr/m^2/day)
ALLSKY_SFC_UVA          CERES SYN1deg All Sky Surface UVA Irradiance (W/m^2)
ALLSKY_SFC_UVB          CERES SYN1deg All Sky Surface UVB Irradiance (W/m^2)
ALLSKY_SRF_ALB          CERES SYN1deg All Sky Surface Albedo (dimensionless)
ALLSKY_SFC_SW_DNI       CERES SYN1deg All Sky Surface Shortwave Downward Direct Normal Irradiance (kW-hr/m^2/day)
ALLSKY_SFC_SW_DWN       CERES SYN1deg All Sky Surface Shortwave Downward Irradiance (kW-hr/m^2/day)
CLRSKY_SFC_SW_DWN       CERES SYN1deg Clear Sky Surface Shortwave Downward Irradiance (kW-hr/m^2/day)
ALLSKY_SFC_PAR_TOT      CERES SYN1deg All Sky Surface PAR Total (W/m^2)
ALLSKY_SFC_SW_DIFF      CERES SYN1deg All Sky Surface Shortwave Diffuse Irradiance (kW-hr/m^2/day)
CLRSKY_SFC_PAR_TOT      CERES SYN1deg Clear Sky Surface PAR Total (W/m^2)
ALLSKY_SFC_UV_INDEX     CERES SYN1deg All Sky Surface UV Index (dimensionless)
-END HEADER-
```

PARAMETER	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALLSKY_KT	2020	0.47	0.41	0.52	0.55	0.53	0.58	0.59	0.66	0.63	0.60	0.55	0.40	0.54
CLOUD_AMT	2020	82.70	93.45	83.49	72.09	73.10	60.41	57.28	41.19	58.02	68.55	80.37	97.64	72.30
CLRSKY_KT	2020	0.69	0.68	0.69	0.69	0.69	0.69	0.69	0.70	0.70	0.70	0.70	0.68	0.69
ALLSKY_NKT	2020	0.55	0.48	0.61	0.66	0.65	0.71	0.73	0.79	0.75	0.70	0.64	0.48	0.65
CLRSKY_NKT	2020	0.81	0.80	0.80	0.82	0.84	0.84	0.84	0.84	0.83	0.81	0.81	0.80	0.83
TOA_SW_DWN	2020	10.57	10.69	10.47	9.84	9.07	8.64	8.81	9.46	10.14	10.52	10.54	10.47	9.93
ALLSKY_SFC_UVA	2020	13.50	12.34	14.80	14.45	13.01	12.91	13.55	15.91	16.72	16.41	15.30	11.98	14.24
ALLSKY_SFC_UVB	2020	0.43	0.41	0.48	0.46	0.41	0.38	0.39	0.48	0.53	0.50	0.47	0.38	0.45
ALLSKY_SRF_ALB	2020	0.09	0.09	0.11	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.09	0.09
ALLSKY_SFC_SW_DNI	2020	3.43	2.16	3.74	4.30	4.09	4.97	5.11	6.72	5.95	5.19	4.00	1.76	4.29
ALLSKY_SFC_SW_DWN	2020	4.92	4.33	5.44	5.37	4.84	4.99	5.27	6.21	6.42	6.29	5.73	4.21	5.34
CLRSKY_SFC_SW_DWN	2020	7.29	7.30	7.20	6.78	6.22	5.93	6.07	6.67	7.15	7.32	7.29	7.12	6.86
ALLSKY_SFC_PAR_TOT	2020	98.23	88.05	108.70	106.88	96.24	97.80	102.76	121.20	126.29	123.65	113.32	85.09	105.72
ALLSKY_SFC_SW_DIFF	2020	2.43	2.69	2.62	2.25	2.04	1.73	1.83	1.51	2.03	2.43	2.77	2.91	2.27
CLRSKY_SFC_PAR_TOT	2020	142.57	142.73	140.49	132.54	122.41	115.66	117.97	129.12	138.21	141.45	141.77	139.45	133.66
ALLSKY_SFC_UV_INDEX	2020	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00

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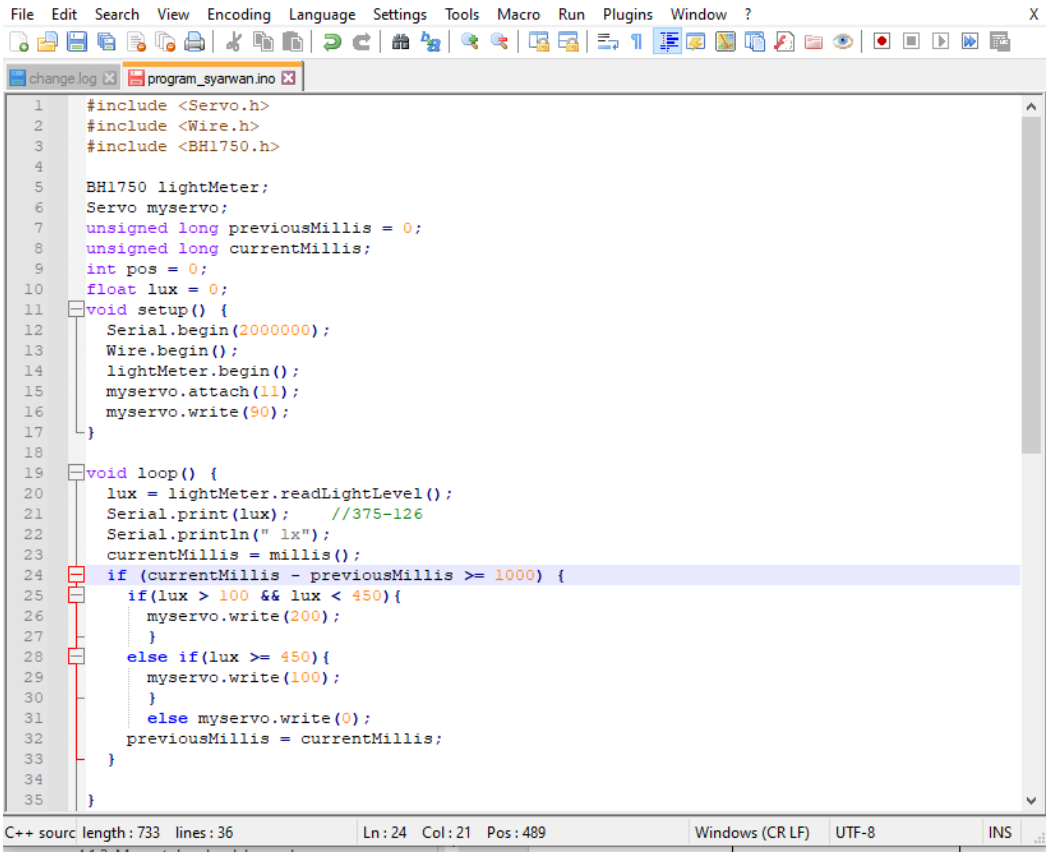
LAMPIRAN 5

Program Arduino



LAMPIRAN 6

Foto Villa PAS