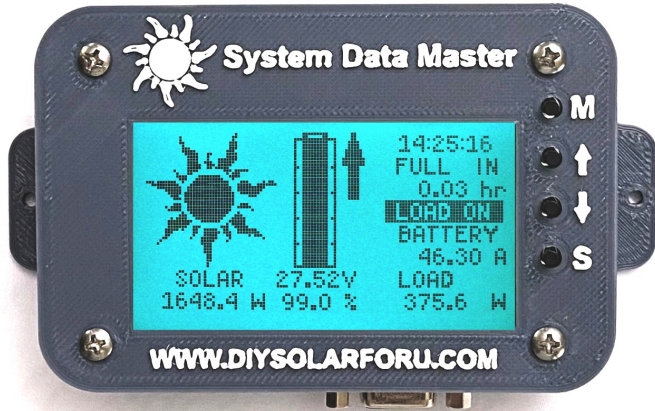


# System Data Master Specifications



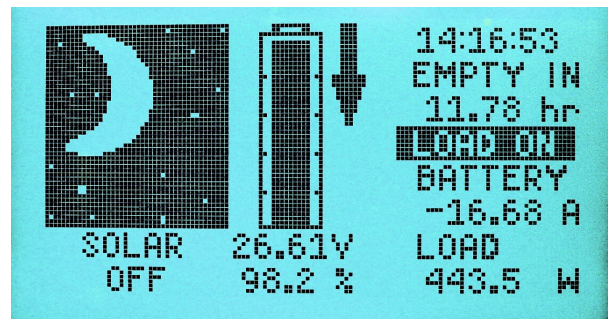
## Main Features and Specifications

- Complete System Monitoring and Control
- On Screen Numeric and Graphical data
- Controller Data, Solar Data, Load Data & more
- Connect up to 20 Controllers (Apollo / Sól)
- 4 or 8 Cell Smart Balancing & Monitoring when used with our LFP Cell Balancer / Monitor
- LFP Cell Over / Under Voltage Protection when used with our LFP Cell Balancer / Monitor
- Accurate Battery State of charge (SOC %)
- User adjustable shunt parameters 20 to 1000 Amps
- Battery sizes from 20 to 7500 Amp Hours
- 12 Volt or 24 Volt Systems (4 or 8 cell LFP)
- Over Discharge Protection Load Switch when an external Relay is used
- Stores 2 Years of Data in EEPROM with 15 minute sampling interval
- RS232 Serial Output for PC logging or display
- Compatible with AGM, Deep Cycle Batteries
- 8 Programmable Alarms warn of system problems
- User adjustable RGB Backlight Color & Brightness
- Real Time Clock and Calendar
- 10 PPM Crystal Oscillator adjustable in 1 PPM increments for near ZERO drift

## Electrical Specifications

Power consumption	40 mA Typical with 100% Green 70 mA Maximum at 100% RGB
Data update rate	1.33 Seconds—all connected devices 9600 BAUD with CRC error checking
RS232 Output	115200 BAUD, 8 bit, 1 Stop, No Parity Output Live Data in adjustable intervals with full resolution in PC screen view or Spreadsheet editable format
Battery Voltage Accuracy	+/- 0.05 volts Factory Trimmed
Battery current ADC	22 Bit for precise measurement
Shunt Range	40 mV to 150 mV, 20 to 1000 Amps User set parameters in Calibration Menu
Data Log Sampling	Every 15 minutes — 675 sample average
Programmable Alarms	Low SOC, Critical SOC, Low Voltage, Critical Voltage, Data Comm Error, Controller Overheat, Low Cell voltage, High Cell Voltage. All Alarms can be Flash only or Flash with Audible beep
Number of screens	21 total display screens that are user configurable
Saved Data Resolution	0.1 Watt Solar and Load, 0.1volts Battery, Cell Voltage 0.01 volts, SOC 0.5% steps
Data Graphs	X-AXIS 12 minutes to 24 hours, Y-AXIS Auto or User Adjustable depending on screen
LCD Screen Backlight	3 inch 128 x 64 Pixel with RGB LED
CPU	48 MHz with Math Acceleration 32 Bit Math for high accuracy
EEPROM	4 Meg for 2 years of system data storage that can be sent out via RS232 port
Case	3D Printed PETG Plastic

Night Screen Example



# Real Sample screen images

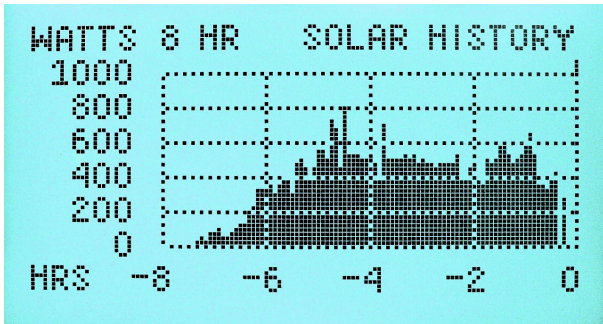
14:25:16  
 FULL IN  
 0.03 hr  
**LOAD ON**  
 BATTERY  
 46.30 A  
 LOAD  
 375.6 W

SOLAR 27.52V  
 1648.4 W 99.0 %

MIN AND MAX CELL VOLTS

MIN		MAX	
1-4	5-8	1-4	5-8
3.19	3.20	3.58	3.58
3.19	3.19	3.60	3.60
3.18	3.18	3.58	3.58
3.19	3.20	3.58	3.58

LAST RESET 04/14/22 10:15



MAX VALUES SINCE RESET

MAX SOLAR WATTS	1664.0
MAX LOAD WATTS	1408.0
MAX AMP HOUR	201.21
MAX WATT HOUR	5613.86
MIN S.O.C.	19.2 %

LAST RESET 04/14/22 10:15  
 HOLD SELECT TO RESET

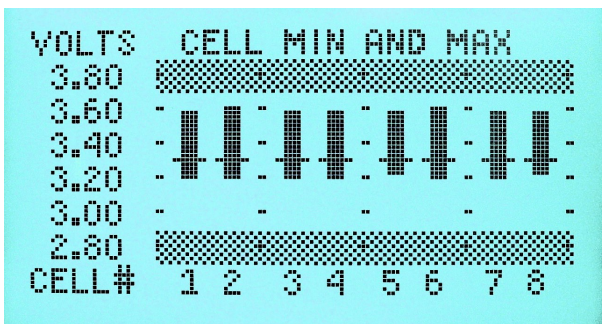
16:16:52  
 FULL IN  
 0.00 hr  
**LOAD ON**  
 BATTERY  
 0.54 A  
 LOAD  
 565.9 W

SOLAR 28.67V  
 560.5 W 100 %

CONTROLLER DATA 01 ADDR 57

PANEL VOLTS	40.06
BATTERY VOLTS	26.98
AMPS OUTPUT	11.11
CONTROLLER TEMP	79 F
SOLAR WATTS	299.74

PRESS SELECT THEN ↑ ↓



SOLAR KWH DATA FOR 2022

JAN		JUL	
FEB		AUG	
MAR	79.582	SEP	
<b>APR</b>	86.036	OCT	
MAY		NOV	
JUN		DEC	
39 DAY AVG		4.246 KWH	

