

PT-20-10 | SOLAR CHARGE CONTROLLER

ADVANCED MPPT SUPPORT FOR SMALLER PV SYSTEMS

Introduction

The Magnum Energy PT-20-10 Charge Controller by Sensata Technologies is an MPPT controller designed to work with all established module technologies and is optimized for grid-tied PV systems with module voltages higher than the battery voltage. The advanced MPP-tracking algorithm ensures maximum available power produced by the solar panels charges the batteries in any weather.



Features

- Maximum Power Point Tracker (MPP tracker)
- Voltage and current regulation
- Automatic load reconnection
- Temperature compensation
- Positive earthing of one or negative earthing of several terminals possible
- Monthly equalization charge
- Integrated light controller

Electronic Protection Functions

- Overcharge protection
- Deep discharge protection
- Reverse polarity protection of module, load and battery
- Reverse polarity protection by internal fuse
- Automatic electronic fuse
- Short circuit protection
- Overvoltage protection at module input
- Open circuit protection without battery
- Reverse current protection at night
- Overtemperature and overload protection
- Load disconnection on battery overvoltage

Model Numbers

- PT-20-10

Works With

- Works as a stand-alone controller using internal settings.

Options

- Evening or night light function pre-set in the factory or adjustable via the optional RC100



SPECIFICATIONS

PT-20-10	
OPERATING PERFORMANCE	
System voltage	12 V (24 V)
Nominal power	250 W (500 W)
Max. DC-DC efficiency	98.3 % (U _{batt} =24 V; U _{in} =30 V; P=0.6*P _{nom})
European efficiency	94.7 % (U _{batt} =12 V; U _{in} =30 V); 96.7 % (U _{batt} =24 V; U _{in} =30 V)
European efficiency (weighted across all U _{batt} and U _{in})	95.2 %
Static MPP efficiency	99.9 % (DIN EN 50530)
Dynamic MPP efficiency	97.7 % (DIN EN 50530)
Weighted REW (Realistic Equally Weighted efficiency)	92.8 %
Power consumption	10 mA
DC INPUT SIDE	
MMP voltage	15 V (30 V) < U _{module} << 100 V
Open circuit voltage solar module (at minimum operating temperature)	17 V to 100 V (34 V to 100 V)
DC OUTPUT SIDE	
Load current	10 A
Reconnection voltage (LVR)	12.5 V (25 V)
Deep discharge protection (LVD)	11.5 V (23 V)
BATTERY SIDE	
Charge current	20 A
End-of-charge voltage	13.9 V (27.8 V)
Boost charge voltage	14.4 V (28.8 V)
Equalization charge	14.7 V (29.4 V)
Set battery type	flooded
Charge current	18 ADC
ENVIRONMENTAL SPECIFICATIONS	
Ambient temperature	-13° F to 113° F (-25° C to +45° C) derating occurs above 77° F (25° C)
Physical Specifications	
Terminal (fine/single wire)	AWG 6 / 4 (16 mm ² / 25 mm ²)
Degree of protection	IP 32
Dimensions (width x height x depth)	7.4" x 6.0" x 2.7" (187 mm x 153 mm x 68 mm)
Shipping dimensions (width x height x depth)	7.8" x 6.2" x 2.9" (200 mm x 158 mm x 75 mm)
Weight	2 lb (900 g)
Shipping weight	2 lb (900 g)
GENERAL SPECIFICATIONS	
Warranty	5 years



GENERAL NOTES

Testing for specifications at 25° C.
Specifications subject to change without notice.

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