

SOLAR POWER PLANTS & GRID TIED POWER TRANSFER SYSTEM

Application: MSPL series of fast response solar utility/grid interactive power transfer system are available in more than 10 different models (10 to 100 kilo watts) including some tailor made models practically offering readymade solution for solar power utilization for captive use or transfer/drawl (active/reactive power) from photo-voltaic including general street/commercial/industrial lighting /water pumping/battery operated vehicle battery charging solution assisted by energy efficient load based D.C./D.C. or D.C./A.C. controller which are able to detect/adapt with fast changing parameter of load to transfer optimal power without sacrificing efficiency.

Operating Principle:

These utility/grid interactive power transfer system are D.C. /D.C. or D.C. /A.C. Unidirectional/bi-directional converters with maximum power tracking control system operating either in four/two-quadrant/single quadrant mode with smooth transition between each other to ensure impedance match power transfer. In case of grid interactive solar power transfer system, power is transferred into electricity main. With such type of solar control package, an infinitely small variable power can be fed into grid/load in constant voltage /current/power mode or profiled in specific manner.

Active/reactive power transfer from grid interactive power transfers system to Grid.

$P = E_s \cdot V_t / X_s \cdot \sin\phi$ & $Q = V_t / X_s (E_s \cos\phi - V_t)$

Where P,Q : active/reactive power, Xs : current limiting reactor /

E_s : Source voltage, V_t : grid voltage

Feedback controlled power supply ensure fine resolution in loading i.e. 0.1% of torque/power OR derived unite at any time, with a very high degree of stability and repeatability.

Technical specifications of GRID POWER TRANSFER CONTROLLER:

- Operating Power supply 220 volts/50 Hz
- Import/Export: 500 amps (max)
- Real Power /Reactive power 100 mva/10 mvar (max)
- Short circuit current/over current 10 times/3 three time rated current
- Conversion frequency of chopper 50 Hz-50 kHz
- Display Voltage/vurrent/power /frequency or Active/ reactive power/current/power factor

- Repeatability 100 percent
- Response time 0.5 -1.1 mill-seconds

- Accuracy of loading: 100% of power
- Interface Signal 0.0-12.0 volts D.C. (proportional to power)
- Control range 0.0-100%
- Step down ratio 0-100%
- Protection: over load/short circuit
- Interface: RS-232/USB

Control unit of controllers are equipped with voltage, current, power factor, Frequency meter

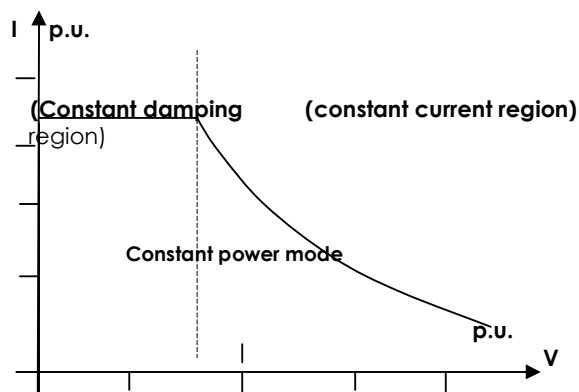
Grid interactive control system diemension:

MSPL-002002L1	08X06X06	MSPL-200004L1	14X12X12
MSPL-005002L1	10X06X06	MSPL-400004L1	16X14X14
MSPL-010002L1	12X08X08	MSPL-100004L1	18X16X16
MSPL-020004L1	12X10X10	MSPL-200004L1	20X18X18
MSPL-050004L1	12X10X10	MSPL-500000H2	20X18X18
MSPL-100004L1	12X10X10	MSPL-900000H2	20X18X18

Five numerals after MSPL indicates VAR x10 of power supply and last alphabet L1/H2 Indicate 440 volt/H2 indicate 11/33/220.0 kV.

2. All dimensions are in inches.

Above models are in current range of production, however company Undertake any tailor made specification power supply.



MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, Shakti nagar extension, DELHI-110052. Tel: 011-23644180/23655454
e.mail: motoron@hotmail.com

SOLAR POWER PLANTS & GRID TIED POWER TRANSFER SYSTEM



MSPL-10060
**Grid interfaced controller
for steam based electricity**



MSPL-50120
**Grid interfaced controller
for wind power plant**

Technical specifications and selection chart of uni/bi-directional solar power convertors:

P<1000 Kilo watts

Model	Power (watts)	Rated Voltage D.C.	Frequency Hz/OPTION	Current X10 Amps/D.C.	POWER FACTOR/TDh	Thermal rise °C (an hour)
MSPL15001	15000.0	200/400	50/option	075/037	<.85/3%	65
MSPL10001	10000.0	100/200	50/option	100/050	<.85/3%	65
MSPL05001	05000.0	100/200	50/option	050/025	<.85/3%	65
MSPL02501	02500.0	050/100	50/option	050/025	<.85/3%	65
MSPL01001	01000.0	050/100	50/option	020/010	<.85/3%	65
MSPL00501	00500.0	050/100	50/option	10.0/05.0	<.85/3%	65
MSPL00201	00200.0	025/050	50/option	08.0/04.0	<.85/3%	65
MSPL00101	00100.0	012/0025	50/option	08.0/04.0	<.85/3%	65
MSPL00501	00050.0	012/025	50/option	04.0/02.0	<.85/3%	65
MSPL00201	00020.0	012/025	50/option	01.7/0.8	<.85/3%	65
MSPL00101	00010.0	012/025	50/option	00.8/00.4	<.85/3%	65

Last two numeral after. MSPL indicates voltx100 an remaining numeral indicates power (kilo-watts)

MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, Shakti nagar extension, DELHI-110052. Tel: 011-23644180/23655454
e.mail: motoron@hotmail.com

not of un-authorized commercial use

SOLAR POWER PLANTS & GRID TIED POWER TRANSFER SYSTEM (CAPTIVE SOLAR ENERGY UTILITIES)



PHOTOVOLTAIC BATTERY CHARGER



Wind power plant (DISTRIBUTION/TRANSMISSION)



Battery operated captive transport system



battery operated van



battery operated rickshaw



Photovoltaic passage light



Photovoltaic LED road light



Photovoltaic High way light



Photovoltaic LED building light

MOTORON SEMICONDUCTORS CORPORATION

11, Shri nagar colony, Shakti nagar extension, DELHI-110052. Tel: 011-23644180/23655454

e.mail: motoron@hotmail.com