

TeleStar™ Series MC600 Power Shelf The ONEAC TeleStar Series MC600 Power Shelf combines a compact modular design with intelligent power features and state-of-the-art technology. The MC600 Power Shelf is the perfect choice for PBX applications. The power shelf houses up to five plug-in rectifier modules, a distribution module and a control system unit which provides alarms and comprehensive remote monitoring control.

Compact power plant

The MC600 dramatically decreases the footprint over traditional power systems. Increased power density and design flexibility allow the system to grow with up to five rectifier modules in one shelf, that fits into a standard 19 inch rack. Optional mounting brackets are available for 23" rack installation.

Reduce costs

The MC600 Power Shelf design allows for quick installation and maintenance, reducing cost. The flexibility of modular growth reduces initial costs. Active power factor correction assures the MC600 operates with optimum AC efficiency, lowering overall utility costs.

Reliable and uninterrupted operations

The MC600 Power Shelf employs state-of-the-art technology, stringent quality control and rigorous system testing.

Rectifier modules can be added to the system without interruption of service. As demand increases, plug-in rectifiers enable the system to grow without the addition of costly wiring. True plug-and-play convenience.

Battery protection

Temperature compensation, low-voltage disconnect, and battery disconnect features provide premium battery plant protection.

Remote management

The MC600 Power Shelf comes equipped with an RS232 and RJ45 interface for remote management. Features which allow easy management of the Power Shelf using the internet. Remote management reduces the cost of system maintenance.



Key Features

- Complete power plant in one shelf including rectifier, battery disconnect and control system unit. (CSU)
- Hot-swappable 600 watt rectifiers, wide range PFC input
- All modules are front accessible
- High power density in N+1 configuration
- Only 3U high and fits in 19" and ETSI rack standard format
- Optional mounting brackets allow for 23" rack installations
- Battery disconnect breaker
- Low-voltage disconnect
- 10-BaseT LAN interface
- Temperature compensation voltage control
- Equalized charge timer
- Wide operating temperature range: -4°F to +149°F (-20°C to +65°C)
- UL, cUL listed, TUV, CE Approvals
- 2-year warranty

TeleStar Series MC600 Power Shelf: Specifications

TeleStar Series MC600 Power Shelf

Part Number (includes CSU)	MC600-150N, Power Shelf fits 1 to 5 rectifiers
AC Input	90 to 275 VAC, Single Phase
System Capacity	-48 V/10 A - 50 A
Load Terminal Block	50 A
Battery Disconnect Breaker	50 A, Single Pole
Low Voltage Disconnect	-48 V, 50 A
Maximum dimensions - W - in. (cm)	19 (48)
Maximum dimensions - H - in. (cm)	5.25 (13)
Maximum dimensions - D - in. (cm)	12 (30)
Operating Temperature	-4°F to +149°F (-20°C to +65°C)
Storage Temperature	-40°F to +185°F (-40°C to +85°C)
Humidity	0-95% Relative Humidity, Non-Condensing
Altitude	500 ft. below sea level to 10,000 ft. above sea level (-152.4m - +3048m)



The TeleStar MC600 Power Shelf features true plug-and-play modularity.

MC600 Power Shelf Modules

Rectifier Modules

The MC600 Rectifier Module operates from a nominal 200/208/240 VAC source and provides -48 VDC at 10 A over a temperature range of -4°F to +149°F (-20°C to +65°C). The rectifier module provides highly regulated, low-noise power. A Power Shelf can provide from 10 A to 50 A, with one to five rectifiers.

Control System Unit

The MC600 Control System Unit provides output alarms, voltage control, temperature compensation, equalized charge timer and alarm LEDs.

Distribution Module

The MC600 Distribution Module provides primary bus output at the rear terminal. The distribution module also contains LVDS and battery breakers.

Batteries

The MC600 Power Shelf is designed to accept up to two battery string inputs. The batteries are protected by a battery disconnect on the Distribution Module. The MC600 Power Shelf will operate with any manufacturer's batteries.



MC600 Rectifier



MC600 CSU

TeleStar Series MC600 Rectifier: Specifications

TeleStar Series MC600 Rectifier

Part Number	MC600-210N
Input	
Input Voltage	176 to 275 VAC, Single Phase (276 to 300 VAC, no damage) (175 to 121 VAC, derated to 70% load) (120 to 90 VAC, derated to 50% load)
Input Current	< 4 A (low-line input, full load)
Line Frequency	45 to 65 Hz
Power Factor	> .99 nominal Input, full-load
THD	< 5% nominal Input, full-load
Efficiency	> 90% (typical 91%) nominal Input, full-load
Inrush Current	< 9 A (peak) nominal Input, full-load, cold start
Start Time Delay (Walk-In)	3 to 10 seconds
Protection	Fuse
Output	
DC Output Voltage	40 to 60 VDC
Output Power	600 W (maximum)
Regulation	Load: < $\pm 0.5\%$ (load 0 to 100%) Line: < $\pm 0.1\%$
Current Limit	110% of Rated Output Current
Noise	Audio Band: < 2 mV (-48 VDC), CCITT Wide Band: < 10 m Vrms (10 kHz to 100 MHz) Acoustic: < 55 dBA @ 1M
Current Sharing	< $\pm 5\%$ of Rated Output Current
Dynamic Response	10 to 90% Load Change Overshoot < $\pm 5\%$ Rated Output Voltage Recovery Time < 1 ms to $\leq 1\%$ Rated Output Voltage
Protection	Fuse
Protection	
High Voltage Shutdown	If the rectifier module voltage exceeds preset value, the module will shut down and latch.
Output Short	Automatic Shutdown and Recovery
Output Current	Automatic Shutdown and Recovery
Over Temperature	Automatic Shutdown and Recovery
Brown-Out	No Damage During Brown-Out Conditions
AC Input Voltage High	Automatic Shutdown and Recovery
AC Input Voltage Low	Automatic Shutdown and Recovery
Environmental	
EMI / RFI Suppression	EN 55022, BS 6527 Class B, FCC Part 15 Subpart J & CISPR 22 Class B
Current Harmonic	EN 6100-3-2 / A12, EN 60555-2, IEC 555-2 Class A
Voltage Fluctuation	EN 6100-3-3, EN 60555-3
Electrostatic Discharge	EN 61000-4-2, IEC 1000-4-2, IEC 801-2 Level 4, 15 kV air; 8 kV contact
Radiated Susceptibility	IEC 1000-4-3, IEC 801-3 Level 3, 10 V/m
Electrical Fast Transients	EN61000-4-4, IEC 1000-4-4, IEC 801-4 Level 4, 4 kV
Conducted Susceptibility	IEC 1000-4-6 Level 3
Lightning / Surge	ANSI / IEEE C62.41-1, 1991 B3, IEC 1000-4-5 Level Special (6 kV)
Status / Alarm Indicators	
AC On	Green LED
Rectifier Failure Alarm (RFA)	Red LED
Current Limit (CL)	Amber LED

TeleStar Series MC600 Rectifier & Control Unit: Specifications

MC600 Rectifier Specifications (continued)

Adjustments

Current Limit (CL)	Setting from system Controller (SMR or CSU)
Float Voltage (FLO)	Setting from system Controller (SMR or CSU)
Test Points (I ₊ , I ₋)	Output Current Test
Remote Control	Emergency shutdown, Float / Equalize Mode, Current Limit

Physical

Maximum dimensions - W - in. (cm)	2.5 (6)
Maximum dimensions - H - in. (cm)	5.2 (13)
Maximum dimensions - D - in. (cm)	9.57 (24)
Weight - lbs. (kg.)	4.4 (2)

Other Data

Safety	Meets IEC 950, EN 60950, UL/cUL Listed, TUV/CE Approvals
MTBF	> 150 K Hours
Cooling	Fan Cooling
Heat Dissipation	228 BTU/Hour Max. per Module

MC600 Digital Control Unit Specifications

Part Number	MC600-700*
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Input Voltage

Input Voltage Range	20 VDC to 60 VDC
Input Current	0.6 A (maximum)

LED Indicator

LED	Float Charge; Equalize Charge; High Voltage Alarm; Low Voltage Alarm; Major; Minor; High Voltage Shutdown; AC Fail; Fuse Blown; Low Voltage Disconnect
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Parameters and Controls

Settings	High Voltage Shutdown (HVSD); DC High Voltage; DC Low Voltage; AC High Voltage; AC Low Voltage; Battery Temperature; Site ID; Float / Equalize Voltage; LVDS Trip Voltage; HVSD Reset; Temperature compensation On / Off; Equalize Charge Timer; Remote SMR On / Off, Float / Equalize Control
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Relay Output Communication

Relay Output Alarm;	AC Fail Alarm; Major Alarm; Minor Alarm; Fuse Blown (BREAKER TRIP); HVSD Alarm; High Voltage Low Voltage Alarm; LVDS Open Alarm
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Remote Monitoring and Control

RS232 Interface	By RMS Software (Use RS232 Interface)
LAN Interface (RJ45)	By Web Server (Optional)

Other

Electrostatic Discharge (ESD)	IEC 1000-4-2 (contact 4 kV, Air 8 kV)
Maximum dimensions - W - in. (cm)	1.82 (5)
Maximum dimensions - H - in. (cm)	5.2 (13)
Maximum dimensions - D - in. (cm)	9.89 (25)
Weight - lbs. (kg.)	2.6 (1.2)

* Included with part number MC600-150N.

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