

Features

- Ultimate capacity- 27V, 139A max (up to 3780W without redundancy)
- Ultimate capacity- 27V, 116A max (up to 3150W with N+1 redundancy)
- Modular design with 6 modules, each module rated for 700W (max.) output power (i.e. 25A @28V).
- Load sharing amongst modules within $\pm 10\%$
- Module Efficiency: Typical 87% at 48V in, 27V out @ 25A
- Operating temperature range: 0 to +55°C
- Five nos. of single pole MCB's (6A-63A Ratings) for Load Distribution (can be customized)
- Short Circuit Protection, Auto restart after fault shutdown
- Visual Indicators (LED's) on each converter module
 - ✓ Converter Okay Indicator (Green LED)
 - ✓ Converter Faulty Indicator (Red LED)
- Potential free contact in case of any one or more converter failures
- I_{out} (5mV /Amps) Test Jacks for monitoring each module output current
- Standard 19" rack mountable solution

Applications

- Power Supply in Co-Located Sites with multiple voltage network switches
- Wireless Network
- Broadband and Telephone Services
- Telecom Equipment



Specification of the BMP module used (one module in each converter box)

Parameter	Device	Symbol	Min	Typ	Max	Unit
Operating Input Voltage	All	V_{IN}	36	48	75	V_{dc}
Maximum Input Current ($V_{IN}=36V$ to $75V$, $I_O=I_{O,max}$)	All	$I_{IN,max}$			23	A_{dc}
Inrush Transient	All	I^2t			2	A^2s
Input Reflected Ripple Current, peak-to-peak (5Hz to 20MHz, 12 μ H source impedance; $V_{IN}=0V$ to $75V$, $I_O=I_{O,max}$; see Figure 10)	All				40	mA_{o-p}
Input Ripple Rejection (120Hz)	All			60		dB

Parameter	Device	Symbol	Min	Typ	Max	Unit
Output Voltage Set-point ($V_{IN}=V_{IN,nom}$, $I_O=I_{O,max}$, $T_c=25^\circ C$)	All	$V_{O,set}$	27.5	28	28.5	V_{dc}
Output Voltage (Over all operating input voltage, resistive load, and temperature conditions until end of life)	All	V_O	27.15	—	28.85	V_{dc}
Output Regulation Line ($V_{IN}=V_{IN,min}$ to $V_{IN,max}$)	All		—	0.05	0.2	% V_O
Load ($I_O=I_{O,min}$ to $I_{O,max}$)	All		—	0.05	0.2	% V_O
Temperature ($T_c = -40^\circ C$ to $+100^\circ C$)	All		—	100	300	mV
Output Ripple and Noise on nominal output ($V_{IN}=V_{IN,nom}$ and $I_O=I_{O,min}$ to $I_{O,max}$)						
RMS (5Hz to 20MHz bandwidth)	All		—		80	mV_{rms}
Peak-to-Peak (5Hz to 20MHz bandwidth)	All		—		300	mV_{pk-pk}
External Capacitance Note: use a minimum 470 μ F output capacitor. If the ambient temperature is less than $-20^\circ C$, use more than 3 of recommended minimum capacitors.	All	$C_{O,max}$	470	1000	5000	μF
Output Current	All	I_O	2		25	A_{dc}
Output Current Limit Inception	All	$I_{O,lim}$	26	29	32	A_{dc}
Efficiency $V_{IN}=V_{IN,nom}$, $T_c=25^\circ C$ $I_O=I_{O,max}$, $V_O=V_{O,set}$	All	η	—	90	—	%
Switching Frequency		f_{sw}	—	300	—	kHz
Dynamic Load Response ($\Delta I_O/\Delta t=1A/10\mu s$; $V_{IN}=V_{IN,nom}$; $T_c=25^\circ C$; Tested with a 470 μF aluminum and a 10 μF ceramic capacitor across the load.)						
Load Change from $I_O=50\%$ to 75% of $I_{O,max}$: Peak Deviation	All	V_{pk}	—	3	—	% $V_{O,set}$
Settling Time ($V_O<10\%$ peak deviation)		t_s	—	2	—	ms
Load Change from $I_O=75\%$ to 50% of $I_{O,max}$: Peak Deviation		V_{pk}	—	3	—	% $V_{O,set}$
Settling Time ($V_O<10\%$ peak deviation)		t_s	—	2	—	ms

Isolation Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Isolation Capacitance	C_{iso}	—	1500	—	pF
Isolation Resistance	R_{iso}	10	—	—	M Ω

General Specifications

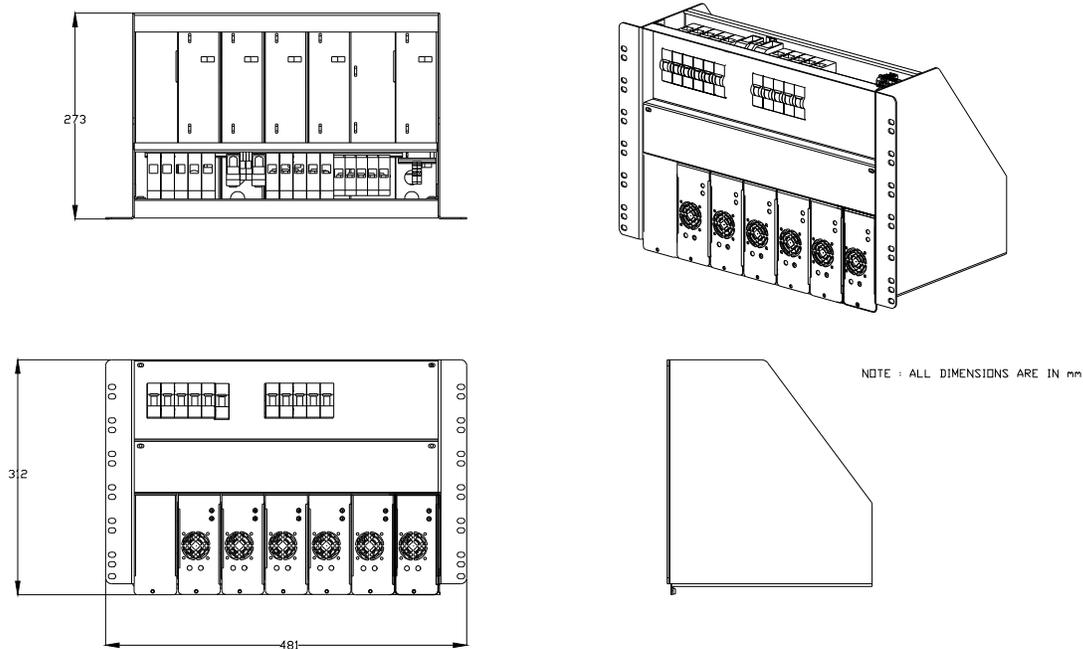
Parameter	Device	Symbol	Min	Typ	Max	Unit
Calculated Reliability based upon Telcordia SR-332 Issue 2: Method I Case 3 ($I_o=80\%I_{o,max}$, $T_A=40^\circ\text{C}$, airflow = 200 lfm, 90% confidence)	All	FIT	405.4			10^9 /Hours
		MTBF	2,466,797			Hours
Weight	All		—	150 (5.3)	—	g (oz.)

Feature Specifications

Unless otherwise indicated, specifications apply over all operating input voltage, resistive load, and temperature conditions. See Feature Descriptions for additional information.

Parameter	Device	Symbol	Min	Typ	Max	Unit
Remote On/Off Signal Interface ($V_{IN}=V_{IN,min}$ to $V_{IN,max}$; open collector or equivalent). Refer to remote on/off description and Figure 11.						
Remote On/Off Current – Logic ON	All	$I_{on/off}$	1.0	—	5.0	mA
Remote On/Off Current – Logic OFF	All	$I_{on/off}$	—	—	50	μA
Turn-On Delay and Rise Times ($V_{IN}=V_{IN,nom}$, $I_o=I_{o,max}$, 25°C)						
Case 1: On/Off input is set to Logic Low (Module ON) and then input power is applied (T_{delay} from instant at which $V_{IN} = V_{IN,min}$ until $V_o=10\%$ of $V_{o,set}$)	All	T_{delay}	60	75	100	ms
Case 2: Input power is applied for at least 1 second and then the On/Off input is set from OFF to ON ($T_{delay} =$ from instant at which $V_{IN}=V_{IN,min}$ until $V_o = 10\%$ of $V_{o,set}$).	All	T_{delay}	—	5	—	ms
$T_{rise} =$ time for V_o to rise from 10% of $V_{o,set}$ to 90% of $V_{o,set}$.	All	T_{rise}	—	25	—	ms
Output Voltage Overshoot ($I_o=80\%$ of $I_{o,max}$, $T_A=25^\circ\text{C}$)					3	% $V_{o,set}$
Output Voltage Adjustment (See Feature Descriptions):						
Output Voltage Remote-sense Range (only for No Trim or Trim down application)	All	V_{sense}	—	—	2	% $V_{o,nom}$
Output Voltage Set-point Adjustment Range (trim)	All	V_{trim}	60	—	110	% $V_{o,nom}$
Output Overvoltage Protection	All	$V_{o,limit}$	32	—	38	V
Over Temperature Protection (See Feature Descriptions)	All	T_{ref}	—	106	—	$^\circ\text{C}$
Input Under Voltage Lockout						
Turn-on Threshold	All	$V_{IN,UVLO}$		35	36	V_{dc}
Turn-off Threshold	All		30	31		V_{dc}
Hysteresis	All			4		V_{dc}
Input Over voltage Lockout						
Turn-on Threshold	All	$V_{IN,OVLO}$	—	76	78	V_{dc}
Turn-off Threshold	All		79	80	—	V_{dc}
Hysteresis	All		---	4	---	V_{dc}

Mechanical Outline



Cable Entry and Termination Specifications

Parameter	
Input cable entry	From top
Input cable termination	Directly on screw type terminal block (Max. cable size – 35 Sq. mm)
Load cable entry	From top
Load cable termination	Directly on screw type terminal block for -ve conductor (Max. cable size – 35 Sq. mm) Directly on single pole MCB for +ve conductor (Max. cable size – 35 Sq. mm)
Alarm cable entry	From top (max. cable size- 1.5 Sq. mm)
Alarm extension termination	Screw type terminal block suitable for 0.5-1.5 Sq. mm cable size

Ordering Information

Comcode	Description	Remarks
CCXXXXXXXX	FNW700-6C, Converter rack (without Modules) wired for 27V, 139A Capacity with provision for 5 x 6A~63A, 1 pole load MCB *	Qty 1 no. only
CC109149027	FNW700DC27, DC-DC Converter Module 700W (48V Input, 27V Output)	Qty can be 1 to 6.
CC848857854	Cover plate for blank Converter position	Qty can be 0 to 4.
MSDPMCDB0	Cover plate for blank load MCB position	Qty can be 0 to 4.
XXXXXXXX	1 pole Load MCB rating options - 6,10,16,20,25,32,40,50 or 63A *	Qty can be 1 to 5.

* Please specify Load MCB ratings and quantity while ordering.
 Contact your Lineage's Sales Representative for pricing, availability and other optional features.

Ordering Information -

Please contact your Lineage Powers' Sales Representative for pricing, lead-time/availability of the listed model nos. and in case of any customized requirement.



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