ETN SERIES

Hi-Rel 3,200W AC/DC POWER SUPPLY

FEATURES

- 3,200 W Output Power
- 100~305 VAC Input
- Over Voltage Protection
- Over Current Protection
- Conformal Coating (optional)
- HI-Reliability, SEMI F-47 Compliant
- OPTIONS: Factory Configurable voltage 9~55 VDC, Multiple Isolated Outputs (up to 3)
- Conducted Emission and Reinforcement in observance with MIL STD 461 (Conducted Emissions for 100~264 VAC) and MIL STD 810G (Shock/Vibration) available

RoHS CE

INPUT	Voltage/Freq	V	AC95V - 270V (AC85V ~ 305V or DC125V~ 375V), 50 / 60Hz (47 ~ 63Hz)
	Current	A	41.5 MAX
	Power Factor	110V 220V	0.99 typ; 0.99 @ Full Load 0.95 typ; 0.985 @ Full Load
	Inrush Current	A	75 @ 277 VAC in (worst case)
	Leakage	mA	<2.8 mA ACIN 240V 60Hz, Io=100%,

SINGLE OUTPUT MODELS

			ETN-12SX-25	ETN-24SX-25	ETN-28SX-25	ETN-48SX-25	ETN-55SX-25
OUTPUT	Nominal Voltage	VDC	12	24	28	48	55
	Current*	A	226.8 (2,722 W Max)	133	114.3	66.7	58.2
	Efficiency typ @Full Load	% 	84 85	87 89	87 89	89 90	88 89
	Line/Regulation	%	+/-1.5	+/-1.5	+/-1.5	+/-1.5	+/-1.5
	Ripple/Noise	%	+/- 1 max	+/- 1 max	+/- 1 max	+/- 1 max	+/- 1 max
	Temp Drift	%	<1%	<1%	<1%	<1%	<1%
	Rise Time	mS	600 max	600 max	600 max	600 max	600 max
	Hold up Time	mS	>22 typ [AC IN 110V,I_o =100%]				
	OVP	VDC	14~16 VDC	27~32	35~39 VDC	55.2~60	63~66
	OCP		105% of of rated current, constant Current to hiccup, automatic recovery				
	Cooling		Forced Air				

1. Ripple and noise are measured using oscilloscope 20MHz bandwidth by a 10uF electrolytic capacitor and a 0.1uF ceramic capacitor in parallel at output connector.
2. Standards: Unit has been designed to meet the standards listed. It is the responsibility of the customer to test in their system. Conducted emissions using shielded 3 conductor cable (L,N,G) with unit mounted to chassis ground.
3. Contact factory for test conditions.
4. ETN-12 models with a output greater than 140A must use busbars.

DUAL OUTPUT MODELS

			ETN-12yyFWX-25	ETN-24yyFWX-25	ETN-28yyFWX-25	ETN-48yyFWX-25	ETN-55yyFWX-25
OUTPUT	Primary Voltage	VDC	12	24	28	48	55
	Current	A	151 (1,812 W Max)	90	77.14	45	39.3
	Voltage 2nd	VDC	12	24	28	48	55
	Current 2nd	A	75.6	42	43	25	22
	Efficiency typ	%	84	87	87	89	88
	@Full Load		85	89	89	90	89
	Line/Regulation	%	+/-1.5	+/-1.5	+/-1.5	+/-1.5	+/-1.5
	Ripple/Noise	%	+/- 1 max	+/- 1 max	+/- 1 max	+/- 1 max	+/- 1 max
	Temp Drift	%	<1%	<1%	<1%	<1%	<1%
	Rise Time	mS	600 max	600 max	600 max	600 max	600 max
	Hold up Time	mS	>22 typ [AC IN 110V,I_o =100%]				
	OVP	VDC	14~16 VDC	27~32	35~39 VDC	55.2~60	63~66
	OCP		105% of of rated current, constant Current to hiccup, automatic recovery				
	Cooling		Forced Air				

For Dual Output Models, yy=rated secondary voltage output

TRIPLE OUTPUT MODELS

OUTPUT	Voltage	VDC	12	24	28	48	55
	Current	A	83.5	44.4	38.07	22.21	19.5
	Efficiency typ	%	84	87	87	89	88
	@Full Load		85	89	89	90	89
	Line/Regulation	%	+/-1.5	+/-1.5	+/-1.5	+/-1.5	+/-1.5
	Ripple/Noise	%	+/- 1 max	+/- 1 max	+/- 1 max	+/- 1 max	+/- 1 max
	Temp Drift	%	<1%	<1%	<1%	<1%	<1%
	Rise Time	mS	600 max	600 max	600 max	600 max	600 max
	Hold up Time	mS	>22 typ [AC IN 110V,I_o =100%]				
	OVP	VDC	14~16 VDC	27~32	35~39 VDC	55.2~60	63~66
	OCP		105% of of rated current, constant Current to hiccup, automatic recovery				
	Cooling		Forced Air				

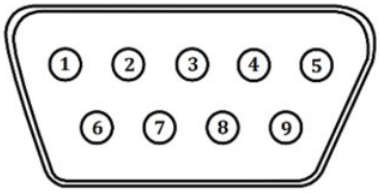
For triple output model model number is determined by the following scheme, ETN-V1_V2_V3**_X-25 where V1_, V2_ and V3_ designate the selected output voltage*

Protection	Overvoltage	Shutdown and latch off; AC recycle to restart
	Overload/Over Current	Constant Current to Hiccup, Auto recovery
	Over Temperature	Output shutoff when internal temperature reaches 85~90°C, AC recycle once overtemperature condition has been removed
Isolation	Input-Output	AC 3,000V 1 minute current 20mA, DC 500V 50MΩ (At room temperature & Humidity)
	Input-Case	AC 2,000V 1 minute current 20mA, DC 500V 50MΩ (At room temperature & Humidity)
	Output-Case	AC 500V 1 minute current 100mA, DC 500V 50MΩ (At room temperature & Humidity)
Environment	Operating temp/ Humidity	-40~ +70°C Ambient 20 ~ 95% RH(Non condensing)
	Storage temp/ Humidity	-40 ~ +100℃, 20 ~ 98% RH(Non condensing)
	Vibration	10 ~ 55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis
	Impact	2G for 20ms once on each X, Y and Z axis
Safety	UL/CE	Meets UL62368-1, EN62368-1, Complies with IEC60601-1-2 4th
	EMC	Complies with IEC61000-3-2 (Class A and B) EN55032 class A MIL-STD-461F/G: CE102, RE102, RE103
Size	In/lbs	14x5x5 inches /15 lbs
MTBF	Hrs	>250,000 at 25°C Ambient

Options	Suffix	Description
Remote ON OFF	-R1	Open=On/ Short =Off
	-R2	Open=Off/ Short=On
Voltage Trim	-VT	+/- 20% output voltage trim via external potentiometer (available on 28V and +10/-20% for 48V models only
Output Current Monitor	-IM	1.25V~3.25V = 0~100% Iout. +/-10%
Remote Sensing	-S	+S, -S on DB9 connector
Power Good	-PG	Output Power Monitor. Low= Good; High = Bad
Conformal Coat	-CC	Acrylic Coat on Internal Electronics
Buss Bar	-B	+/- Vout via buss bar contact, mandatory for 28V option
Conducted Emissions	-CE2	Modification to comply with MIL STD 461 CE 101, CE102 EMI Requirements
Vibration reinforcement	-8G	Modified to handle high vibration and shock environments, designed against MIL STD 810G

**-VT, -IM, -S, -PG options not available for on multiple output models*

Control Options Via Female DB9 Style Connector



Pin #	Name	Function
1	+S	+Sense
2	RC1	Remote control; on/off
3	RAX	Remote Auxiliary control (for remote on/off)
4	PG	Power Good Signal, to be used with PGG
5	NC	No connection
6	-S	-Sense
7	RC2	Remote control; on/off
8	PGG	Power Good Ground, to be used with PG
9	Imon	Output current monitor, to be used with -S

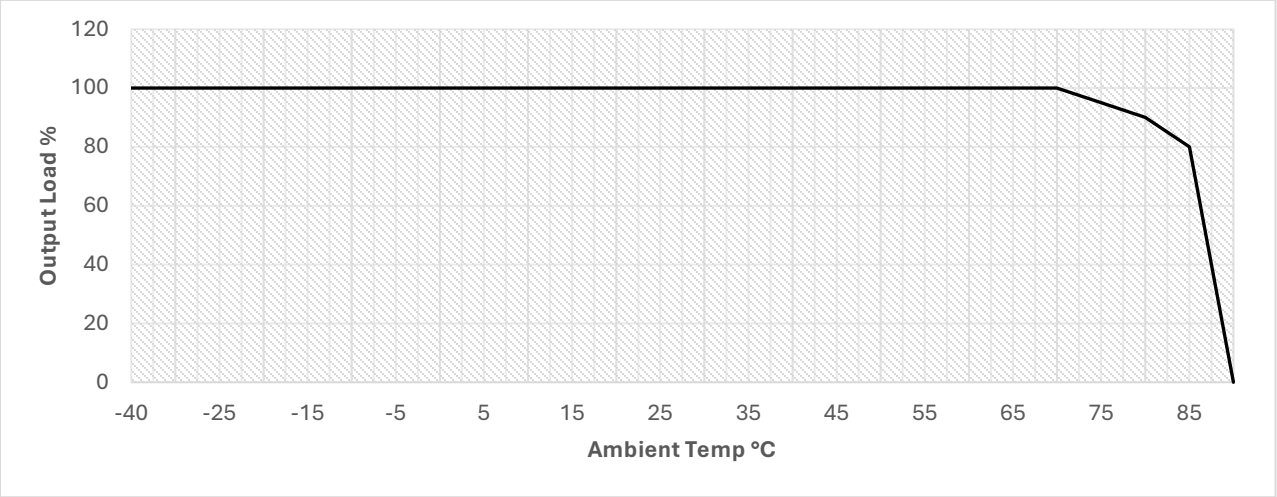
PART NUMBER SELECTION

ETN-xxSX-25-( )-( )-( )-( )-( )-( )-( )-( )-( )

- Remote on/off function or blank
- Voltage Trim or blank
- Output Current Monitor or blank
- Remote Sense or blank
- Power Good Signal or Blank
- Conformal Coat (-CC) or blank for no coat
- Bussbar (-B) or blank (Terminal Block)
- CE 101/102 Emission compliance or blank
- Mil 810 Vibration reduction or blank

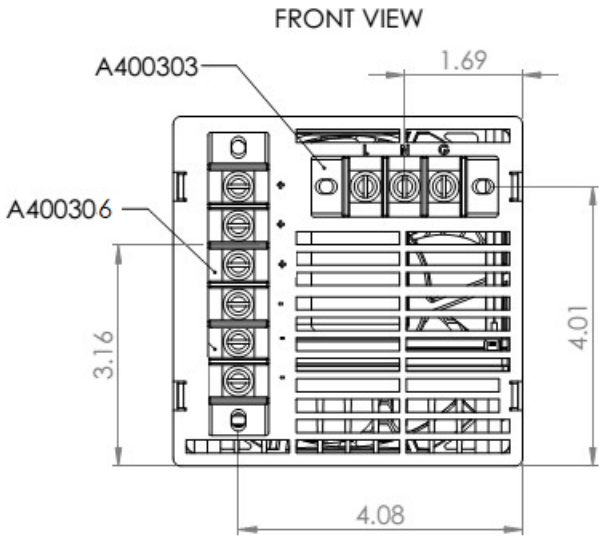
DERATING

Output Load vs Ambient Temperature



INTERFACE/CONNECTORS

ETN-24SX-25 / ETN-24SX-25

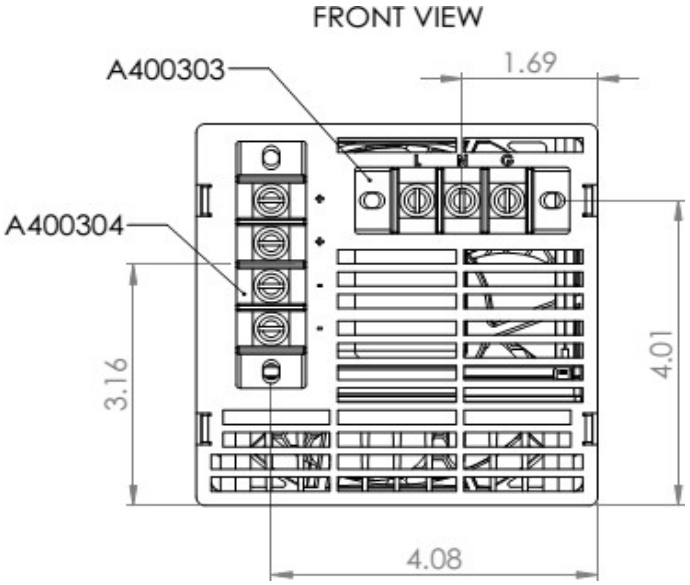


INPUT INTERFACE TERMINAL BUCHANAN A400303	
Designation	Function
L	Line
N	Neutral
G	Ground

OUTPUT INTERFACE TERMINAL BUCHANAN A400306 (Top to bottom)	
Designation	Function
+	+Vout
+	+Vout
+	+Vout*
-	Vout Return
-	Vout Return
-	Vout Return*

**For ETN-FWX (Dual Output) models with 24V outputs and up, 3rd and 6th position are assigned to the secondary output voltage*

ETN-48SX-25 / ETN-55SX-25



INPUT INTERFACE TERMINAL BUCHANAN A400303	
Designation	Function
L	Line
N	Neutral
G	Ground

OUTPUT INTERFACE TERMINAL BUCHANAN A400304 (Top to bottom)	
Designation	Function
+	+Vout
+	+Vout
-	Vout Return
-	Vout Return