56P51

- AC/DC Power Supply
- Rugged Environment VME
- 230 Watts
- Up to 4 Outputs, plus Standby

Features

- High Power Density, Low Profile Packaging
- Multiple Output Configurations Available
- Designed and Manufactured Per NAVMAT Guidelines
- EMI Filtering Designed to MIL-STD-461E
- Remote Error Sensing
- Remote Digital (TTL) Turn On/Off
- Transient Protection per MIL-STD-1399
- *Optional* ANSI/VITA Signaling
- Holdup Time

Contents

Description

North Atlantic Industries, 56P51 series is a high power density, low profile VME power supply. The 56P51 is ideally suited for shipboard and general purpose applications. All North Atlantic AC/DC power supplies and DC/DC converters are designed and qualified to the most stringent performance and environmental requirements. All units receive ESS Screening, including burn-in and temperature cycling.

Electrical Specifications

Input Characteristics:

Input Voltage	115V VAC Single Phase
Input Frequency	47hz to 440hz
EMI/RFI Characteristics	Designed to meet the requirements of MIL-STD-461E – CE102, CE101, CS101, CS114 a & b, CS116 – Note: Using shielded cable with 60db attenuation input & output lines
Input Transient Protection	Per MIL-STD-1399, Section 300A; For nominal 115Vac input
Power Factor	.90 minimum
Line Current Harmonics	Per Mil-Std 1399, Section 300A and IEC555-2
Holdup Time	4mS from AC Fail Signal high to low transition.
Inrush Current	10 Amps Peak

DC Output Characteristics:

Output Power	See Table 1
Output Voltage	See Table 1
Efficiency	65% minimum
Line Regulation	Within 0.1% or 10mv (whichever is greater) for low to high line changes at constant load
Load Regulation	Within 0.1% or 25mv (whichever is greater) for 0 to 100% of rated load at nominal input line

PARD (Noise and Ripple)	***DC Output Characteristics (Continued):*** 50 mV p-p max. Measurements are made with a 20 Mhz bandwidth instrument connected on the load wires < 5 inches from the power supply and terminated with 1uF capacitors
Load Transient Recovery	Output voltage returns to regulation limits within 0.5 msec, half to full load
Load Transient Under/Overshoot	5% of nominal output voltage set point (1.4v max)
Short Circuit Protection	Protected for continuous short circuit with automatic recovery
Current Limiting	5V output limited to 105% TO 135%, +12 V limited 10 A, all other outputs limited to 3 Amps. Protected for continuous overload with automatic recovery.
OverVoltage Protection	Automatic electronic shutdown if outputs exceed 125%, ±10%
Remote Error Sensing	Sensing pins compensate for up to 0.5-volt drop on 5Vdc and +12.0Vdc output leads
Output Returns	All outputs share a common return
Isolation Voltage	1000 VDC input to output and input to case; 200 VDC output to case.
Insulation Resistance	(To Case Input and Output) 50 Megohm at 50 VDC

Signal Types:

PFW	Open collector output capable of sinking 50 mA. Output will be low (conducting) when input is insufficient to produce full power.
Enable	V_{IL} = 1V max, V_{IH} =3V min. Input has 1K Pull-down resistor. Floating or Low enables the switched outputs. High will disable the switched outputs.
DCGood	Open collector output capable of sinking 50 mA. Output will be low (conducting) when outputs are within 5% of nominal value.
OC	Open collector output capable of sinking 50 mA. Output will be low (conducting) when outputs are not in over-current limit.
AC Fail (ANSI/VITA) ***OPTIONAL***	Signal from power supply indicating status of input
System Reset (ANSI/VITA) ***OPTIONAL***	A signal from power supply indicating a reset (such as a power up) is in progress
Reset (ANSI/VITA) ***OPTIONAL***	Input to power supply via a switch; resets the system without a power off applied

Physical/Environmental Specifications

Temperature Range	Operating: -40°C to +85°C, at 100% load (Temperature Measured at baseplate; conduction via baseplate only)
Temperature Coefficient	0.02% per °C
Vibration	Per MIL-STD-810C, Method 514.2, Procedure 1A
Shock	25 G's each axis, per MIL-STD-810C, Method 516.2, Procedure 1
Reliability	(MTBF) 40,000 hours minimum, ground mobile 65 °C ambient.
Humidity	5 to 95%, RH non-condensing
Altitude	Operating to 40,000 feet
Dimensions	See Sheet 2
Salt Fog	Per MIL-STD-810C, Method 509.1
Sand/Dust/Fungus	Per MIL-STD-810C
Enclosure	Aluminum housing to aluminum base plate.
Finish	Chemfilm
Weight	4.1 lbs max

Table # 1 Standard Output Power

Volts	Amps	Watts	Description
+5.0	25	125	Switched
+3.3	10	33	Switched
+12.0	4	48	Switched
-12.0	2	24	Switched
+5.0	0.25	1.25	Aux (standby)

Table # 2 Input Connections for J1

Signal Name	Pins
Line Input	1,2,9,10
Neutral	4,5,12,13
Ground	7,8,15
N/C	3,6,11,14

Table # 3 Output Connections (J2) for Multiple Output Versions

Signal Name	Pins	Signal Name	Pins
+5.0 VDC	A1, A2, A3	+5 VDC Sense	6
+12.0 VDC	A7	+5 VDC Sense Return	7
n/c	5	+12.0 VDC Sense	14
-12.0 VDC	13	+12.0 VDC Sense RTN	8
Aux Output	12	DCgood	3
Power Return	A4, A5, A6	PFW	4
3.3 VDC	15, 16, 17	OC	2
Reserved Functional	9, 10, 11	Enable	1

*special output voltages available upon request

Table # 4 Output Connections (J2) for Single Output Versions

Signal Name	Pins	Signal Name	Pins
Output	A1, A2, A3	Output Sense	6
n/c	A7	Output Sense Return	7
n/c	5	n/c	14
n/c	13	n/c	8
n/c	12	DCgood	3
Output Return	A4, A5, A6	PFW	4
n/c	15, 16, 17	OC	2
Reserved Functional	9, 10, 11	Enable	1

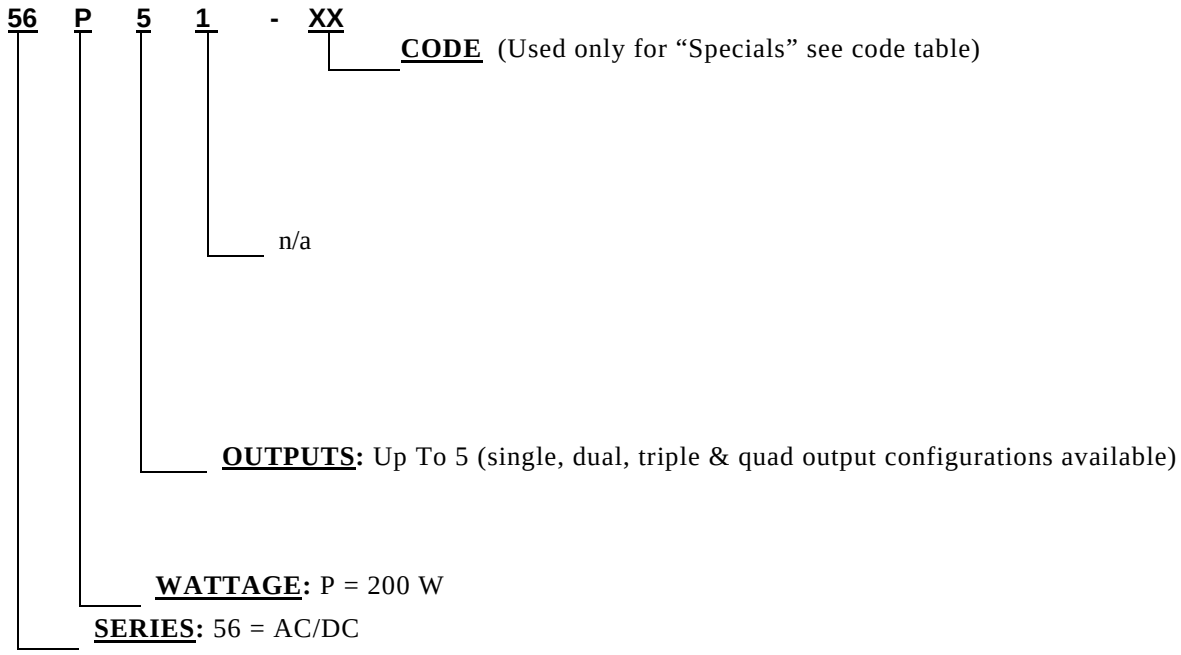
*special output voltages available upon request

Table # 5 Connectors

Connector/Pins	Part Number - Series
Input Unit Connector	DAMM15P
Input Mating Connector*	DAMM15S
Output Unit Connector	DDMG24HSJA197
Output Mating Connector*	DDM24W7P
Output Connector Pins*	DM53745-110

*Not Supplied

Ordering Information for 56P51 Series (230 Watt AC/DC Power Supply)



Code Table for Specials

Code	Code Description
02	Single output of 28vdc @ 5.4 amps (150 watts) 115 / 230 VAC Universal Input

Mechanical Layout

Mechanical Dimensions