

Ordering Information

Output Voltage	Output Currents			Ripple ⁽⁴⁾	Total Regulation ⁽⁵⁾	Model Numbers ^(13, 15, F)
	Max ⁽¹⁾	Peak ⁽²⁾	Fan ⁽³⁾			
+5.1 V	8 A	20 A	10 A	50 mV	± 2.0%	NFS110-7601PJ ⁽¹⁴⁾
+12 V	4.5 A	9 A	5 A	120 mV	± 3.0%	
-12 V	0.5 A	1.5 A	1 A	120 mV	± 3.0%	
-5 V	0.5 A	1.5 A	1 A	50 mV	± 3.0%	
+5.1 V (I _A)	8 A	20 A	10 A	50 mV	± 2.0%	NFS110-7602PJ ^(6, 14)
+24 V (I _B) ⁽⁶⁾	3.5 A	4.5 A	4.5 A	240 mV	+10/-5.0%	
+12 V	4.5 A	9 A	5 A	120 mV	± 3.0%	
-12 V	0.5 A	1.5 A	1 A	120 mV	± 3.0%	
+5.1 V	8 A	20 A	10 A	50 mV	± 2.0%	NFS110-7604PJ ⁽¹⁴⁾
15 V	4 A	7.5 A	5 A	150 mV	± 4.0%	
-15 V	0.5 A	1.5 A	1 A	150 mV	± 3.0%	
-5 V	0.5 A	1.5 A	1 A	50 mV	± 3.0%	
12 V	7 A	9 A	9 A	120 mV	± 2.0%	NFS110-7612J ^(7,8)
15 V	5 A	7.3 A	7.3 A	150 mV	± 2.0%	NFS110-7615J ^(7,8)
24 V	3.5 A	4.5 A	4.5 A	240 mV	± 2.0%	NFS110-7624J ^(7,8)

Notes

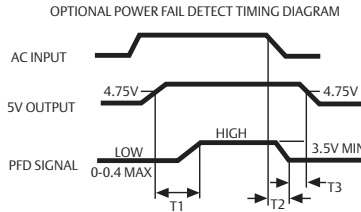
- 1 Convection cooled, 80 W maximum.
- 2 Peak outputs lasting less than 60 seconds with duty cycle less than 10%. Total peak power must not exceed 110 W.
- 3 Forced air, 20 CFM at 1 atmosphere, 110 W maximum.
- 4 Figure is peak-to-peak. Output ripple is measured across a 50 MHz bandwidth using a 12 inch twisted pair terminated with a 47 µF capacitor.
- 5 Total regulation is defined as the static output regulation at 25 °C, including initial tolerance, line voltage within stated limits and output voltages adjusted to their factory settings.
- 6 To achieve stated regulation on the 24 V output on the NFS110-7602PJ, the following load condition must be true: $I_A / I_B \leq 5$, where:
I_A = +5.1 V output current, and
I_B = +24 V output current
The +24 V output will maintain ±5.0% regulation under the following additional condition: I_A ≤ 5 A.
- 7 Single output models have floating outputs which may be referenced as either positive or negative. Higher voltage supplies may be adjusted over a wide output voltage range, as long as the total output power does not exceed 80 Watts (natural convection) or 110 Watts (forced air).
- 8 Power fail detect not available on single output models.
- 9 Derating curve is application specific for ambient temperatures >50 °C, for optimum reliability no part of the heatsink should exceed 90 °C and no semiconductor case temperature should exceed 100 °C.
- 10 Caution: Allow a minimum of 1 second after disconnecting the power when making thermal measurements.
- 11 Three orthogonal axes, random vibration, 10 minute test for each axis.
- 12 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 13 Recommend a minimum load of 11 W to achieve the design MTBF. See the derating curve on page 4.
- 14 Power failure detect is optional by including the suffix "P" to the model number.
- 15 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant.
- 16 NOTICE: Some models do not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at <http://www.PowerConversion.com> to find a suitable alternative.

Transient Response

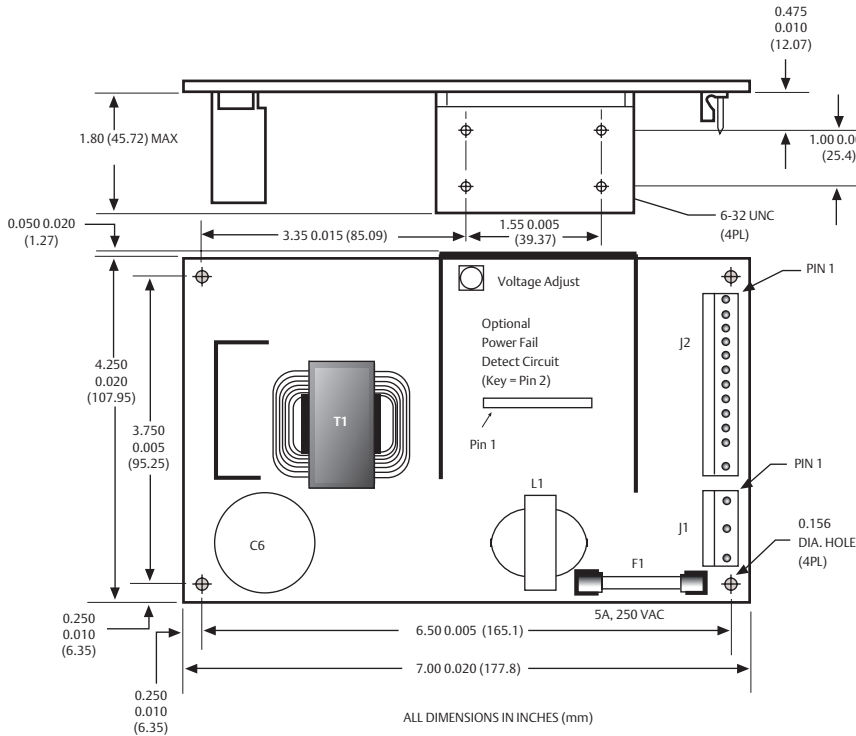
NFS110-7601PJ	+5.1 V (7.5 A to 10 A) +12 V (2.5 A to 5 A) -12 V (0.5 A to 1 A) -5 V (0.5 A to 1 A)	150 mV peak, 1 ms recovery 100 mV peak, 0.5 ms recovery 100 mV peak, 0.5 ms recovery 100 mV peak, 0.5 ms recovery
NFS110-7602PJ	+5.1 V (7.5 A to 10 A) +24 V (1.5 A to 3 A) +12 V (2.5 A to 5 A) -12 V (0.5 A to 1 A)	150 mV peak, 1 ms recovery 300 mV peak, 1 ms recovery 100 mV peak, 0.5 ms recovery 100 mV peak, 0.5 ms recovery
NFS110-7604PJ	+5.1 V (7.5 A to 10 A) +15 V (2.5 A to 5 A) -15 V (0.5 A to 1 A) -5 V (0.5 A to 1 A)	150 mV peak, 1 ms recovery 100 mV peak, 0.5 ms recovery 100 mV peak, 0.5 ms recovery 100 mV peak, 0.5 ms recovery
NFS110-7605J	+5.1 V (10 A to 20 A)	250 mV peak, 1 ms recovery
NFS110-7612J:	+12 V (4.5 A to 9 A)	360 mV peak, 1 ms recovery
NFS110-7615J	+15 V (3.65 A to 7.3 A)	450 mV peak, 1 ms recovery
NFS110-7624J	+24 V (2.25 A to 4.5 A)	720 mV peak, 1 ms recovery

AC (J1) mating connector
Molex 09-50-3051 or Molex 09-91-0500 mating connector with 2478 or equivalent crimp terminals.

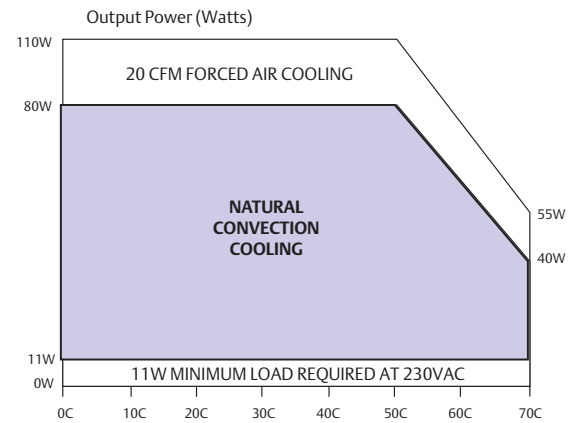
DC (J2) mating connector
Molex 09-50-3131 or Molex 09-91-1300 mating connector with 2478 or equivalent crimp terminals.



Power fail detect signal (Note 8)
50ms ≤ T1 ≤ 200ms
T2 will vary with line and load
T3 ≥ 3ms
Pout: 110W
PFD output is an open collector which will sink ≤ 40mA in the low state.



DERATING CURVE (See Notes 9, 10)



Mechanical Notes:

- A** Metallic or non-metallic stand-offs (maximum diameter 5.4mm) can be used in all four mounting holes without effecting safety approval.
- B** The ground pad of the mounting hole near J1, allows system grounding through a metal stand-off to the system chassis.
- C** The heat sink is grounded, and allows system grounding by mechanical connection to the system chassis.
- D** The supply must be mechanically supported using the PCB mounting holes and may be additionally supported by the heatsink mounting holes.
- E** It is always advisable to attach the power supply heat sink to another thermal dissipator (such as a chassis or finned heatsink etc). The resulting decrease in heat sink mounted component temperatures will improve power supply lifetime.
- F** A standard L-bracket and cover is available for mounting which contains all screws, connectors and necessary mounting hardware. The kit is available, order part number "NFS110CJ".

Pin Connections

	-7601PJ	-7602 P	-7604PJ	Singles
J1				
Pin 1	AC Ground	AC Ground	AC Ground	AC Ground
Pin 2	AC Neutral	AC Neutral	AC Neutral	AC Neutral
Pin 3	AC Line	AC Line	AC Line	AC Line
J2				
Pin 1	+5.1 V	+5.1 V	+5.1 V	V _{out}
Pin 2	+5.1 V	+5.1 V	+5.1 V	V _{out}
Pin 3	+5.1 V	+5.1 V	+5.1 V	V _{out}
Pin 4	Return	Return	Return	Return
Pin 5	Return	Return	Return	Return
Pin 6	Return	Return	Return	Return
Pin 7	Return	Return	Return	Return
Pin 8	+12 V	+12 V	+15 V	V _{out}
Pin 9	+12 V	+12 V	+15 V	V _{out}
Pin 10	PFD	PFD	PFD	N/C
Pin 11	-12 V	-12 V	-15 V	N/C
Pin 12	Removed for Key			
Pin 13	-5 V	+24 V	-5 V	N/C

N/C = no connection