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Power Line Power Supply Models 78100R and 78101R



- ▼ 5W switch mode power supply and PL-20 power line communication coupler combined in a single compact package
- ▼ Universal input voltage range (90 – 240 VAC)
- ▼ Interchangeable power cord supports world wide plug requirements
- ▼ US/Japan and Continental Europe power plugs included (Model 78101R only)
- ▼ Isolated design supports worldwide safety requirements
- ▼ RoHS-compliant
- ▼ Meets the mandatory California Energy Commission Efficiency Level IV regulations

Description

The Model 7810xR RoHS-compliant Power Line Power Supply is a universal switching power supply that includes a communication coupling circuit for LONWORKS® PL-20C and PL-20N C-band power line communication technology. It has a universal input voltage range (90VAC – 240VAC) and supports easy replacement of the power cord to make it compatible with power plugs in all parts of the world. Model 78101R ships with two power cords – US/Japan and Continental Europe. Model 78100R does not include a power cord and is available only in high volume. This power supply is designed for use only with LONWORKS PL-20 communication devices.

Figure 1 shows the schematic for using the power supply/ coupler described in this datasheet with a product containing a PL 3120® or PL 3150® Smart Transceiver. For component values and recommended part numbers/suppliers for this design, refer to example 12, section *Recommended Coupling Circuit Schematics* in Chapter 4 of the *PL 3120/ PL 3150 PL Smart Transceivers Data Book*. The power line coupler in the power supply incorporates line-to-neutral coupling.

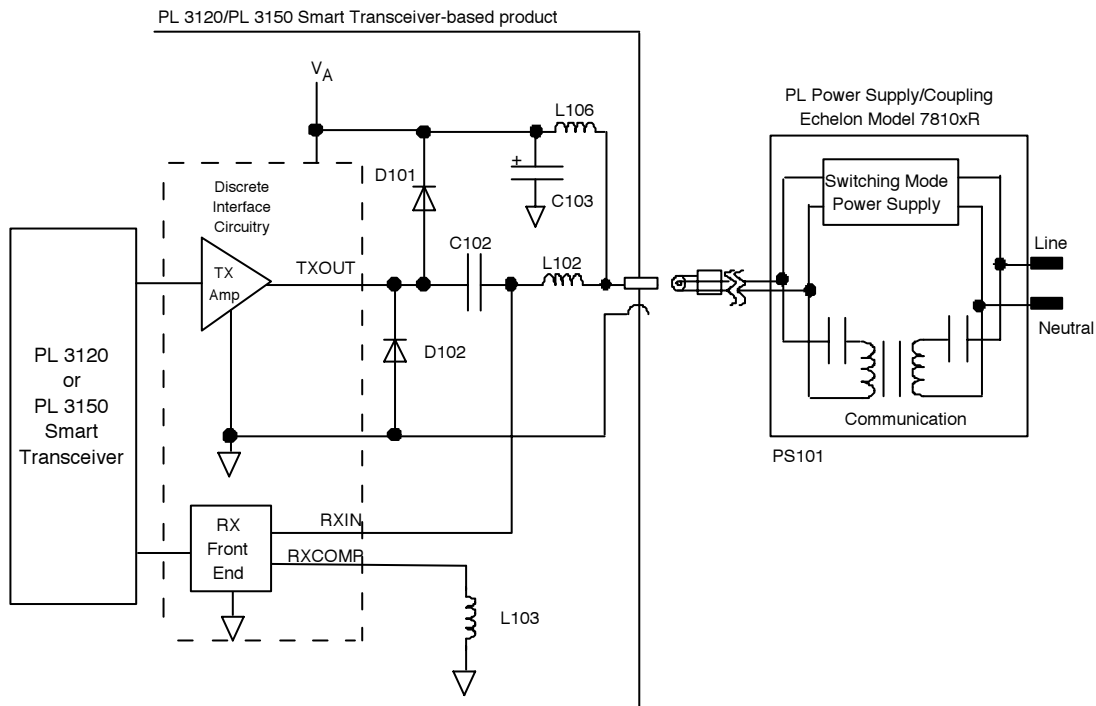


Figure 1: L-N Isolated Power Supply/Coupler Schematic

Input Specifications

Input Voltage Range	90-240VAC
Input Frequency	50-60Hz
Inrush Current	6A max. (cold start)
Input Power	<0.5W (min.) – 10W (max.)


Output Specifications

Output Voltage	12 volts @ 125mA
Output voltage range	17.2V (no load) – 11V (full load)
Output Current (maximum)	400mA
Max. Power (total)	5 watts
Ripple p-p (worst case)	200 mV
Efficiency	> 63%
Short Circuit Protection	Enabled

General Specifications

Operating Temperature	0°C to 40°C @ full load and natural convection
Storage Temperature	-40°C to +85°C
Operating Humidity	0-90% RH @ 50°C (non condensing)
Storage Humidity	0-96% RH max @ 50°C (non condensing)
Vibration	5Hz - 7.5Hz @ 0.5" D.A., 5.5Hz-200Hz @ 1.5G (includes sine and random)
Shock	30g @ 11ms; 100g @ 3ms (half sine)
Energy Regulations	California Energy Commission Regulations CEC 400-2005-012 Table U-1, EFFICIENCY LEVEL IV
EMC	FCC Part 15 Class B, EN55022 Class B, EN55024, EN50065-1, CISPR 22 Class B, VCCI Class B
Agency Listing	U.L. 60950, cU.L. C22.2 No. 60950-00, TÜV-GS, CE, CCC, JET
Leakage Current	0.25mA

Mechanical Specifications

Weight	<160gms + AC Cable
Size	99.6 x 43.5 x 30.8 mm (L x W x H)
Output Cord	L = 1.8m
Input Cord.	L = 1.5m
Output Connection	-  +

Ordering Information

Product	Echelon Model Number
Power Line Power Supply (Includes US/Japan and Continental Europe power cords.)	78101R
Power Line Power Supply without power cord (Requires separate purchase of a power cord with appropriate plug type; only available in high volume.)	78100R

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