

DESCRIPTION

PD (Powered Device) Integrated Module (Isolation Type)

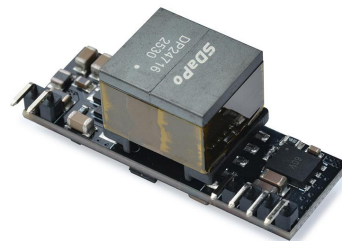
FEATURES

- Fully Supports IEEE 802.3af/at Compliant
- Input Voltage Range 37V to 57V
- Short Circuit, Over-temperature Protection and In-rush Current Limit
- Default Class : 4
- **High Efficiency (91% min. 12V@ Full Load)**
- Easy Installation and Low Cost
- Low Output Ripple and Noise
- Adjustable Output Voltage
- 1500Vrms Isolation (Input-Output)
- RoHS Compliant

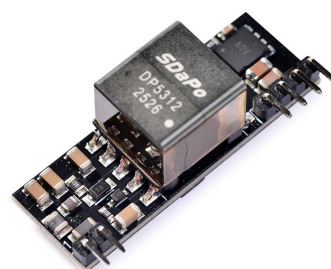
APPLICATION AREAS

- Security and alarm systems
- Voice over IP phones
- Access control systems
- IP Cameras
- Displays, Net Monitors
- Public address systems
- Wireless access points
- Environmental control
- Telemetry
- Remote environmental monitoring

DP1440-5V



DP1440-12V



1 Product Overview

1.1 DP1440 Product Selector

Part Number	Nominal Output Voltage	Output Power	
		70°C	85°C
DP1440-5V	5V	23 Watts	18 Watts
DP1440-12V	12V	25 Watts	22 Watts
DP1440-24V	24V	25 Watts	19 Watts

Table 1: Ordering Information

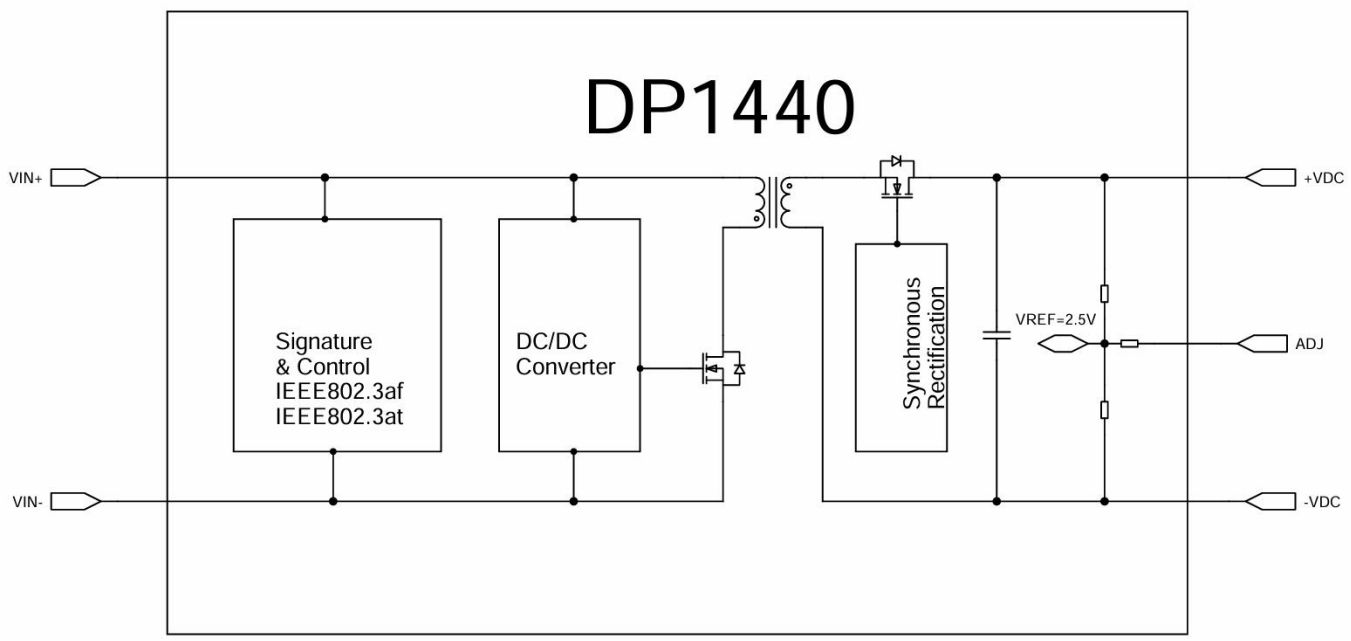
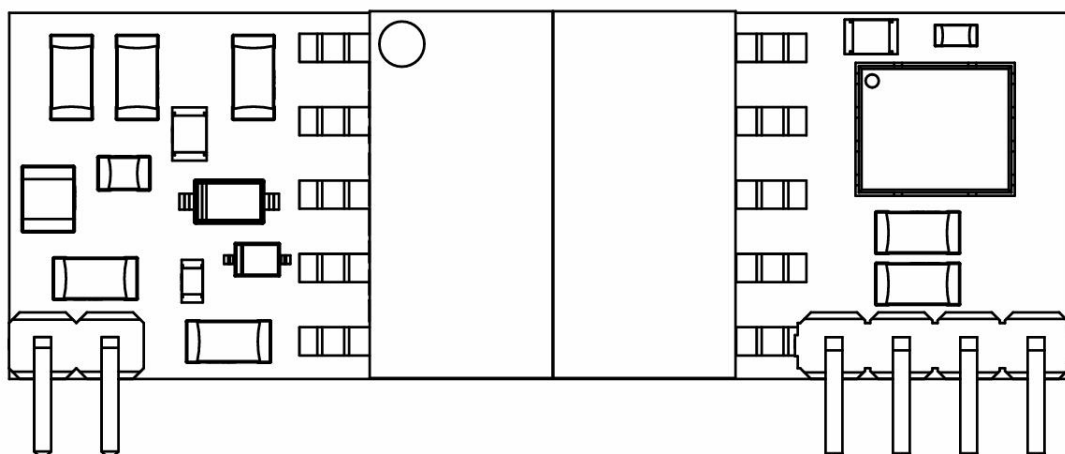


Figure 1: Block Diagram

**Figure 2: DP1440 Package Format**

1.2 Pin Description

Pin #	Name	Description
1	VIN+	Direct Input +. This pin connects to the positive (+) output of the input bridge rectifiers.
2	VIN-	Direct Input -. This pin connects to the negative (-) output of the input bridge rectifiers.
3/4	-VDC	DC Return. This pin is the return path for the +VDC output.
5	ADJ	Output Adjust. The output voltage can be adjusted from is nominal value, by connecting an external resistor from this pin to either the +VDC pin or the -VDC pin.
6	+VDC	DC Output. This pin provides the regulated output from the DC/DC converter.

Table 2: Pin Description

2 Functional Description

2.1 Typical Connections

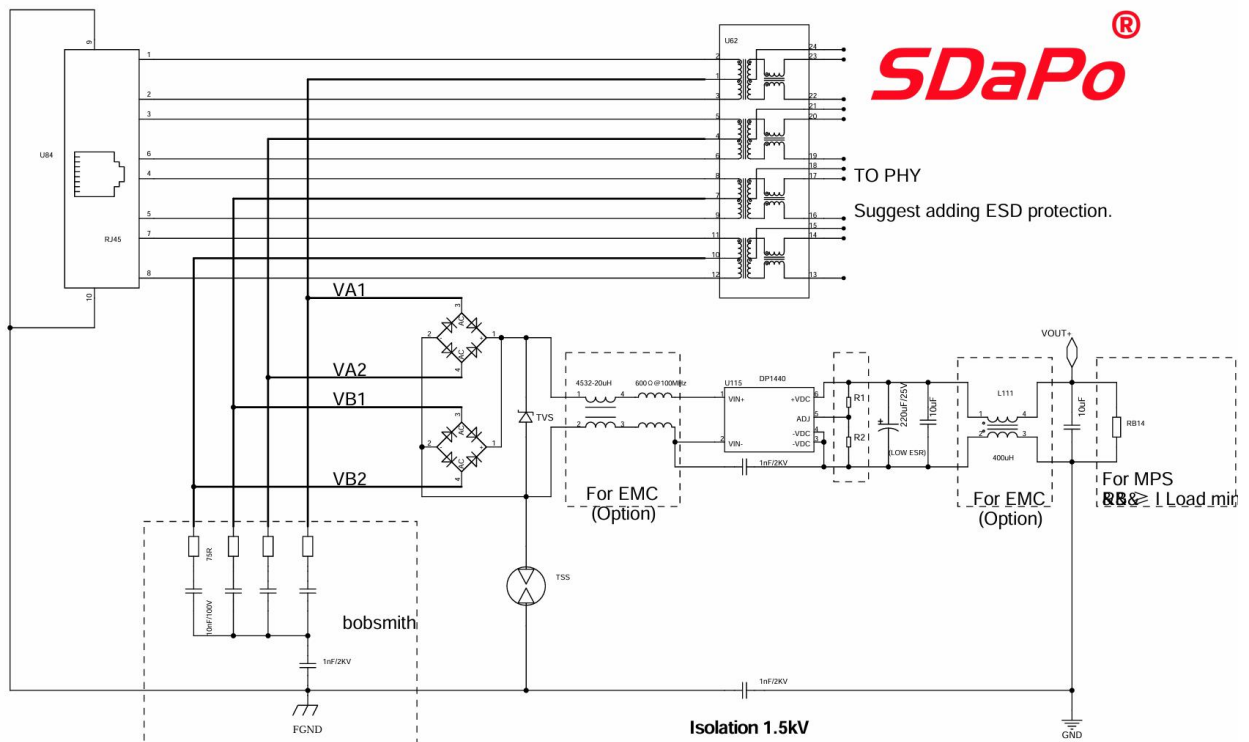
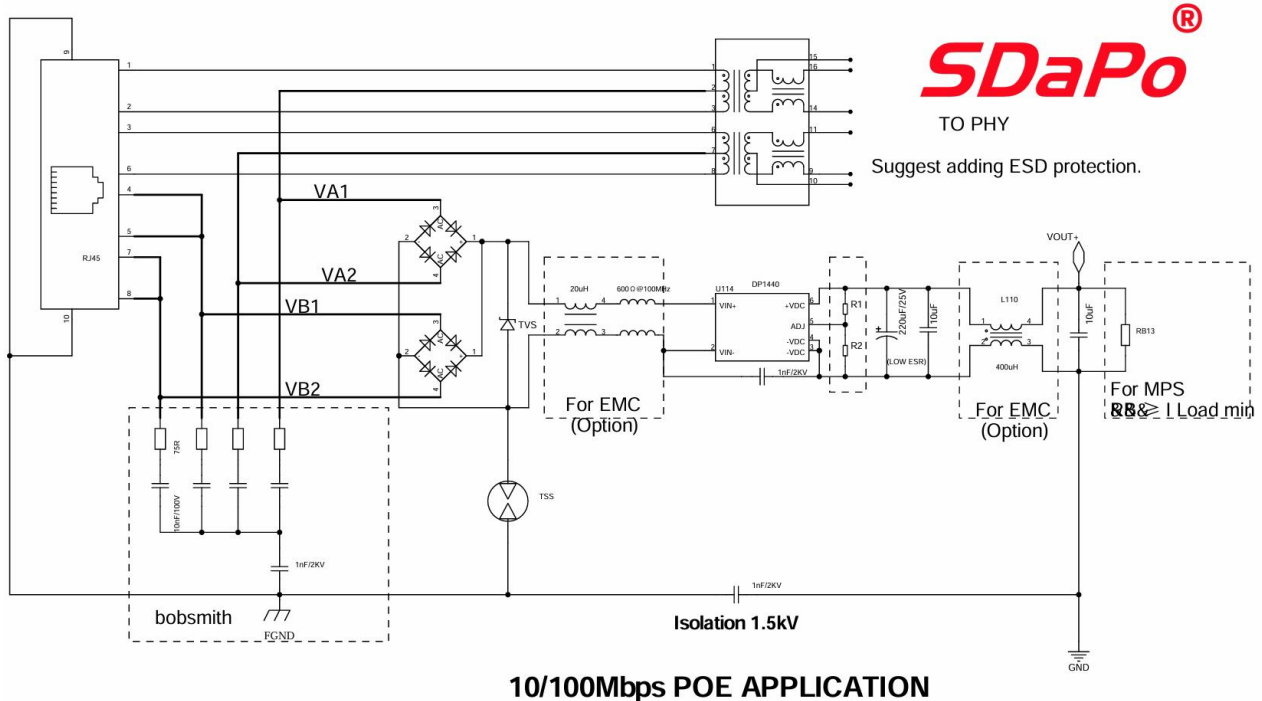


Figure 3: Typical Connection Diagram

3 Electrical Characteristics

3.1 Absolute Maximum Ratings

	Parameter	Symbol	Min	Max	Units
1	DC Supply Voltage	V_{CC}	-0.3	60	V
2	DC Supply Voltage Surge for 1ms	V_{SURGE}	-0.6	80	V
3	Storage Temperature	T_S	-40	+100	°C

3.2 Recommended Operating Conditions

	Parameter	Min	Typ	Max	Units
1	Input Supply Voltage	37	48	57	v
2	Under Voltage Lockout	30		37	v
3	Input Current		600		mA
4	Operating Temperature	-40	25	85	°C
5	IEEE 802.3af	Class 4			

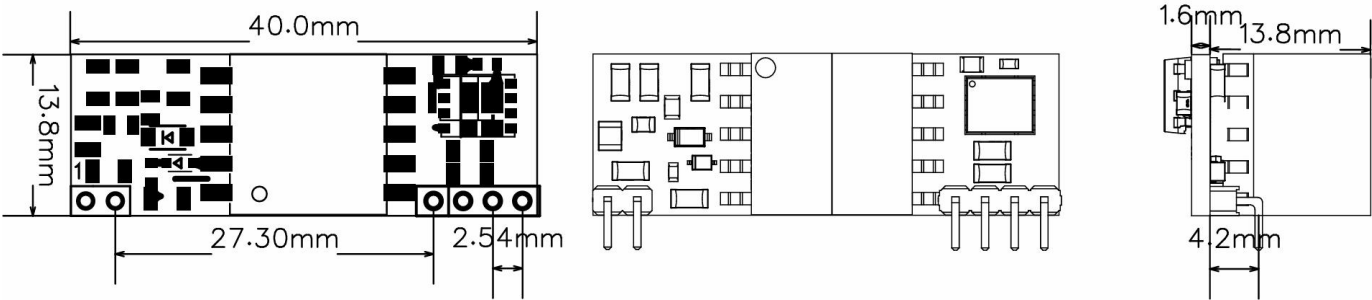
3.3 DC Electrical Characteristics

	DC Characteristic	Variant	Sym	Min	Typ ¹	Max	Units
1	Nominal Output Voltage	DP1440-24V	+VDC	23.4	23.8	24.2	V
		DP1440-12V		11.6	12	12.4	
		DP1440-5V		4.75	5	5.15	
2	Minimum Load ²	DP1440-24V	I_{LOAD}	20			mA
		DP1440-12V		40			
		DP1440-5V		100			
3	Output Current ($V_{IN} = 48V$)	DP1440-24V	I_{OUT}		1		A
		DP1440-12V			2		
		DP1440-5V			4.5		
4	Line Regulation	DP1440-24V	V_{LINE}		0.15		%
		DP1440-12V			0.05		
		DP1440-5V			0.05		
5	Load Regulation – Min to Max ($V_{IN} = 48V$)	DP1440-24V	V_{LOAD}		0.15		%
		DP1440-12V			0.1		
		DP1440-5V			0.1		

6	Output Ripple and Noise _{5@} Max load	DP1440-24V	V_{RN}		TBD		mV_{p-p}
		DP1440-12V					
		DP1440-5V					
7	Peak Efficiency	DP1440-24V	EFF		TBD		%
		DP1440-12V			91		
		DP1440-5V			90		
8	Short-Circuit Duration ³		T_{SC}			∞	sec
9	Isolation Voltage (I/O) - Impulse Test		V_{ISO}		1500		V_{PK}

Note 1: Typical figures are at 25°C with a nominal 48V supply and are for design aid only. Not Guaranteed
 Note 2: The module can emit an audible noise, if operated at less than the stated minimum I_{LOAD} and cause the PSE to fail its MPS.
 Note 3: >200mohm short due to thermal limitation.

4 Package



Mechanical Specification

By **SDaPo**[®]

DP1440 SERIES
Power Over Ethernet PD Module