

**DESCRIPTION**

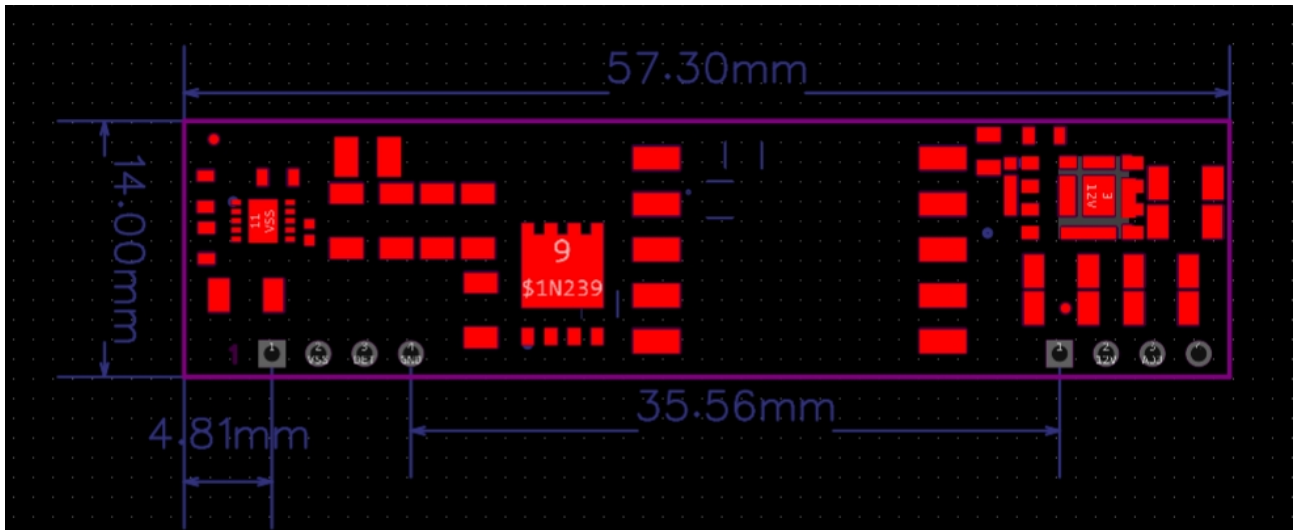
24V, 30W PD(Powered Device) Integrated Module (Isolation Type)

**FEATURES**

- Fully supports IEEE802.3af/at
- Small Single In-Line (SIL) package size –57.3mm (L) x 14mm (H)
- Input Voltage Range 44V to 57V
- Support PoE applications in both of Fast / Gigabit Ethernet environments.
- Short Circuit Protection
- Over-temperature Protection
- Programmable Classification (Default:Class 4)
- High Efficiency
- Isolation level 1.5KVrms.
- Easy Installation and Low Cost (Isolation Type, Minimum External Devices required)
- Low Output Ripple and Noise
- Adjustable Output Voltage
- 1500Vrms Isolation (Input-Output)

**Product List**

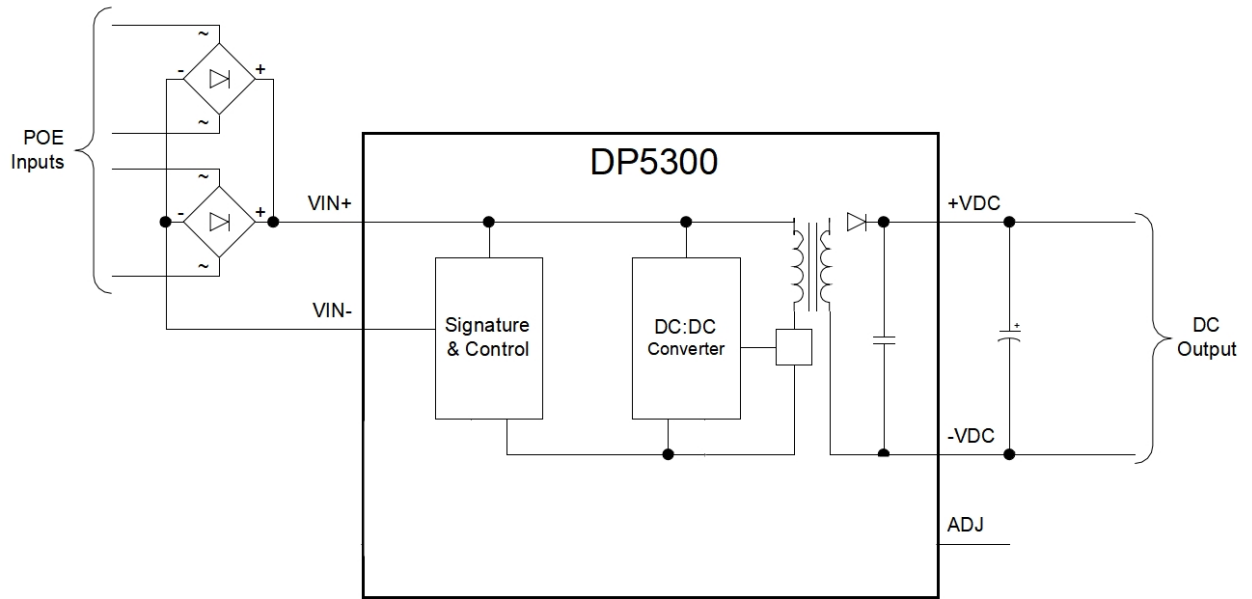
<b>Part Number</b>	<b>Nominal Output Voltage / Current</b>	<b>Maximum Output Power</b>	<b>Nominal Input Voltage</b>
<b>DP5300-5V</b>	<b>5Vdc / 4A</b>	<b>20W@ 25° C</b>	<b>48Vdc</b>
<b>DP5405</b>	<b>5Vdc / 4-5A</b>	<b>25W @ 25°C</b>	<b>48Vdc</b>
<b>DP5300-12V</b>	<b>12Vdc / 2A</b>	<b>24W @ 25°C</b>	<b>48Vdc</b>
<b>DP5300-24V</b>	<b>24Vdc/1A</b>	<b>24W @ 25°C</b>	<b>48Vdc</b>



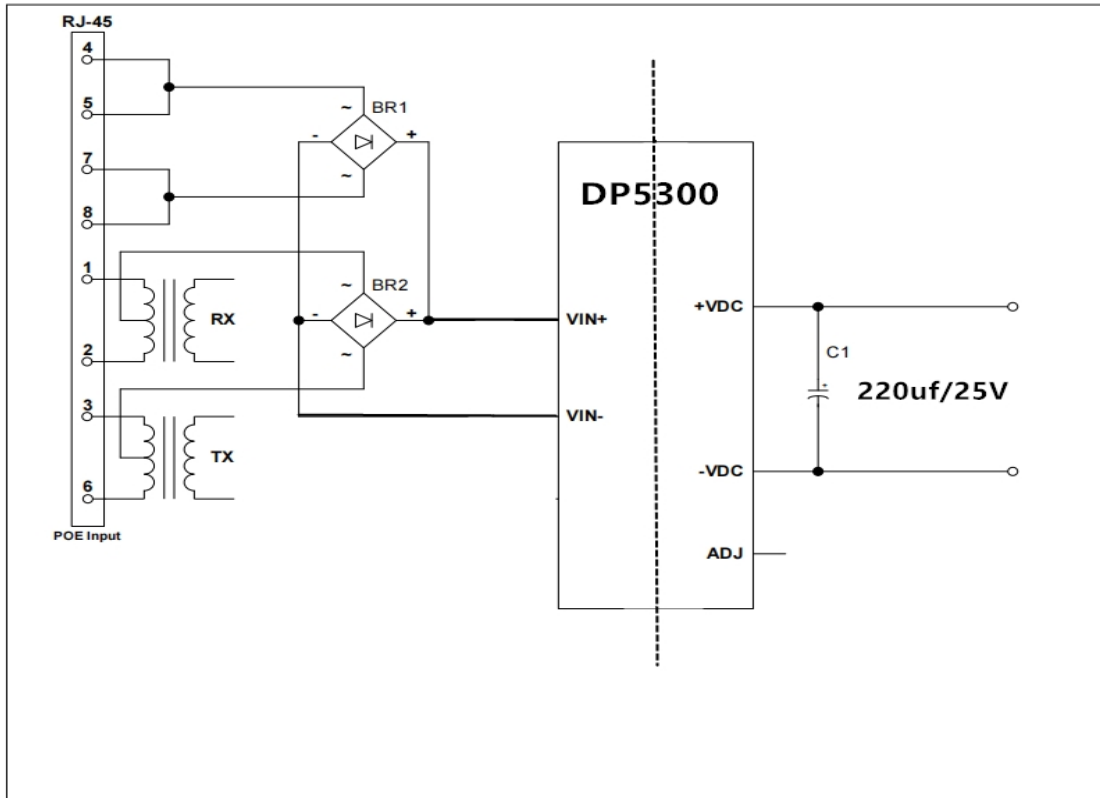
## PIN ASSIGNMENT

1	VIN+	<b>POE Direct Input +.</b> This pin connects to the positive (+) output of the POE input bridge rectifiers.
2	VIN-	<b>POE Direct Input -.</b> This pin connects to the negative (-) output of the POE input bridge rectifiers.
3	AT Detect Output	<b>AT Detect Output.</b> This pin indicates if an IEEE802.3at PSE is supplying power to the DP5300;
4	NC	<b>Internal Connection.</b> Do not connect to this pin.
5	-VDC	<b>Negative DC Output.</b> This pin provides the negative regulated output from the Ag5300 and is internally connected to pin 8.
6	+VDC	<b>Positive DC Output.</b> This pin provides the positive regulated output from the DP5300.
7	ADJ	<b>Output Adjust.</b> The output voltage can be adjusted from its nominal value, by connecting an external resistor from this pin to either the +VDC pin or the -VDC pin.
8	-VDC	<b>Negative DC Output.</b> This pin provides the negative regulated output from the Ag5300 and is internally connected to pin 5.

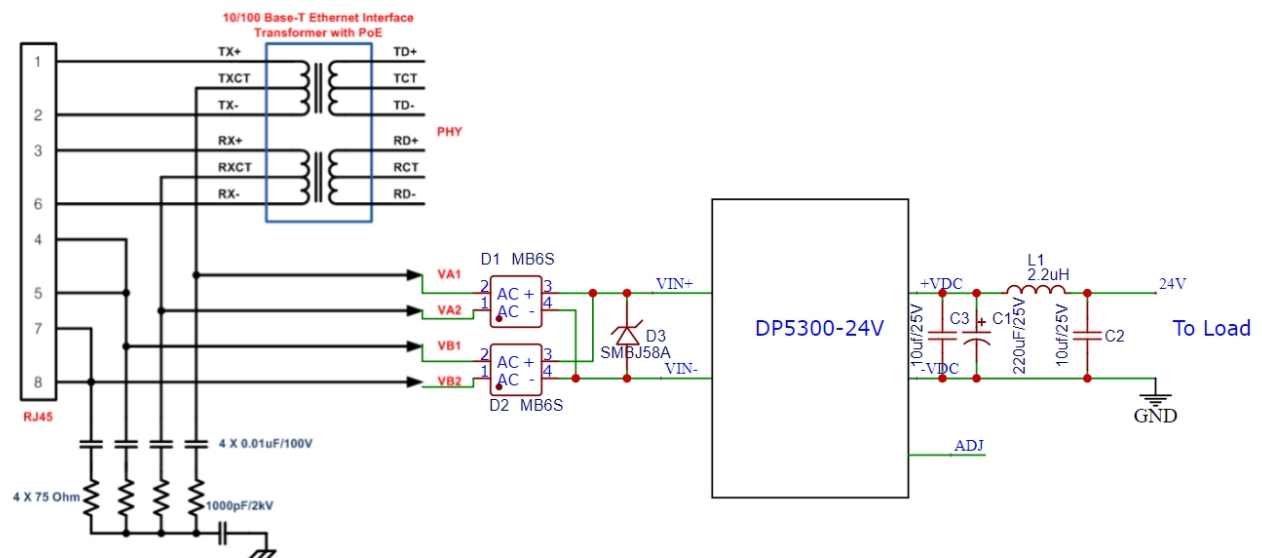
## TYPICAL SYSTEM DIAGRAM



**TYPICAL APPLICATION**



Add 20uF / 25V capacitance at the output, This will reduce the ripple and noise to typically **140mVp-p**. 24V@1A.



optional external lc filter for lower ripple and noise, This will reduce the ripple and noise to typically **40mVp-p**. 24V@1A.

## TEST DATA

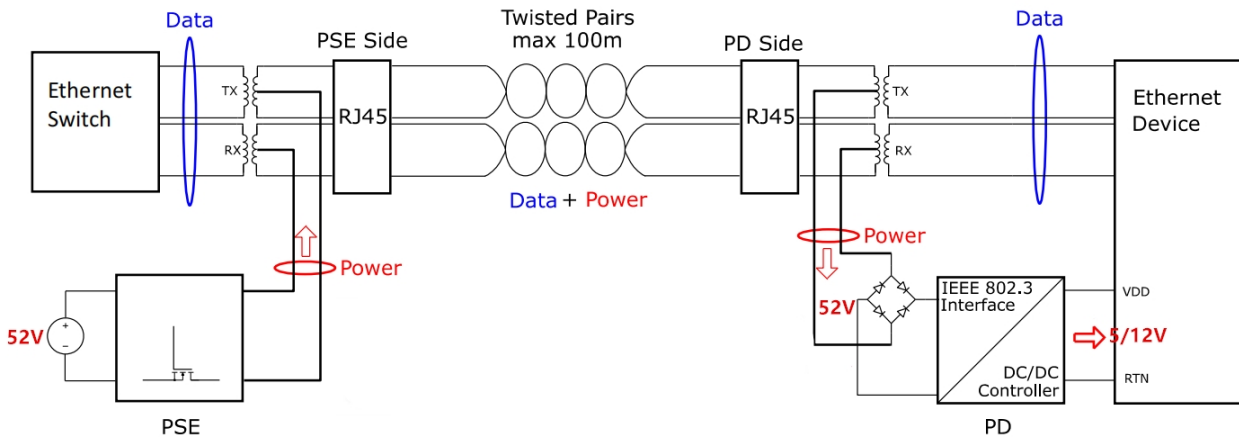
Model	Input Voltage	Input Current	Output Voltage	Output Current	Efficiency	Ripple Output Noise	
	V	mA	V	A	%	mVp-p	ms
DP5300 -24V	50.8	652	24	1.25	90.58%	340	
	50.83	521	24	1	90.63%	285	140
	50.86	417	24	0.8	90.53%	250	
	50.91	262	24	0.5	89.97%	190	
	50.93	162	24	0.3	87.27%	150	
	50.97	12	24	0	0.00%		

## ELECTRICAL SPECIFICATIONS

No.	Parameter	Symbol	Min	Typical values	Max	Unit
1	Input Voltage	Vin	38	48	57	V
2	output voltage	+VDC	23.5	24	24.2	V
3	output Current	PWR	0.01	1	1.25	A
4	Isolation Voltage	VISO		1.5		KV
5	Ripple Output Noise	VRN		140*		mVp-p
6	Storage Temperature	Tj	-40	25	85	°C
7	Operating Temperature	Tstg	-40	25	80	°C

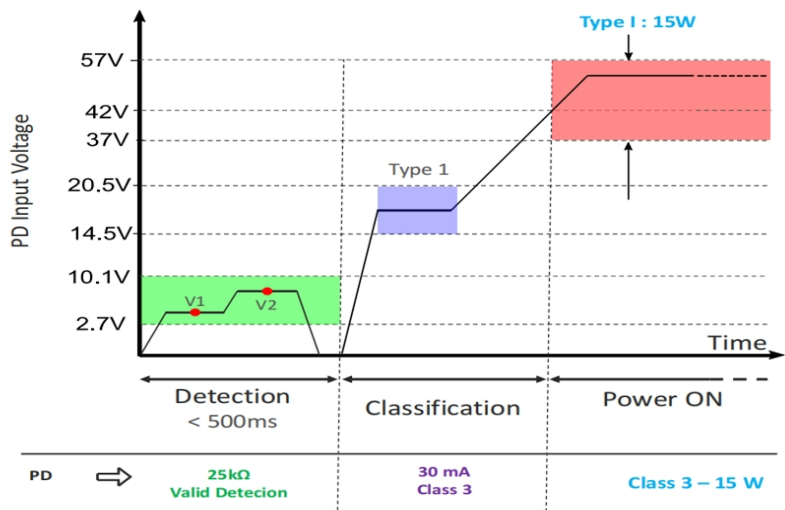
\*Add 20uf / 25V capacitance at the output, This will reduce the ripple and noise to typically **140mVp-p**. 24V@1A

## 1. Power Delivery in PoE Systems

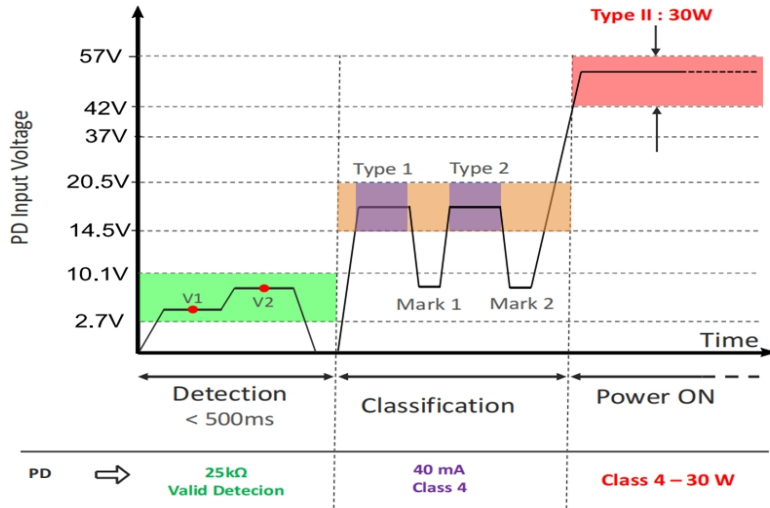


	Type 1 802.3af			Type 2 802.3at	Type 3 802.3bt		Type 4 802.3bt	
Power Class	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
Power from PSE	4 W	7 W	15.4 W	30 W	45 W	60 W	75 W	90 W
Power delivered to PD	3.84 W	6.49 W	13 W	25.5 W	40 W	51 W	62 W	71.3 W

**2. Establishing PoE Connection – Type 1 (IEEE 802.3af/PoE)**



**3. Establishing PoE Connection – Type 2 (IEEE 802.3at/PoE+)**



**4. Establishing PoE Connection - Type 3 and 4 (IEEE 802.3bt)**

