SIL10 Series

Single output

ARTESYN TECHNOLOGIES

DC/DC CONVERTERS	8 to 33W Non-isolated DC/DC Converters	1

NEW Product

- **Current rating of 10A**
- **Outputs of between 0.8V to 3.3V - fixed and flexible**
- **Applications for 5V or 3.3V input POL converters**
- **Highest power density available today (117W/in^3)**
- **High efficiency - up to 96% achievable on 3.3 Vout**
- **POL converter that saves board space - vertical or horizontal versions**
- **Industry standard footprint**
- **Remote sense and remote ON/OFF**

The SIL10 series are non-isolated DC/DC converters packaged in a single-in-line footprint giving designers a cost effective solution for conversion from either a 5V or 3.3V input to output voltages of 0.8V to 3.3V. The SIL10 offers both fixed outputs and wide output trim range which allows maximum design flexibility and a pathway for future upgrades. Local voltage conversion by the SIL10 series from existing 5V or 3.3V system voltages eliminates the need for redesign of existing power architectures when voltage requirements change. The SIL10 is designed for applications that include distributed power, workstations, optical network and wireless applications. Implemented using state of the art surface mount technology and automated manufacturing techniques, the SIL10 offers compact size and efficiencies of up to 96%.

2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	Fixed output versions 5Vin with wide trim 3.3Vin with wide trim	±10% 3.6V to 0.8V 2.75V to 0.8V
Setpoint accuracy		±2.7%
Line regulation		±1.0%
Load regulation		±1.0%
Minimum load		0A
Overshoot/undershoot		None
Ripple and noise 0 to 20MHz BW		50mV pk-pk 25mV rms max.
Temperature co-efficient		±0.01%/°C
Transient response		50mV max. deviation 50µs recovery to within ±1.0%
Remote sense		10% Vo compensation

INPUT SPECIFICATIONS

Input voltage range		3.0 to 5.5VDC
Input current	No load	70mA
Input current (max.)		8A max. @ Io max. and Vout = 3.3V
Input current ripple		65mA rms
Remote ON/OFF		(See Note 3)
Start-up time		20ms

EMC CHARACTERISTICS

Electrostatic discharge	EN61000-4-2, IEC801-2
Conducted immunity	EN61000-4-6
Radiated immunity	EN61000-4-3

GENERAL SPECIFICATIONS

Efficiency		See table
Insulation voltage		Non-isolated
Switching frequency	Fixed	300kHz typ.
Approvals and standards (pending)		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions	(LxWxH)	50.8 x 7.8 x 12.7mm 2.0 x 0.31 x 0.5 inches
Pin length	Vertical	0.135 ±0.02 in (3.43 ±0.5mm)
Weight		5g (0.18oz)
MTBF	Telecordia 332	7,042,000

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient, (See Note 4)	-40°C to +100°C
	Non-operating	-40°C to +125°C

International Safety Standard Approvals

c UL us — UL/cUL CAN/CSA 22.2 No. E174104
UL60950 file No. E174104

TÜV — TÜV Product Service (EN60950)
Certificate No. TBC. CB report and certificate to IEC60950

SIL10 Series

Single output

ARTESYN TECHNOLOGIES

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER (1, 2)
						LINE	LOAD	
36.3W	4.5V - 5.5V	3.3V	0A	10A	95%	±1%	±1%	SIL10-05W3V3-V
36.3W	4.5V - 5.5V	3.3V	0A	10A	95%	±1%	±1%	SIL10-05S3V3-V
27.5W	3.0V - 5.5V	2.5V	0A	10A	94%	±1%	±1%	SIL10-05S2V5-V
22W	3.0V - 5.5V	2.0V	0A	10A	93%	±1%	±1%	SIL10-05S2V0-V
19.8W	3.0V - 5.5V	1.8V	0A	10A	92%	±1%	±1%	SIL10-05S1V8-V
16.5W	3.0V - 5.5V	1.5V	0A	10A	90%	±1%	±1%	SIL10-05S1V5-V
13.2W	3.0V - 5.5V	1.2V	0A	10A	88%	±1%	±1%	SIL10-05S1V2-V
11W	3.0V - 5.5V	1.0V	0A	10A	87%	±1%	±1%	SIL10-05S1V0-V
8.8W	3.0V - 5.5V	0.8V	0A	10A	84%	±1%	±1%	SIL10-05S0V8-V

Notes

1. The part numbers with a W in the number sequence indicate a wide trim output. For the SIL10-05W3V3 the output voltage range is from 3.6V to 0.8V.
2. The standard unit with the suffix '-V' is for vertical mounting. To order a unit with horizontal mounting, please add the suffix '-H' to the model number, e.g. SIL10-05S2V0-H.
3. Referenced to ground for shutdown. If pin 6 is high unit will shutdown. If pin 6 is open unit will operate as normal. Converter is guaranteed OFF when control pin is greater than 1.2V.
4. Full de-rating curves available in both the Long Form Data Sheet and Application Note 134.

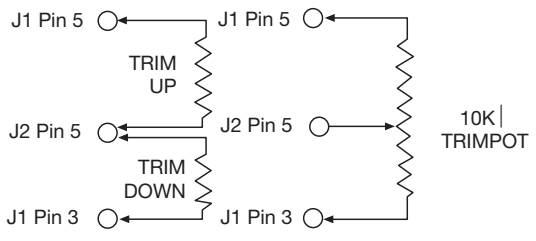
CAUTION: High internal temperatures. Ensure that unit is not user accessible.

PROTECTION

Short-circuit protection	Continuous
Thermal protection	Automatic recovery

EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using the method shown below.



J1 PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+Vout
2	+Vout
3	Remote Sense (+)
4	+Vout
5	Ground

J2 PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	Ground
2	+Vin
3	+Vin
4	No Pin
5	Trim
6	Remote ON/OFF

SIL10 Series

Single output

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

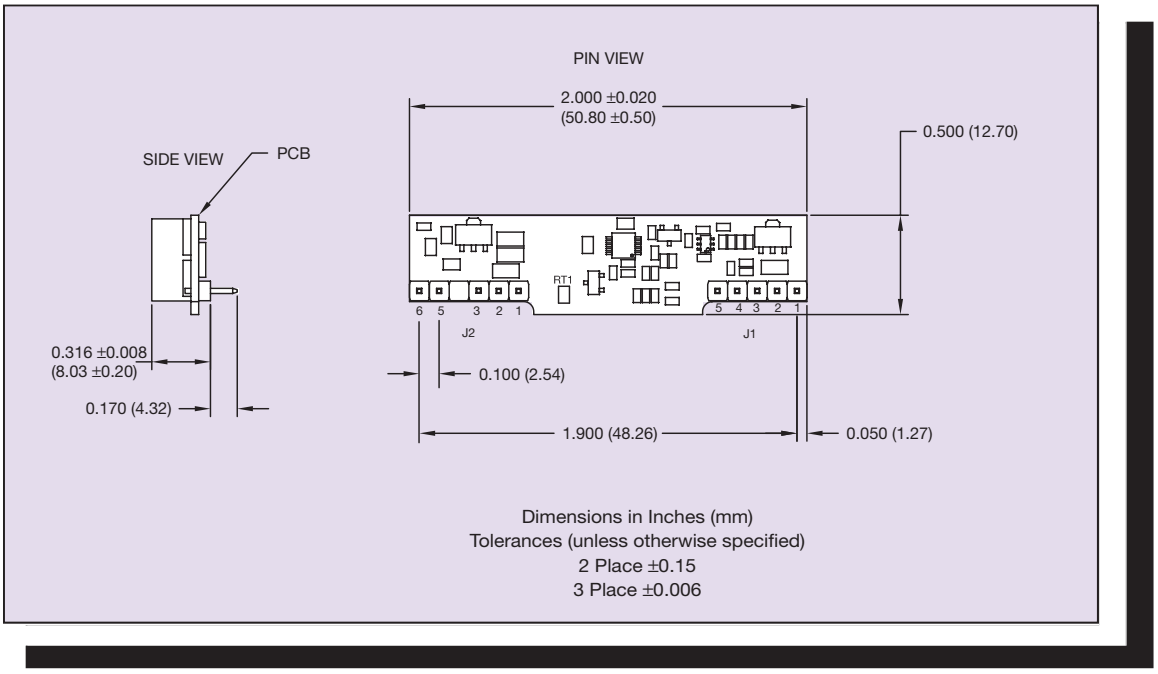


Figure 1: Mechanical Drawing - Horizontal Mount Version

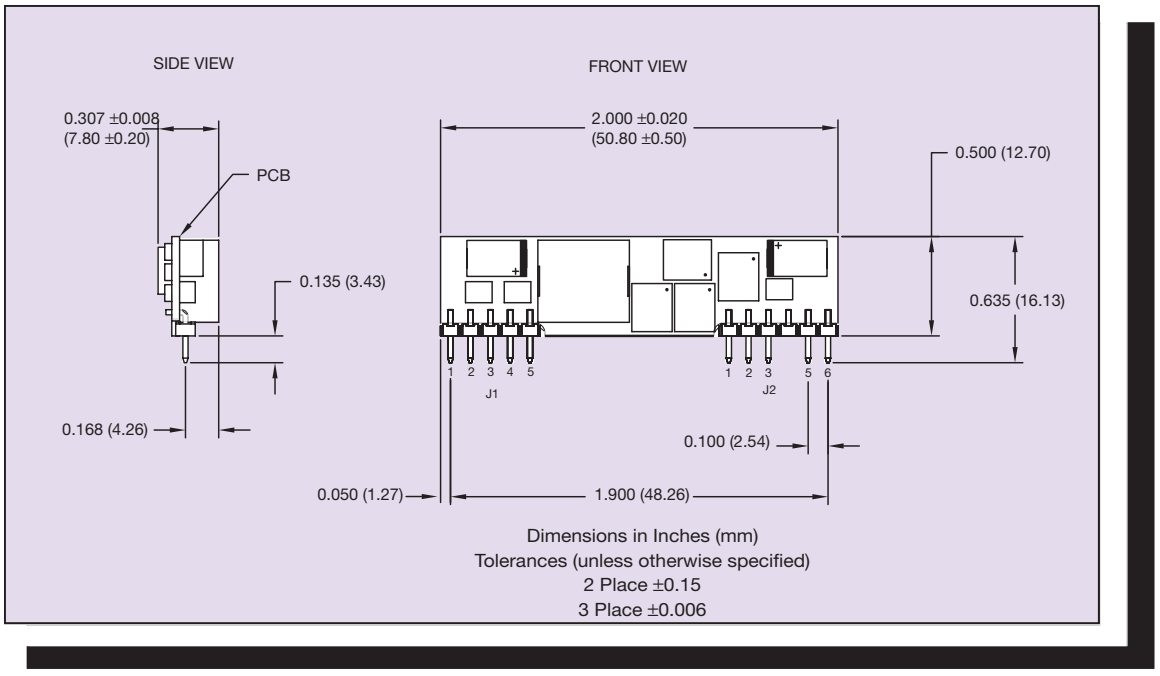


Figure 2: Mechanical Drawing - Vertical Mount Version