

# SIL15E Series

12 Vin single output

DC-DC CONVERTERS

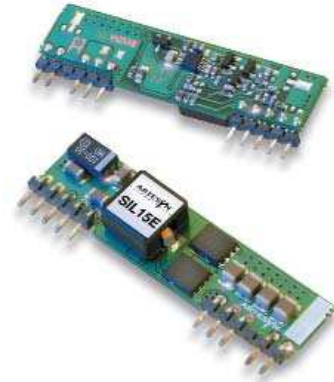
E Class Non-isolated

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**NEW Product**



- **15 A Current rating**
- **Input voltage range: 10 Vdc to 14 Vdc**
- **Output voltage range: 0.8 Vdc to 3.63 Vdc**
- **Ultra high efficiency: 94% @ 12 Vin and 3.3 Vout**
- **Extremely low internal power dissipation**
- **Minimal thermal design concerns**
- **Designed in reliability: MTBF of >7 million hours per Telcordia SR-332**
- **Ideal solution where board space is at a premium or tighter card pitch is required**
- **Industry standard footprint and pin out**
- **Available RoHS compliant**



The SIL15E series are non-isolated dc-dc converters packaged in a single-in-line footprint giving designers a cost effective solution for conversion from a 12 V source. The SIL15E offers a range of fixed outputs and one wide trim output unit at an industry leading 15 A which allows maximum design flexibility and a pathway for future upgrades. The SIL15E 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 SIL15E offers compact size and efficiencies of up to 94%.



**2 YEAR WARRANTY**

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

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage adjustability	0.8-3.63 Vdc	
Setpoint accuracy	±0.4% typ.	
Line regulation	±0.2% typ.	
Load regulation	±1.0% typ.	
Total error band	±3.0% typ.	
Minimum load	0 A	
Overshoot/undershoot	None	
Ripple and noise	5 Hz to 20 MHz	60 mV pk-pk 25 mV rms
Temperature co-efficient	±0.01%/°C	
Transient response	100 mV max. deviation 100 µs recovery to within ±1.0%	
Remote sense	10% Vo compensation	

### INPUT SPECIFICATIONS

Input voltage range	10-14 Vdc	
Input current	No load	70 mA
Input current (max.)	5.5 A max. @ Io max. and Vout = 3.3 V	
Input reflected ripple	60 mA rms	
Remote ON/OFF	(See Note 1)	
Start-up time	35 ms	

### 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	200 kHz typ.
Approvals and standards	EN60950 UL/cUL60950	
Material flammability	UL94V-0	
Dimensions (Vertical model)	(LxWxH)	50.8 x 7.8 x 12.7 mm 2.0 x 0.31 x 0.5 inches
Pin length	0.135 ±0.02 in (3.43 ±0.5 mm)	
Weight	5 g (0.18 oz)	
MTBF	Telcordia SR-332	7,042,000 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 2)	Operating ambient, temperature	-40 °C to +85 °C
	Non-operating	-40 °C to +125 °C

### PROTECTION

Short-circuit	Continuous
Thermal	Automatic recovery

### International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. E174104  
UL 60950 File No. E174104



TÜV Product Service (EN60950) Certificate No. B 03 10 38572 037  
CB report and certificate to DE3-51686M1

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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://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 <sup>(3)</sup>
						LINE	LOAD	
49.5 W	10-14 Vdc	0.8- 3.63 Vdc	0 A	15 A	94%	±0.2%	±1.0%	SIL15E-12W3V3-VJ

## Part Number System with Options

**SIL15E-12W3V3-VJ**

**Product Family**  
SIL = Single In Line

**Rated Output Current**  
15 = 15 Amps

**Performance**  
E = Enhanced Performance

**Packaging Options <sup>(3)</sup>**  
J = Pb-free (RoHS 6/6 compliant)

**Mounting Option**  
V = Vertical  
H = Horizontal

**Output Voltage**  
0.8 Vdc to 3.63 Vdc

**Type of Output**  
W = Wide

**Input Voltage**  
12 = 10 Vdc to 14 Vdc

### Output Voltage Adjustment of the SIL15E-12W3V3 Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL15E-12W3V3. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.8 Vdc to 3.63 Vdc. When the SIL15E-12W3V3 converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

## Notes

- The SIL15E features an 'Positive Logic' Remote ON/OFF operation. If not using the Remote ON/OFF pin, leave the pin open (the converter will be on). The Remote ON/OFF pin is referenced to ground.

The following conditions apply for the SIL15E:

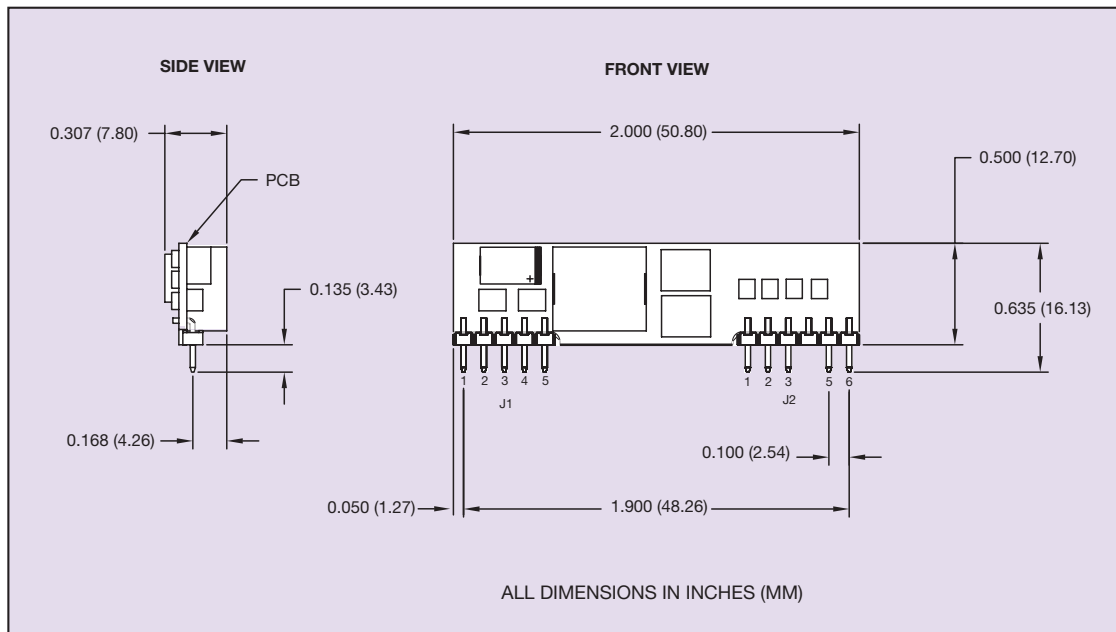
Configuration	Converter Operation
Remote pin open circuit	Unit is ON
Remote pin pulled low [Von/off <0.8 V]	Unit is OFF
Remote pin pulled high [Von/off >1.6 V]	Unit is ON

An 'Negative Logic' Remote ON/OFF version is also possible with this converter. To order please place the suffix 'R' towards the end of the model number, e.g. SIL15E-12W3V3-VRJ

- Full derating curves available in both the Longform Datasheet and Application Note.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

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#### 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