

# SIL30C Series

12 Vin single output



DC-DC CONVERTERS

C Class Non-isolated

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**NEW Product**

- **30 A current rating**
- **Input voltage range: 10.2 Vdc to 13.8 Vdc**
- **Output voltage range: 0.9 Vdc to 5.0 Vdc**
- **Industry leading value**
  - Cost optimized design
- **Excellent transient response**
- **Output Voltage adjustability**
  - Pathway for future upgrades
  - Supports silicon voltage migration
  - Resulting in reduced design-in and qualification time
- **Designed in reliability: MTBF of > 3.9 million hours per Telcordia SR-332**
- **Current Share**
- **Available RoHS compliant**



The SIL30C Series is a new high density open-frame non-isolated converter for space sensitive applications. The converter has a wide input range (10.2 Vdc to 13.8 Vdc) and offers a wide 0.9 Vdc to 5 Vdc output voltage range with a 30 A load. The series offers remote ON/OFF, overtemperature protection and overcurrent protection as standard. Its current share facility supports parallel operation of multiple SIL30C units and the remote sense feature enables the SIL30C compensate for voltage drops between the converters output and the load. With full international safety approvals including EN60950 and UL/cUL60950 the SIL30C reduces compliance costs and time to market.



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

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 1)	0.9-5.0 Vdc
Output setpoint accuracy	Using 1.0% trim resistors	±3%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±1.5% max.
Min/max load		0 A/30 A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	100 mV max.
Ripple and noise	(See Note 2)	50 mV pk-pk 15 mV rms
Transient response	Deviation	75 mV
(See Note 3)		150 µs recovery to within regulation band
Current share	Full load	±10%

### INPUT SPECIFICATIONS

Input voltage range	Nominal 12 V	10.2-13.8 Vdc
Input current	No load	230 mA
	Remote OFF	30 mA
Input current (max.)	(See Note 4)	13.8 A max. @ Io max. and Vin = 10.8 V
Input reflected ripple	(See Note 2)	150 mA (pk-pk)
Remote ON/OFF		Logic high
Logic compatibility		>2.4 Vdc
		<0.8 Vdc
Start-up time	Power up	<30 ms
(See Note 5)	Remote ON/OFF	<30 ms

### INPUT SPECIFICATIONS (CONTD.)

Turn ON threshold	9.0 Vdc
Turn OFF threshold	7.6 Vdc

### GENERAL SPECIFICATIONS

Efficiency	91%
Switching frequency	Fixed 300 kHz typ.
Approvals and standards	(See Note 7) TÜV Product Services IEC60950, UL/cUL60950
Material flammability	UL94V-0
Weight	28.3 g (1 oz)
MTBF	Telcordia SR-332 4,456,655 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient, temperature	0 °C to +80 °C
(See Note 8)	Non-operating	-40 °C to +125 °C

### PROTECTION

Short-circuit	Foldback, non-latching
Overtemperature	Hiccup, non-latching

### RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	(See Note 9)	270 µF/20 mΩ esr max.
Output capacitance	(See Note 9)	2 x 680 µF/10 mΩ esr max.

### International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. E139421  
UL60950 file No. E139421



TÜV Product Service (EN60950) Certificate No. B04 08 19870 228  
CB report and certificate to IIS/6415C/II



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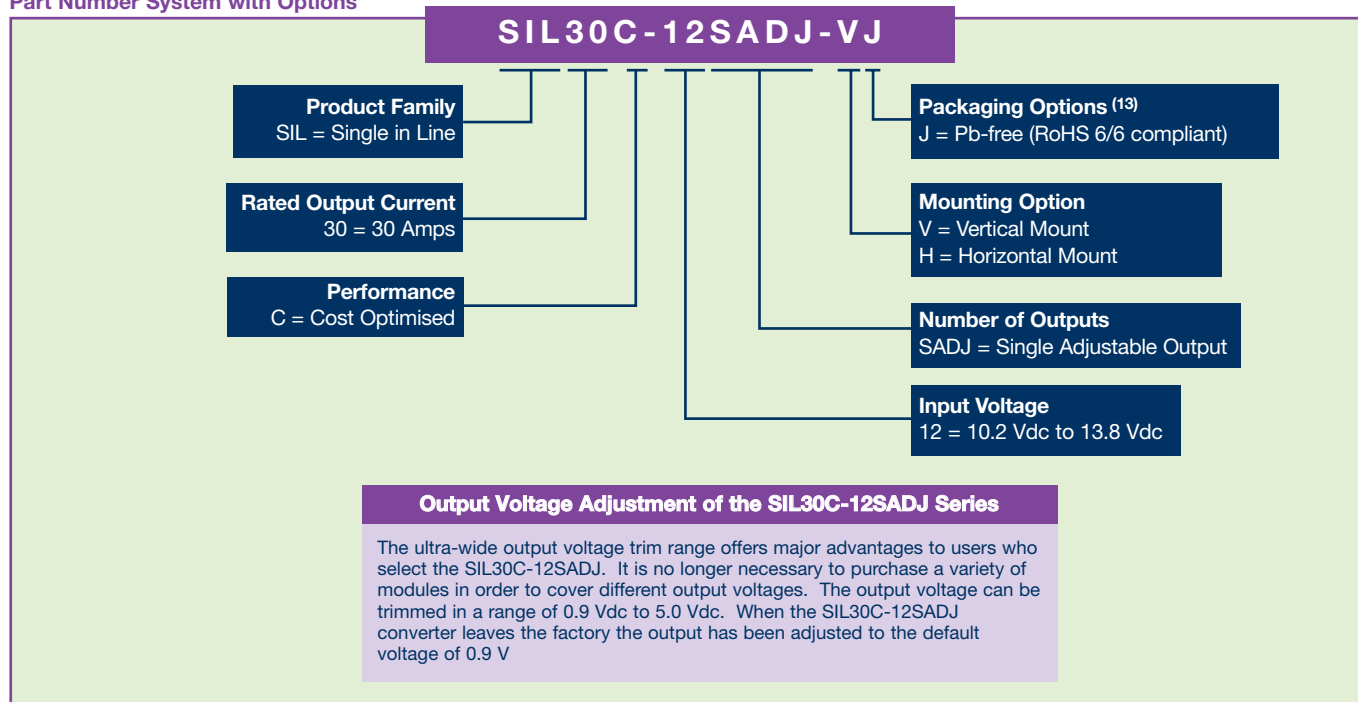
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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

**NEW Product**

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE <sup>(11)</sup>	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER <sup>(10,12,13,14)</sup>
							LINE	LOAD	
150 W	10.2-13.8 Vdc	N/A	0.9-5 V	0 A	30 A	91%	±0.2%	±1.5%	SIL30C-12SADJ-VJ

### Part Number System with Options



### Notes

- 1 Uses external resistor from TRIM to output ground. See Application Note 132 for details.
- 2 Measured with external filter. See Application Note 132 for details.
- 3  $di/dt = 10 \text{ A}/\mu\text{s}$ ,  $V_{in} = \text{Nom}$ ,  $T_c = 25 \text{ }^\circ\text{C}$ , load change = 0.5  $I_o$  max to 0.75  $I_o$  max and 0.75  $I_o$  max to 0.5  $I_o$  max.
- 4 External input fusing is recommended.
- 5 Power up is the time from application of dc input to POWER GOOD high. Remote ON/OFF asserted high to POWER GOOD high.
- 6 Signal line assumed <3 m.
- 7 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 8 See Application Note 132 for operation above 50  $^\circ\text{C}$ .
- 9 See Application Note 132 for ripple current requirements.
- 10 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. SIL30C-12SADJ-HJ.
- 11 This model has a wide trim output of between 0.9 Vdc to 5 Vdc. An external resistor adjusts the output voltage.
- 12 To order a unit with a pin length of 0.150", please add suffix 'P4' to the model number, e.g. SIL30C-12SADJ-HP4J.
- 13 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 14 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.

PIN CONNECTIONS			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	TRIM	13	Vin
2	No Pin	14	Vin
3	Ground	15	Vout
4	Power Good	16	Vout
5	Not Connected	17	Ground
6	Current Share	18	Vout
7	Ground	19	Ground
8	Ground	20	Vout
9	Remote ON/OFF	21	Ground
10	Remote sense (GND)	22	Vout
11	Remote sense (O/P)	23	Ground
12	Vin	24	Vout

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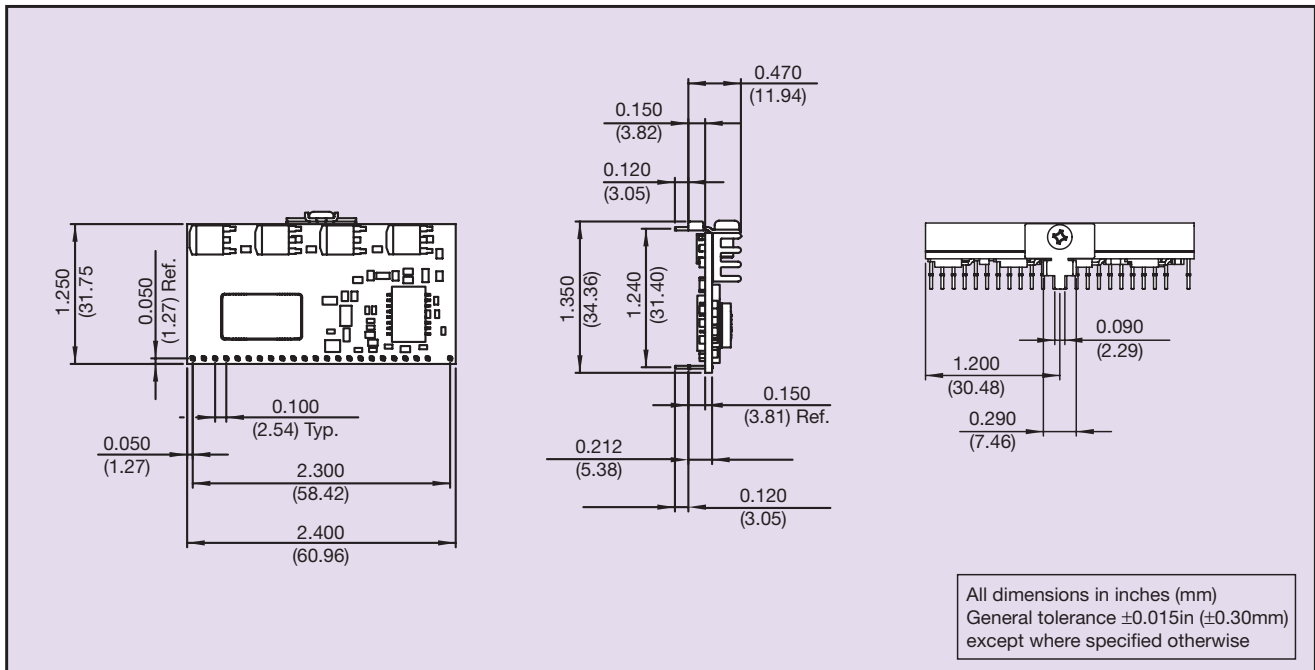


Figure 1: Mechanical Drawing - Horizontal Mount Version

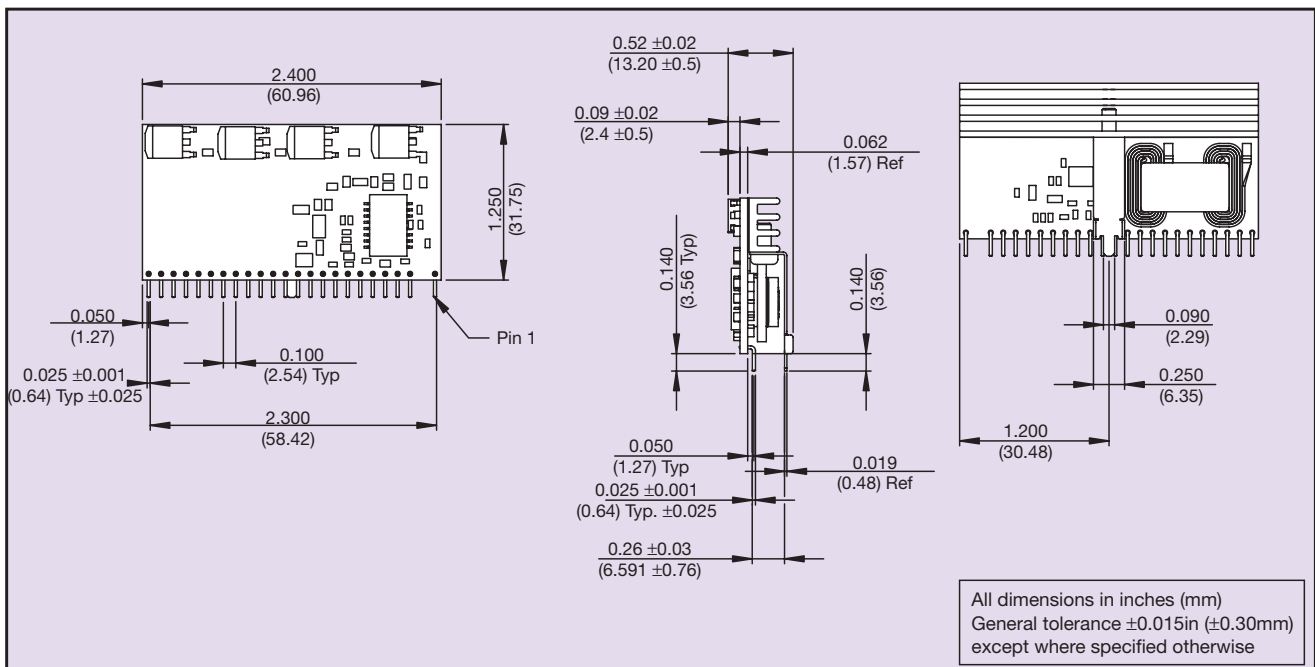


Figure 2: Mechanical Drawing - Vertical Mount Version