SIL30C Series

12Vin single output

ARTESYN TECHNOLOGIES

NEW Product

- **30A current rating**
- **Input voltage range: 10.2V - 13.8V**
- **Output voltage range: 0.9V - 5.0V**
- **Industry leading value**
  - **Cost optimised 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 hrs per Telcordia SR-332**

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 to 13.8Vdc) and offers a wide 0.9V to 5V output voltage range with a 30A load. The series offers remote ON/OFF, over-temperature protection and over-current protection as standard. Its current share facility supports parallel operation of multiple SIL30 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.

2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 1)	0.9V to 5.0V
Output setpoint accuracy	Using 1.0% trim resistors	±2.5%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±1.0% max.
Min/max load		0A/30A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	100mV max.
Ripple and noise 5Hz to 20MHz	(See Note 2)	50mV pk-pk 15mV rms
Transient response (See Note 3)	Deviation	75mV 150µs recovery to within regulation band
Current share	Full load	±10%

INPUT SPECIFICATIONS

Input voltage range	Nominal 12V	10.2 to 13.8VDC
Input current	No load Remote OFF	230mA 30mA
Input current (max.)	(See Note 4)	13.8A max. @ Io max. and Vin = 10.8V
Input reflected ripple	(See Note 2)	150mA (pk-pk)
Remote ON/OFF Logic compatibility ON OFF		 Logic high >2.4VDC <0.8VDC
Start-up time (See Note 5)	Power up Remote ON/OFF	<6ms <6ms

INPUT SPECIFICATIONS (CONTD.)

Turn ON threshold	9.0VDC
Turn OFF threshold	8.3VDC

GENERAL SPECIFICATIONS

Efficiency		91%
Switching frequency	Fixed	300kHz typ.
Approvals and standards (pending)	(See Note 7)	TÜV Product Services IEC60950, UL/cUL60950
Material flammability		UL94V-0
Weight		28.3g (1oz)
MTBF	Telcordia SR-332	3,994,753

ENVIRONMENTAL SPECIFICATIONS

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

PROTECTION

Short-circuit protection	Foldback, non-latching
Over-temperature protection	Hiccup, non-latching

RECOMMENDED SYSTEM CAPACITANCE

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

International Safety Standard Approvals

c UL us — UL/cUL CAN/CSA 22.2 No. E139421
UL60950 file No. E139421

TÜV — TÜV Product Service (EN60950) Certificate No. B0211 19870 205
CB report and certificate to IEC60950

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

NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE (11)	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER (10)
							LINE	LOAD	
150W	10.2-13.8VDC	N/A	0.9V - 5V	0A	30A	91%	±0.2%	±1.0%	SIL30C-12SADJ-V

Part Number System with Options

SIL30C-12SADJ-V

- **Product Family**: SIL = Single In Line
- **Rated Output Current**: 30 = 30Amps
- **Performance**: C = Cost Optimised
- **Mounting Option**: V = Vertical Mount, H = Horizontal Mount
- **Number of Outputs**: SADJ = Single Adjustable Output
- **Input Voltage**: 12 = 10.2V - 13.8V

Output Voltage Adjustment of the SIL30C-12SADJ Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL30C-12SADJ. 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 0.9V to 5.0V. When the SIL30C-12SADJ converter leaves the factory the output has been adjusted to the default voltage of 0.9V

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 = 10A/µs, Vin = Nom, Tc = 25°C, load change = 0.5 Io max tp 0.75 Io max and 0.75 Io max to 0.5 Io 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 <3m.
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°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-H.
11 This model has a wide trim output of between 0.9V to 5V. An external resistor adjusts the output voltage

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

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

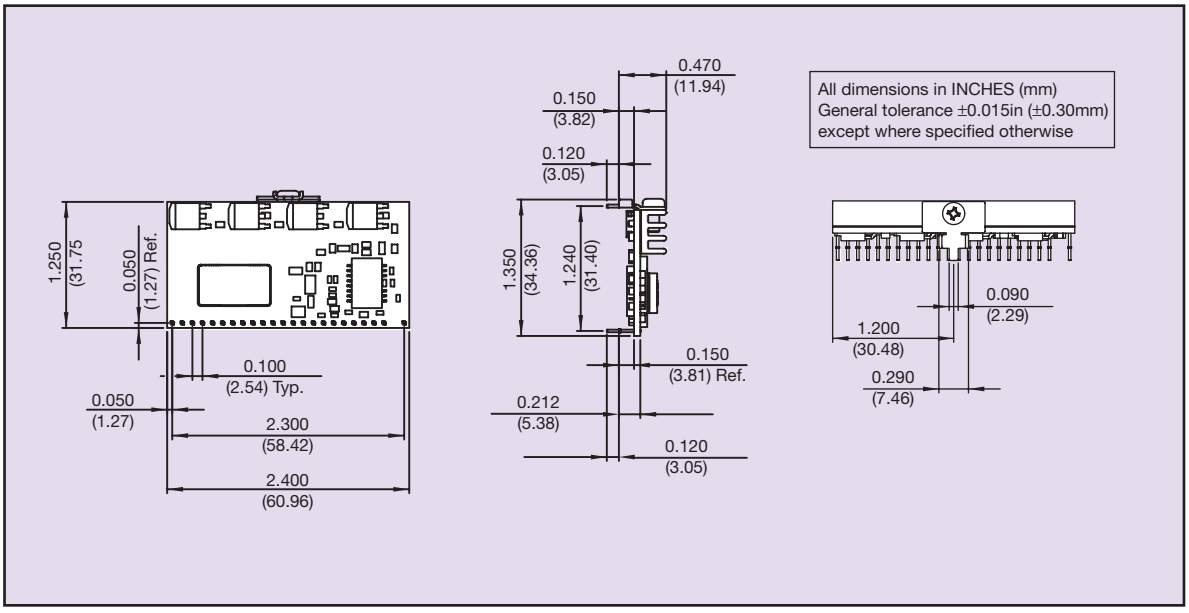

Figure 1: Mechanical Drawing - Horizontal Mount Version

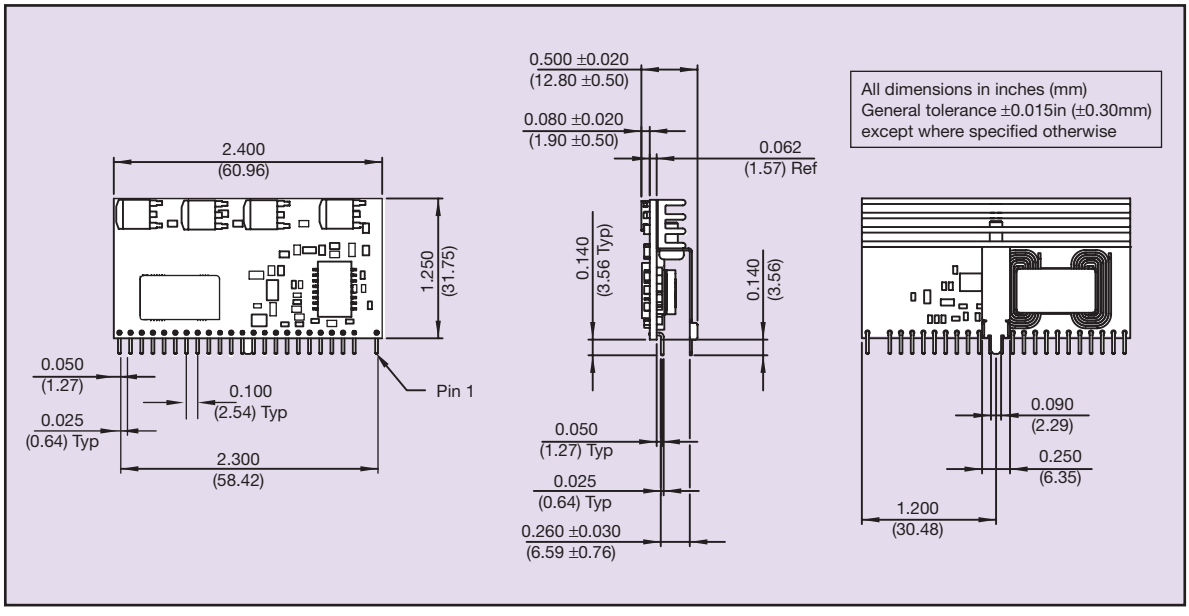

Figure 2: Mechanical Drawing - Vertical Mount Version