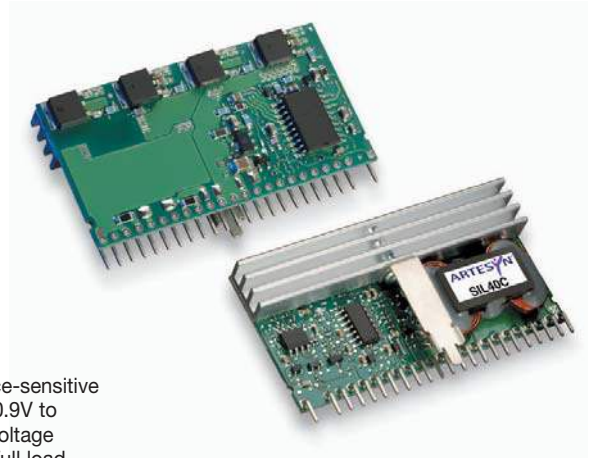


# SIL40C Series

12Vin single output

**NEW Product**

- **40A 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 >4 million hours per Telcordia SR-332**
- **Current share**



The SIL40C Series is a new high density open frame non-isolated converter for space-sensitive applications. Each model has a wide input range (10.2V to 13.8V) and offer a wide 0.9V to 5.0V output voltage range with a 40A load. An external resistor adjusts the output voltage from its pre-set value of 0.9V to any value up to 5V. Typical efficiencies are 92% at full load conditions. The SIL40C series offers remote ON/OFF and over-current protection as standard. With full international safety approval including EN60950 and UL/cUL60950, the SIL40C 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 5)	0.9V to 5.0V
Output setpoint accuracy	1.0% trim resistors	±3.0%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±1.5% max.
Min/max load		0A/40A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	100mV max.
Ripple and noise 5Hz to 20MHz	(See Note 1)	50mV pk-pk 15mV rms
Transient response (See Note 2)	Deviation	75mV 50µs recovery to within regulation band

### INPUT SPECIFICATIONS

Input voltage range		10.2 to 13.8VDC
Input current	Minimum load Remote OFF	290mA 30mA
Input current (max.)		22A max @ I <sub>o</sub> max and V <sub>in</sub> = 10.2V
Input reflected ripple	(See Note 4)	150mA pk-pk
Remote ON/OFF Logic compatibility		Active high >2.4VDC ON <0.8VDC OFF
Start-up time (See Note 9)	Power up Remote ON/OFF	<30ms <30ms
Turn ON threshold		9.0VDC
Turn OFF threshold		7.6VDC

### GENERAL SPECIFICATIONS

Efficiency		See table
Switching frequency	Fixed	300kHz typ.
Approvals and standards	(See Note 7)	TÜV Product Services IEC60950, UL/cUL60950
Material flammability		UL94V-0
Weight		28.3g (1.0oz)
MTBF	Telcordia SR-332, method II @ 40°C	4,585,991 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 10)	Operating ambient, temperature Non-operating	0°C to +80°C -40°C to +125°C
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### PROTECTION

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

### RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	(See Note 11) 2 x 270µF/20mΩ esr max.
Output capacitance	(See Note 11) 3 x 680µF/10mΩ esr max.

### International Safety Standard Approvals



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

TÜV Product Service (EN60950) Certificate No. B 03 08 19870 219  
CB report and certificate to IEC60950

# SIL40C Series

12Vin single output

DC/DC CONVERTERS

C Class Non-isolated

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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>(12)</sup>	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY	REGULATION		MODEL NUMBER <sup>(8,13)</sup>
							LINE	LOAD	
200W	10.2 - 13.8VDC	N/A	0.9V - 5.0V	0A	40A	92%	±0.2%	±1.5%	SIL40C-12SADJ-V

## Part Number System with Options

### SIL40C-12SADJ-V

**Product Family**  
SIL = Single in Line

**Rated Output Current**  
40 = 40Amps

**Performance**  
C = Cost optimized

**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 SIL40C-12SADJ Series

The ultra-wide output voltage trim range offers major advantages to users who select the SIL40C-12SADJ series. 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 SIL40C-12SADJ series converter leaves the factory the output has been adjusted to the default voltage of 0.9V

## Notes

- 1 Measured as per recommended set-up.  $2 \times C_{in} = 270\mu\text{F}$  (20mΩ esr max,  $3 \times C_{out} = 680\mu\text{F}$  (10mΩ esr max).
- 2  $di/dt = 10\text{A}/\mu\text{s}$ ,  $V_{in} = \text{Nom}$ ,  $T_c = 25^\circ\text{C}$ , load change = 0.50 I<sub>o</sub> max. to 0.75 I<sub>o</sub> max. and 0.75 I<sub>o</sub> max. to 0.50 I<sub>o</sub> max.
- 3 External input fusing is recommended.
- 4 Measured with external filter. See Application Note 132 for details.
- 5 Uses external resistor from trim pin to output ground. See Application Note 132 for details.
- 6 Signal line assumed <3m in length
- 7 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 8 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. SIL40C-12SADJ-H.
- 9 Power-up is the time from application of DC input to Power Good enabled. Remote ON/OFF is from ON/OFF asserted high to power good enabled.
- 10 See Application Note 132 for operation above 50°C.
- 11 See Application Note 132 for ripple current requirements.
- 12 These models have a wide trim output. The unit has an output of 0.9V to 5V. An external resistor adjusts the output voltage.
- 13 To order a unit with a pin length of 0.150", please add suffix 'P4' to the model number, e.g. SIL40C-12SADJ-HP4.

# SIL40C Series

12Vin single output

DC/DC CONVERTERS | C Class Non-isolated

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**NEW Product**

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	Trim
2	No Pin
3	Ground
4	Power good
5	Not connected
6	Current share
7	Ground
8	Ground
9	Remote ON/OFF
10	Remote sense -
11	Remote sense +
12	Vin
13	Vin
14	Vin
15	Vout
16	Vout
17	Ground
18	Vout
19	Ground
20	Vout
21	Ground
22	Vout
23	Ground
24	Vout

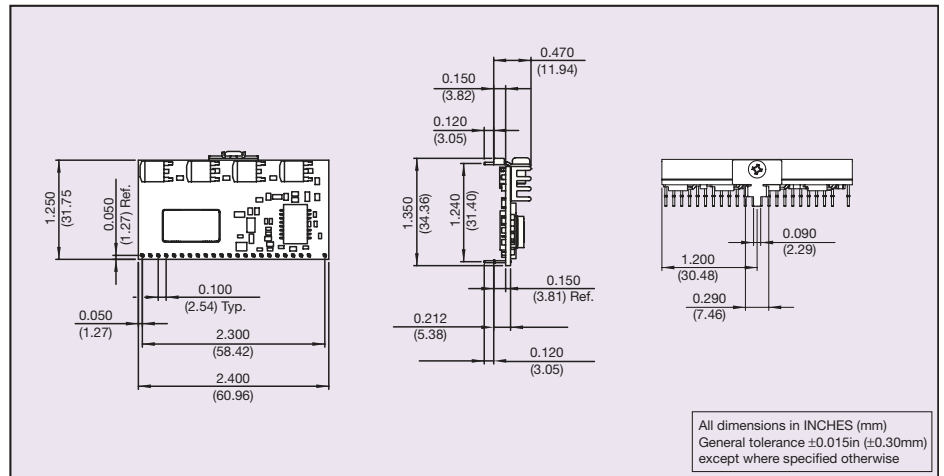


Figure 1: Mechanical Drawing - Horizontal Mount Version

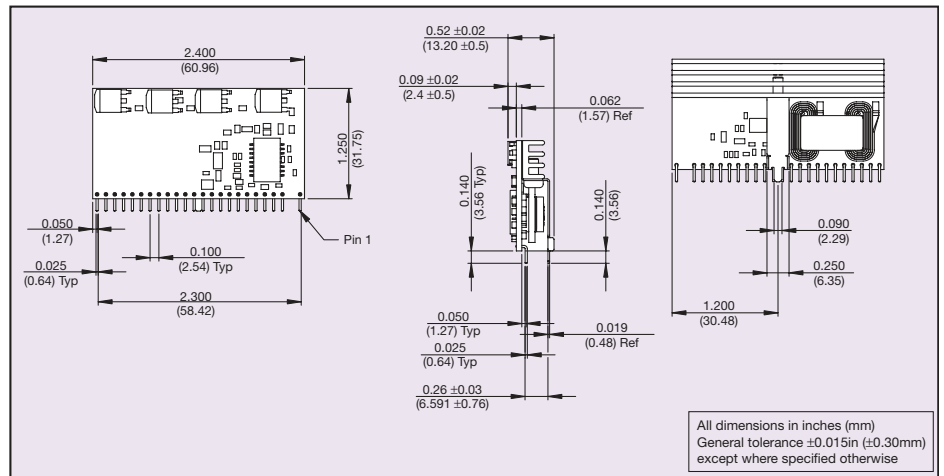


Figure 2: Mechanical Drawing - Vertical Mount Version

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Please consult our website for the following items: ✓ Application Note ✓ Longform Data Sheet

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