

# SMT40C Series

12 Vin single output

查询"SMT40C-12SADJ-SJ"供应商

DC-DC CONVERTERS C Class Non-isolated

1

NEW Product



- **40 A current rating**
- **Input voltage range: 10.2 Vdc - 13.8 Vdc**
- **Output voltage range: 0.9 Vdc - 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 >4 million hours per Telcordia SR-332**
- **Current share**
- **Available RoHS compliant**



The SMT40C Series is a new high density open frame non-isolated converter for space-sensitive applications. Each model has a wide input range of 10.2 Vdc to 13.8 Vdc and offers a wide 0.9 Vdc to 5.0 Vdc output voltage range with a 40 A load. An external resistor adjusts the output voltage from its pre-set value of 0.9 V to any value up to 5 V. Typical efficiencies are 92% at full load conditions. The SMT40C series offers remote ON/OFF and overcurrent protection as standard. With full international safety approval including EN60950 and UL/cUL60950, the SMT40C reduces compliance costs and time to market.



2 YEAR WARRANTY

All specifications are typical at nominal input  $V_{in} = 12 V$ , full load at 25 °C unless otherwise stated

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 5)	0.9-5.0 Vdc
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		0 A/40 A
Overshoot	At turn-on	1.0% max.
Undershoot	At turn-off	100 mV max.
Ripple and noise	(See Note 1)	50 mV pk-pk 15 mV rms
Transient response	(See Note 2)	75 mV max. deviation 50 µs recovery to within regulation band
Current share	Full load	±10%

### INPUT SPECIFICATIONS

Input voltage range		10.2-13.8 Vdc
Input current	Minimum load Remote OFF	290 mA 30 mA
Input current (max.)		22 A max @ $I_o$ max and $V_{in} = 10.2 V$
Input reflected ripple	(See Note 4)	150 mA pk-pk
Remote ON/OFF Logic compatibility	ON OFF	Positive logic >2.4 Vdc <0.8 Vdc
Start-up time	Power up Remote ON/OFF	<30 ms <30 ms
Turn ON threshold		9.0 Vdc typ.
Turn OFF threshold		7.6 Vdc typ.

### GENERAL SPECIFICATIONS

Efficiency		92% typ.
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 (1.0 oz)
Coplanarity		150 µm
MTBF	Telcordia SR-332, method II @ 40 °C	4,585,991 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient, temperature	0 °C to +80 °C
(See Note 9)	Non-operating	-40 °C to +125 °C

### PROTECTION

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

### RECOMMENDED SYSTEM CAPACITANCE

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

### International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. 60950  
UL 60950 File No. E139421



TÜV Product Service (EN60950:2000)  
Certificate No. B 04 08 19870 228  
CB report and certificate to IEC60950-US/6415C/UL

# SMT40C Series

查询"SMT40C-12SADJ-SJ"供应商  
12 Vin single output

DC-DC CONVERTERS | C Class Non-isolated

2

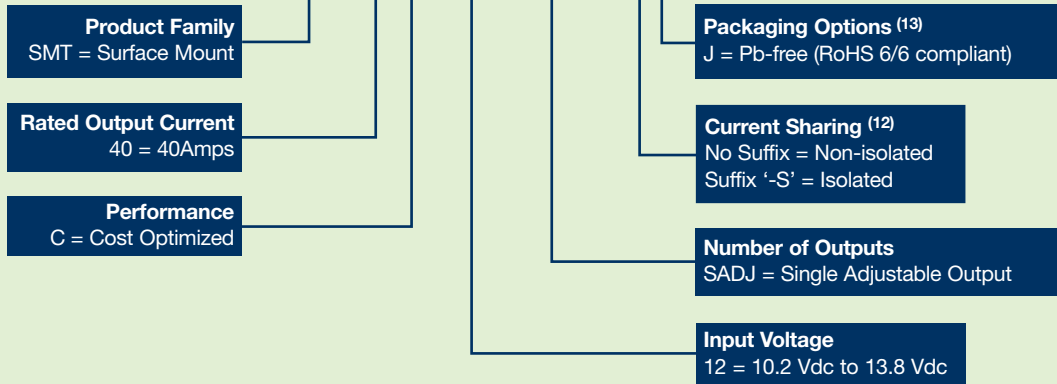
For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

**NEW Product**

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE <sup>(11)</sup>	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY	REGULATION		MODEL NUMBER <sup>(13,14)</sup>
							LINE	LOAD	
200 W	10.2-13.8 Vdc	N/A	0.9-5.0 Vdc	0 A	40 A	92%	±0.2%	±1.5%	SMT40C-12SADJJ

## Part Number System with Options

### SMT40C-12SADJ-SJ



### Output Voltage Adjustment of the SMT40C Series

The ultra-wide output voltage trim range offers major advantages to users who select the SMT40C 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 0.9 Vdc to 5.0 Vdc. When the SMT40C series converter leaves the factory the output has been adjusted to the default voltage of 0.9 V.

## Notes

- 1 Measured as per recommended set-up.  $2 \times C_{in} = 270 \mu\text{F}$  (20 m $\Omega$  ESR max,  $3 \times C_{out} = 680 \mu\text{F}$  (10 m $\Omega$  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  $I_o$  max. to 0.75  $I_o$  max. and 0.75  $I_o$  max. to 0.50  $I_o$  max.
- 3 External input fusing is recommended.
- 4 Measured with external filter. See Application Note 170 for details.
- 5 Uses external resistor from trim pin to output ground. See Application Note 170 for details.
- 6 Signal line assumed <3 m 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 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.
- 9 See Application Note 170 for operation above 50 °C.
- 10 See Application Note 170 for ripple current requirements.
- 11 These models have a wide trim output. The unit has an output of 0.9 Vdc to 5 Vdc. An external resistor adjusts the output voltage.
- 12 For redundant current sharing applications that use ORing diodes to separate the outputs, please add the suffix '-S' to the part number, e.g. SMT40C-12SADJ-SJ. Please refer to Application Note 170 for further details.
- 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.

# SMT40C Series

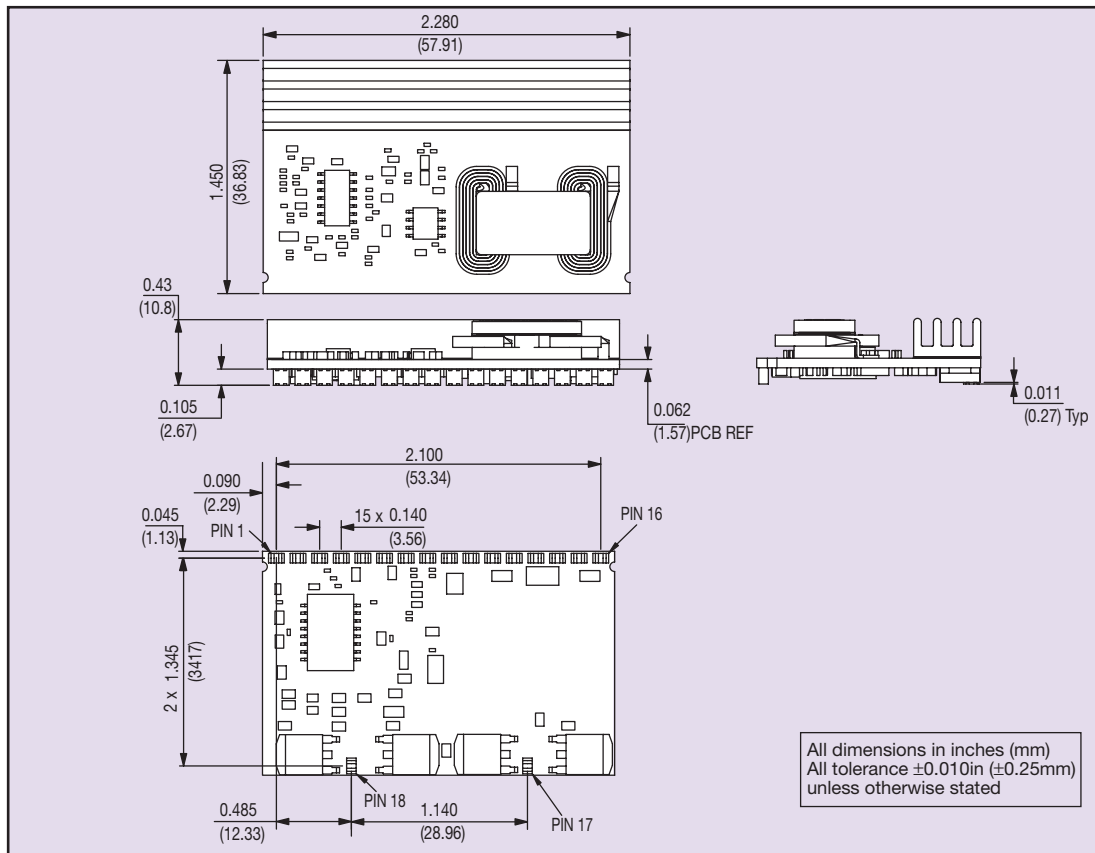
查询"SMT40C-12SADJ-SJ"供应商  
12 Vin single output

DC-DC CONVERTERS C Class Non-isolated

3

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

**NEW Product**



## PIN CONNECTIONS

PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Current Share	10	Vin
2	Trim	11	Vin
3	GND	12	Vout
4	GND	13	Vout
5	GND	14	GND
6	Sense-	15	Vout
7	Sense+	16	GND
8	Remote ON/OFF	17	Mechanical Support
9	Power Good	18	Mechanical Support

Datasheet © Artesyn Technologies® 2005

The information and specifications contained in this datasheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. The information and specifications contained or described herein are subject to change in any manner at any time without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

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

[www.artesyn.com](http://www.artesyn.com)