

## ■ Features

- DIP24 package with industry standard pinout
- 2:1 wide input range
- Operating temperature range -40 ~ +90°C
- No minimum load required
- Comply to BS EN/EN55032 radiated Class A without additional components
- High efficiency up to 87%
- Protections: Short circuit (Continuous) / Overload / Input under voltage
- 3KVDC I/O isolation
- 3 years warranty

## ■ Applications

- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

## ■ GTIN CODE

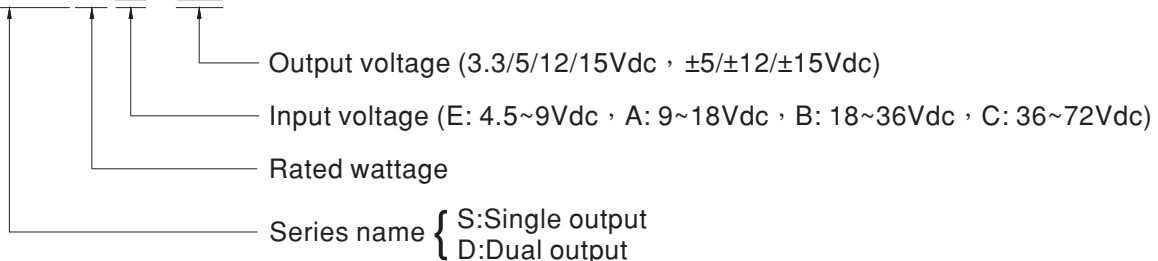
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## ■ Description

SCWN03 and DCWN03 series are 3W isolated and regulated module type DC-DC converter with DIP24 package. It features international standard pins, a high efficiency up to 87%, wide working temperature range -40~+90°C, 3KVDC I/P-O/P isolation voltage, Compliance to BS EN/EN55032 radiated Class A without additional components, continuous-mode short circuit protection, etc. The additional components, models account for different input voltage 4.5~9V, 9~18V, 18~36V and 36~72V 2:1 wide input range, and various output voltage, 3.3V/5V/12V/15V for single output and ±5V/±12V/±15V for dual outputs, which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

## ■ Model Encoding

**S** **CWN03** **E** - **12**





| MODEL SELECTION TABLE |                       |               |           |                |                |                   |                       |
|-----------------------|-----------------------|---------------|-----------|----------------|----------------|-------------------|-----------------------|
| ORDER NO.             | INPUT                 |               |           | OUTPUT         |                | EFFICIENCY (TYP.) | CAPACITOR LOAD (MAX.) |
|                       | INPUT VOLTAGE (RANGE) | INPUT CURRENT |           | OUTPUT VOLTAGE | OUTPUT CURRENT |                   |                       |
|                       |                       | NO LOAD       | FULL LOAD |                |                |                   |                       |
| SCWN03E-03            | 5V<br>(4.5 ~ 9V)      | 15mA          | 550mA     | 3.3V           | 600mA          | 73%               | 2200μF                |
| SCWN03E-05            |                       | 15mA          | 779mA     | 5V             | 600mA          | 78%               | 2200μF                |
| SCWN03E-12            |                       | 18mA          | 750mA     | 12V            | 250mA          | 80%               | 2200μF                |
| SCWN03E-15            |                       | 18mA          | 750mA     | 15V            | 200mA          | 81%               | 2200μF                |
| DCWN03E-05            |                       | 25mA          | 779mA     | ±5V            | ±0 ~ 300mA     | 77%               | *1000μF               |
| DCWN03E-12            |                       | 25mA          | 750mA     | ±12V           | ±0 ~ 125mA     | 80%               | *1000μF               |
| DCWN03E-15            |                       | 25mA          | 750mA     | ±15V           | ±0 ~ 100mA     | 80%               | *1000μF               |
| SCWN03A-03            | 12V<br>(9 ~ 18V)      | 5mA           | 212mA     | 3.3V           | 600mA          | 78%               | 2200μF                |
| SCWN03A-05            |                       | 5mA           | 309mA     | 5V             | 600mA          | 82%               | 2200μF                |
| SCWN03A-12            |                       | 10mA          | 298mA     | 12V            | 250mA          | 84%               | 2200μF                |
| SCWN03A-15            |                       | 10mA          | 294mA     | 15V            | 200mA          | 85%               | 2200μF                |
| DCWN03A-05            |                       | 10mA          | 305mA     | ±5V            | ±0 ~ 300mA     | 82%               | *1000μF               |
| DCWN03A-12            |                       | 12mA          | 298mA     | ±12V           | ±0 ~ 125mA     | 84%               | *1000μF               |
| DCWN03A-15            |                       | 15mA          | 294mA     | ±15V           | ±0 ~ 100mA     | 85%               | *1000μF               |
| SCWN03B-03            | 24V<br>(18 ~ 36V)     | 5mA           | 106mA     | 3.3V           | 600mA          | 78%               | 2200μF                |
| SCWN03B-05            |                       | 5mA           | 152mA     | 5V             | 600mA          | 82%               | 2200μF                |
| SCWN03B-12            |                       | 7.5mA         | 145mA     | 12V            | 250mA          | 86%               | 2200μF                |
| SCWN03B-15            |                       | 7.5mA         | 145mA     | 15V            | 200mA          | 86%               | 2200μF                |
| DCWN03B-05            |                       | 7.5mA         | 152mA     | ±5V            | ±0 ~ 300mA     | 82%               | *1000μF               |
| DCWN03B-12            |                       | 10mA          | 147mA     | ±12V           | ±0 ~ 125mA     | 87%               | *1000μF               |
| DCWN03B-15            |                       | 10mA          | 145mA     | ±15V           | ±0 ~ 100mA     | 87%               | *1000μF               |
| SCWN03C-03            | 48V<br>(36 ~ 72V)     | 3mA           | 52mA      | 3.3V           | 600mA          | 80%               | 2200μF                |
| SCWN03C-05            |                       | 3mA           | 74mA      | 5V             | 600mA          | 84%               | 2200μF                |
| SCWN03C-12            |                       | 3mA           | 73mA      | 12V            | 250mA          | 86%               | 2200μF                |
| SCWN03C-15            |                       | 5mA           | 73mA      | 15V            | 200mA          | 87%               | 2200μF                |
| DCWN03C-05            |                       | 5mA           | 73mA      | ±5V            | ±0 ~ 300mA     | 85%               | *1000μF               |
| DCWN03C-12            |                       | 5mA           | 73mA      | ±12V           | ±0 ~ 125mA     | 87%               | *1000μF               |
| DCWN03C-15            |                       | 5mA           | 74mA      | ±15V           | ±0 ~ 100mA     | 87%               | *1000μF               |

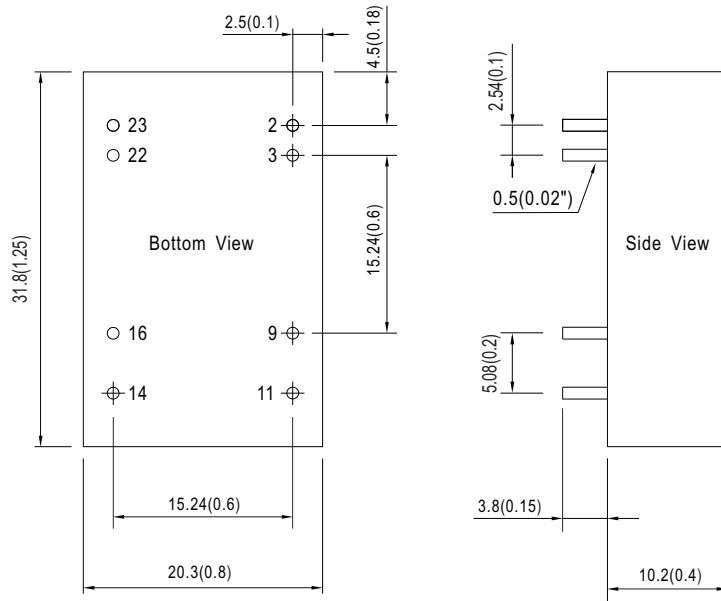
\* For each output



| SPECIFICATION            |  |  |   |                                 |
|--------------------------|--|--|---|---------------------------------|
| INPUT                    | VOLTAGE RANGE  | E: 4.5~9Vdc , A: 9~18Vdc , B: 18~36Vdc , C: 36~72Vdc   |   |                                 |
|                          | SURGE VOLTAGE (100ms max.)   | 5Vin models : 10Vdc ; 12Vin models : 25Vdc ; 24Vin models : 50Vdc ; 48Vin models : 100Vdc  |   |                                 |
|                          | FILTER   | Pi type  |   |                                 |
|                          | PROTECTION   | Fuse recommended. 5Vin models: 1.5A Fast-Acting Type, 12Vin models: 0.8A Fast-Acting Type, 24Vin models: 0.5A Fast-Acting Type, 48Vin models: 250mA Fast-Acting Type |   |                                 |
|                          | INTERNAL POWER DISSIPATION   | 500mW  |   |                                 |
| OUTPUT                   | VOLTAGE ACCURACY   | ± 1.5%   |   |                                 |
|                          | RATED POWER  | 3W   |   |                                 |
|                          | RIPPLE & NOISE <small>Note.2</small>   | 50mVp-p  |   |                                 |
|                          | LINE REGULATION <small>Note.3</small>  | ± 0.5%   |   |                                 |
|                          | LOAD REGULATION <small>Note.4</small>  | Single output models: ± 0.5%, Dual output models: ± 1%   |   |                                 |
|                          | SWITCHING FREQUENCY (Min.)   | 100KHz   |   |                                 |
| PROTECTION               | SHORT CIRCUIT  | Protection type : Continuous, automatic recovery   |   |                                 |
|                          | OVERLOAD   | 120 ~ 250% rated output power<br>Protection type : Recovers automatically after fault condition is removed   |   |                                 |
|                          | UNDER VOLTAGE LOCKOUT  | Start-up voltage   | 5Vin: 4.4Vdc, 12Vin: 8.8Vdc, 24Vin: 17Vdc, 48Vin: 34Vdc |                                 |
|                          |  | Shutdown voltage   | 5Vin: 4.2Vdc, 12Vin: 8Vdc, 24Vin: 16Vdc, 48Vin: 31Vdc   |                                 |
| ENVIRONMENT              | COOLING  | Free-air convection  |   |                                 |
|                          | WORKING TEMP.  | -40 ~ +90°C (Refer to "Derating Curve")  |   |                                 |
|                          | CASE TEMPERATURE   | +100°C max.  |   |                                 |
|                          | WORKING HUMIDITY   | 20% ~ 90% RH non-condensing  |   |                                 |
|                          | STORAGE TEMP., HUMIDITY  | -40 ~ +105°C, 10 ~ 95% RH non-condensing   |   |                                 |
|                          | TEMP. COEFFICIENT  | 0.03% / °C (0 ~ 85°C)  |   |                                 |
|                          | SOLDERING TEMPERATURE  | 1.5mm from case of 1 ~ 3sec./260°C max.  |   |                                 |
|                          | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes  |   |                                 |
| SAFETY & EMC<br>(Note.5) | SAFETY STANDARDS   | EAC TP TC 020/2011 approved  |   |                                 |
|                          | WITHSTAND VOLTAGE  | I/P-O/P:3KVDC  |   |                                 |
|                          | ISOLATION RESISTANCE   | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH   |   |                                 |
|                          | ISOLATION CAPACITANCE (Typ.)   | 250pF  |   |                                 |
|                          | EMC EMISSION   | Parameter  | Standard  | Test Level / Note               |
|                          |  | Conducted  | BS EN/EN55032(CISPR32)                                  | N/A                             |
|                          |  | Radiated   | BS EN/EN55032(CISPR32)                                  | Class A                         |
|                          | EMC IMMUNITY   | Parameter  | Standard  | Test Level / Note               |
|                          |  | ESD  | BS EN/EN61000-4-2                                       | Level 2, ±8KV air, ±4KV contact |
|                          |  | Radiated Susceptibility  | BS EN/EN61000-4-3                                       | Level 2, 3V/m                   |
|                          |  | EFT/Bursts   | BS EN/EN61000-4-4                                       | Level 1, 0.5KV                  |
| Surge                    |  | BS EN/EN61000-4-5  | Level 1, 0.5KV Line-Line                                |                                 |
| Conducted                |  | BS EN/EN61000-4-6  | Level 2, 3V(e.m.f.)                                     |                                 |
| Magnetic Field           |  | BS EN/EN61000-4-8  | Level 2, 3A/m   |                                 |
| OTHERS                   | MTBF   | 2500Khrs MIL-HDBK-217F(25°C)   |   |                                 |
|                          | DIMENSION (L*W*H)  | 31.8*20.3*10.2mm (1.25*0.8*0.4 inch)   |   |                                 |
|                          | CASE MATERIAL  | Non-Conductive black plastic (UL 94V-0 rated)  |   |                                 |
|                          | PACKING  | 12.3g ; 10pcs/per tube, 600pcs/60 tube/per carton  |   |                                 |
| NOTE                     | <p>1.All parameters are specified at normal input(E:5Vdc, A:12Vdc, B:24Vdc, C:48Vdc), rated load, 25°C 70% RH ambient.</p> <p>2.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.</p> <p>3.Line regulation is measured from low line to high line at rated load.</p> <p>4.Load regulation is measured from 10% to 100% rated load for SCWN03, 25% to 100% rated load for DCWN03.</p> <p>5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |  |   |                                 |

**Mechanical Specification**

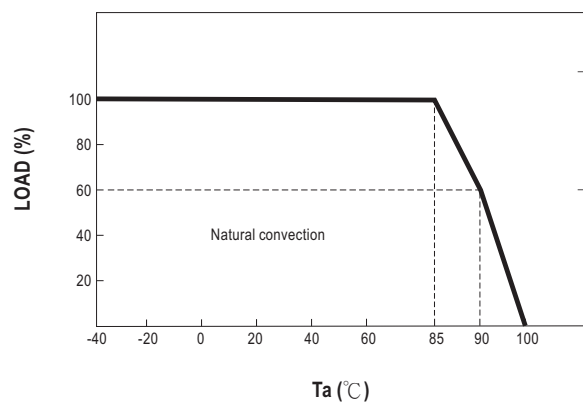
- All dimensions in mm (inch)
- Tolerance:  $x.x \pm 0.5\text{mm}$  ( $x.xx \pm 0.02''$ )  
 $x.xx \pm 0.25\text{mm}$  ( $x.xxx \pm 0.010''$ )
- Pin size is:  $0.5 \pm 0.05\text{mm}$  ( $0.02'' \pm 0.002''$ )



**Plug Assignment**

| Pin-Out |                           |                         |
|---------|---------------------------|-------------------------|
| Pin No. | SCWN03<br>(Single output) | DCWN03<br>(Dual output) |
| 2,3     | -Vin                      | -Vin                    |
| 9       | N.C.                      | Common                  |
| 11      | N.C.                      | -Vout                   |
| 14      | +Vout                     | +Vout                   |
| 16      | -Vout                     | Common                  |
| 22,23   | +Vin                      | +Vin                    |

**Derating Curve**



**Packing**

| Standard Tube Packing                                       | MPQ Per Tube (PCS) | One Tube G.W. | Max. Q'TY/ Carton(PCS) | One Carton G.W. |
|---|--------------------|---------------|------------------------|-----------------|
| <p>Unit : mm</p> <p>CARTON<br/>L390.9 x W284.8 x H175.7</p> | 10                 | 147g          | 600                    | 10.82Kg         |

**Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>