



FEATURES

- DIP 1"x 1" package with standard pinout
- 4:1 & 8:1 Wide input range
- High efficiency up to 86%
- No external components required internal filtering
- Power saving load for high efficiency at light load
- Overload protection & UVLO
- 3000Vdc I/O isolation
- Low cost

APPLICATIONS

- Automation equipment
- Power supplies
- Industrial PC
- Data communications
- Distributed power system

DESCRIPTION

DAW series is a 6W DC-DC converter product with 1"x1" standard industrial package. It contains 4:1 and 8:1 extra wide input voltage range, and features high efficiency up to 86%, 3000Vdc isolation voltage between input and output, and wide working temperature range from -40°C up to +85°C with no additional heat-sink. The models meet radiated Class A of EN55032 without external components, and suit all kinds of systems like industrial control, automation field, and so on.

MODEL ENCODING

DAW	S	-	24	05	T / E	(R)
Series Name	Output Quantity		Input Voltage	Output Voltage	Input Range	Function
	S : Single		24xxT : 9~36V	05 : 5V ; $\pm 5V$	T: 4:1 , 3KVdc Isolation	Blank : No Pin
	D : Dual		48xxT : 18~75V	09 : 9V	E: 8:1 , 3KVdc Isolation	R : Remote
			24xxE : 9~75V	12 : 12V ; $\pm 12V$		On/Off
				15 : 15V ; $\pm 15V$		

■ 4:1 MODEL SELECTION TABLE

MODEL NUMBER	INPUT				OUTPUT		EFF. (%)	CAPACITOR LOAD (Max.)
	VOLTAGE (VDC)		CURRENT (mA)		VOLTAGE (VDC)	CURRENT (mA)		
	NOMINAL	RANGE	NO LOAD	FULL LOAD				
DAWS-2403.3T(R)	24	9~36	5	268	3.3	0~1500	77	1800uF
DAWS-2405T(R)			5	309	5	0~1200	81	1000uF
DAWS-2409T(R)			7	301	9	0~667	83	680uF
DAWS-2412T(R)			7	294	12	0~500	85	470uF
DAWS-2415T(R)			8	294	15	0~400	85	220uF
DAWS-2424T(R)			13	291	24	0~250	86	100uF
DAWD-2405T(R)	24	9~36	7	309	±5	±0~600	81	±470uF
DAWD-2412T(R)			9	294	±12	±0~250	85	±100uF
DAWD-2415T(R)			11	294	±15	±0~200	85	±100uF
DAWD-2424T(R)			17	294	±24	±0~125	85	±100uF
DAWS-4803.3T(R)	48	18~75	13	134	3.3	0~1500	77	1800uF
DAWS-4805T(R)			3	154	5	0~1200	81	1000uF
DAWS-4812T(R)			3	147	12	0~500	85	470uF
DAWS-4815T(R)			3	145	15	0~400	86	220uF
DAWS-4824T(R)			5	145	24	0~250	86	100uF
DAWD-4805T(R)	48	18~75	3	154	±5	±0~600	81	±470uF
DAWD-4812T(R)			4	147	±12	±0~250	85	±100uF
DAWD-4815T(R)			6	145	±15	±0~200	86	±100uF

Note: Efficiency and input current are measured at nominal input voltage and full load.

Other input to output voltages may be available. Please contact factory.

■ 8:1 MODEL SELECTION TABLE

MODEL NUMBER	INPUT				OUTPUT		EFF. (%)	CAPACITOR LOAD (Max.)
	VOLTAGE (VDC)		CURRENT (mA)		VOLTAGE (VDC)	CURRENT (mA)		
	NOMINAL	RANGE	NO LOAD	FULL LOAD				
DAWS-2403.3E(R)	24	9~75	5	268	3.3	0~1500	77	1800uF
DAWS-2405E(R)			5	309	5	0~1200	81	1000uF
DAWS-2409E(R)			7	301	9	0~667	83	680uF
DAWS-2412E(R)			7	294	12	0~500	85	470uF
DAWS-2415E(R)			8	294	15	0~400	85	220uF
DAWS-2424E(R)			8	294	24	0~250	85	220uF
DAWD-2405E(R)	24	9~75	7	309	±5	±0~600	81	±470uF
DAWD-2412E(R)			9	294	±12	±0~250	85	±100uF
DAWD-2415E(R)			10	294	±15	±0~200	85	±100uF

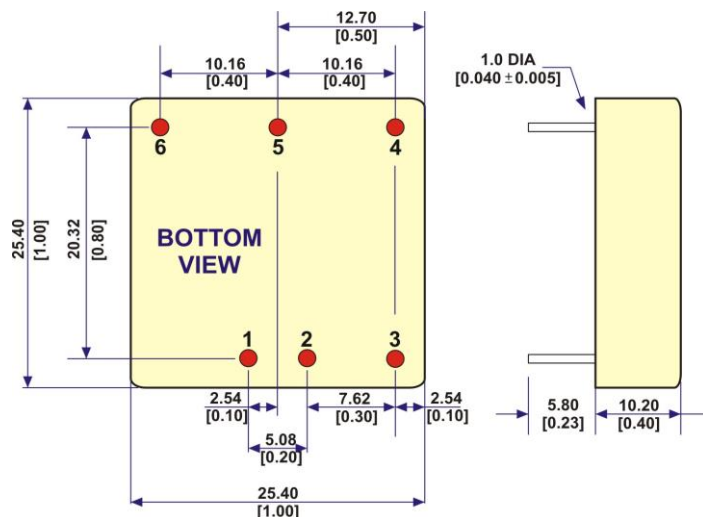
Note: Efficiency and input current are measured at nominal input voltage and full load.

Other input to output voltages may be available. Please contact factory.

SPECIFICATION

INPUT	Voltage Range	9~36V ; 18~75V ; 9~75V		
	Surge Voltage(100ms max.)	9-36 Vin models : 50Vdc ; 18-75 & 9-75 Vin models : 100Vdc		
	Filter	Capacitor network		
	Remote Control	Power ON : R.C~-Vin > 2.5 ~ 6.0Vdc or open circuit Power OFF : R.C~-Vin < 1.0Vdc or short. (see page 5)		
	Protection	Fuse recommended (see page 7)		
	OUTPUT	Voltage Accuracy	±2% max.	
Rated Power		6W		
Ripple & Noise ¹		100mVp-p max.		
Line Regulation ²		±0.5%		
Load Regulation ³		±0.5%		
Cross Regulation		±5%	Dual : asymmetrical load 25%/100% FL	
Switching Frequency		300Khz typ.(PWM)		
PROTECTION		Short Circuit	Protection type : continuous, recovery	
	Overload	110%~230%	Protection type : recovers automatically after fault condition is removed	
	Over Voltage	Clamp by TVS diode		
ENVIRONMENT	Cooling	Free-air convection		
	Working Temperature	-40~ +85°C (refer to “Derating Curve”)		
	Case Temperature	+105 °C max.		
	Working Humidity	5% ~ 95% RH non-condensing		
	Storage Temp., Humidity	-55 ~ +125°C, 10 ~ 95% RH non-condensing		
	Temperature Coefficient	±0.05% / °C		
	Soldering Temperature	1.5mm from case of 3~5 sec./265°C(max.)		
	Vibration	10~500Hz, 2G 10min./1cycle, period for 60 min. each along X, Y, Z axes		
SAFETY & EMC	Isolation Voltage	I/P-O/P : 3KVdc		
	Isolation Resistance	I/P-O/P : 1000M Ohms / 500VDC / 25°C / 70% RH		
	Isolation Capacitance	1000pF typ.		
	EMC Emission	Parameter	Standard	Test Level / Note
		Conducted	EN55032(CISPR32)	N/A
		Radiated	EN55032(CISPR32)	Class A without external components Class B with external components
	EMC Immunity	Parameter	Standard	Test Level / Note
		ESD	BS IEC 61000-4-2	Contact ±4KV
		Radiated Susceptibility	BS IEC 61000-4-3	3V/m
		EFT/Burst	BS IEC 61000-4-4	±0.5KV
		Surge	BS IEC 61000-4-5	Line-Line ±0.5KV
		Conducted	BS IEC 61000-4-6	3Vrms
		Magnetic field immunity	BS IEC 61000-4-8	1A/m
OTHERS		MTBF ⁴	>400,000Hours	
	Weight	20.0g typ.		
	Dimension(L*W*H)	25.4mm*25.4mm*10.2mm		
	Case Material	Five-side shielded case		
NOTE	¹ Ripple & noise are measured at 20MHz BW with 1uF ceramic capacitor connect to the output pins.			
	² High line to low line.			
	³ Load regulation is for output load current change from 5% to 100%.			
	⁴ MIL-HDBK-217F @25 °C, Ground Benign.			
	*All specifications are measured at Ta=25°C, humidity < 75%, nominal input voltage, and rated output load unless otherwise specified.			

MECHANICAL SPECIFICATION



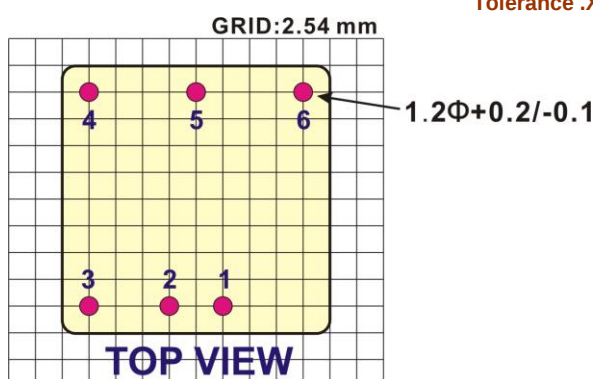
PIN CONNECTION		
PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	NP* / Remote	
4	-Vout	-Vout
5	NP	Common
6	+Vout	+Vout

All dimensions are in mm[Inches]

*If Remote is not selected, there is no pin on corresponding number.

Pin size is 1.0Φ ±0.10mm

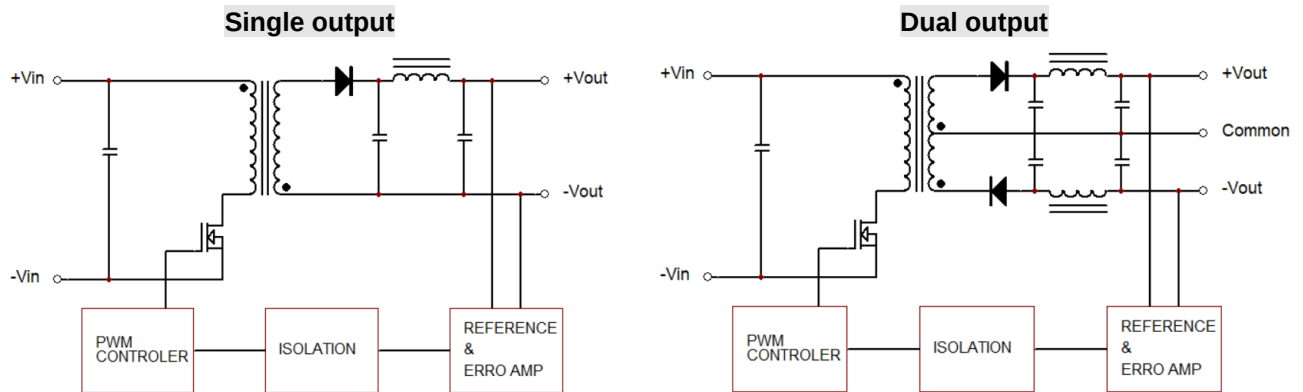
Tolerance .X or .XX= ±0.5mm



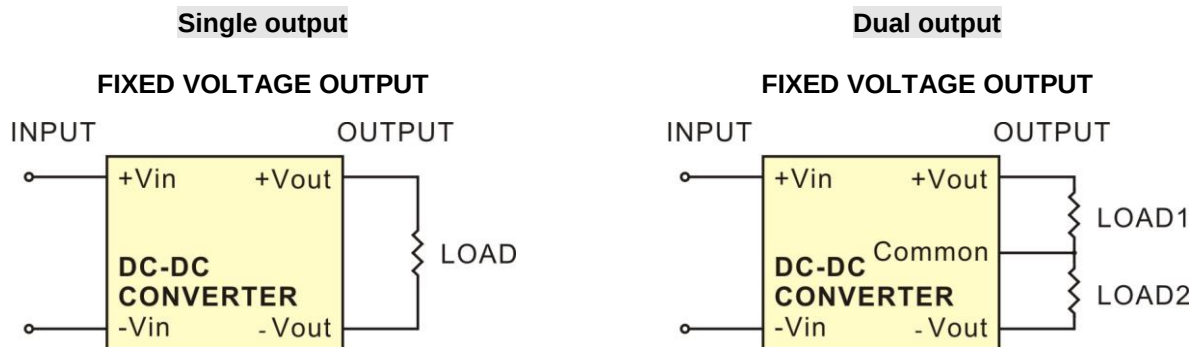
REMOTE ON/OFF CONTROL

Remote On/Off Control			
Control Input		PIN3	Control Common
Control Voltage		PIN2	
ON		Converter Shutdown Idle Current	
OFF		10mA	
> 2.5 ~ 6.0VDC or Open Circuit		CMOS or Open	
< 1.0VDC or Jumper to PIN2		Logic Compatibility	
		Collector TTL	

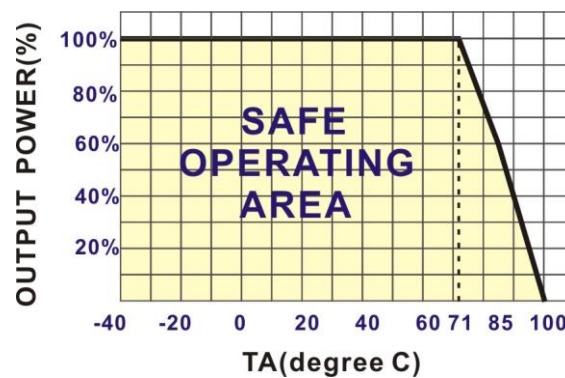
■ SIMPLIFIED SCHEMATIC



■ TYPICAL APPLICATIONS

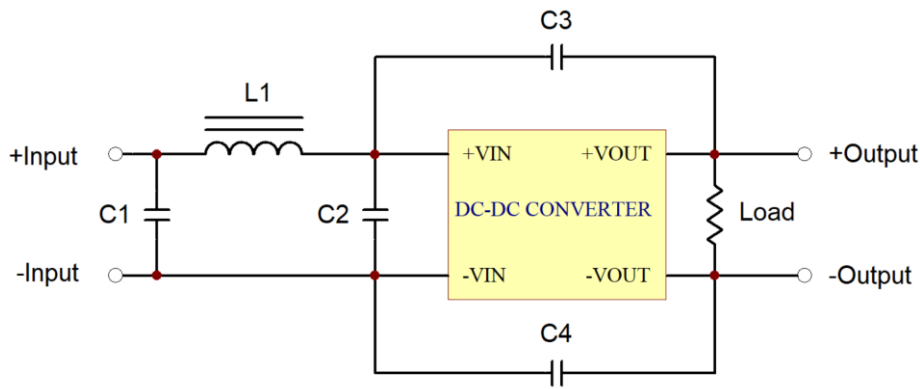


■ DERATING CURVE



RECOMMENDED FILTER FOR EN55032 CLASS B

The components used in the under figure, together with the manufacturer's part numbers for these components, are as follows:



No	CLASS B
C1	2.2uF/100V
C2	2.2uF/100V
C3	152/5KV
C4	152/5KV
L1	10uH

Note: All of capacitors are ceramic capacitors.

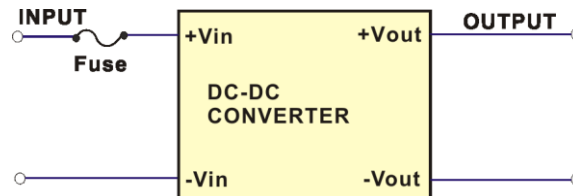
INPUT FUSE SELECTION GUIDE

9-36V & 9-75V Input Voltage (Vdc)

2000mA Slow-Blow Type

18-75V Input Voltage(Vdc)

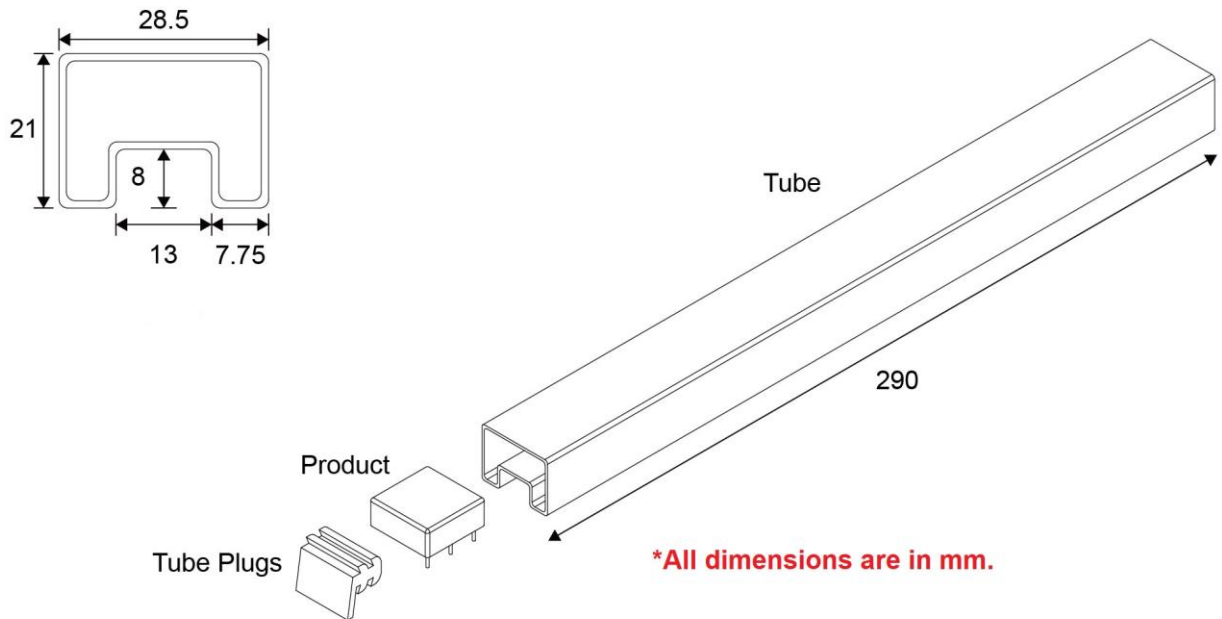
1000mA Slow-Blow Type



Note: Certain applications may require the installation of external fuse in front of the input.



■ PACKAGING INFORMATION



Packaging Quantity: 10 pcs converter per tube



DANUBE ENTERPRISE CO., LTD.

Tel: 886-7-3755165 Fax: 886-7-3755330

E-mail: danube@ms10.hinet.net