

# DC-DC Converter UNIT

FAW Series (10W WIDE INPUT RANGE DC-DC CONVERTER)

## FEATURES

- 10W DIL PACKAGE
- 9-18V,18-36V,36-72V WIDE INPUT RANGE
- SHORT CIRCUIT PROTECTION
- LOW COST
- NO EXTERNAL COMPONENTS REQUIRED
- REGULATED OUTPUT
- TYPICAL EFFICIENCY 80%
- 100% BURNED IN
- INDUSTRY STANDARD PACKAGE
- MTBF > 700,000 HOURS



### ● OUTPUT SPECIFICATIONS

Voltage Setpoint Accuracy	+/-2% max
Temperature Coefficient	+/-0.03%/°C
Ripple & Noise (20MHz BW)	100mVp-p max
Line Regulation <sup>1</sup>	+/-0.2% max
Load Regulation <sup>2</sup>	+/-0.2% max
Short Circuit Protection	Continuous

### ● ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-15°C to +71°C
Storage Temperature	-55°C to +105°C
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

### ● INPUT SPECIFICATIONS

Input Voltage Range	2:1 INPUT RANGE
Input Filter	Pi Network

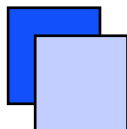
### ● GENERAL SPECIFICATIONS

Efficiency	70% min
Isolation Voltage <sup>3</sup>	1000 VDC min
Isolation Resistance	10 <sup>9</sup> ohms min
Switching Frequency	200 KHz min
MTBF	700,000 Hours
Weight	31.2g Typ
Case Material	Six-Side Shielded Case
Case Size	50.8mm*25.4mm*11.2mm

<sup>1</sup> High Line to Low Line.

<sup>2</sup> Load Regulation is for output load current change from 10% to 100%.

<sup>3</sup> For 10 seconds



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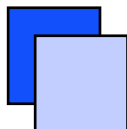
## ● SELECTION GUIDE(1) 2: 1 10W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>4</sup>		EFF (%) <sup>5</sup>	ISOLATION (VDC)
				CURRENT(mA)			
				FULL LOAD	NO LOAD		
FAWS-1203.3	9-18	3.3	2400	891	30	74	1000
FAWS-1205	9-18	5	2000	1068	30	78	1000
FAWS-1212	9-18	12	830	1040	28	80	1000
FAWS-1215	9-18	15	670	1020	28	81	1000
FAWS-1224	9-18	24	416	1020	28	82	1000
FAWD-1205	9-18	+/-5	+/-1000	1068	30	78	1000
FAWD-1212	9-18	+/-12	+/-416	1029	28	81	1000
FAWD-1215	9-18	+/-15	+/-333	1020	28	82	1000
FAWS-2403.3	9-18	3.3	2400	434	16	76	1000
FAWS-2405	18-36	5	2000	527	16	79	1000
FAWS-2409	18-36	9	1111	523	20	80	1000
FAWS-2412	18-36	12	830	508	15	82	1000
FAWS-2415	18-36	15	670	502	15	83	1000
FAWS-2424	18-36	24	416	502	15	83	1000
FAWD-2405	18-36	+/-5	+/-1000	527	16	79	1000
FAWD-2412	18-36	+/-12	+/-416	508	15	82	1000
FAWD-2415	18-36	+/-15	+/-333	502	15	83	1000
FAWS-4803.3	36-72	3.3	240	217	8	76	1000
FAWS-4805	36-72	5	2000	264	8	79	1000
FAWS-4812	36-72	12	830	254	7	82	1000
FAWS-4815	36-72	15	670	254	7	82	1000
FAWS-4824	36-72	24	416	254	7	82	1000
FAWD-4805	36-72	+/-5	+/-1000	264	8	79	1000
FAWD-4812	36-72	+/-12	+/-416	254	7	82	1000
FAWD-4815	36-72	+/-15	+/-333	254	7	82	1000
FAWD-4824	36-72	+/-24	+/-208	254	16	82	1000

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

<sup>4</sup> NOMINAL INPUT VOLTAGE.

<sup>5</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.



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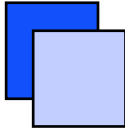
### ● SELECTION GUIDE(2) 4:1 10W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>6</sup> CURRENT(mA)		EFF (%) <sup>7</sup>	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
				FAWS-1203.3T	9-36		
FAWS-1205T	9-36	5	2000	1082	40	77	1000
FAWS-1212T	9-36	12	830	1054	40	79	1000
FAWS-1215T	9-36	15	670	1041	40	80	1000
FAWS-1224T	9-36	24	417	1057	40	79	1000
FAWD-1205T	9-36	+/-5	+/-1000	1082	40	77	1000
FAWD-1212T	9-36	+/-12	+/-416	1041	40	80	1000
FAWD-1215T	9-36	+/-15	+/-333	1028	40	81	1000
FAWS-1203.3T	18-72	3.3	2400	434	20	76	1000
FAWS-2405T	18-72	5	2000	527	20	79	1000
FAWS-2409T	18-72	9	1111	515	20	81	1000
FAWS-2412T	18-72	12	830	520	20	80	1000
FAWS-2415T	18-72	15	670	514	20	81	1000
FAWS-2424T	18-72	24	416	510	20	81	1000
FAWD-2405T	18-72	+/-5	+/-1000	527	20	79	1000
FAWD-2412T	18-72	+/-12	+/-416	520	20	80	1000
FAWD-2415T	18-72	+/-15	+/-333	514	20	81	1000

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

<sup>6</sup> NOMINAL INPUT VOLTAGE.

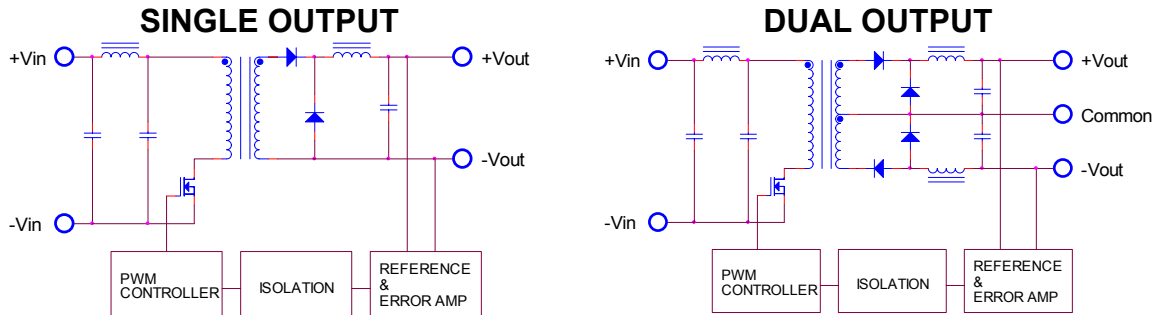
<sup>7</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.



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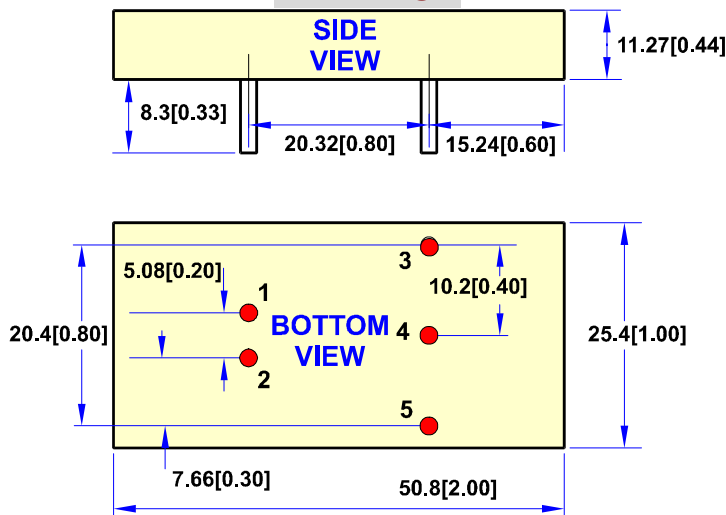
FAW Series (10W WIDE INPUT RANGE DC-DC CONVERTER)

## ● SIMPLIFIED SCHEMATIC



## ● MECHANICAL DIMENSIONS

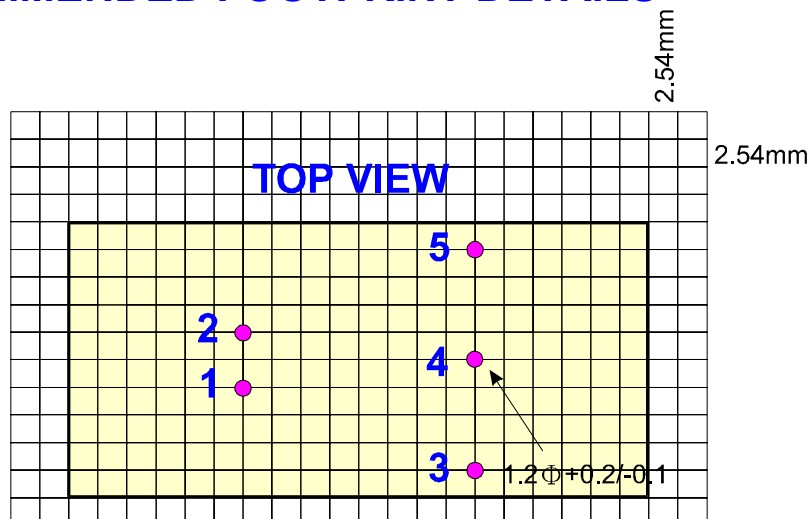
### PACKAGE

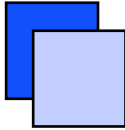


PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	NO PIN	Common
5	-Vout	-Vout

All dimensions are in millimeters[inches]

## ● RECOMMENDED FOOTPRINT DETAILS



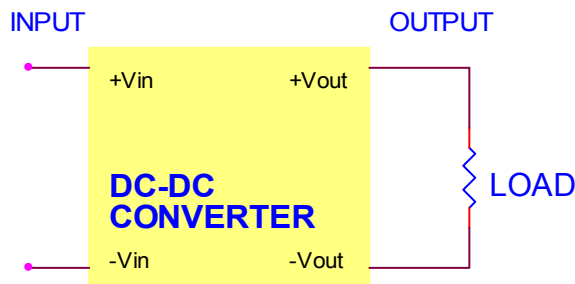


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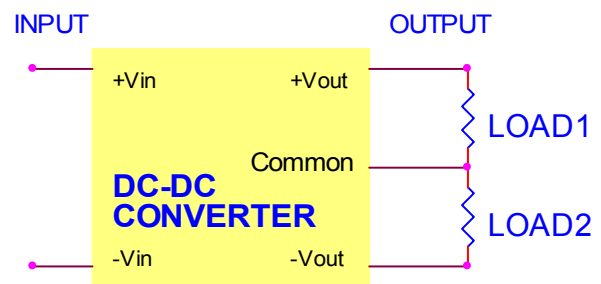
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## ● TYPICAL APPLICATIONS

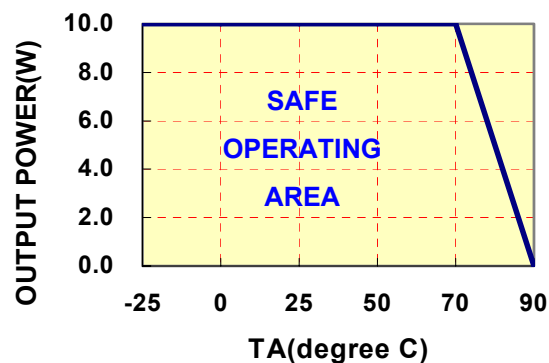
### SINGLE OUTPUT



### DUAL OUTPUT



## ● TEMPERATURE DERATING



## FAW SERIES APPLICATION NOTES:

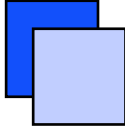
### EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the FAW series.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 220KHz is required.

External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 220uF.



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### **Negative Outputs:**

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting –OUT as the negative output.

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### **FOR MORE INFORMATION CALL:**

***Power Systems – The Power Solution***

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