

## FEATURES

- 8W 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	-25 °C to +71 °C
Storage Temperature	-55 °C to +125 °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

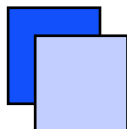
### ● GENERAL SPECIFICATIONS

Efficiency	70% min
Isolation Voltage <sup>3</sup>	1000 VDC min
Isolation Resistance	10 <sup>9</sup> ohms min
Switching Frequency	50 KHz min
MTBF	700,000 Hours
Weight	31.2g Typ
Case Material	Five-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



# DC-DC Converter UNIT

FW Series ( 8 W WIDE INPUT RANGE DC-DC CONVERTER )

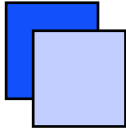
## ● SELECTION GUIDE 8W OUTPUT

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		
FWS-1203.3	9-18	3.3	2000	753	50	73	1000
FWS-1205	9-18	5	1600	888	50	75	1000
FWS-1209	9-18	9	888	813	50	82	1000
FWS-1212	9-18	12	670	813	50	82	1000
FWS-1215	9-18	15	533	803	50	83	1000
FWD-1205	9-18	+/-5	+/-800	867	50	77	1000
FWD-1209	9-18	+/-9	+/-444	860	40	78	1000
FWD-1212	9-18	+/-12	+/-335	813	50	82	1000
FWD-1215	9-18	+/-15	+/-267	803	50	83	1000
FWS-2403.3	18-36	3.3	2000	367	25	75	1000
FWS-2405	18-36	5	1600	422	25	79	1000
FWS-2409	18-36	9	888	402	25	83	1000
FWS-2412	18-36	12	670	402	25	83	1000
FWS-2415	18-36	15	533	402	25	83	1000
FWD-2405	18-36	+/-5	+/-800	422	25	79	1000
FWD-2409	18-36	+/-9	+/-444	420	30	79	1000
FWD-2412	18-36	+/-12	+/-335	402	25	83	1000
FWD-2415	18-36	+/-15	+/-267	402	25	83	1000
FWS-4803.3	36-72	3.3	2000	183	15	75	1000
FWS-4805	36-72	5	1600	210	15	79	1000
FWS-4809	36-72	9	888	201	15	83	1000
FWS-4812	36-72	12	670	201	15	83	1000
FWS-4815	36-72	15	533	201	15	83	1000
FWD-4805	36-72	+/-5	+/-800	201	15	83	1000
FWD-4812	36-72	+/-12	+/-335	201	15	83	1000
FWD-4815	36-72	+/-15	+/-267	201	15	83	1000

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

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

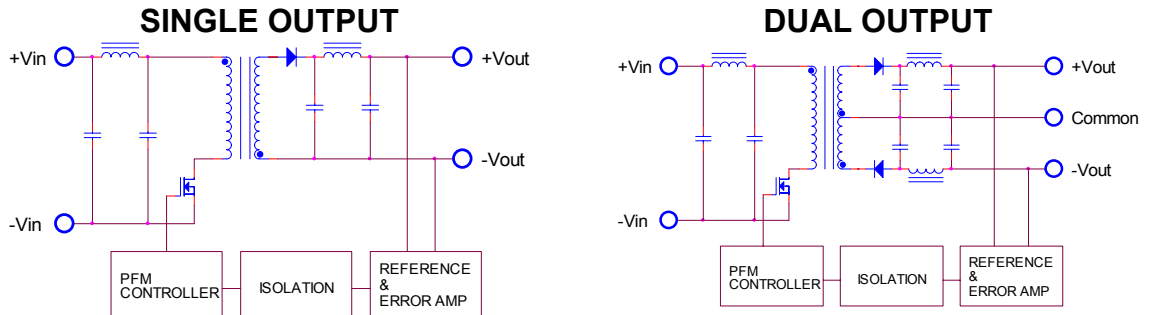
<sup>5</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.



# DC-DC Converter UNIT

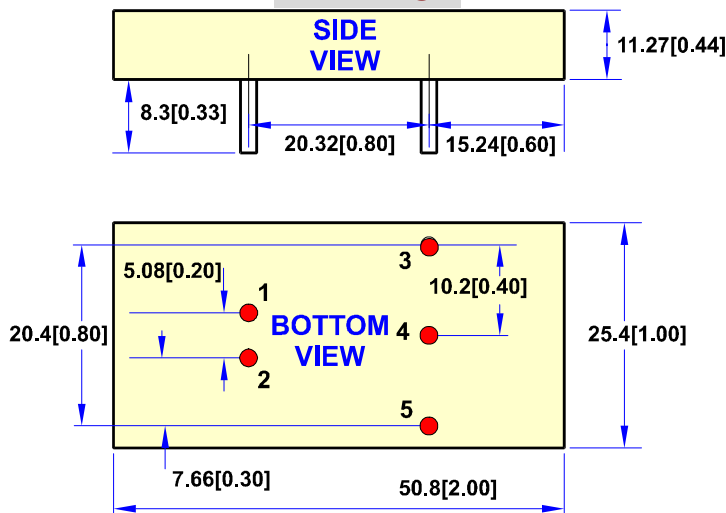
FW Series ( 8 W WIDE INPUT RANGE DC-DC CONVERTER )

## ● SIMPLIFIED SCHEMATIC



## ● MECHANICAL DIMENSIONS

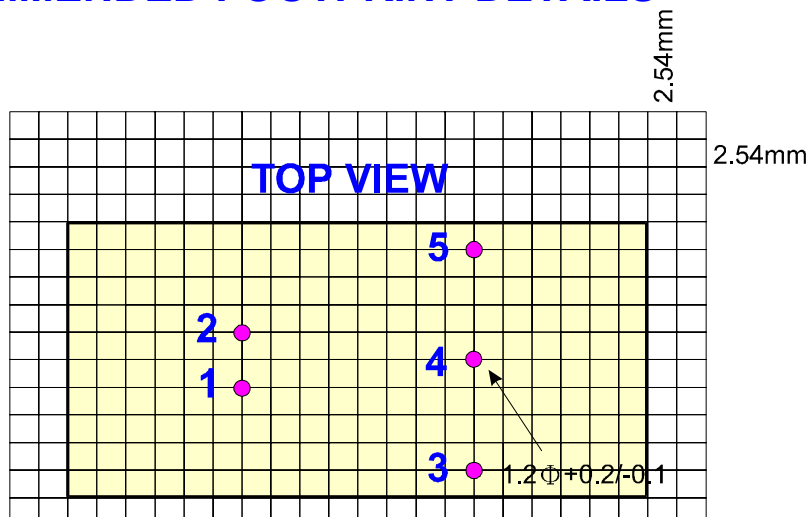
### PACKAGE

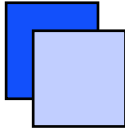


PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	NO PIN	Common
5	-Vout	-Vout

All dimensions are in millimeters[inches]

## ● RECOMMENDED FOOTPRINT DETAILS



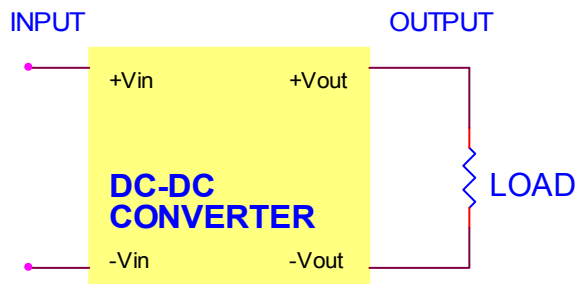


# DC-DC Converter UNIT

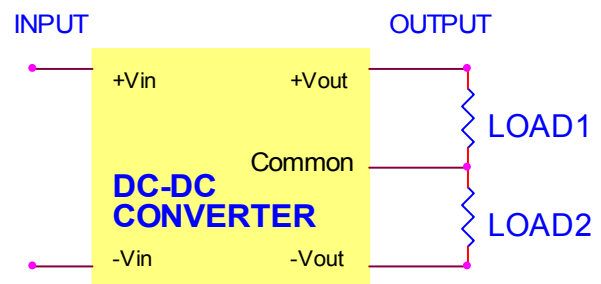
FW Series ( 8 W WIDE INPUT RANGE DC-DC CONVERTER )

## ● TYPICAL APPLICATIONS

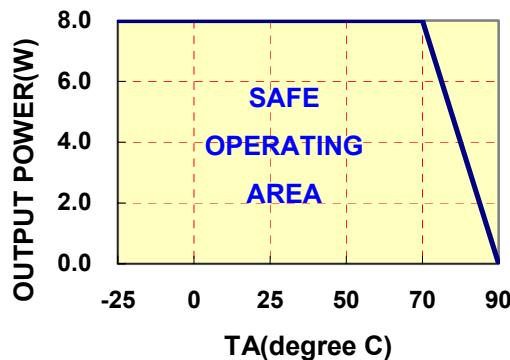
### SINGLE OUTPUT



### DUAL OUTPUT



## ● TEMPERATURE DERATING



## FW SERIES APPLICATION NOTES:

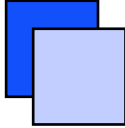
### EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the FW 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.



## DC-DC Converter UNIT

---

FW Series ( 8 W WIDE INPUT RANGE DC-DC CONVERTER )

---

### **Negative Outputs:**

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

---

---

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

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

Ilfeld-Auenstein ( Germany ) Dörnet 8    Tel: + 49 / 70 62 / 67 59 – 6    Fax: + 49 / 70 62 / 67 59 -80

E-mail: [Info@Power-Systems.de](mailto:Info@Power-Systems.de)    Home Page: [www.Power-Systems.de](http://www.Power-Systems.de)

---

---