

## IMP Series

## 1...12 Watt DC-DC Converters



Input voltage range up to 72 V DC  
1, 2 or 3 outputs up to 30 V DC  
1500 V DC I/O electric strength test voltage

- Wide input range
- Short circuit protection
- Low cost

### Selection chart

Output 1		Output 2		Output 3		Type	Type	Type	Opt.
$U_o$ nom	$I_o$ nom	$U_o$ nom	$I_o$ nom	$U_o$ nom	$I_o$ nom	Input voltage	Input voltage	Input voltage	
[V DC]	[mA]	[V DC]	[mA]	[V DC]	[mA]	4.5...5.5 V DC	10...36 V DC	18...72 V DC	
3.3	1500	-	-	-	-	5 IMP 6-03-7	24 IMP 6-03-7	48 IMP 6-03-7	-
3.3	3000	-	-	-	-	-	24 IMP 12-03-7	48 IMP 12-03-7	-
5	200	-	-	-	-	5 IMP 1-05-7	-	-	S
5	500	-	-	-	-	-	24 IMP 3-05-7	48 IMP 3-05-7	S
5	1000	-	-	-	-	5 IMP 6-05-7	24 IMP 6-05-7	48 IMP 6-05-7	-
5	2400	-	-	-	-	-	24 IMP 12-05-7	48 IMP 12-05-7	-
12	84	-	-	-	-	5 IMP 1-12-7	-	-	S
12	250	-	-	-	-	-	24 IMP 3-12-7	48 IMP 3-12-7	S
12	500	-	-	-	-	5 IMP 6-12-7	24 IMP 6-12-7	48 IMP 6-12-7	-
12	1000	-	-	-	-	-	24 IMP 12-12-7	48 IMP 12-12-7	-
15	66	-	-	-	-	5 IMP 1-15-7	-	-	S
15	200	-	-	-	-	-	24 IMP 3-15-7	48 IMP 3-15-7	S
15	400	-	-	-	-	5 IMP 6-15-7	24 IMP 6-15-7	48 IMP 6-15-7	-
15	800	-	-	-	-	-	24 IMP 12-15-7	48 IMP 12-15-7	-
+5	100	-5	100	-	-	5 IMP 1-0505-7	-	-	S
+5	250	-5	250	-	-	-	24 IMP 3-0505-7	48 IMP 3-0505-7	S
+5	500	-5	500	-	-	5 IMP 6-0505-7	24 IMP 6-0505-7	48 IMP 6-0505-7	-
+5	1200	-5	1200	-	-	-	24 IMP 12-0505-7	48 IMP 12-0505-7	-
+12	42	-12	42	-	-	5 IMP 1-1212-7	-	-	S
+12	125	-12	125	-	-	-	24 IMP 3-1212-7	48 IMP 3-1212-7	S
12	125	12	125	-	-	-	24 IMP 3-12-12-7	48 IMP 3-12-12-7	-
+12	250	-12	250	-	-	5 IMP 6-1212-7	24 IMP 6-1212-7	48 IMP 6-1212-7	-
+12	500	-12	500	-	-	-	24 IMP 12-1212-7	48 IMP 12-1212-7	-
+15	33	-15	33	-	-	5 IMP 1-1515-7	-	-	S
15	100	15	100	-	-	-	24 IMP 3-15-15-7	48 IMP 3-15-15-7	-
+15	100	-15	100	-	-	-	24 IMP 3-1515-7	48 IMP 3-1515-7	S
+15	200	-15	200	-	-	5 IMP 6-1515-7	24 IMP 6-1515-7	48 IMP 6-1515-7	-
+15	400	-15	400	-	-	-	24 IMP 12-1515-7	48 IMP 12-1515-7	-
5	250	5	250	-	-	-	24 IMP 3-05-05-7	48 IMP 3-05-05-7	-
5	1500	+12	200	-12	200	-	24 IMP 12-051212-7	48 IMP 12-051212-7	-
5	1500	+15	160	-15	160	-	24 IMP 12-051515-7	48 IMP 12-051515-7	-

**Input**

Input voltage	continuous range, 5 V (IMP 1, IMP 6)	4.5...5.5 V DC
	continuous range, 24 V	10...36 V DC
	continuous range, 48 V	18...72 V DC
Reverse voltage protection	shunt diode	

**Output**

Output voltage setting accuracy	$U_{i \text{ nom}}, I_{o \text{ nom}}$	$\pm 2\% U_{o \text{ nom}}$
Minimum load	recommended	20% $I_{o \text{ nom}}$
Line regulation	$U_{i \text{ min}} \dots U_{i \text{ max}}, I_{o \text{ nom}}$	$\pm 1\% U_{o \text{ nom}}$
Load regulation	$U_{i \text{ nom}}, 0 \dots 100\% I_{o \text{ nom}}$ , regulated outputs	2% $U_{o \text{ nom}}$
	tracking outputs	max. 6% $U_{o \text{ nom}}$
Output voltage switching noise	$U_{i \text{ nom}}, 20 \dots 100\% I_{o \text{ nom}}$ , peak-peak, total	max. 3% $U_{o \text{ nom}}$
Efficiency	$U_{i \text{ nom}}, I_{o \text{ nom}}$	up to 83%

**Control and protection**

Overload protection	$U_{i \text{ min}}$ , full load	125% $P_{i \text{ nom}}$
No-load protection		
Remote shut down	positive logic (floating or high signal = on)	

**Safety and EMC**

Electric strength test voltage	I/O	1500 V DC
Electromagnetic interference	conducted with external filter	class B

**Environmental**

Operating ambient temperature	$U_{i \text{ nom}}, I_{o \text{ nom}}$	-25...71°C
Storage temperature	non operational	-40...100°C
Relative humidity	non condensing	95%
MTBF	MIL-HDBK-217F, N2	>3'700'000 h

**Options**

Industry standard pinout	IMP 1 and IMP 3	S
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**Accessories**

DIN and chassis mounting bracket		
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## IMP Series

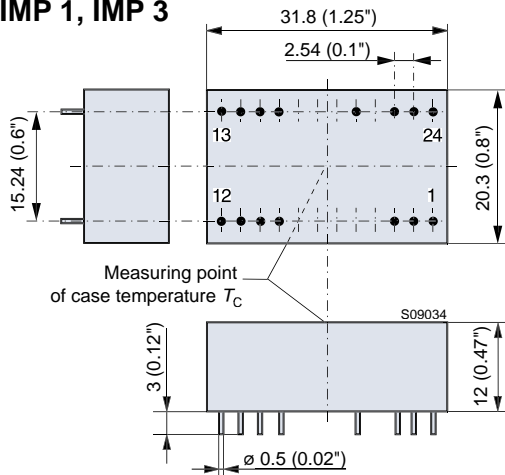
## 1...12 Watt DC-DC Converters

### Mechanical data

Tolerances  $\pm 0.3$  mm (0.012") unless otherwise indicated.



### IMP 1, IMP 3



### Pin allocation IMP 1

Pin	Single output unit	Dual output unit
1	Vi+	Vi+
2	Vi+	Vi+
10	-	COM
11	-	COM
12	Vo-	-
13	Vo+	Vo-
15	-	Vo+
23	Vi-	Vi-
24	Vi-	Vi-

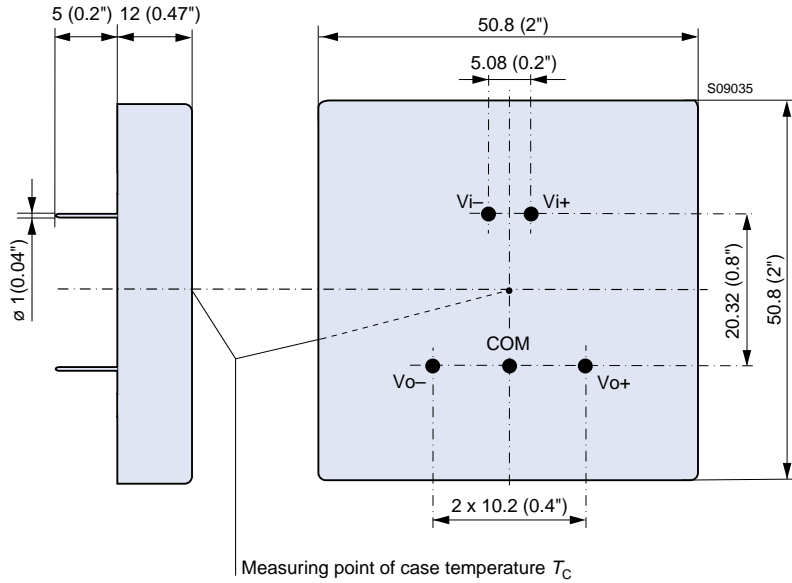
### Industry standard pinout (option S)

Pin	Single output	Dual output
2	Vi-	Vi-
3	Vi-	Vi-
9	n.c.	COM
10	n.c.	n.c.
11	n.c.	Vo-
14	Vo+	Vo+
15	n.c.	n.c.
16	Vo-	COM
22	Vi+	Vi+
23	Vi+	Vi+

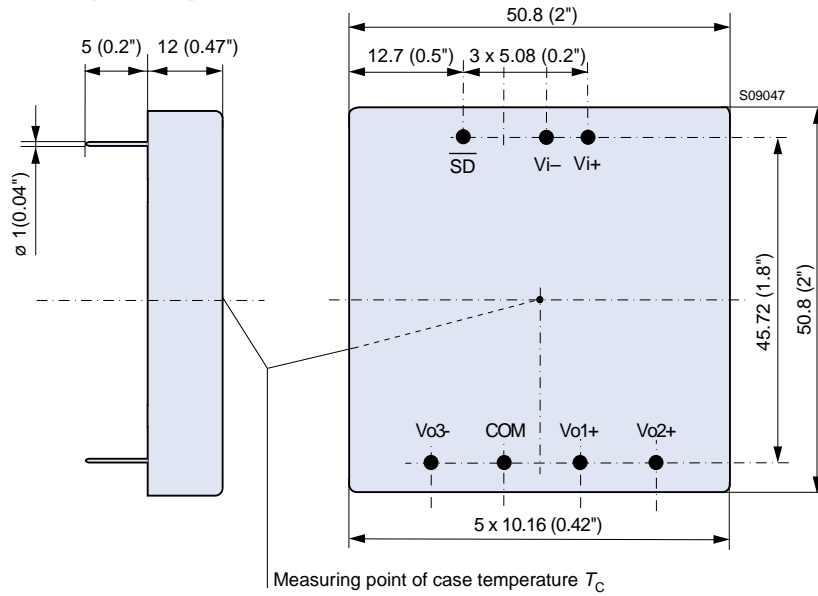
### Alternative pinout IMP 3

Pin	Single output	Dual output	Double output
1	Vi+	Vi+	Vi+
2	Vi+	Vi+	Vi+
9	-	-	Go1
10	-	COM	-
11	-	COM	-
12	Vo-	-	Vo1
13	Vo+	Vo-	Vo2
15	-	Vo+	-
16	-	-	Go2
20	SD	SD	SD
23	Vi-	Vi-	Vi-
24	Vi-	Vi-	Vi-

IMP 6, IMP 12 with single or dual output



IMP 12 with triple output





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