

IMX 15, IMY 15 Series

15 Watt DC-DC Converters



Wide input voltage ranges up to 150 V DC
1 or 2 outputs up to 48 V DC
1500...4000 V DC I/O electric strength test



- Reinforced isolation for IMY-models
- Magnetic feedback
- Synchronous rectifier for 2.5, 3.3 and 5 V outputs
- Short circuit protection

Selection chart

Output 1		Output 2		Input voltage	Type	Options (for availability consult sales point)
$U_{o \text{ nom}}$ [V DC]	$I_{o \text{ nom}}$ [mA]	$U_{o \text{ nom}}$ [V DC]	$I_{o \text{ nom}}$ [mA]	U_i [V DC]		
2.5	4500	-	-	8.4...36	20 IMX 15-2.5-9RG	-8, i, L, C, Z
2.5	4500	-	-	16.8...75	40 IMX 15-2.5-9RG	-8, i, L, C, Z
3.3	4500	-	-	8.4...36	20 IMX 15-03-9RG	-8, i, L, C, Z
3.3	4500	-	-	16.8...75	40 IMX 15-03-9RG	-8, i, L, C, Z
3.3	4500	-	-	50...150	110 IMY 15-03-9RG	-8, i, L, C, Z
5	3500	-	-	8.4...36	20 IMX 15-05-9RG	-8, i, L, C, Z
5	3500	-	-	16.8...75	40 IMX 15-05-9RG	-8, i, L, C, Z
5	3500	-	-	50...150	110 IMY 15-05-9RG	-8, i, L, C, Z
5.1	2300	-	-	8.4...36	20 IMX 15-05-9R	-8, i, L, C, Z
5.1	2500	-	-	16.8...75	40 IMX 15-05-9R	-8, i, L, C, Z
5.1	2500	-	-	50...150	110 IMY 15-05-9R	-8, i, L, C, Z
+5.1	1350	+3.3	1350	8.4...36	20 IMX 15-0503-9R	-8, i, L, C, Z
+5.1	1500	+3.3	1500	16.8...75	40 IMX 15-0503-9R	-8, i, L, C, Z
+5.1	1500	+3.3	1500	50...150	110 IMY 15-0503-9R	-8, i, L, C, Z
5	1300	5	1300	8.4...36	20 IMX 15-05-05-9	-8, R, K, i, L, C, Z
5	1400	5	1400	16.8...75	40 IMX 15-05-05-9	-8, R, K, i, L, C, Z
5	1400	5	1400	50...150	110 IMY 15-05-05-9	-8, R, i, L, C, Z
12	650	12	650	8.4...36	20 IMX 15-12-12-9	-8, R, K, i, L, C, Z
12	700	12	700	16.8...75	40 IMX 15-12-12-9	-8, R, K, i, L, C, Z
12	700	12	700	50...150	110 IMY 15-12-12-9	-8, R, i, L, C, Z
15	500	15	500	8.4...36	20 IMX 15-15-15-9	-8, R, K, i, L, C, Z
15	560	15	560	16.8...75	40 IMX 15-15-15-9	-8, R, K, i, L, C, Z
15	560	15	560	50...150	110 IMY 15-15-15-9	-8, R, i, L, C, Z
24	320	24	320	8.4...36	20 IMX 15-24-24-9	-8, R, i, L, C, Z
24	350	24	350	16.8...75	40 IMX 15-24-24-9	-8, R, i, L, C, Z
24	350	24	350	50...150	110 IMY 15-24-24-9	-8, R, i, L, C, Z

Input

Input voltage range	20 IMX 15	8.4...36 V DC
	40 IMX 15	16.8...75 V DC
	110 IMY 15	50...150 V DC

Output

Output voltage setting accuracy	$U_{i \text{ nom}}, 50\% I_{o \text{ nom}}$	$\pm 1\% U_{o \text{ nom}}$
Minimum load	recommended for double output models	$10\% I_{o \text{ nom}}$
Line/load regulation	$U_{i \text{ min}} \dots U_{i \text{ max}}, 50\% I_{o \text{ nom}},$ models R (magn. feedback)	$\pm 0.5\% U_{o \text{ nom}}$
Line regulation	$U_{i \text{ min}} \dots U_{i \text{ max}}, 50\% I_{o \text{ nom}},$ models without R	$\pm 1\% U_{o \text{ nom}}$
Load regulation	$U_{i \text{ nom}}, 10 \dots 100\% I_{o \text{ nom}},$ models without R, main outp.	$\pm 3\% U_{o \text{ nom}}$
	tracking output, models without R	$\pm 3\% U_{o \text{ nom}}$
Output voltage switching noise	$U_{i \text{ nom}}, 0 \dots 100\% I_{o \text{ nom}},$ peak-peak, total	max. $1 \dots 2\% U_{o \text{ nom}}$
Efficiency	$U_{i \text{ nom}}, I_{o \text{ nom}}$	up to typ 88%

Control and protection

Remote shut down	TTL-compatible input	disabled with ≤ 0.7 V
Trim input for U_o		80...105%
Input undervoltage lock-out		
Overload protection	$U_{i \text{ min}} \dots U_{i \text{ max}},$ fully protected, hiccup mode	
No-load protection	$U_{i \text{ min}} \dots U_{i \text{ max}}$	
Temperature protection		

Safety and EMC

Electric strength test voltage	I/O (20 and 40 IMX/110 IMY)	1500/4000 V DC
Type of insulation	I/O (20 and 40 IMX supplementary/110 IMY re-inforced)	
Electromagnetic interference	conducted (with external filter)	class B
	radiated	class A

Environmental

Operating ambient temperature	$U_{i \text{ nom}}, I_{o \text{ nom}}$	$-40 \dots 71^\circ\text{C}$
Storage temperature	non operational	$-40 \dots 100^\circ\text{C}$
Relative humidity	non condensing	93%

Options

Extended temperature range	$-40 \dots 85^\circ\text{C}$ (derating above 71°C), ambient, operating	-8
Magnetic feedback	standard for all single output and -0503-models	R
Alternative pinout	connected outputs, for compatibility	K
Inhibit input (reverse logic)	TTL-compatible, disabled with ≥ 2.4 V or open-circuit	i
SMD version	with PCB lid	L
C-pinout	connected outputs, no options possible	C
Open version	no housing, not lacquered	Z

IMX 15, IMY 15 Series

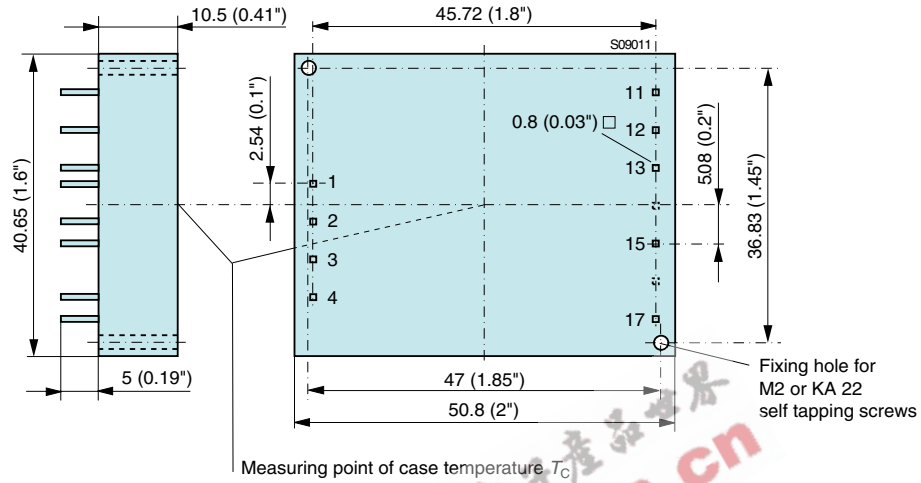
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Mechanical data

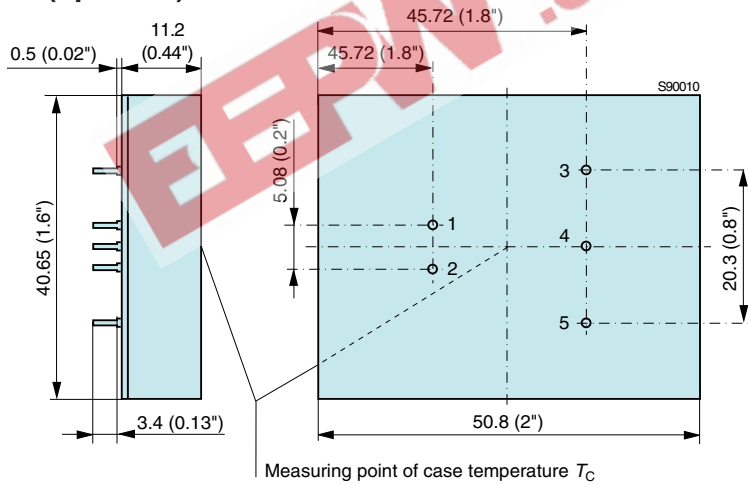
Tolerances ± 0.3 mm (0.012") unless otherwise indicated.



Standard and option K



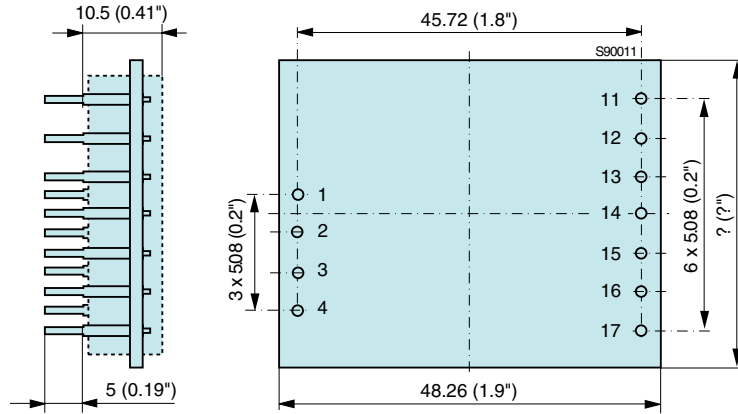
C pinout (option C)



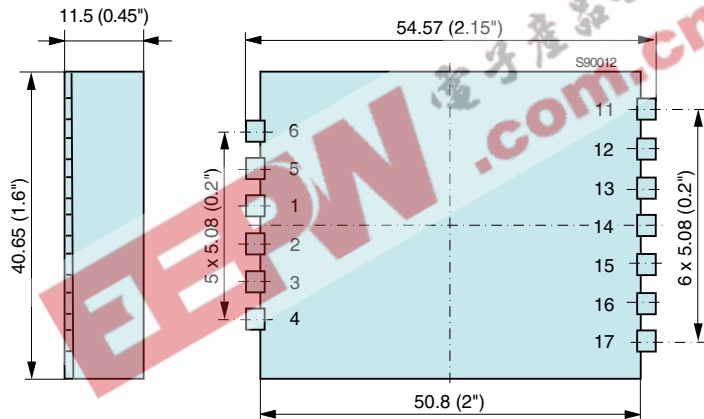
Board Mountable

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Open frame version (option Z)



SMC version (option L)



Pin allocation

Pin	Standard		-0503-	Option K dual	Option C		Option L and Z	
	single	double			single	dual	single	double
1	Vi+	Vi+	Vi+	Vi+	Vi+	Vi+	Vi+	Vi+
2	Vi-	Vi-	Vi-	Vi-	Vi-	Vi-	Vi-	Vi-
3	-	Trim	n.c.	-	Vo+	Vo+	n.c.	Trim
4	\overline{SD}	\overline{SD}	\overline{SD}	\overline{SD}	-	Go	\overline{SD}	\overline{SD}
5	-	-	-	-	Vo-	Vo-	n.c.	n.c.
6	-	-	-	-	-	-	n.c.	n.c.
11	-	Vo1+	Vo2+	Vo+	-	-	-	Vo1-
12	-	Vo1-	Go	-	-	-	-	Vo2-
13	Vo+	Vo2+	Vo1+	Go	-	-	Vo+	Vo1+
15	Vo-	Vo2-	Go	Vo-	-	-	Vo-	Vo2-
17	R	n.c./R	R	n.c.	-	-	R	n.c.