

## 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 $U_i$ [V DC]	Type	Options (for availability consult sales point)
$U_o$ nom [V DC]	$I_o$ nom [mA]	$U_o$ nom [V DC]	$I_o$ nom [mA]			
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	i, 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 15-05-8RG	i, 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 15-05-8R	i, Z
12	1300	-	-	8.4...36	20 IMX 15-12-9C	-8
12	1300	-	-	16.8...75	40 IMX 15-12-9C	-8
15	1000	-	-	8.4...36	20 IMX 15-15-9C	-8
15	1000	-	-	16.8...75	40 IMX 15-15-9C	-8
+5.1	1350	+3.3	1350	8.4...36	20 IMX 15-0503-9R	-8, i, L, Z
+5.1	1500	+3.3	1500	16.8...75	40 IMX 15-0503-9R	-8, i, L, Z
+5.1	1500	+3.3	1500	50...150	110 IMY 15-0503-8R	-8, i, L, Z
5	1300	5	1300	8.4...36	20 IMX 15-05-05-9	-8, K, i, L, C, Z
5	1400	5	1400	16.8...75	40 IMX 15-05-05-9	-8, K, i, L, C, Z
5	1400	5	1400	50...150	110 IMY 15-05-05-8	i, Z
12	650	12	650	8.4...36	20 IMX 15-12-12-9	-8, K, i, L, C, Z
12	700	12	700	16.8...75	40 IMX 15-12-12-9	-8, K, i, L, C, Z
12	700	12	700	50...150	110 IMY 15-12-12-8	i, Z
15	500	15	500	8.4...36	20 IMX 15-15-15-9	-8, K, i, L, C, Z
15	560	15	560	16.8...75	40 IMX 15-15-15-9	-8, K, i, L, C, Z
15	560	15	560	50...150	110 IMY 15-15-15-8	i, Z
24	320	24	320	8.4...36	20 IMX 15-24-24-9	-8, i, L, C, Z
24	350	24	350	16.8...75	40 IMX 15-24-24-9	-8, i, L, C, Z
24	350	24	350	50...150	110 IMY 15-24-24-8	i, 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...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...100% $I_{o\text{ nom}}$ , peak-peak, total	max. 1...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 $\leq 0.7$ 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...71°C
Storage temperature	non operational	-40...100°C
Relative humidity	non condensing	93%

**Options**

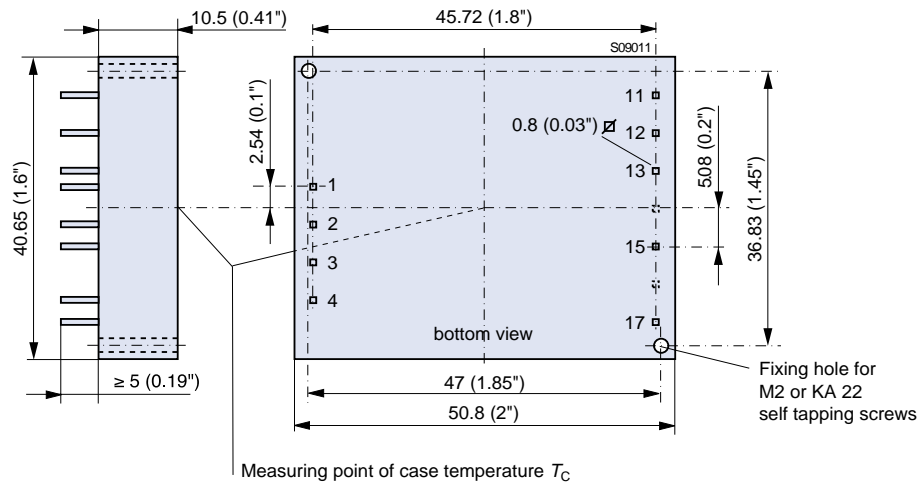
Extended temperature range	-40...85°C (derating above 71°C), ambient, operating	-8
Alternative pinout	connected outputs, for compatibility	K
Inhibit input (reverse logic)	TTL-compatible, disabled with $\geq 2.4$ V or open-circuit	i
SMD version	with PCB lid	L
C-pinout	connected outputs, no options possible excl. -8	C
Open version	no housing, not lacquered	Z

**Mechanical data**

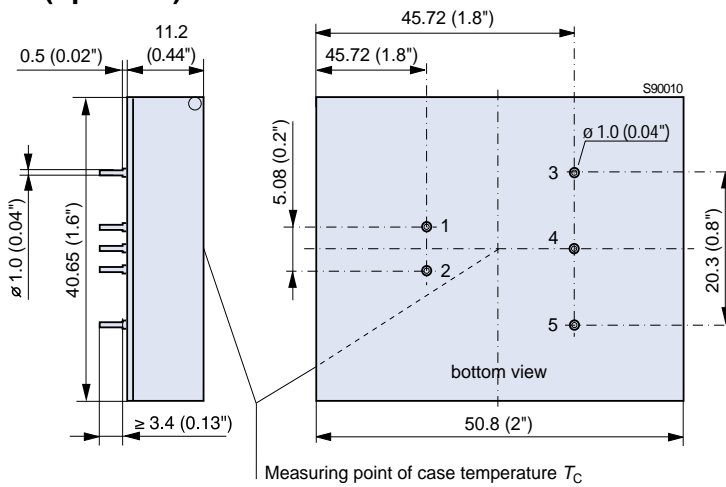
Tolerances  $\pm 0.3$  mm (0.012") unless otherwise indicated.



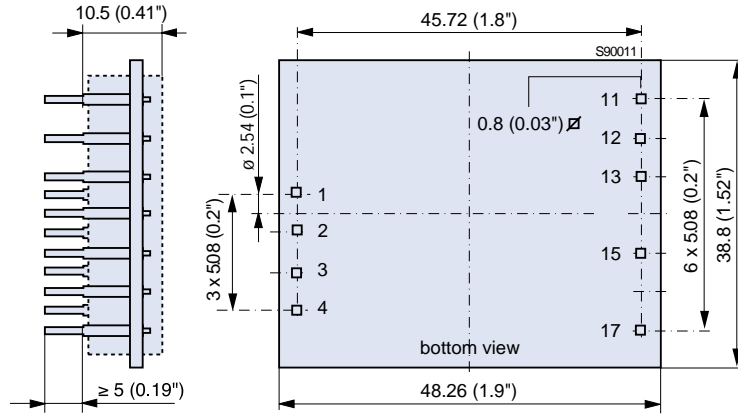
**Standard and option K**



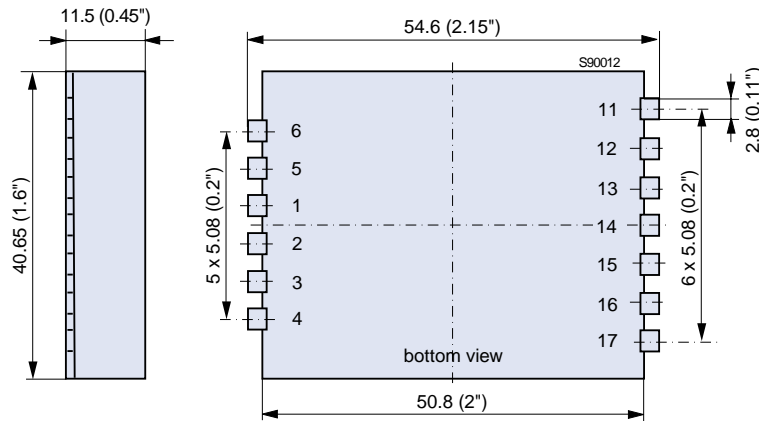
**C pinout (option C)**



Open frame version (option Z)



SMC version (option L)



Pin allocation

Pin <sup>1</sup>	Standard and Option Z		Option K dual	Option C		Option L		
	single	double		single	double	single	double	
1	Vi+	Vi+	Vi+	Vi+	Vi+	Vi+	Vi+	
2	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+	-	-	n.c.	Vo1
12	-	Vo1-	Go	-	-	-	n.c.	Vo1-
13	Vo+	Vo2+	Vo1+	Go	-	-	Vo+	Vo2+
15	Vo-	Vo2-	Go	Vo-	-	-	Vo-	Vo2
17	R	n.c.	R	n.c.	-	-	R	n.c.

<sup>1</sup> Pin 14 and pin 16 are not connected.