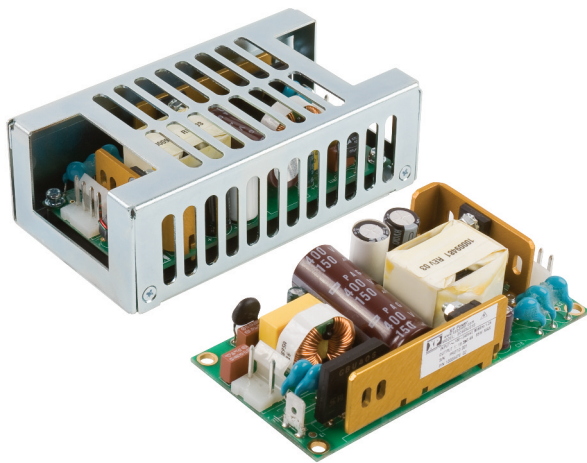


# ECS65 Series



- IT & Medical Safety Approvals
- <0.5 W Standby Power
- 65 W Convection Cooled Rating
- Industry Standard 2.0" x 4.0" x 1.05" Format
- Low Earth Leakage Current
- Class B Radiated Emissions (-B models)
- Low Temperature Operation
- 3 Year Warranty

The ECS65 Series has been designed to minimise the no load power consumption (<0.5 W) and maximise efficiency in order to facilitate equipment design to the latest environmental legislation.

Approved for Class I applications, the ECS65 range of single output AC-DC, 65 W power supplies feature high power density in an industry standard 2 x 4" (51.0 mm x 102.0 mm) footprint. The 1.05" (27.0 mm) high, 1U compatible high-density power supplies meet EN55032 Level B emissions with low earth leakage currents of 110  $\mu$ A at 115 VAC or 210  $\mu$ A at 230 VAC. Making these switchers ideal for industrial, IT and medical applications.

The ECS65 series has single output versions from 12 V to 48 VDC which are adjustable by  $\pm 10\%$ . They are dual-fused for compliance with IEC60601-1 and with typical efficiencies at 88%, minimal waste heat is generated. The ECS65 delivers a full 65 W of power up to +50 °C and operates at up to +70 °C with derating.

## Models and Ratings

Output Power - Convection Cooled	Output Voltage V1	Max Output Current	Model Number <sup>1)</sup>
65 W	12.0VDC	5.4 A	ECS65US12
65 W	15.0VDC	4.3 A	ECS65US15
65 W	18.5VDC	3.4 A	ECS65US18
65 W	24.0VDC	2.7 A	ECS65US24
65 W	28.0VDC	2.3 A	ECS65US28
65 W	48.0VDC	1.4 A	ECS65US48

**Notes:**  
 1. For Class B radiated emissions models, add suffix -B to model number. For covered versions, add suffix '-C' to model number or order part no. ECM40/60 COVER for standalone cover. Derate output power by 20% with cover. The cover is not suitable for Class II installations.

## Input Characteristics

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	80	115/230	264	VAC	Derate output power < 90 VAC. See fig. 1
Input Frequency	47	50/60	400	Hz	400Hz for ECS65 only
Power Factor		>0.5			230 VAC, 100% load EN61000-3-2 class A compliant
Input Current - No Load		0.02/0.03		A	115/230 VAC
Input Current - Full Load		1.0/0.6		A	115/230 VAC
Inrush Current			40	A	230 VAC cold start, 25 °C
No Load Input Power		0.4	0.5	W	
Earth Leakage Current		110/210	260	µA	115/230 VAC/50 Hz (Typ.), 264 VAC/60 Hz (Max.)
		0.7/1.5		mA	115/230 VAC/400 Hz
Input Protection	T3.15A/250 V internal fuse in both line and neutral				

## Output Characteristics

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage - V1	12		48	VDC	See Models and Ratings table
Initial Set Accuracy			±1	%	50% load, 115/230 VAC
Output Voltage Adjustment	±10			%	Via potentiometer. See mech. details (page 9)
Minimum Load	0			A	
Start Up Delay		1		s	230 VAC full load (see fig.2)
Hold Up Time	16			ms	115 VAC full load (see fig.3)
Drift			±0.2	%	After 20 min warm up
Line Regulation			±0.5	%	90-264 VAC
Load Regulation			±1	%	0-100% load.
Transient Response - V1			4	%	Recovery within 1% in less than 500 µs for a 50-75% and 75-50% load step
Over/Undershoot - V1		5		%	See fig.4
Ripple & Noise			1	% pk-pk	20 MHz bandwidth (see fig.5 & 6)
Overvoltage Protection	115		140	%	Vnom DC.
Overload Protection	110		160	% I nom	Auto reset (see fig.7)
Short Circuit Protection					Continuous, trip & restart (hiccup mode)
Temperature Coefficient			0.05	%/°C	
Overttemperature Protection				°C	Not fitted