

The ECL30UD/UT series is a range of dual and triple output AC-DC power supplies that delivers 30W of power and offers output voltages ranging from 3.3V to 15V. The ECL30 series can be supplied as PCB mount open frame (suffix -P), PCB mount encapsulated (suffix -E), open frame chassis mount (suffix -T), or as encapsulated chassis mount with screw terminals (suffix -S) with an optional DIN clip (suffix -SD). The ECL30UD/UT has IEC Class II construction and a no-load input power less than 0.3W.

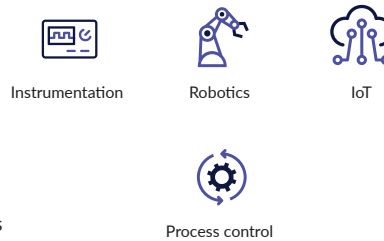
The ECL30UD/UT series, with worldwide ITE safety approvals, Class B conducted and radiated emissions, IEC Class II insulation, and 3kVAC isolation, is ideal for a wide range of industrial and analytical instrumentation applications including test and measurement, process control, factory automation, communications and other ITE applications.



Features

- ▶ Regulated dual outputs +5V +12VDC, ±12V & ±15VDC
- ▶ Regulated triple outputs +5V ±12V & +5V ±15VDC
- ▶ 3kVAC input to output isolation
- ▶ EN55032 Class B conducted and radiated emissions
- ▶ IEC62368-1 ITE safety agency approvals
- ▶ IEC Class II insulation rating
- ▶ -20°C to +70°C operating temperature
- ▶ Overvoltage, overload, and short circuit protection
- ▶ 3 year warranty

Applications



Dimensions

ECL30UD/UT-P

75.2 x 34.6 x 26.7mm (2.96" x 1.36" x 1.05")

ECL30UD/UT-E

78.7 x 38.1 x 28.0mm (3.10" x 1.50" x 1.10")

ECL30UD/UT-T

87.9 x 34.6 x 25.4mm (3.46" x 1.36" x 1.00")

ECL30UD/UT-S

96.0 x 40.0 x 28.5mm (3.78" x 1.57" x 1.12")

Models & ratings

Model number ^(3,4)	Output 1		Output 2		Output 3		Efficiency	Output power
	Voltage	Current ⁽²⁾	Voltage	Current ⁽²⁾	Voltage	Current ⁽²⁾		
ECL30UD01	+12.0VDC	1.30A	-12.0VDC	1.30A			84%	30W
ECL30UD02	+15.0VDC	1.00A	-15.0VDC	1.00A			83%	30W
ECL30UD03	5.0VDC ⁽¹⁾	3.00A	12.0VDC ⁽¹⁾	1.30A			81%	30W
ECL30UT02	5.0VDC ⁽¹⁾	3.00A	+12.0VDC	0.63A	-12.0VDC	0.63A	83%	30W
ECL30UT03	5.0VDC ⁽¹⁾	3.00A	+15.0VDC	0.50A	-15.0VDC	0.50A	81%	30W

Notes:

1. Isolated output
2. Peak load of 130% lasting <30s with a maximum duty cycle of 10%, average output power not to exceed nominal.
3. Add suffix to model number to define type: add '-P' for PCB mount, add '-T' for chassis mount, add '-E' for encapsulated, add '-S' for screw terminals.
4. A screw terminal version (-S) is available with DIN clip attached, add suffix 'D' e.g. ECL30UT02-SD, DIN rail mounting kit is available as a separate item, order code ECL25/30 DIN CLIP.
5. UD01/UD02: Load regulation <3%, 10-100% load.
Cross regulation <3%, one output fixed, the other varied from 10-100% load
UD03: Load regulation <1% V1, <10% V2
Cross regulation <10% V2, V1 varied from 10-100% load,
UT02/UT03: Load regulation <1% V1, <10% V2 & V3
Cross regulation <10% V2 & V3, V2 & V3 at 50% load & V1 varied from 20-100% load

ECL30UD/UT series

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	85		264	VAC	
	120		370	VDC	
Input frequency	47		63	Hz	
Input current		0.8		A rms	At 230VAC
No load input power			<0.3	W	
Inrush current			20	A	At 115VAC, cold start at 25°C
			40	A	At 230VAC, cold start at 25°C
Earth leakage current					Class II construction no earth
Input protection	Internal T2A/250 VAC fuse				
Power factor	EN61000-3-2 Class A				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	See models & ratings				
Isolation: input to output	3000			VAC	
Switching frequency		70		kHz	
Power density			116.34 (7.10)	W/cm ³ (W/in ³)	PCB mount version
Mean time between failure	>400			khrs	MIL-HDBK-217F, +25°C GB
Weight		60 (0.13)		g (lb)	ECL30UD/UT-P
		60 (0.13)			ECL30UD/UT-T
		155 (0.34)			ECL30UD/UT-E
		175 (0.39)			ECL30UD/UT-S

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models and ratings table				
Output voltage trim		±5		%	On output 1 only, on multiple output versions, V2 & V3 will track by same percentage, (not '-E' or '-S' versions)
Initial set accuracy			±1	%	For output 1
			±1		For output 2 of UD01 & UD02 versions
			±5		For output 2 & output 3 of other versions
Minimum load	UD01 & UD02: 10% V1 & V2 UD03: 10% V1, 20% V2 UT02 & UT03: 10% V1, 20% V2 & V3 to meet regulation specifications				
Line regulation			±0.5	%	Single output versions and output 1 of multiple output versions
			±0.9		Output 2 & output 3 of multiple output versions
Load regulation	See models and ratings table note 5				
Start up delay			3	s	
Start up rise time			14	ms	
Cross regulation	See models and ratings table note 5				
Hold up time		12		ms	At full load and 115VAC
Transient response			4	%	Deviation, recovery within 1% in less than 500µs for a 25% load change
Ripple & noise			50	mV pk-pk	3.3-5VDC versions
			120		12-15VDC versions
			200		24-48VDC versions
	Multi output versions: 1% pk-pk on any output, 20 MHz bandwidth				
Overvoltage protection	115		140	% Vnom	
Overload protection	120		170	%	Multiple output versions: 140-200% of total power
Short circuit protection	Trip & restart (hiccup mode)				

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-20		+70	°C	Derate linearly from 100% at +50°C to 50% at +70°C
Storage temperature	-40		+85	°C	
Cooling	Convection-cooled				
Humidity			95	%RH	Non-condensing
Operating altitude			3000 (9842)	m (ft)	
Vibration	2g, 10Hz to 500Hz, 10 mins/cycle, 60 mins each cycle				

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Class B	
Radiated	EN55032	Class B	
Harmonic current	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

Emissions - Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	3	A	
Radiated immunity	EN61000-4-3	10 V/m, 80%	A	
EFT/burst	EN61000-4-4	3	A	
Surge	EN61000-4-5	3	A	
Conducted	EN61000-4-6	10Vrms	A	
Magnetic fields	EN61000-4-8	10A/m	A	
Dips and interruptions	EN61000-4-11	30% for 10ms	A	
		60% for 100ms	B	
		100% for 5000ms	B	

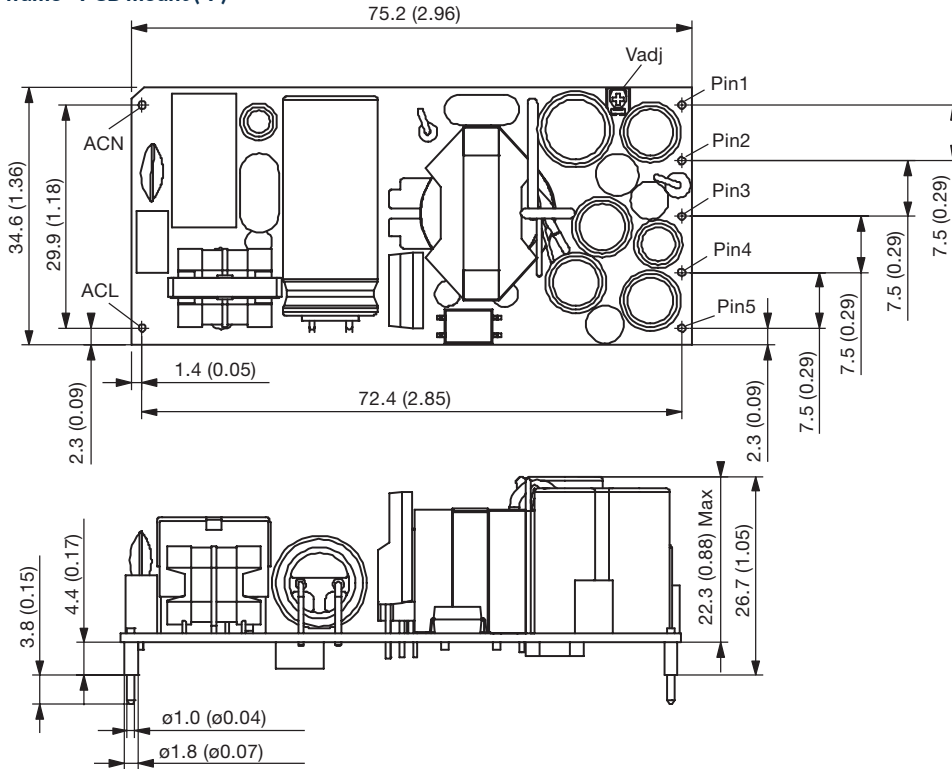
Safety approvals

Certification	Standard	Notes & Cnditions
CB	IEC60950-1:2005 Ed 2 / IEC62368-1:2014	
UL	UL62368-1 & CAN/CSA C22.2 No. 62368- 1-14	
EN	EN62368-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

ECL30UD/UT series

Mechanical details

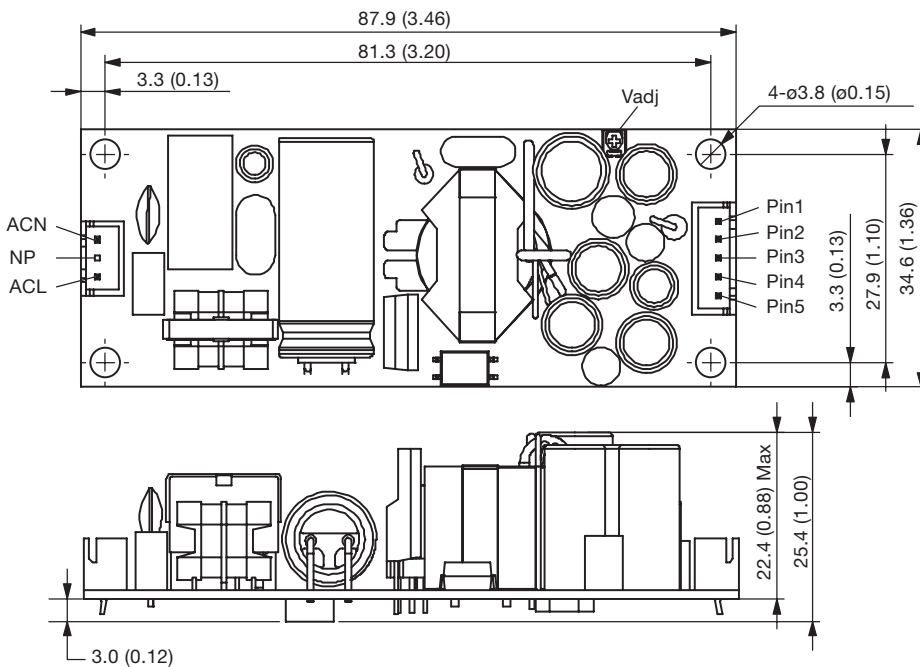
Open frame - PCB mount (-P)



Pin	UD01/02	UD03	UT02/03
1	NP	V1 RTN	-V1
2	NP	V1	+V1
3	V2	NP	V3
4	COM	V2 RTN	COM
5	V1	V2	V2

NP = No pin.

Open frame - Chassis mount (-T)



Pin	UD01/02	UD03	UT02/03
1	V2	V1 RTN	-V1
2	COM	V1	+V1
3	COM	NC	V3
4	COM	V2 RTN	COM
5	V1	V2	V2

NC = No connection.

Notes:

1. All dimensions in mm (inches).
2. Weight: ECL30UD/UT -P version: 60g (0.13lb); ECL30UD/UT -T version: 60g (0.13lb);
3. Tolerances: x.x (x.xx) = ±0.5 (±0.02). x.xx (x.xxx) = ±0.25 (±0.01)

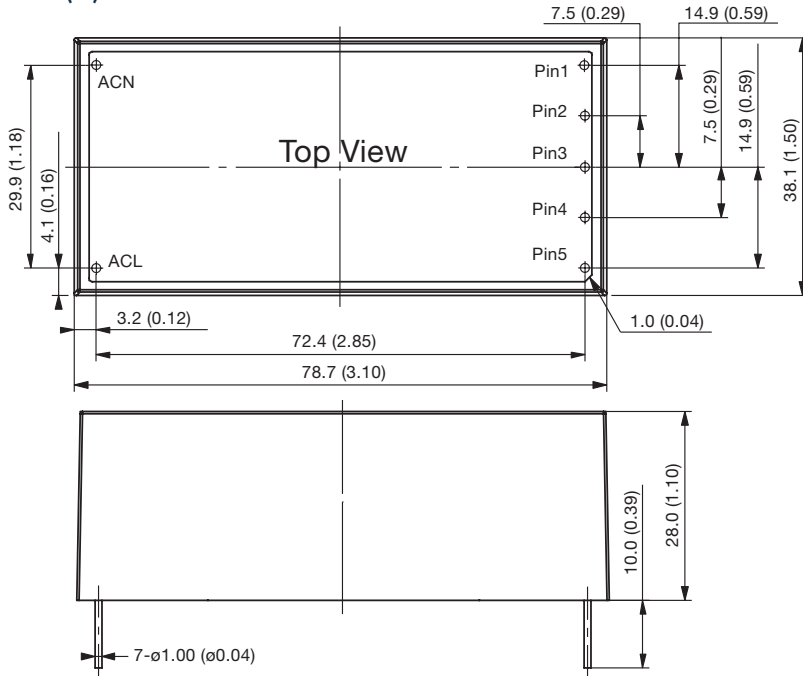
Mating connectors (-T version only)

Input connector: JST XHP-3
Output connector: JST XHP-5

ECL30UD/UT series

Mechanical details

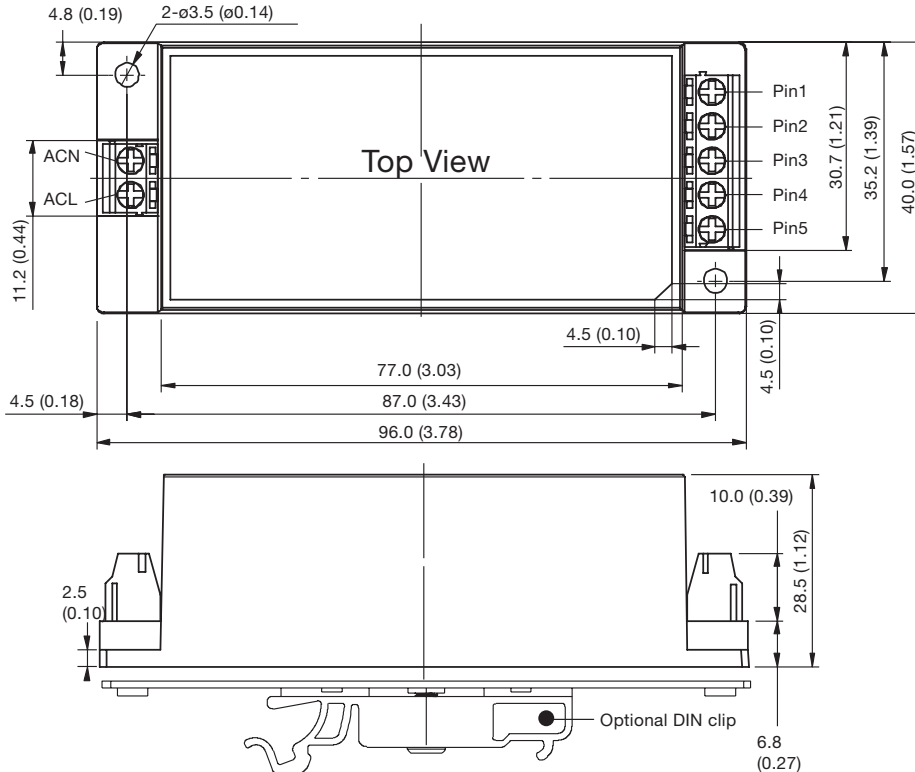
Encapsulated (-E)



Pin	UD01/02	UD03	UT02/03
1	NP	V1 RTN	-V1
2	NP	V1	+V1
3	V2	NP	V3
4	COM	V2 RTN	COM
5	V1	V2	V2

NP = No pin.

Screw terminal (-S)



Pin	UD01/02	UD03	UT02/03
1	V2	V1 RTN	-V1
2	COM	V1	+V1
3	COM	NC	V3
4	COM	V2 RTN	COM
5	V1	V2	V2

NC = No connection.

Notes:

- All dimensions in mm (inches).
- Weight: ECL30UD/UT -E version: 155g (0.34lb);
ECL30UD/UT -S version: 175g (0.39lb)

Tolerances: x.x (x.xx) = ±0.5 (±0.02). x.xx (x.xxx) = ±0.25 (±0.01)

Specifications subject to change without notice.