40-65W 90-305VAC AC-DC Power Supplies

https://product.tdk.com/en/power/csw
https://www.emea.lambda.tdk.com/csw65

Industrial Broadcast Test COMM

Accepting a very wide 90 to 305Vac input, the CSW65 series can operate from 115V, 230V and 277V nominal inputs. These models are available in a U-channel construction and have cover and/or DIN rail mounting clip options. All models are certified to IEC/EN/UL/CSA 62368-1 and with less than 150mW off-load power consumption, these units also comply with DOE Efficiency Level VI requirements.

Features	Benefits
• Accepts 115/230/277VAC Nominal Inputs	• Suitable for US Building Wiring
• <150mW Off-Load Power Consumption	• Energy Saving
• DOE Efficiency Level VI, ErP Tier 2	• Meets US and EU Energy Saving Legislation
• Class 2 24V Model to UL1310	• Suitable for Building Automation Requiring NEC Class 2
• DIN Rail Mount Option	• Easy to Mount

Model Selector

Model	Output Voltage (V)	Maximum Current (A)	Maximum Power (W)	Overvoltage (V)	Average Efficiency (%)	*Ripple & Noise (mV)
CSW65-5	5	8.0	40	6 - 8	87.2	100
CSW65-12	12	5.42	65	13.2 - 15.6	89	120
CSW65-15	15	4.34	65	16.5 - 19.5	89	150
CSW65-18	18	3.62	65	19.8 - 23.4	89	180
CSW65-24	24	2.71	65	26.4 - 31.2	89	240
CSW65-28	28	2.33	65	30.8 - 36.4	89	280
CSW65-48	48	1.36	65	52.8 - 62.4	89	280
CSW65-54	54	1.21	65	59.4 - 64.8	89	280

*Ripple and noise are measured at oscilloscope 20MHz bandwidth by a 10uF electrolytic capacitor and a 0.1uF ceramic capacitor in parallel at output connector.

CSW	65	-24	/A

65 — Output Power

-24

5	5V Output Voltage
12	12V Output Voltage
15	15V Output Voltage
18	18V Output Voltage
24	24V Output Voltage
28	28V Output Voltage
48	48V Output Voltage
54	54V Output Voltage

/A

Blank	U-Channel
/A	U-Channel & Cover
/D	U-Channel, Cover & DIN Rail Bracket

Specifications

Model		CSW65
Input		
Input Voltage range	Vac	90 - 305
Input Frequency	Hz	47 - 63
Input Current (115/230VAC)	A	2 / 1
Inrush Current at 230Vac (Cold Start)	A	<65 (25°C ambient)
Harmonic Compliance	-	Meets IEC61000-3-2 Class A
No Load Power Consumption	W	<0.150
Hold Up Time (typ) at 115Vac Input	ms	10
Efficiency	-	See model selector table
Conducted & Radiated EMI	-	EN55032-B conducted and radiated, FCC Part 15 Class B
Immunity	-	EN55024
Safety Agency Certifications	-	UL/CSA/IEC/EN62368-1, 60950-1, UL1310 Class 2 (24Vout only), CE Mark
Output		
Output Voltage Accuracy	%	±1
Output Voltage Adjustment	-	None
Switching Frequency (Full Load)	kHz	65
Output Regulation	%	5-24V: ±3, 28-54V: ±2
Ripple & Noise (20MHz BW)	-	See Model Selector Table
Minimum Load	-	No minimum load required
Overcurrent Protection	%	105 - 160 (Auto-Recovery)
Overvoltage Protection	-	See Model Selector Table (Cycle AC to reset)
Parallel Operation	-	Not possible
Series Operation	-	Possible, contact Technical Support
Environmental		
Operating Temperature	°C	-10 to +70 derate linearly to 50% load from 50 to 70 (Note 2)
Storage Temperature	°C	-20 to +85
Humidity (non condensing)	%RH	5 - 95
Cooling	-	Convection
Altitude	m	5,000
Withstand Voltage (For 1 minute)	Vac	Input to Ground 1,500, Input to Output 3,000, Output to Ground 500Vdc
Isolation Resistance	MΩ	>20 at 25°C & 70%RH, Output to Ground 500Vdc
Vibration (non-operating)	m/s^2	23.52 (10 - 55Hz: constant sweep 1 min X, Y, Z for 1 hour)
Shock	m/s^2	<196.1 (20G)
Other		
Weight (Typ)	g	U channel: 250, /A: 270, /D: 290
Size (LxWxH)	mm	U channel and /A: 120.7 x 63.5 x 38.1 /D: 120.7 x 63.5 x 47.2
Size (LxWxH)	Inches	U channel and /A: 4.75 x 2.5 x 1.5 /D: 4.75 x 2.5 x 1.86
Connectors		Input: 3-Pole Terminal Block (9.5mm, 20A/300V) Output: 2-Pole Terminal Block (9.5mm, 20A/300V)
Warranty	yrs	3

Notes
1) See website for detailed specifications, test methods and installation manual
2) Derate linearly to 90% load from 0°C to -10°C

Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	2 / 3	A	Contact Discharge / Air Discharge
Radiated Susceptibility	EN61000-4-3	2	A	80-1000MHz
Electrical Fast Transient Burst	EN61000-4-4	2	A	(AC Port, 5kHz)
Surge	EN61000-4-5	2 / 3	A	Line to Neutral / Line and Neutral to Ground
Conducted Susceptibility	EN61000-4-6	2	A	3V (0.15 - 80MHz)
Magnetic fields	EN61000-4-8	1	A	-
Voltage Dips and Input Interruptions	EN61000-4-11	>95% for 1/2 cycle 30% for 25/30 cycles >95% for 250/300 cycles	A A/B B	A for 230Vac, B for 115Vac Input

CN1: Input Connector

(T) 3-Pole Terminal block pitch: 9.5mm (20A/300V)

Pinout

PIN	Function
1	AC Ground
2	AC Neutral
3	AC Line

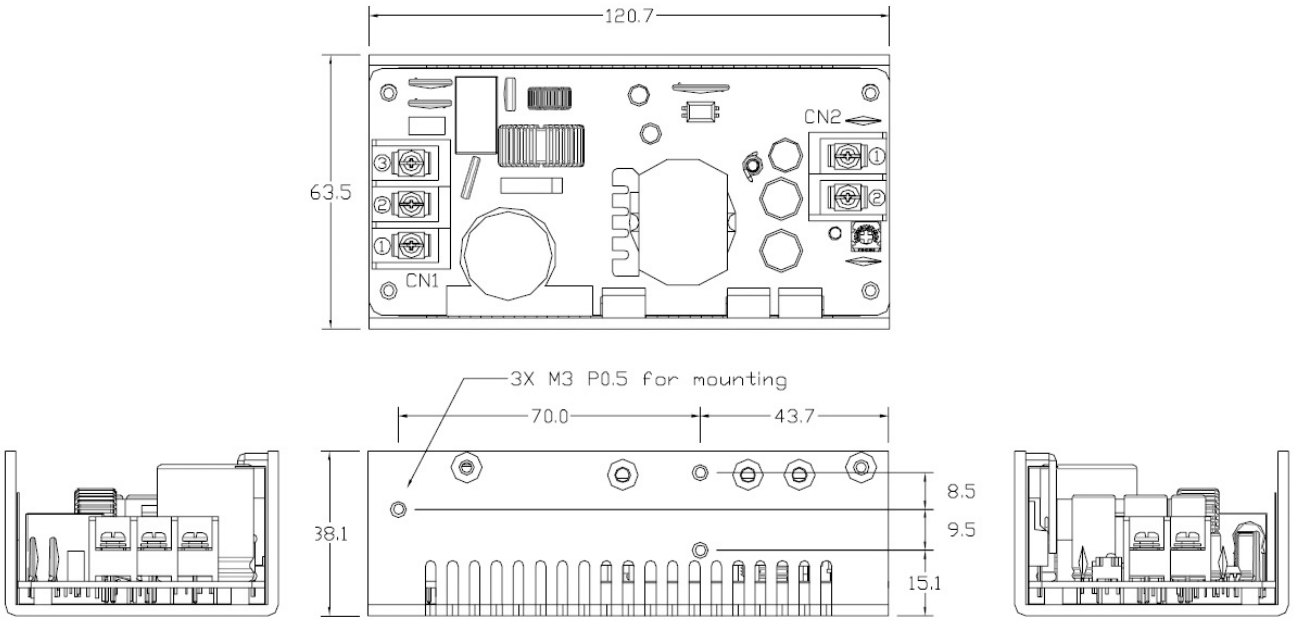
CN2: Output Connector

(T) 2-Pole Terminal block pitch: 9.5mm (20A/300V)

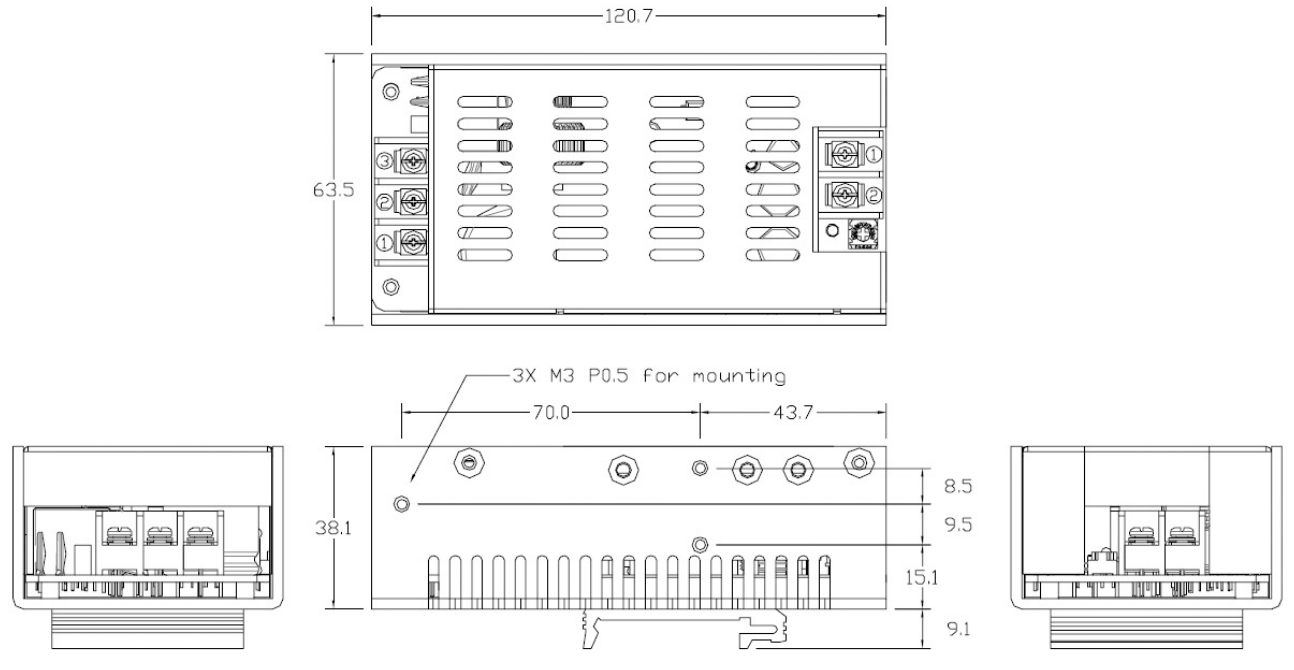
Pinout

PIN	Function
1	+Vout
2	Ground

No Suffix (U-Channel) Outline Drawing



/D (U-Channel, Cover & DIN Rail Bracket) Outline Drawing



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