

**TRUMPower**

TMW45CU & TMW45CI

45 Watts Medical & ITE Grade USB-C Power Adapters

FEATURES

- USB Type C Output Port on Case
- Up to 3A Power Delivery @ 5V/9V/12V/15V/20V
- 300,000 Hours MTBF
- 5,000 Meters Operation Altitude
- Latest ITE 62368-1 and Medical 60601-1 Approvals



INPUT SPECIFICATIONS

Input Voltage Range 100~240 VAC
 Input Frequency 50~60 Hz
 Input Current 1A~0.5A (@ 20V / 2.25A)
 Inrush Current 80A rms max. @ 230 VAC,
 160A rms max. @ 230VAC,
 at 25°C cold start
 Touch Current 100 µA max. @ 264 VAC, 60Hz
 No Load Power Cons 0.1W max.

OUTPUT SPECIFICATIONS

Output Power Ratings 5/9/12/15/20 VDC
 Tolerance ±5% max. @ full load
 Ripple and Noise* 200 mVp-p max. @ full load
 Short Circuit Protection Shut down; Auto-recovery
 Over Voltage Protection Set at 150% max; Shut down
 Over Current Protection Set at 150% max.; Shut down,
 Auto-recovery
 Temperature Coefficient ±0.04%/°C max.
 Transient Response Max. excursion of 4% or better
 on all models, recovering to 1%
 of final value within 500 us after
 a 50% step load change

* Measured with 20MHz bandwidth at rated line voltage and output load ranges, with a 10µF tantalum capacitor in parallel with a 0.1µF ceramic capacitor in parallel across the output.

GENERAL SPECIFICATIONS

Switching Frequency 65 kHz
 Efficiency 87% min. @ full load
 Start Up Time 3 secs. max
 Turn On Delay Time 3 sec. max @ full load
 Hold-up Time ≥ 10ms max. @ full load
 Rise Time ≤ 50ms max.
 Line Regulation ±5% max. @ full load
 Operating Temperature -20°C to +40°C
 Storage Temperature -20°C to +80°C
 Operating Humidity 20% to 80% non-condensing
 Storage Humidity 10% to 90% non-condensing
 Operating Altitude 5,000 meters max.
 Derating Derate from 100% at +40°C linearly
 to 50% at +60°C
 Withstand Voltage 4,000 VAC input-output (2 MOPP)
 MTBF 300,000 hours min. at full load,
 25°C ambient, calculated per
 Telcordia SR-332

MODELS LIST

Product No. ⁽¹⁾	Output Voltage	Output Current	Total Regulation	Maximum Power
TMW45CX	5V	3A	±5%	15W
	9V	3A		27W
	12V	3A		36W
	15V	3A		45W
	20V	2.25A		45W

Notes:

1. X = U for main body with foldable fixed US AC plug, X = I for main body only with interchangeable AC plugs sold separately.
2. Standard is white color. Add suffix "B" for black color, e.g. TMW45CUB.
3. For interchangeable plug orders, at least one interchangeable plug must be ordered together with the "main body" (X = I), e.g. TMW45CI for main body, TW-IPE for EU type interchangeable plug, etc.

Part No.	Interchangeable Plug for TMW45CU
TW-IPE	EU Plug
TW-IPB	UK Plug
TW-IPK	Korea Plug

Note: The above P/Ns are for interchangeable plugs only without the main body. An embedded foldable US AC plug comes standard on TMW45CU (see drawing on Pg. 2).

Part No.	Interchangeable Plug for TMW45CI
TW-IPU	US Plug
TW-IPE	EU Plug
TW-IPB	UK Plug
TW-IPA	Australia Plug
TW-IPC	China Plug
TW-IPK	Korea Plug

Note: The above P/Ns are for interchangeable plugs only without the main body.

STANDARDS & COMPLIANCE

IEC/EN 60601-1-2: Ed. 4.1 EMC & Immunity performance
 IEC/EN 55011, EN 55032 ... Class B, conducted & radiated
 EN 61000-3-2 Harmonic distortion, Class A
 EN 61000-3-3 Line fluctuations & flicker
 EN 61000-4-2 ESD, ±15 KV air and ±8 KV contact
 EN 61000-4-3 Radiated immunity, 3 V/m
 EN 61000-4-4 Fast transient/burst, ±2 KV
 EN 61000-4-5 Surge, ±1 KV diff., ±2 KV com.
 EN 61000-4-6 Conducted immunity, 3 Vrms
 EN 61000-4-8 Magnetic field immunity, 1 A/m
 EN 61000-4-11 Voltage dip immunity,
 30% reduction for 30 cycles,
 100% reduction for 300 cycles
 Safety Standards UL/IEC/EN 60601-1 (Edition 3.2),
 ANSI/AAMI ES 60601-1 (2021),
 CSA C22.2 No. 60601-1 (2022),
 UL/IEC/EN 62368-1 (3rd Edition)
 Agency Approvals UL, cUL, TUV/GS, CB, CE, PSE,
 BSMI, RCM/CCC (TMW45CI only)
 Other Compliance RoHS, DOE Level VI, ErP Stage 2,
 GEMS Level VI, CoC Tier 2

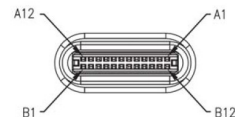
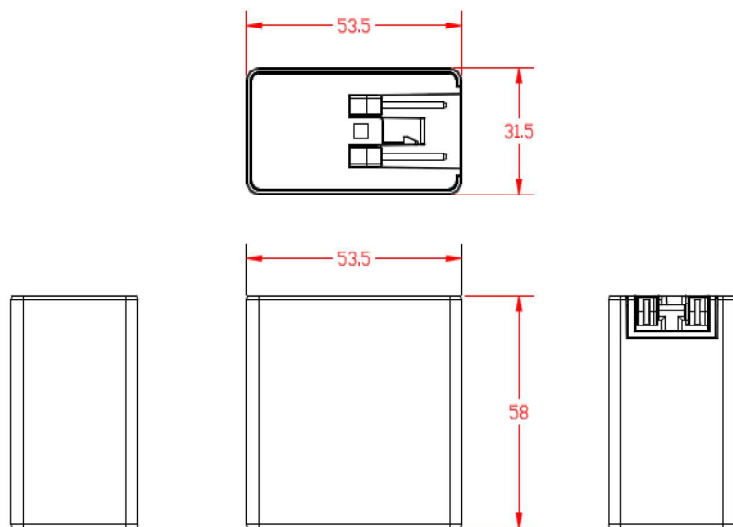
Tumbler Technologies + TRUMPower

3350 Scott Blvd., Building 13 • Santa Clara, California 95054, USA • 408-988-6616 • sales@trumpower.com • www.TRUMPower.com

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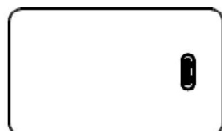
MECHANICAL SPECIFICATIONS



DC OUTPUT CONNECTOR	
PIN	FUNCTION
A4, A9, B4, B9	VBUS
A1, A12, B1, B12	GND
A5	CC 1
B5	CC 2
D+ & D-	SHORT

Notes:

- 1) Units: mm
- 2) Output Connector: USB Type C
- 3) Weight: 125 grams (0.28 lbs.) approx.



TMW45CU standard model with embedded foldable US AC plug

