PGW65 series

65W Convection cooled

AC-DC power supplies

The PGW65 series of 65W external wall mount AC-DC power supplies conform to the Power Delivery protocol with outputs from 5V to 20V auto-selected based on the system's charging requirement. Their Class II construction, gasketed design and reinforced isolation provide enhanced safety in medical devices and household appliances. The PGW65 also offers interchangeable US, UK, EU, AU and CN mains connectors for global compatibility.

Worldwide medical and ITE safety agency approvals, low leakage currents, compact Gallium-Nitride (GaN) based design, wide 80-264VAC input for universal use, energy efficiency level VI (level VII ready) and support for multiple fast charging protocols, makes the PGW65 ideal for a wide range of industrial and BF-rated medical applications.

Features

- Output voltages from 5V to 20VDC
- Universal, single phase input: 80 to 264VAC
- Energy efficiency level VI (level VII ready) and EU2019/1782
- Meets USB PD 3.0 & QC3.0 fast charging protocol
- Medical, home healthcare & ITE safety agency approvals
- IP22 environmental rating
- Low earth leakage current
- <0.15W standby power
- Class B conducted & radiated emissions
- 0 to +60°C operation
- 3 year warranty

Applications

Home Healthcare

Technology

Instrumentation

Healthcare

Medical Diagnostics

Dimensions

90.5 x 58.5 x 33.5mm (3.56" x 2.30" x 1.32")

Models & ratings

Model number[1],[2]	Output voltage Auto-selected by load	Output current	Output power	Total regulation[3]	Efficiency[4]
PGW65US20-XX	5.0V	3.0A	15.0W	±5%	81.4%
	9.0V	3.0A	26.0W		86.6%
	12.0V	3.0A	36.0W		87.4%
	15.0V	3.0A	45.0W		87.7%
	20.0V	3.25A	65.0W		88.0%

Notes:

1. Fixed AC plug versions
   Replace XX with required country code (US for US, EU for Europe, UK for UK, AU for Australia and CN for China) for version with output lead e.g. PGW65US20-US for US version
   Replace XX with required country code and add suffix '-BB' for version with USB-C connector in case e.g. PGW65US20-US-BB for US version
2. Interchangeable AC plug versions
   Replace XX with I for body with output lead e.g. PGW65US20-I. Individual AC plugs should be ordered separately, see pages 6 and 7 for order codes. To order body and 5 AC plugs use order code PGW65US20-IP.
   Replace XX with I-BB for body with USB-C connector in case e.g. PGW65US20-I-BB. AC plugs should be ordered separately, see pages 6 and 7 for order codes. To order body and 5 AC plugs use order code PGW65US20-IP-BB.
3. Total regulation includes initial set accuracy, line and load regulation.
4. Typical average value measured at 25%, 50%, 75% and 100% at 115VAC & 230VAC.

PGW65 series

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage	80		264	VAC	Derate output linearly from 100% at 90VAC to 90% at 80VAC
Input frequency	47		63	Hz	
Input current			1.7	A	100VAC full load.
Inrush current			130	A	264VAC, cold start +25°C
No load input power			0.15	W	
Input protection	T3.15A/250V Internal fuse fitted in line				
LED indicators	LED (on case) status mode - standby (Amber), normal operation (Green), and fault (flashing Amber) LED (on lead) status mode - standby (Unlit), normal operation (Green), and fault (Unlit or flashing Green)				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	5		20	VDC	5, 9, 12, 15, 20VDC. Auto selected by load
Minimum load	0			A	No minimum load required
Start up delay			3	s	
Start up rise time		200		ms	115VAC
Hold up time	10			ms	Full load and 115VAC
Total regulation			±5		See models & ratings table
Transient response			10	%	Recovery within 1% in less than 5ms for a 60% (20% - 80% - 20%) load step and 0.5A/μs slew rate
Ripple & noise			200	mV/pk-pk	20MHz bandwidth and 10μF electrolytic at +25°C in parallel with 0.1μF ceramic capacitor at +25°C
Overshoot			5	%	Turn on & turn off
Overload protection	110		150	%	
Overvoltage protection	115		150	%	Auto recovery
Temperature coefficient			0.2	%/°C	
Short circuit protection	Trip and restart (hiccup), auto resetting				
Patient leakage current		85	100	μA	264VAC, 60Hz

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See models and ratings table				
Energy efficiency	Level VI (Level VII ready)				
Isolation: input to output	4000			VAC	2 x MOPP
input to ground	1500			VAC	1 x MOPP
Switching frequency	20	60		kHz	Main converter (varies with load)
Power density		0.37 (6.06)		W/cm^3 (W/in^3)	
Mean time between failure	300			khrs	TELECORDIA SR-332, 25°C, GB
Weight		220 (0.49)		g (lb)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	0		+60	°C	Derate linearly from 100% load at +40°C to 50% load at +60°C, safety approved to +40°C
Operating humidity	10		90	%RH	Non-condensing
Operating altitude			5000	m	
Storage temperature	-40		+80	°C	
Storage humidity	5		95	%RH	Non-condensing
Cooling	Natural convection				

EMC: Emissions

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032/EN55011	Class B	
Radiated	EN55032/EN55011	Class B	
Harmonic current	EN61000-3-2	Class A	
Voltage flicker	EN61000-3-3		

EMC: Immunity

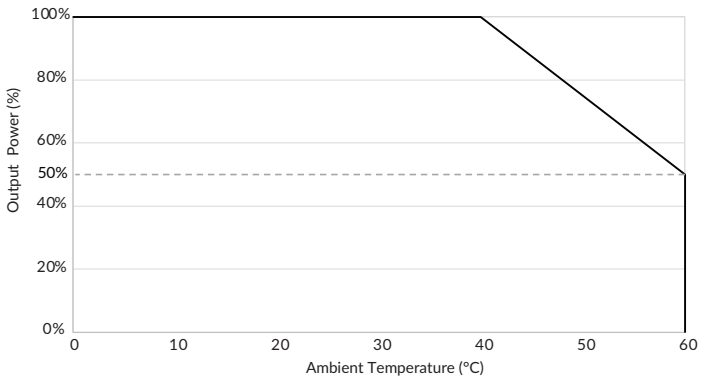
Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD immunity	EN61000-4-2	4	A	±8kV contact / ±15kV air discharge
Radiated	EN61000-4-3	10V/m	A	
EFT/burst	EN61000-4-4	±2kV	A	
Surges	EN61000-4-5	2	A	±1kV line to line
Conducted	EN61000-4-6	6V	A	
Magnetic field	EN61000-4-8	30A/m	A	
Dips and interruptions	EN55035 (115VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:30% (80.5VAC), 500ms	A	
		Dip:100% (0VAC), 5000ms	B	
	EN55035 (230VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:30% (181VAC), 500ms	A	
		Dip:100% (0VAC), 5000ms	B	
	EN60601-1-2 (100VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:100% (0VAC), 20ms	B	
		Dip:30% (70VAC), 500ms	B	
		Dip:100% (0VAC), 5000ms	B	
	EN60601-1-2 (240VAC)	Dip:100% (0VAC), 10ms	A	
		Dip:100% (0VAC), 20ms	B	
		Dip:30% (168VAC), 500ms	A	
		Dip:100% (0VAC), 5000ms	B	

Safety approvals

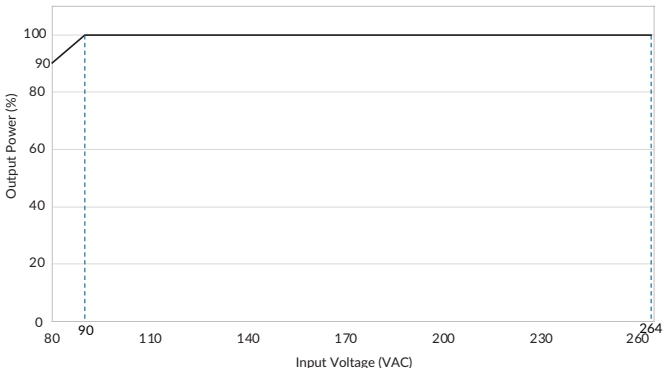
Safety agency	Standard	Notes & conditions
UL	UL 62368-1	Audio/video, information and communication technology equipment
	ANSI/AAMI ES60601-1	Medical
EN	EN62368-1	Audio/video, information and communication technology equipment
	EN60601-1, EN60601-1-11	Medical
CB	IEC62368-1	Audio/video, information and communication technology equipment
	IEC60601-1, IEC60601-1-11	Medical
CSA	CAN/CSA C22.2 No. 62368-1-14	Audio/video, information and communication technology equipment
	CSA C22.2 No.60601-1	Medical
CCC	China Compulsory Certification GB17625.1, GB4943.1, GB/T9254	Audio/video, information and communication technology equipment
AU/NZ	AS/NZS 62368.1	Audio/video, information and communication technology equipment
CE	Meets all applicable directives	
UKCA	Meets all applicable directives	

Application notes

Ambient derating

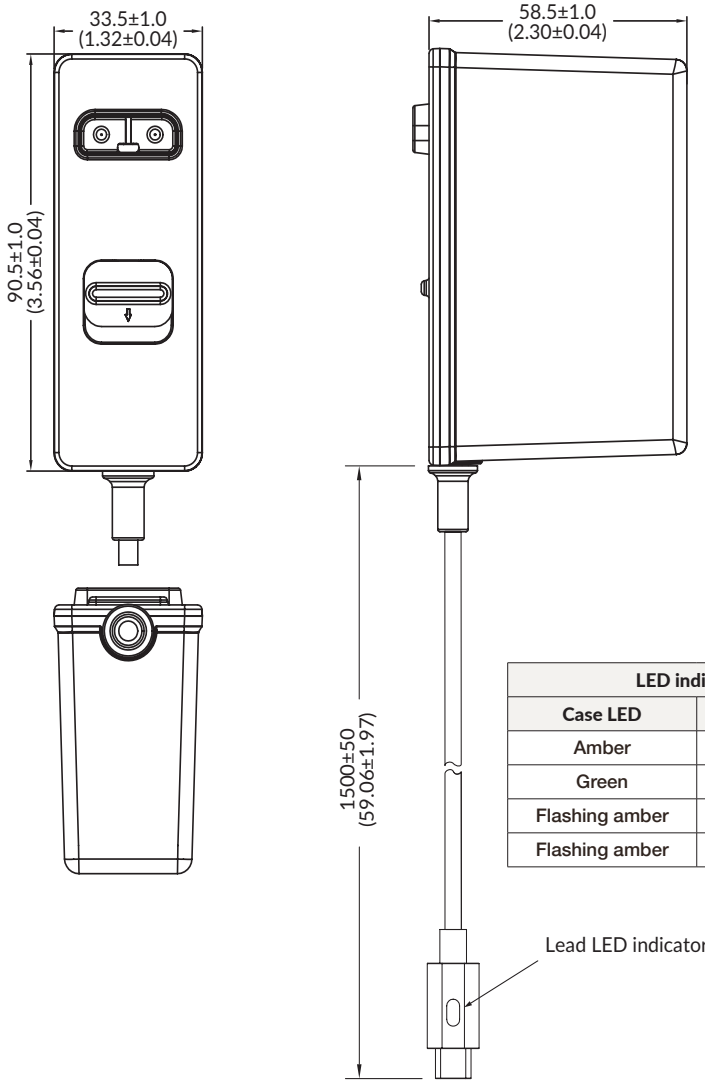


Input derating

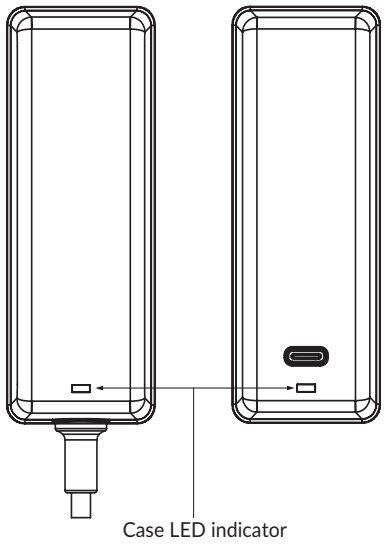


Mechanical Details

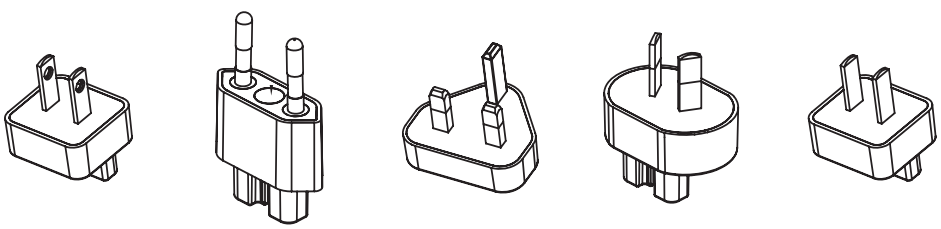
PGW65US20-I



PGW65US20-I-BB



LED indicators		Description
Case LED	Lead LED	
Amber	Unlit	Charger is connected to AC but not connected to lead
Green	Green	Charger is connected to AC and connected to lead
Flashing amber	Flashing green	Charger is connected to AC and there is a charging fault
Flashing amber	Unlit	Charger is connected to AC and the lead is faulty



US/Japan | Europe | UK | Australia | China

Notes:

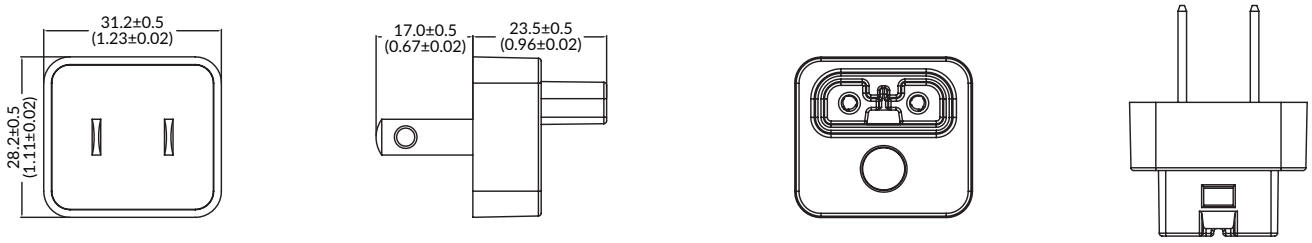
1. All dimensions shown in mm (inches).
2. Weight: 220g (0.49lb) approx.
3. Output connector: USB Type-C

PGW65 series

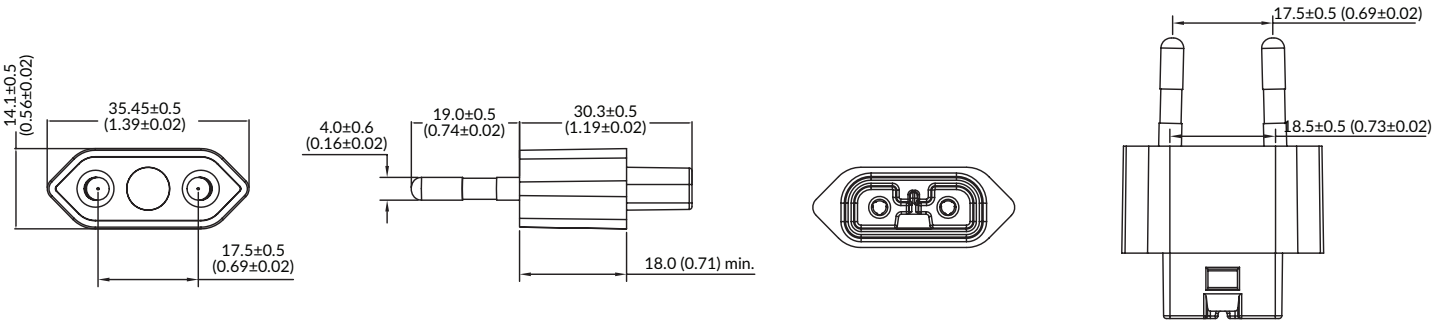
Mechanical Details

AC input plugs

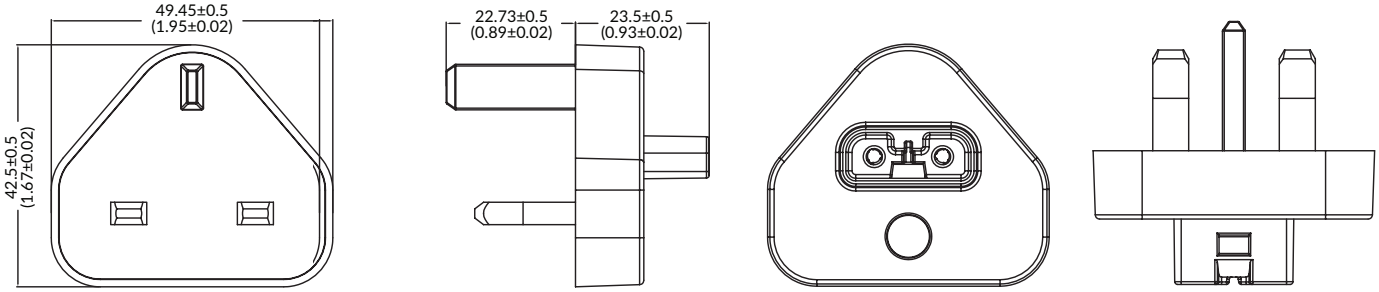
AC plug for US, to order use part number **PGW PLUG US**



AC plug for Europe, to order use part number **PGW PLUG EU**



AC plug for UK, to order use part number **PGW PLUG UK**



Notes:

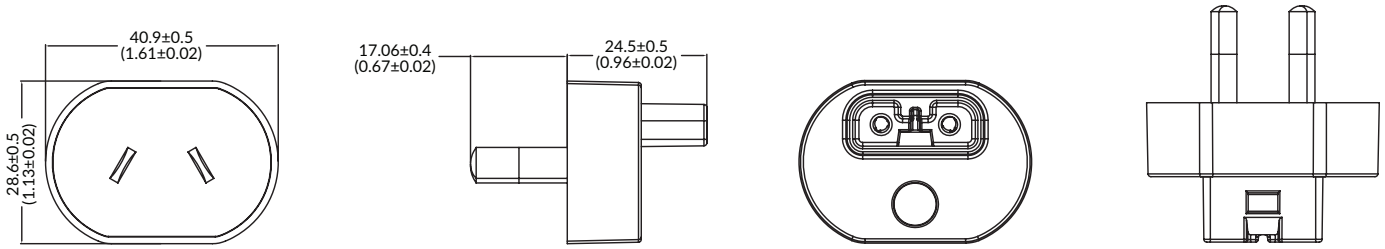
1. All dimensions shown in mm (inches).

PGW65 series

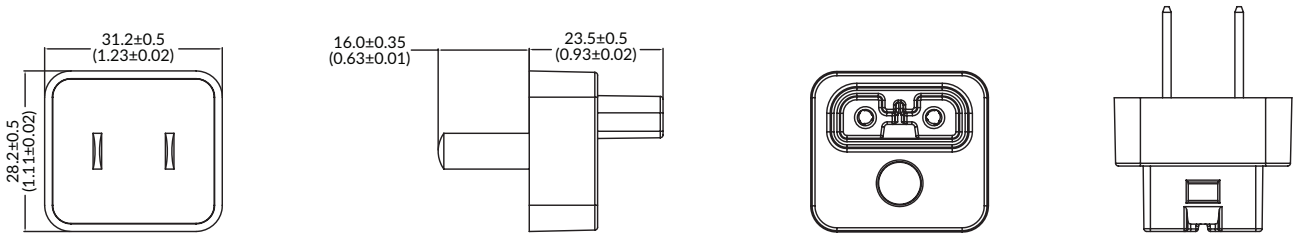
Mechanical details

AC input plugs

AC plug for Australia, to order use part number **PGW PLUG AU**



AC plug for China, to order use part number **PGW PLUG CN**

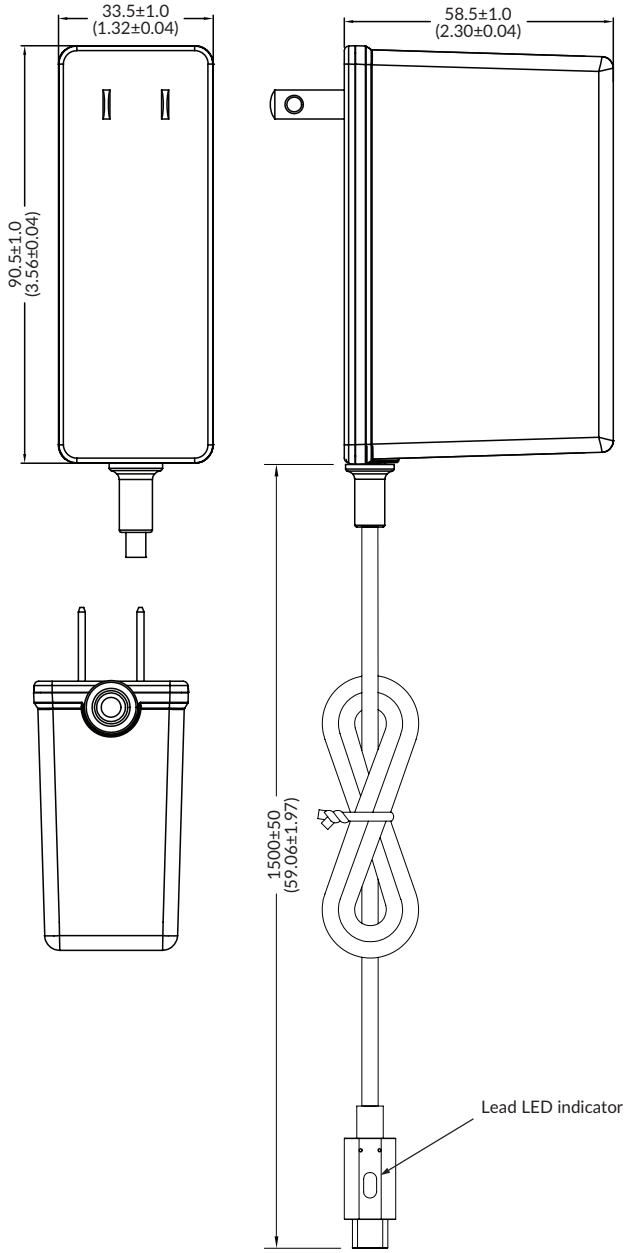


Notes:

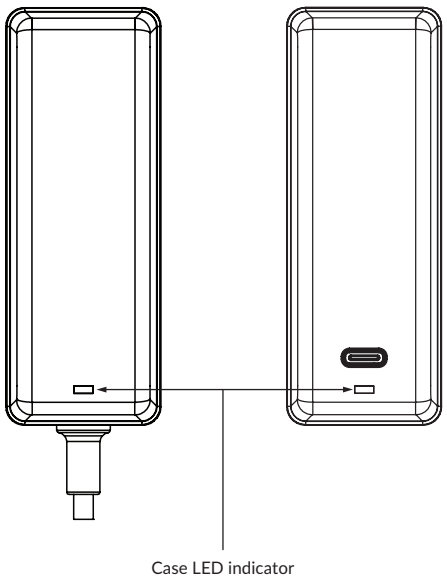
1. All dimensions shown in mm (inches).

Mechanical details

PGW65US20-US



PGW65US20-US-BB



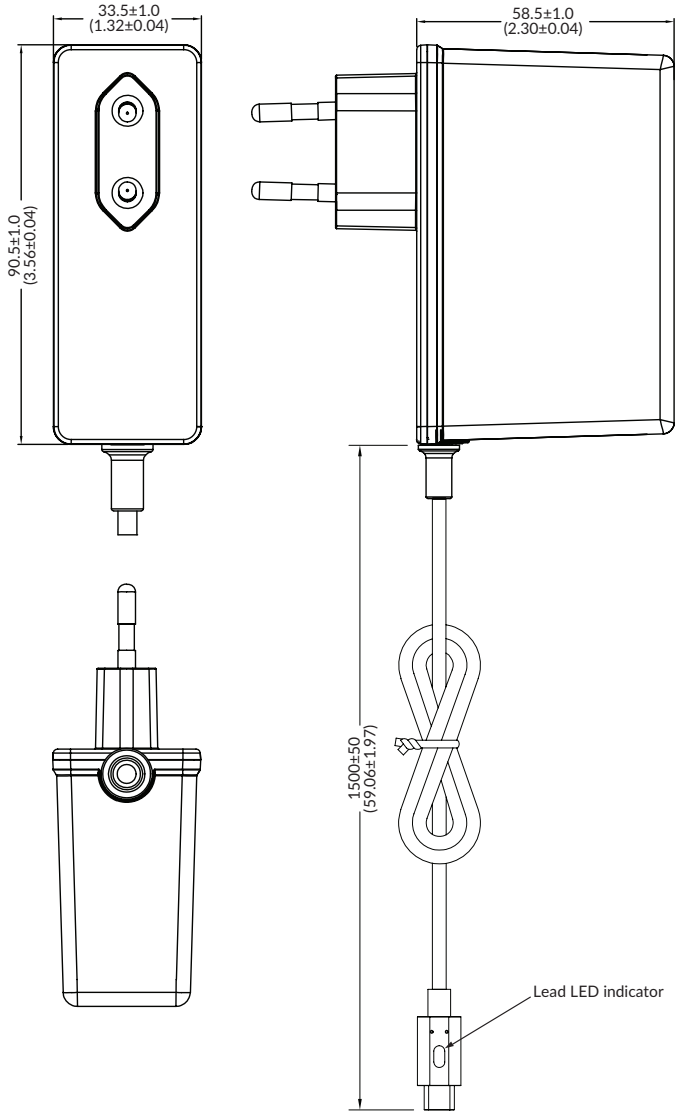
Notes:

1. All dimensions shown in mm (inches).
2. Weight: 220g (0.49lb) approx.
3. Output connector: USB Type-C

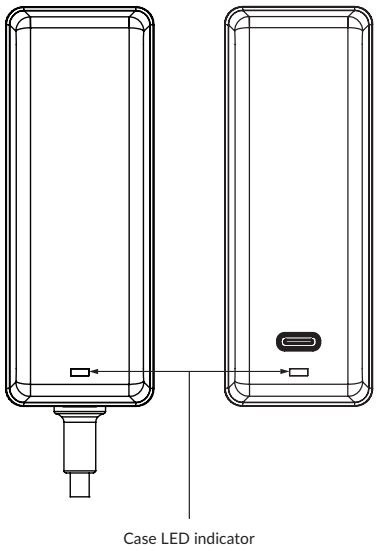
PGW65 series

Mechanical details

PGW65US20-EU



PGW65US20-EU-BB



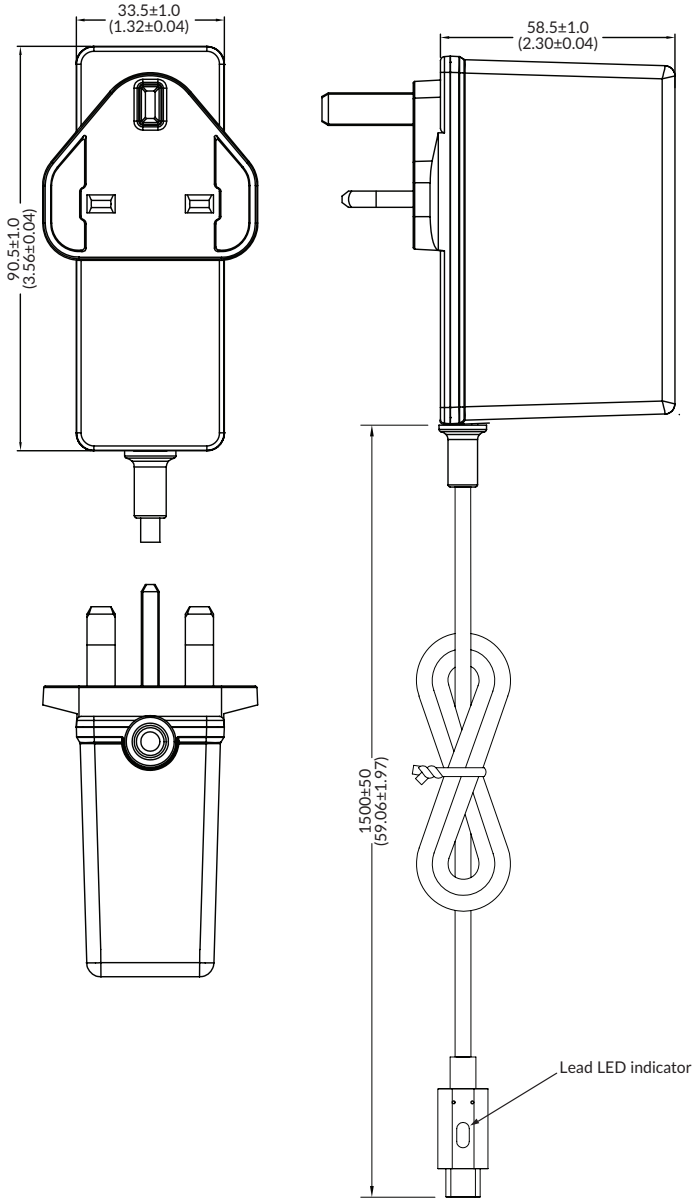
Notes:

1. All dimensions shown in mm (inches).
2. Weight: 220g (0.49lb) approx.
3. Output connector: USB Type-C

PGW65 series

Mechanical details

PGW65US20-UK



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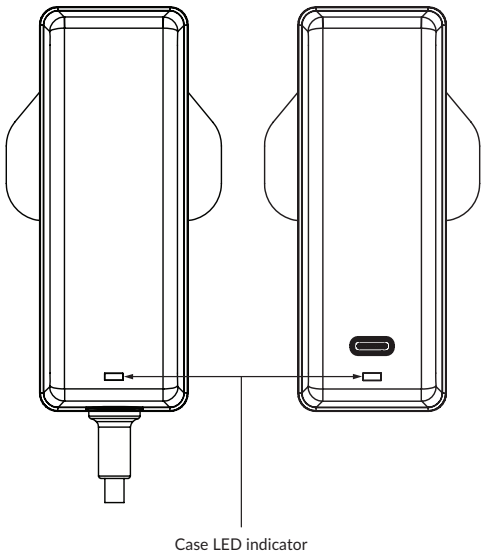


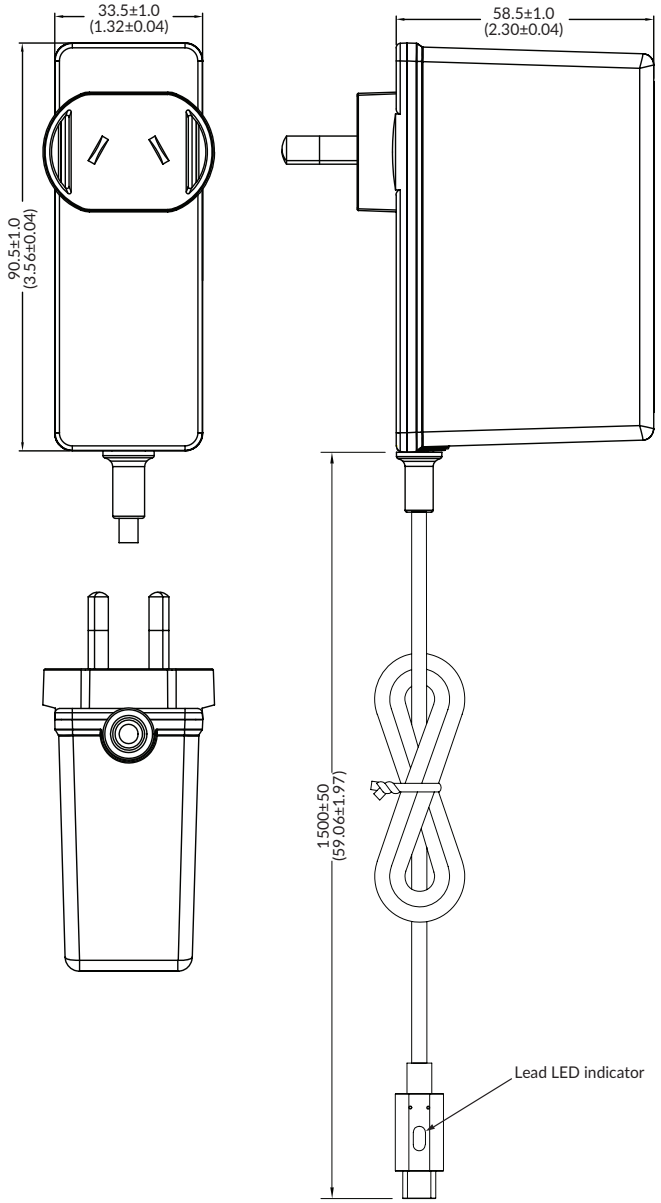
Notes:

1. All dimensions shown in mm (inches).
2. Weight: 220g (0.49lb) approx.
3. Output connector: USB Type-C

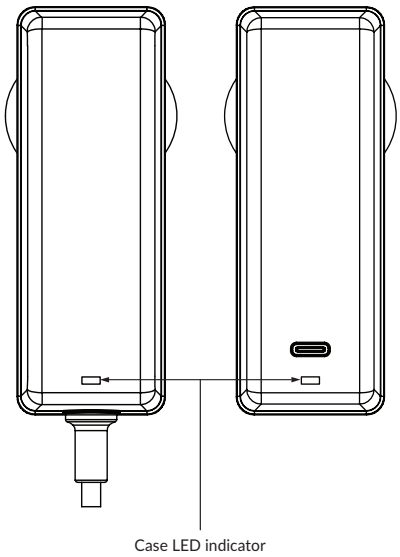
PGW65 series

Mechanical details

PGW65US20-AU



PGW65US20-AU-BB

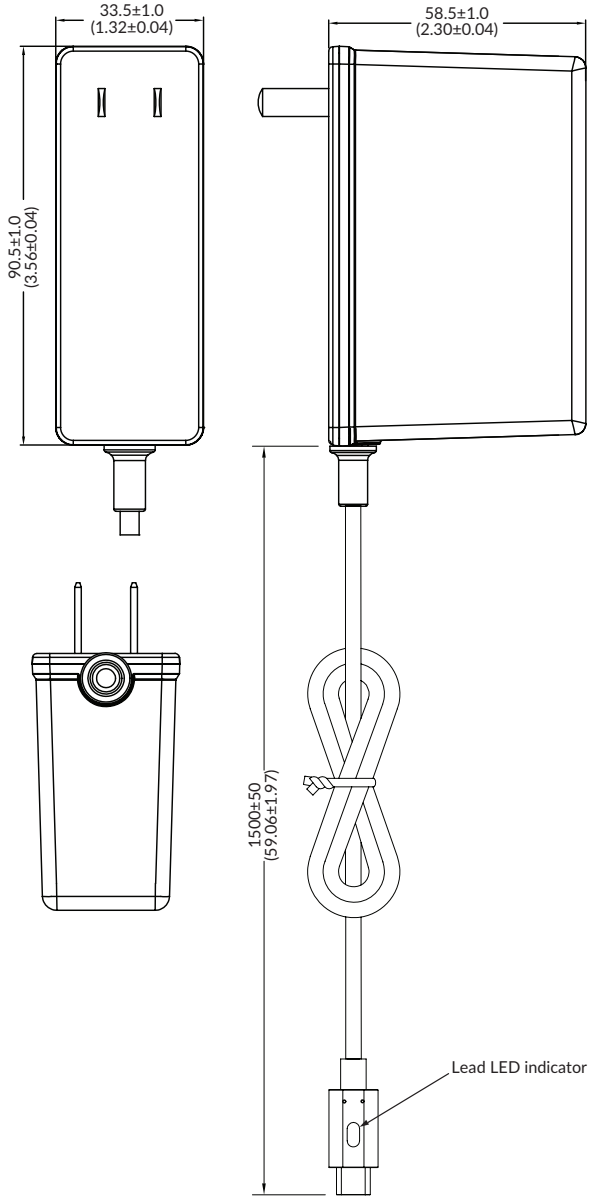


Notes:

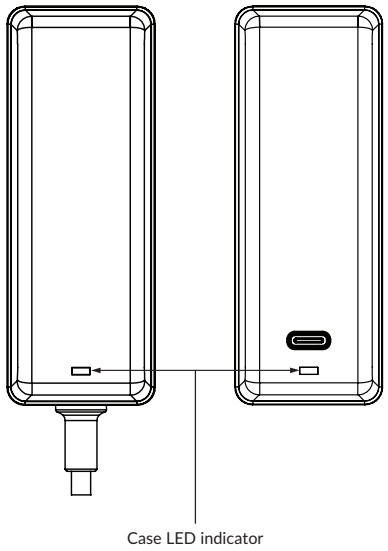
1. All dimensions shown in mm (inches).
2. Weight: 220g (0.49lb) approx.
3. Output connector: USB Type-C

Mechanical details

PGW65US20-CN



PGW65US20-CN-BB



Notes:

1. All dimensions shown in mm (inches).
2. Weight: 220g (0.49lb) approx.
3. Output connector: USB Type-C

Specifications subject to change without notice.