

Manual

Plug-in power supplies



Release	1.0
Model	11020
	11023, 11024
	11035, 11045
	11390, 11391

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Subject to error and alteration:

Since it is possible that we make mistakes, you mustn't use any of our statements without verification. Please, inform us of any error or misunderstanding you come about, so we can identify and eliminate it as soon as possible.

Carry out your work on or with W&T products only to the extent that they are described here and after you have completely read and understood the manual or guide. We are not liable for unauthorized repairs or tampering. When in doubt, check first with us or with your dealer.

W&T offers interface accessories such as Com-Servers and Web-IOs, plug-in power supplies with various output voltages and power ratings, all of which are described in this guide along with their properties and technical data.

Compared with DIN rail power supplies, plug-in versions offer the advantage of simple installation which can be accomplished by non-specialists.

Current information can be found in the Internet at <http://www.wut.de> or in the e-mail updates provided to members of the W&T Interface Club. Subscriptions to the Interface Club can requested from the W&T homepage.

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General characteristics and safety advisory

All the power supplies described in this guide feature either a CE mark or UL approval, depending on the primary plug, so that the appropriate power supplies for anywhere in the world can be selected.

The power supplies are compatible with all W&T devices and have an operating temperature range of 0°C ...+40°C to cover office or small business applications.

Safety Advisory: HAZARDOUS VOLTAGE

The following advisory must be read and understood before installing the power supplies. Non-observance of this advisory may have serious or fatal consequences.



Protection for operating personnel and the equipment is only ensured if the power supply is used as specified. Any use other than described in this Manual will compromise the safety and function of the power supply and any connected systems.

If faults cannot be remedied, take the power supply out of service and guard it against unintentional startup. Tampering with and modifying the power supplies is hazardous and is therefore not permitted.

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Note the following points for use:

- Do not permit ambient temperatures which exceed the range of 0°C to +40°C.
- Do not use the power supply if there is visible damage to the housing or cable.

- Never plug a primary adapter into the socket separate from the power supply. Otherwise there is the risk of electrical shock.
- The power supply should never be installed in areas which are subject to moisture or condensation, unusual environmental conditions, continuous vibration or strong temperature fluctuations, and do not use outdoors.
- Disconnect the power supply from the mains when thunderstorms are present or when it will not be used for longer periods of time.
- Do not pull on the cable to disconnect the power supply from the mains.
- The power supply is maintenance-free. Do not open it. Otherwise there is the risk of electrical shock.
- No modifications to the power supply are permitted.
- Any repair must be performed by authorised specialists only.
- Before cleaning disconnect the plug-in power supply from the mains. Do not use chemical agents for cleaning.
- The power supply may not be disposed of with household waste, but rather brought to an authorised disposal facility for electrical and electronic waste.

Plug-in power supply 24VDC, 0,22A, #11020

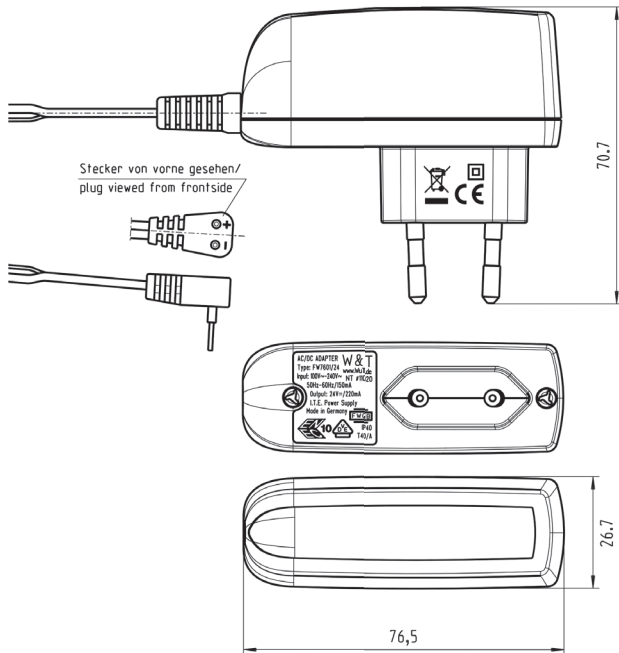
The model 11020 is a 6W switching power supply with an output voltage of 24V DC and a wide input range of 100-240V AC, making it suitable for use in GFCI and Euro receptacles.

Secondary connection

The power supply includes a 2 meter long secondary cable with a special connector for screw terminals at the end. The polarity is indicated on the connector with “+” and „-“.

Housing and dimensions

The dimensions of the 11020 plug-in power supply can be seen in the following drawing:



Technical Specifications

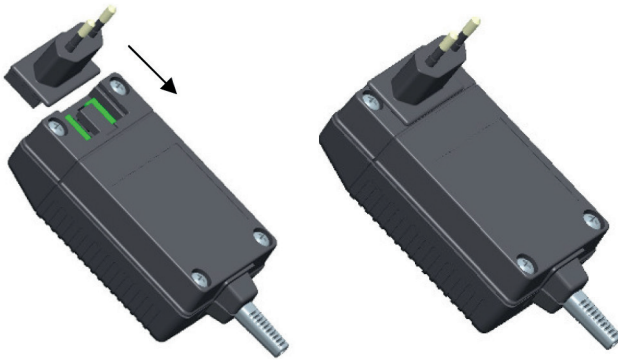
Manufacturer:	FRIWO Gerätebau GmbH
Model:	FW7601/24
Output power:	max. 6W
Efficiency (typ):	75%
No load power:	< 0,3W
Input voltage:	100 .. 240VAC
Frequency:	50 .. 60 Hz
Input current:	max. 0,15A
Output voltage:	24V DC
Tolerance:	±5%
Ripple:	max. 0,2V _{ss}
Rated current:	0,22A, short circuit protected
Minimum load:	none
Withstand voltage:	In-Out: 3KV AC
Leakage current:	< 10uA
Operating temperature:	0 .. 40°C
Storage temperature:	-20 .. 70°C
Relative humidity:	5 .. 95% r.F. (non-condensing)
Mains plug connector:	Euro plug
Output plug connector:	connector for screw-type terminal
MTBF:	200.000 hours (per MIL HDBK-217F at 25°C)
Weight:	105 g
Dimensions:	76,5 x 26,7 x 70,7 mm
Approvals:	CE, VDE
Safety standard:	EN 60950-1
EMC standards:	EN 55024, EN 55022/B, EN 61000-3-2 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

Plug-in power supply 24VDC, 0,65A, #11023

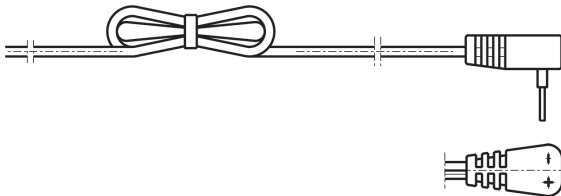
The model 11023 is a 15W switching power supply with an output voltage of 24V DC and a wide input range of 100-240V AC, making it suitable for use in GFCI and Euro receptacles.

Primary connection

The 11023 includes a change adapter mechanism for connecting it to the mains voltage. The unit includes a Euro adapter which is fitted on the power supply body as follows:

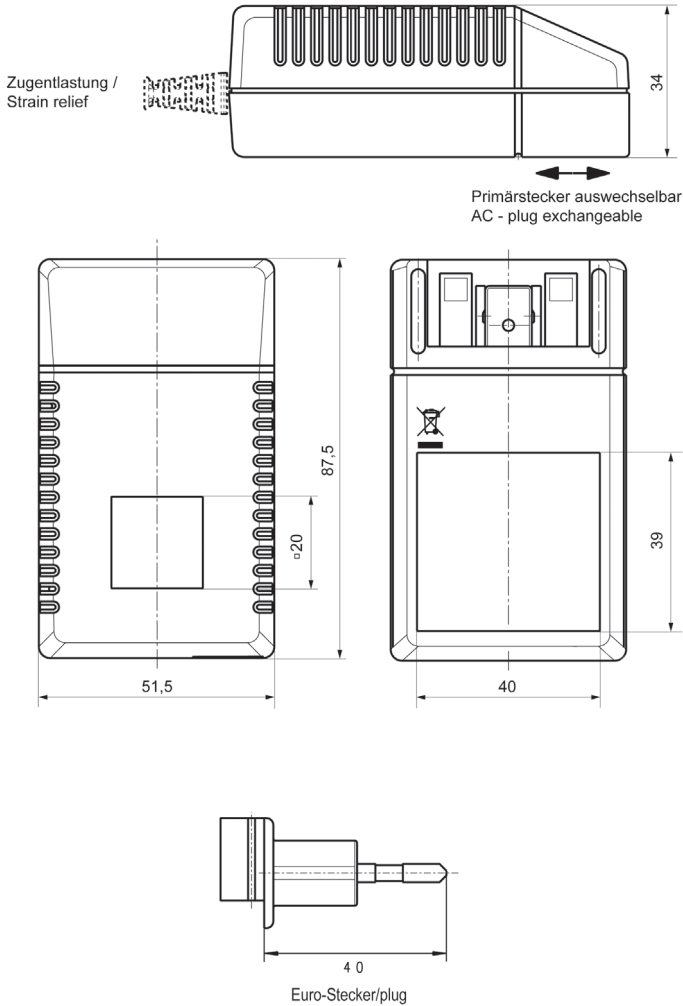
**Secondary connection**

The power supply includes a 2 meter long secondary cable with a special connector for screw terminals at the end. The polarity is indicated on the connector with “+” and “-“.



Housing and dimensions

The dimensions of the 11023 plug-in power supply can be seen in the following drawing:



Technical Specifications

Manufacturer:	FRIWO Gerätebau GmbH
Model:	FW7520/24
Output power:	max. 15W
Efficiency (typ):	80%
No load power:	< 0,3W
Input voltage:	100 .. 240VAC
Frequency:	50 .. 60 Hz
Input current:	max. 0,38A
Output voltage:	24V DC
Tolerance:	±5%
Ripple:	max. 0,240V _{ss}
Rated current:	0,65A, short circuit protected
Minimum load:	none
Withstand voltage:	In-Out: 3KV AC
Leakage current:	< 250uA
Operating temperature:	0 .. 40°C
Storage temperature:	-40 .. 70°C
Relative humidity:	5 .. 95% r.F. (non-condensing)
Mains plug connector:	exchangeable Euro mains plug
Output plug connector:	connector for screw-type terminal
MTBF:	200.000 hours (per MIL HDBK-217F at 25°C)
Weight:	160 g
Dimensions:	87,5 x 51,5 x 74 mm

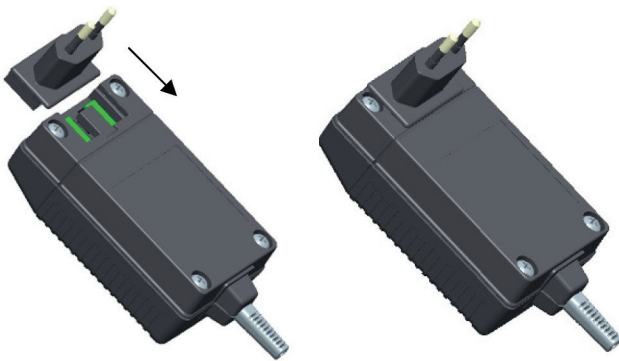
Approvals: CE, VDE
Safety standard: EN 60950-1
EMC standards: EN 55024, EN 55022/B,
EN 61000-3-2
EN 61000-4-2, EN 61000-4-3,
EN 61000-4-4, EN 61000-4-5,
EN 61000-4-6, EN 61000-4-11

Plug-in power supply 24VDC, 0,65A, #11024

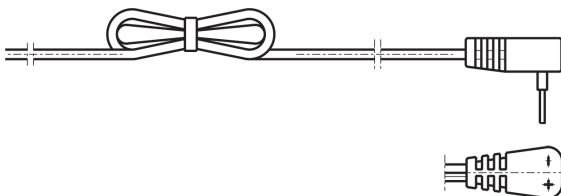
The model 11024 is a 15W switching power supply with an output voltage of 24V DC and a wide input range of 100-240V AC, making it suitable for use in several public supply mains all over the world.

Primary connection

The model 11024 includes a change adapter mechanism for connecting it to the mains voltage. The unit includes Euro, US and UK adapters, which are fitted on the power supply body as follows:

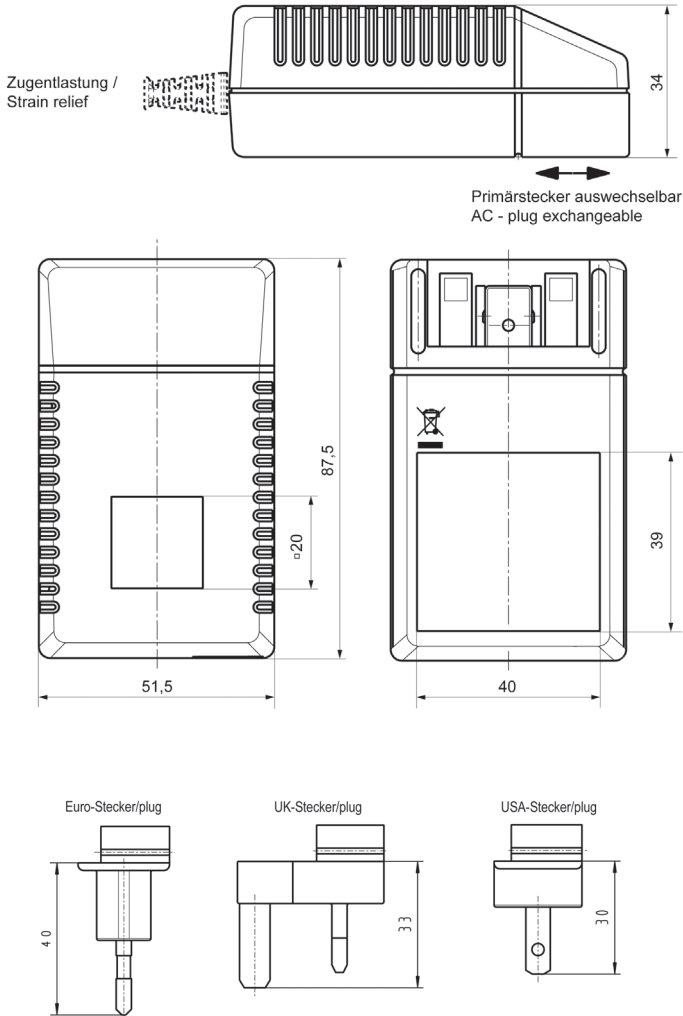
**Secondary connection**

The power supply includes a 2 meter long secondary cable with a special connector for screw terminals at the end. The polarity is indicated on the connector with "+" and "-".



Housing and dimensions

The dimensions of the 11024 plug-in power supply can be seen in the following drawing:



Technical Specifications

Manufacturer:	FRIWO Gerätebau GmbH
Model:	FW7520/24
Output power:	max. 15W
Efficiency (typ):	80%
No load power:	< 0,3W
Input voltage:	100 .. 240VAC
Frequency:	50 .. 60 Hz
Input current:	max. 0,38A
Output voltage:	24V DC
Tolerance:	±5%
Ripple:	max. 0,240V _{ss}
Rated current:	0,65A, short circuit protected
Minimum load:	none
Withstand voltage:	In-Out: 3KV AC
Leakage current:	< 250uA
Operating temperature:	0 .. 40°C
Storage temperature:	-40 .. 70°C
Relative humidity:	5 .. 95% r.F. (non-condensing)
Mains plug connector:	exchangeable mains plug Euro/UK/US
Output plug connector:	connector for screw-type terminal
MTBF:	200.000 hours (per MIL HDBK-217F at 25°C)
Weight:	160 g
Dimensions:	87,5 x 51,5 x 74 mm

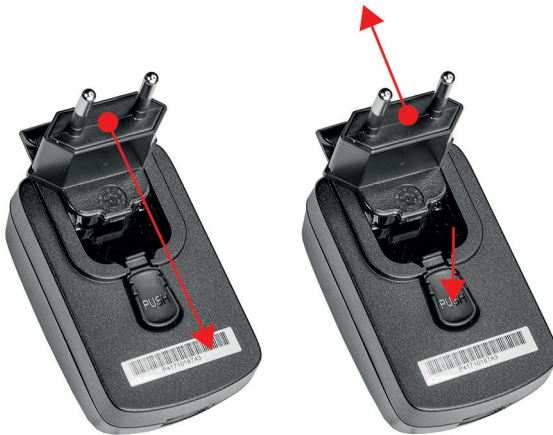
Approvals: CE, VDE, UL, cUL
Safety standard: EN 60950-1
EMC standards: EN 55024, EN 55022/B,
EN 61000-3-2
EN 61000-4-2, EN 61000-4-3,
EN 61000-4-4, EN 61000-4-5,
EN 61000-4-6, EN 61000-4-11

Plug-in power supply 5VDC, 1A, #11035

The model 11035 is a 5W switching power supply with an output voltage of 5V DC and a wide input range of 100-240V AC, making it suitable for use in several public supply mains all over the world.

Primary connection

The model 11035 includes a change adapter mechanism for connecting it to the mains voltage. The unit includes Euro, US and UK adapters, which are fitted on the power supply body as follows:



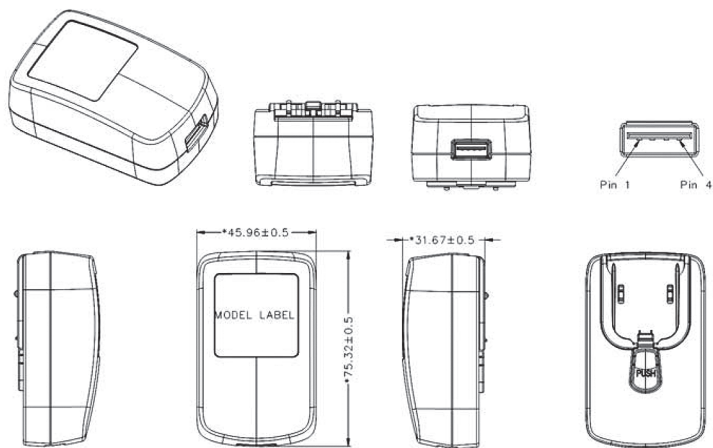
To remove the exchangeable mains plug, press the *push* button and pull the adapter out of the power supply housing.

Secondary connection

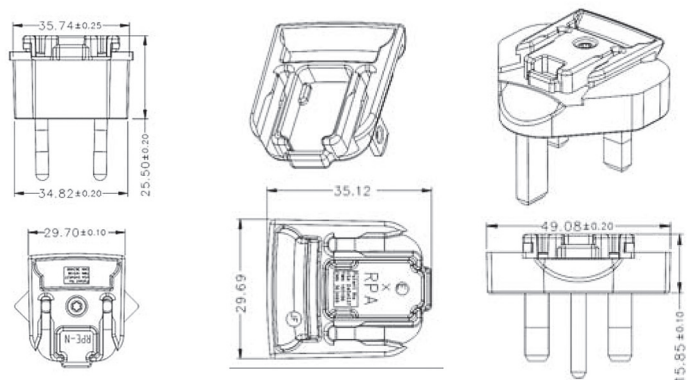
The power supply provides a secondary voltage of 5V DC through a USB-A receptacle integrated into the plug-in power supply housing.

Housing and dimensions

The dimensions of the 11035 plug-in power supply can be seen in the following drawing:



Included exchangeable mains plugs (Euro, US, and UK):



Technical Specifications

Manufacturer:	Phihong Technology Co., Ltd.
Model:	PSB05R-050Q
Output power:	max. 5W
Efficiency (min):	68%
No load power:	< 0,3W
Input voltage:	100 .. 240VAC
Frequency:	47 .. 63 Hz
Input current:	max. 0,08A
Output voltage:	5V DC
Tolerance:	±5%
Ripple:	max. 55mV _{ss}
Rated current:	1A, short circuit protected
Minimum load:	none
Withstand voltage:	In-Out: 3KV AC
Leakage current:	< 20uA
Operating temperature:	0 .. 45°C
Storage temperature:	-20 .. 75°C
Relative humidity:	20 .. 90% r.F. (non-condensing)
Mains plug connector:	exchangeable mains plug Euro/UK/US
Output plug connector:	USB A type socket
MTBF:	150.000 hours (per MIL HDBK-217F at 25°C)
Weight:	75 g
Dimensions:	71,7 x 45 x 29,8 mm

Approvals: CE, TÜV/GS, UL, cUL

Safety standard: EN 60950-1

EMC standards: EN 55022/B,
EN 61000-3-2
EN 61000-4-2, EN 61000-4-3,
EN 61000-4-4, EN 61000-4-5,
EN 61000-4-6, EN 61000-4-8
EN 61000-4-11

Plug-in power supply 5VDC, 0,7A, #11045

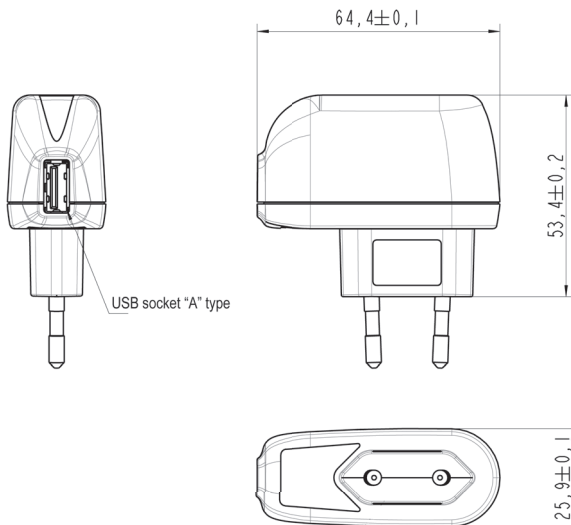
The model 11045 is a 3.5W switching power supply with an output voltage of 5V DC and a wide input range of 100-240V AC, making it suitable for use in GFCI and Euro receptacles.

Secondary connection

The power supply provides a secondary voltage of 5V DC through a USB-A receptacle integrated into the plug-in power supply housing.

Housing and dimensions

The dimensions of the 11045 plug-in power supply can be seen in the following drawing:



Technical Specifications

Manufacturer:	FRIWO Gerätebau GmbH
Model:	FW7710/EU/0,7
Output power:	max. 3,5W
Efficiency (typ):	70%
No load power:	< 0,3W
Input voltage:	100 .. 240VAC
Frequency:	50 .. 60 Hz
Input current:	max. 0,1A
Output voltage:	5V DC
Tolerance:	±5%
Ripple:	max. 0,2V _{ss}
Rated current:	0,7A, short circuit protected
Minimum load:	none
Withstand voltage:	In-Out: 3KV AC
Leakage current:	< 250uA
Operating temperature:	0 .. 40°C
Storage temperature:	-20 .. 70°C
Relative humidity:	5 .. 95% r.F. (non-condensing)
Mains plug connector:	Euro plug
Output plug connector:	USB A type socket
MTBF:	200.000 hours (per MIL HDBK-217F at 25°C)
Weight:	36 g
Dimensions:	64,4 x 25,9 x 70 mm
Approvals:	CE, VDE
Safety standard:	EN 60950-1
EMC standards:	EN 55024, EN 55022/B, EN 61000-3-2 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

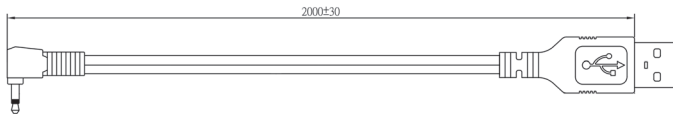
USB Power Cable #11390 and #11391

With the USB Power Cables #11390 and #11391 you can use the above described USB power supplies for powering W&T devices having a 5V voltage input.

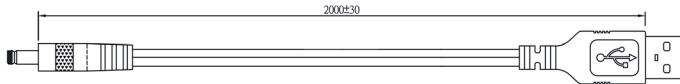
Dimensions and connectors:

Both cables have a length of 2 meters with a USB-A connector on the power supply side. A device connector is installed on the other end which is implemented as a 2.5mm jack plug for #11390 and as a 5.5mm barrel connector for cable #11391.

Power Cable #11390 with jack plug:



Power Cable #11391 with barrel connector:



Please note that both cables are intended for use only to power W&T devices. The mechanics and polarity of the connectors are generally not compatible with the power supply connections on third-party devices.



Technical data

USB Power Cable with jack plug, #11390:

Cable length:	2 meters
Input plug:	USB A plug
Output plug:	Right-angle jack plug
	Length: 11.5 mm
	Diameter: 2.5 mm
Polarity:	Tip: +5V DC
	Shaft: GND
Weight:	40g

USB Power Cable with barrel connector, #11390:

Cable length:	2 meters
Input plug:	USB A plug
Output plug:	5.5mm/2.1mm barrel connector
	Length: 12mm
Polarity:	Sleeve: +5V DC
	Tip: GND
Weight:	40g