Quick Start

POWER SUPPLY

PS12V19A

For use with Cheetah 3G-SDI cameras with P-Iris or Video iris lens control

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WARRANTY
Imperx, Inc. warrants that this product will be free from defects in materials and workmanship for (2) years from date of purchase.

Introduction

Imperx advanced digital cameras require an external 12 V DC power supply to provide power for camera operations, communications, and control. While users are free to provide their own source of camera power, Imperx recommends using the Imperx power supply for best performance.

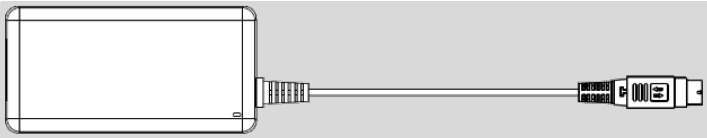
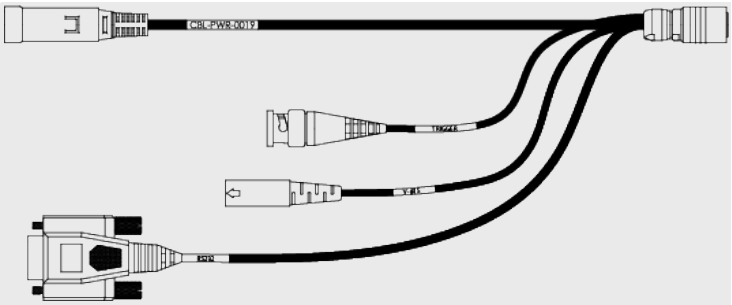
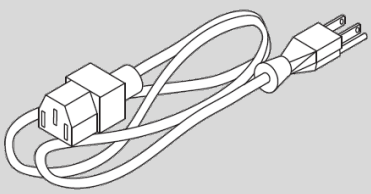
The PS12V19A power supply provides +12 V DC ±5% and up to 3 A DC current to the Imperx Cheetah 3G-SDI cameras with Video/ P-Iris lens control. The operating input voltage ranges from 100 to 240 V AC.

The PS12V19A power supply is compatible with the following Imperx 3G-SDI cameras with P-Iris / Video Iris lens control:

Item	Description	Compatible with
PS12V19A	12 V DC, 3 A, With one trigger, RS232 DB9, Video/P-Iris connector, 12-pin Hirose	SDI-C1911, SDI-C1920, SDI-C2010 with P-Iris/ Video Iris lens control.

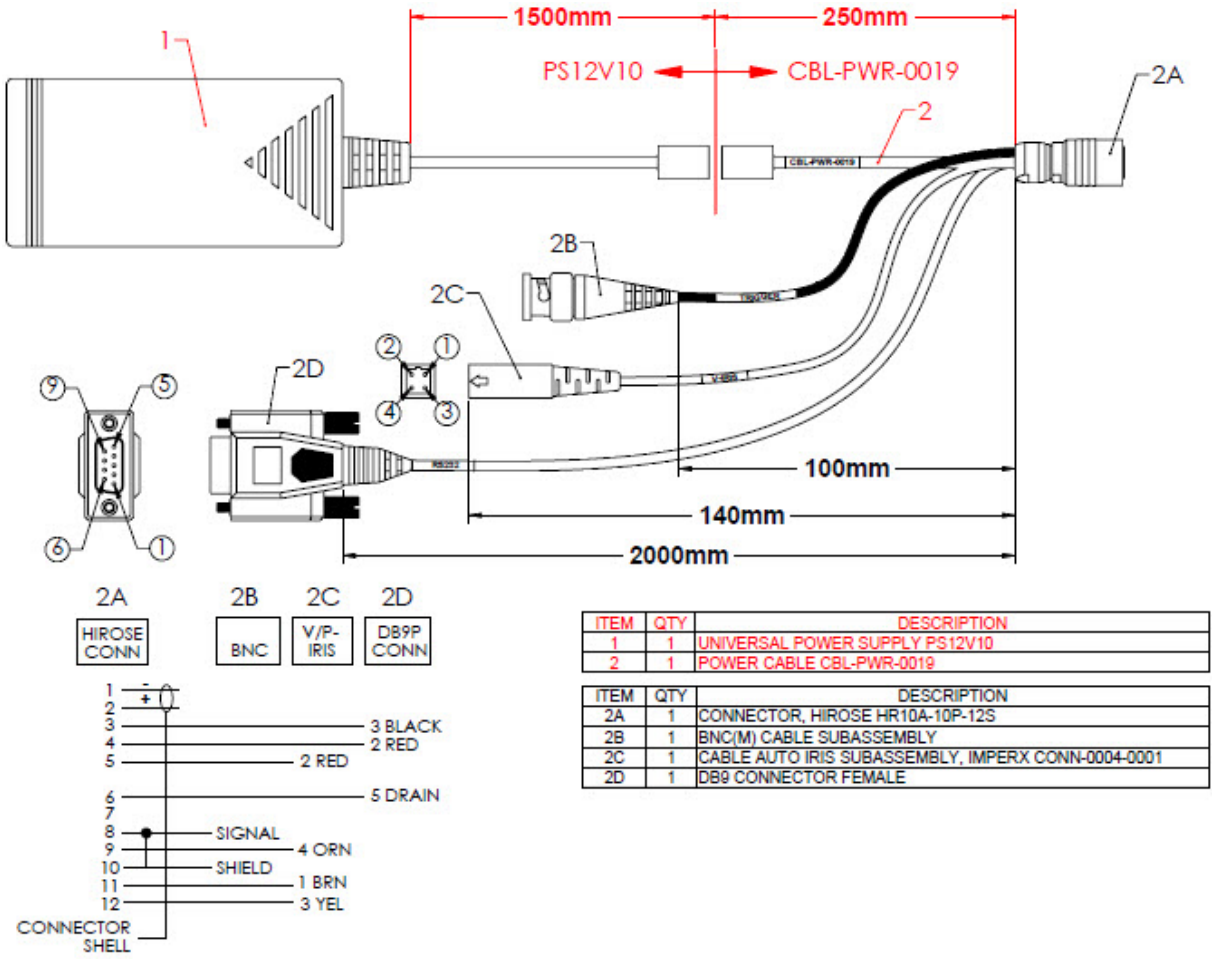
PS12V19A Power Supply

The PS12V19A power supply is comprised of three components:

Item	Part number	Qty.	
Universal Power Supply	PS12V10	1	
I/O and Power cable	CBL-PWR-0019	1	
Power Cord	-	1	

The CBL-PWR-0019 terminates in a female Hirose type miniature locking plug #HR10A-10P-12S(73). It has a DB9 connector for serial RS-232 interface, one BNC pig-tail cable providing the Tri-Level Sync Genlock input, and a lens control cable terminated with a female P-Iris/Video Iris plug.

PS12V19A Technical Drawing



ITEM	QTY	DESCRIPTION
1	1	UNIVERSAL POWER SUPPLY PS12V10
2	1	POWER CABLE CBL-PWR-0019

ITEM	QTY	DESCRIPTION
2A	1	CONNECTOR, HIROSE HR10A-10P-12S
2B	1	BNC(M) CABLE SUBASSEMBLY
2C	1	CABLE AUTO IRIS SUBASSEMBLY, IMPERX CONN-0004-0001
2D	1	DB9 CONNECTOR FEMALE

Hirose Pin Assignment

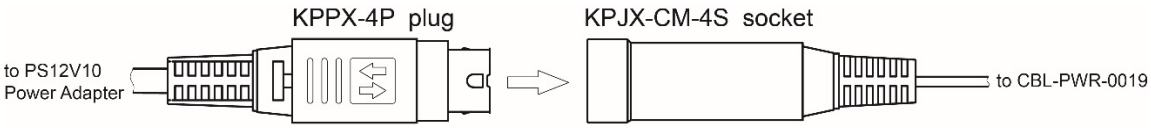
Pin	Signal Name	Description
1	+12 V DC RTN	12 V DC Main Power Return
2	+12 V DC	12 V DC Main Power
3	RS-232 RX	RS-232 Receive
4	RS-232 TX	RS-232 Transmit
5	GND/ P-Iris Phase A+	Video Iris (not used)/ P-Iris A-Phase (pin 2 of a Video/Pris jack)
6	RS-232 RTN	RS-232 Return
7	OUT1	not available
8	TLS IN 1	Tri-Level Sync Genlock Input
9	IRIS RTN/ P-Iris Phase B-	12 V DC Power Return (Video Iris)/ P-Iris B_Enable (pin 4 of a Video/Pris jack)
10	TLS IN1	Tri-level Sync Input
11	IRIS VCC/ P-Iris Phase B+	12 V DC Power (Video Iris) / P_Iris B_Phase (pin 1 of a Video/Pris jack)
12	IRIS VIDEO/ P-Iris Phase A-	Video Iris signal / P-Iris A_Enable (pin 4 of a Video/Pris jack)

Connecting the Power Supply

The power supply uses KYCON connectors with a snap-and-lock feature that helps prevent accidental disconnects. Follow the steps below to connect the power supply to a camera.

1. Connect a power cord to the PS12V10 power adapter.

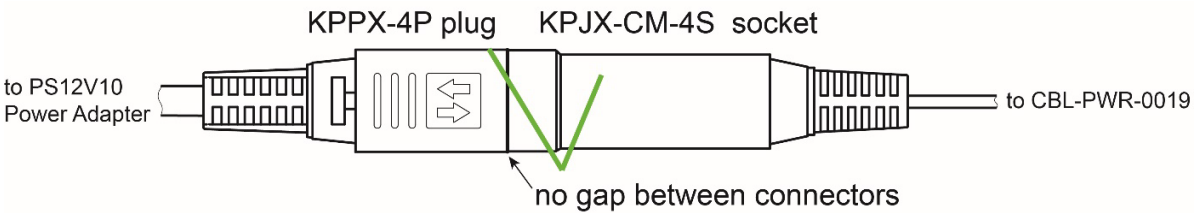
2. Connect the KPPX-4P plug of the PS12V10 Power Adapter to the KPJX-CM-4S socket of the CBL-PWR-0019 cable.



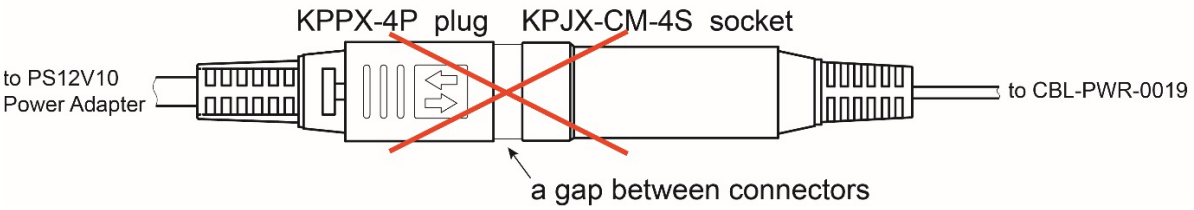
⚠CAUTION

Push connectors together until the locking mechanism clicks, and there is no gap between the connectors. If connection is not secure, overheating may occur leading to the cable damage or fire.

Correct position



Incorrect position



3. Connect the Hirose connector of the CBL-PWR-0019 cable to the Cheetah SDI camera.

4. Connect the Trigger cable to a tri-level sync genlock signal source.

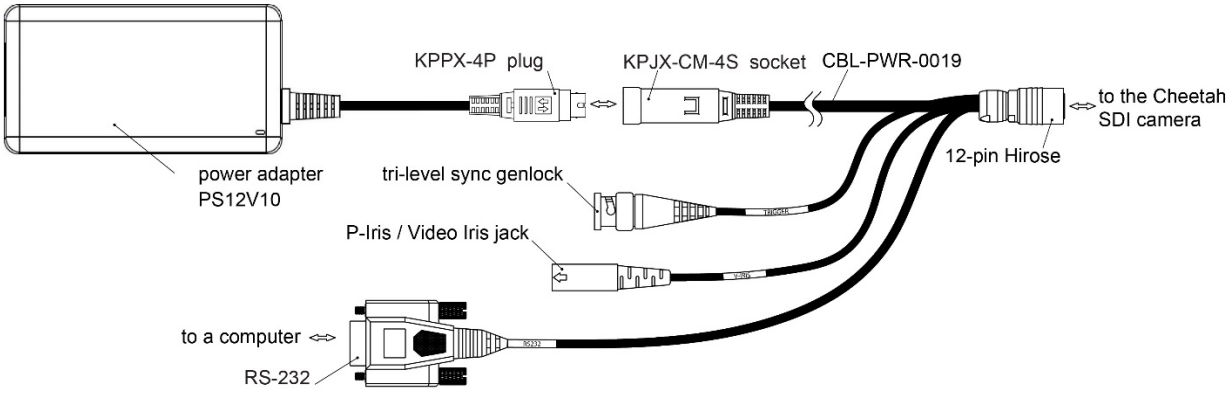
5. Connect the P-Iris / Video Iris jack to a P-Iris / Video Iris lens.

6. Connect the RS-232 cable to a computer.

⚠CAUTION

When disconnecting the I/O cable from the PS12V10 power adapter, pull on the plug. Do not pull on the cable. Doing so may result in damage to the cable.

PS12V19A Power Supply Connection Diagram



Power Supply Specifications

Specifications		Description
Input		
Voltage		100–240 V AC
Frequency		50–60 Hz
Current		1 A max
Inrush Current		70 A max / 230 V AC (cold start @ 25 °C, full load)
Efficiency		Eff (av) ≥ 87.4 % (at 115 V AC & 230 V AC) Eff ≥ 78.303 % (at 230V/50Hz input @10% load for CoC Tier2)
Output		
Voltage		11.4 V to 12.6 V DC, 12 V DC nominal
Current		3 A max
Load Regulation		± 5%
Ripple & Noise		1% Vpp max for Output Voltage @ full load
Total Power		36 W Max
Protection		
Over-Voltage Protective (OVP)		V out * 180% (max)
Short-Circuit Protective (SCP)		Automatic recovery after short circuit fault being removed
Over Current Protection (OCP)		I out * 200% (max)
Safety, EMI and EMC Requirement		
Safety		UL, CUL, GS, PSE, BSMI, CB, RCM, CCC, KC, LPS
Dielectric Strength		10 mA max. cut off current
		(1) Primary to Secondary: 3000 V AC for 1 minute
		(2) Primary to Frame Ground: 1500 V AC for 1 minute
Insulation Resistance		(1) Primary to Secondary: 10 MOhm for 500 V DC
		(2) Primary to Frame Ground: 10 MOhm for 500 V DC
EMI Requirement		CE, FCC Class B, Conduction and Radiation meet
Leakage Current		Less than 3.5 mA
Grounding Test		Resistance 0.1 Ohm max @ 32 A
Environmental	Operating Storage	0 °C to +40 °C -20 °C to +80 °C
Relative humidity	Operating Storage	20% to 80% non-condensing 10% to 90% non-condensing
Regulatory		DoE VI, ErP (Lot 7), GEMS, NRCan, CEC, RoHS
Cable Length		
Supplied AC power input cable (IEC)		1.8 m (6’)
Power supply output (+12 V)		1.75 m (5’) ± 15 cm (6”), connector HIROSE #HR10A-10P-12S
Trigger		10 cm (4”) ± 1 cm (0.4”) connector BNC male
RS232 Cable		2 m (6.6’), connector DB9
P-Iris/Video Iris		14.4 cm (5.7”) ± 1 cm (0.4”)