



**IPSC1**



**IPSC2**



**IPSC4**



## LED IP Strobe Controller StartUp Guide

For the models  
IPSC1, IPSC2, IPSC4

## 1. System Requirements

- (1) **SMARTEK Vision IPSC1, IPSC2 or IPSC4 Strobe Controller**
- (2) **Power Supply** with flying leads and ferrules
  - IPSC1/2: 12V to 24V DC with up to 84W.
  - IPSC4: 24V DC with up to 136W.
- (3) **Cable for communication** - Ethernet patch cable with RJ45 plugs (all IPSC models)
  - Note: Direct connections to 10/100Mbit network cards need a crossover cable!
  - Optional for IPSC4: RS232 extension cable with male to female 9-pole D-Sub plugs.
- (4) **Cable for powering the illumination**
  - Power-out cable for IPSC series providing an appropriate number of lines. Assembled cables are available as accessory from our sales partners.
- (5) **LED illumination** matching the power output performance of the IPSC device
  - Note: The illumination must not be equipped with any additional internal / external control electronics!
- (6) **Trigger source** (optional)
  - 0 – 24V (voltage level for logical “1” from 3V).
  - 1.2kΩ / 0.5W resistor per trigger channel (available as accessory from our sales partners).
- (7) **PC** with Microsoft Windows® or Linux 32-/64Bit operating system for the configuration of the device
  - 10Mbit Ethernet network card (or faster), RS232 interface optional for IPSC4.
  - SMARTEK Vision *ScLibSDK* PC configuration software, optional web browser software.

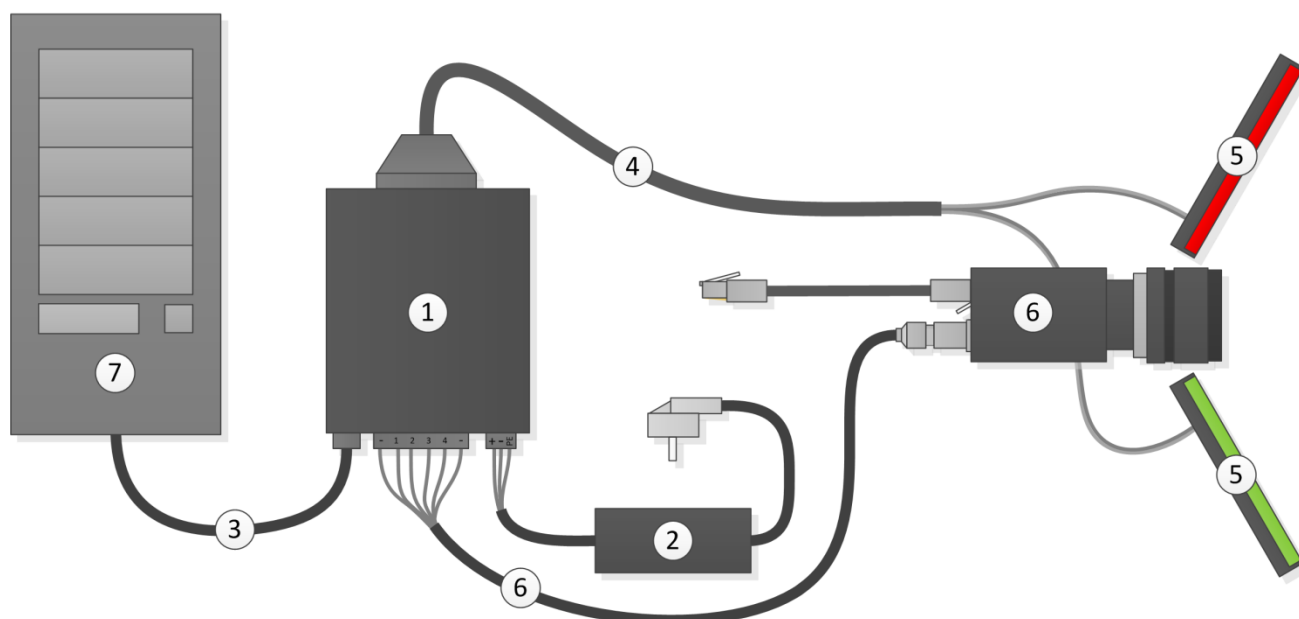


Figure 1: Basic setup with an IP Strobe Controller

## 2. Software Installation – SMARTEK Vision ScLibSDK

**Step 1:** Download the latest SMARTEK Vision ScLibSDK for Microsoft Windows from:


<http://www.SMARTEKvision.com/downloads.php>

For the latest Linux SDK please contact your local sales representative or our support team at [support@SMARTEKvision.com](mailto:support@SMARTEKvision.com) and denote the target Linux distribution and architecture.




**Step 2:** To start the installation **Unzip** and **Run** the ScLibSDK software installation. Please follow the installation instructions to complete the installation process.



### 3. Starting up the Strobe Controller

**Step 1:** Connect the *Strobe Controller* with an Ethernet patch cable to the network interface card (NIC) of the target PC or switch. In case of the IPSC4, also an RS232 cable can be used alternatively. Connect the positive and negative leads of the power supply to the power terminal of the *Strobe Controller*, as well as the protective earth conductor (if available).

**Step 2:** Switch on the power supply as well as the power switch on the front side of the *Strobe Controller*. Run the configuration tool *ScLibClient* from *Start Menu* → (All) Programs → *Smartek* → *ScLibSDK*. Press the button *Find Controllers*  to search for SMARTEK Vision controllers over Ethernet and RS232, all found devices are shown in the list below.


**Note:** There is one of three available flags in front of the *Strobe Controller* connection displayed in the list of found devices:



-  Device available and waiting for connection
-  Connection to device established
-  Unable to connect to device; usually caused by bad IP-configuration

In case that the sign  *Unable to connect to device* is shown in front of the *Connection* of the *Strobe Controller*, the current IP configuration is invalid. IP address and subnet mask of a selected *Strobe Controller* can be changed by pressing the button *Set Device Ip Address* . For a quick start it is recommended to use the IP configuration as shown in the table below:

	NIC*	Other NICs	Strobe Controller 1	Strobe Controller 2	Strobe Controller n
IP	169.254.0.1	not 169.254.x.x	169.254.1.1	169.254.1.2	169.254.1.n
Subnet mask	255.255.0.0	255.255.0.0	255.255.0.0	255.255.0.0	255.255.0.0

\*Physically connected to the Strobe Controller(s)

**Step 3:** In the list of *Strobe Controller*, choose the device you want to connect to and press the button *Connect Device* . Alternatively the *Strobe Controller* can now be reached with its web-interface by typing the shown IP address into the address field of your web browser (e.g. <http://169.254.1.1>).

**Step 4:** As soon as the connection is established successfully, the *Strobe Controller* can be configured for the first start. Please make sure that the *Running Mode* is set to OFF and the output voltage as well as the current of the specific channels, shown in the sub-region *Physical Output*, do not exceed the limits of the illumination to connect. After finishing the configuration, the changes have to be stored on the *Strobe Controller* by pressing the button  *Send*. Subsequent press the button *Disconnect* .

**Step 5:** Switch OFF the *Strobe Controller* and unplug the power supply.

**Step 6:** Now, the illumination(s) can be connected to the *Strobe Controller*. Illuminations are connected to the *OUTPUT* connector on the backside of the housing with the pin assignment shown in figure 2. Pin A3 delivers a configurable voltage, while Pins 1 to 4 switch to ground independently for each channel. The number of available channels depends on the used *Strobe Controller* model.

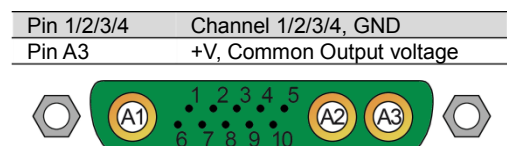


Figure 2: *OUTPUT* connector

**Step 7 – Connect an external trigger (optional):** To connect an voltage carrying external trigger source to a SMARTEK Vision *Strobe Controller*, connect the positive trigger line of the source to one of the input channels of the *Strobe Controller* and pull it down to ground with an appropriate 1.2kOhm (min. 0.5W) resistor at one of the *Input Trigger* “-“. The ground of the trigger source needs to be connected to one of the *Input Trigger* “-“ of the *Strobe Controller* as well. An appropriate circuit is shown in figure 3.

In case of a trigger source with opto-coupled outputs (e.g. SMARTEK Vision Giganetix camera series) the input of the opto-coupler can be powered via the power supply of the *Strobe Controller*, while its output

needs to be connected to an input line of the *Strobe Controller*, with a 1.2kOhm (min. 0.5W) pull-down resistor to *Input Trigger* "-", as shown in figure 4.

Figure 3 - Voltage carrying trigger source (max. 24V)

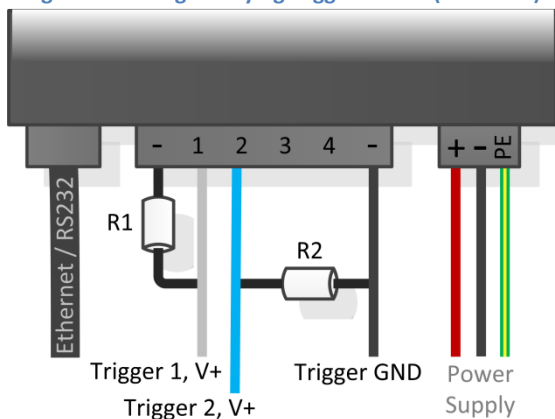
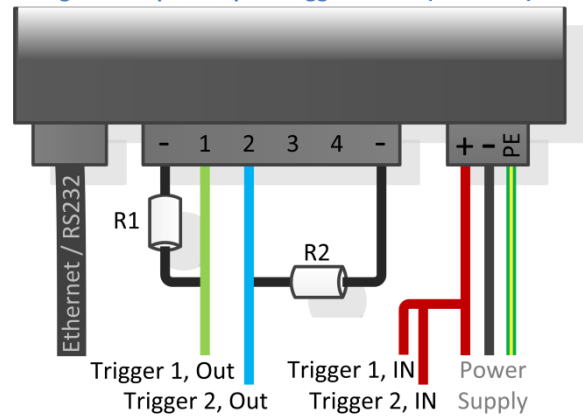



Figure 4 - Opto-coupled trigger source (max. 24V)



**Note:** All SMARTEK Vision **Giganetix cameras** are equipped with at least two opto-coupled output lines. According to figure 4 and the connector description of the camera, the assignment is as follows:

Camera	Figure 4
Output $n+$	Trigger $n$ , IN
Output $n-$	Trigger $n$ , OUT

Figure 3: Giganetix output assignment

**Step 8:** When all illuminations have been applied correctly, power the *Strobe Controller* and establish a connection via the *ScLibClient* or web-interface. Configure the *Trigger Inputs* as well as the *Physical Outputs* according to your application and the limits of your illumination. Finally choose an appropriate *Running Mode* for your application and store the settings by pressing the button  *Send* which applies the settings to the *Strobe Controller*.

## 4. Note: Asynchronous Triggering

The SMARTEK Vision *Strobe Controller* family is designed for high-power and reliable performance, which can only be guaranteed in a synchronized application. It is highly recommended that each device is only used in one physical application to ensure the best performance and a reliable repeatability of output signals due to the limited capacitor size. In case that it needs to be used in two processes in parallel, make sure that no input and output signals can cross each other in time. The second signal will be ignored until the prior one has been completed, due to the sequential signal processing of the *Strobe Controller's* architecture.

## 5. Further Documentation and Contact

Further technical information on getting started and using the SMARTEK Vision IP Strobe Controller can be found in the appropriate *User's Manual*, which can be downloaded from:

**[www.SMARTEKvision.com/downloads.php](http://www.SMARTEKvision.com/downloads.php)**

In case of any further questions please do not hesitate to contact your local sales representative or our support team via [support@SMARTEKvision.com](mailto:support@SMARTEKvision.com).