



SERVO Manual

pan and shutter – shutter servo



gent360 SERVO cleverly combines **gent360 PAN** and a second servo output to give automatic shutter release by pressing the shutter button and camera pan in one package. Build a light rig, without radio control, that automatically takes pictures (5 to 35 secs) & pans the sky simultaneously.

You will need a camera cradle with a pan servo modified for endless rotation (see www.KAPER.us/basics/Bas_360_R.html). For rig kits and ideas see www.brooxes.com and www.kapshop.com.

Operation

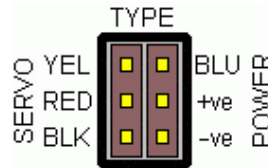
The pinout is shown right- note the TYPE number written at the top, e.g. **320**. Connect **+ve** & **-ve** to a 3 to 5.5V supply (a standard RC servo lead can be used). The servo uses high currents, a button cell is not suitable –

Two or three AA or AAA cells are recommended. Connect the modified servo to **YEL/RED/BLK**, taking care to match the colours.

At the “3pin” end of the device connect a standard unmodified servo, the yellow spot matches with the servos white or yellow wire. This servo stays mid-range, normally but moves 45° in each direction to trigger the camera – position the servo and servo arm to trigger the camera.

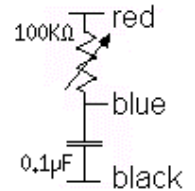
The pan servo will turn 30° and the shutter servo triggers a picture every 10 seconds with the BLU pin connected to **-ve**. 5 secs with BLU pin is connected to **+ve**.

IMPORTANT NOTE: Please be careful with the servo and battery connections! The unit will survive inverting the connections, but may not survive connections misplaced by one pin!



For Advanced Users

Timing can be continuously varied from 5 to 35seconds by adding the two components shown on the right instead of connecting blue directly to the red or black. You do not need to switch off and on to change the timing; the new delay will be adopted from the start of the next period, or if you have a variable resistor connected, proportionately during the current period.



Small changes in the 30° rotation angle per picture can be achieved by adjusting the trimmer in the modified pan servo. You can stop the servo rotation if necessary by unplugging it!

Specification

Supply Voltage	3 to 5.5V. (absolute maximum voltage, 6.5V)
Supply Current	Less than 1mA, plus the current for the servos.
Timer Operation	5 or 10 seconds and 5 - 35 seconds variable.
Weight	1.2 grams.

Diagnostics

Make sure all connections are made as per the instructions.

For servo issues, make sure the servo has been modified for 360°.

Make sure the modified pan servo is connected to the 6-pin end of the device, and the unmodified standard servo to the 3-pin end.

Use the 5s delay time to make fault diagnosis easier. Remember some cameras may take several seconds to take another picture. For example, the camera may appear to take a picture every 10 seconds when the shutter servo and pan servo are being triggered every 5 seconds.