Camera Link

Common camera settings between the XCL-SG series and the XCL-CG series

Trigger Modes

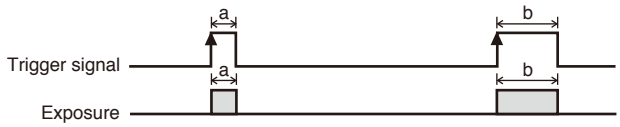
There are four modes, Free run/Bulk Trigger/Sequential Trigger/Burst Trigger.

Free Run

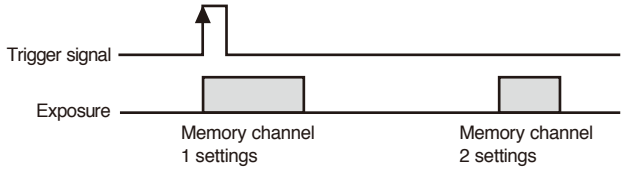
The camera operates without a trigger signal and performs the video output operation continuously after the shutter (exposure) is finished when operating in Free run mode.

• Trigger edge detection (Polarity: positive)

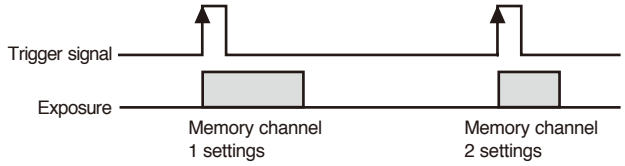
• Trigger width detection (Polarity: positive)



Bulk Trigger (only XCL-SG510/SG510C/CG510/CG510C)
Different camera setting configurations are stored in memory channels beforehand, with the different settings applied to acquire multiple video images at each trigger event. In the following diagram, two images are acquired in one cycle.



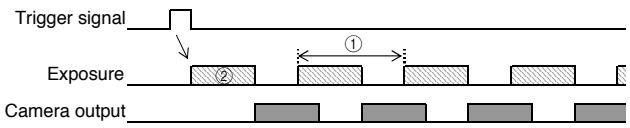
Sequential Trigger (only XCL-SG510/SG510C/CG510/CG510C)
Different camera setting configurations are stored in memory channels beforehand, with the different settings applied in sequence to acquire a different image with each trigger event. In the following diagram, two images with different exposure settings are acquired in one cycle.



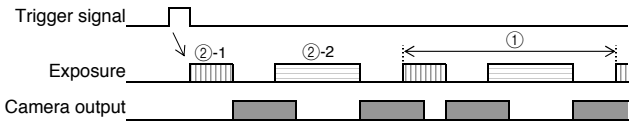
Burst Trigger

This is a feature capable of continuous shooting at the trigger timing and specifying the number of exposures, exposure interval, and exposure time. Select from the mode that repeats one exposure time or the mode that switches between 2 exposure times repeatedly. Furthermore, there is another mode that repeats only while the trigger signal is on.

(A) When 1 pattern of exposure time is set
Set the number of exposures, exposure interval (1), and exposure time (2) Continuous shooting at the trigger timing

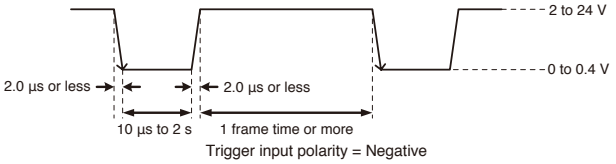


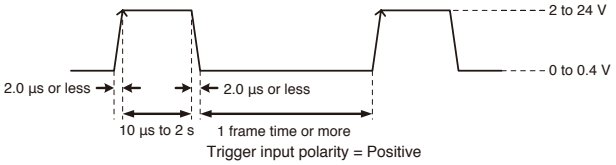
(B) When 2 patterns of exposure times are set
Set the number of exposures, exposure interval (1), and exposure time (2) Continuous shooting at the trigger timing



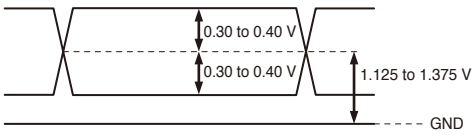
Trigger Signal Specifications

DC IN connector specification





Digital IF connector specifications



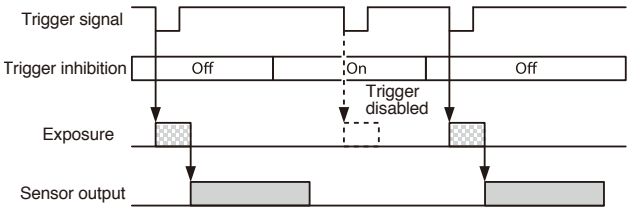
Note

When inputting a trigger signal to the camera using the DC-700/DC-700CE, use DC 5 V or less at the logical high level.

Trigger Inhibition

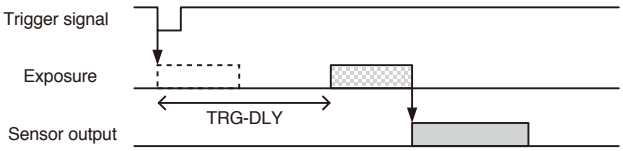
Trigger input can be disabled. This function is effective when disabling the trigger signal to a specific camera in the environment where multiple cameras are connected by the same trigger signal and when preventing false operations caused by noise contamination to the trigger signal line (due to the installed environment).

• Exposure condition (detecting the drop edge):



Trigger Delay

The camera can delay the trigger signal.

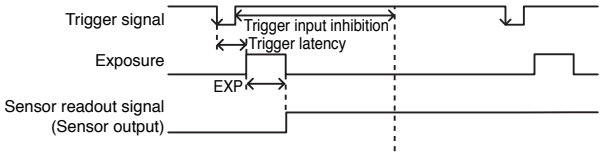


Trigger Range Limit

Only signals in the set trigger width can be accepted as the trigger signal. This functions as a noise filter, which removes chattering or disturbance noise in the trigger signal line.
This also functions as a trigger selector, whereby only a specific camera can be operated by the trigger when multiple cameras share one trigger signal line.

Overlap trigger

The trigger signals can be accepted during the sensor readout signals are asserted.
If the trigger cycle overs the maximum value of the frame rate, images are distorted.
Set FastTriggerMode to off.



User Set

Main set values can be saved to the channels 1 to 16 of USERSET. User set is available during special trigger mode (Bulk Trigger/Sequential Trigger).

Gain

Manual gain

Manual gain can be set finely in 1dB or 0.1 dB increments.
Although the settable lower/upper limit values of the gain are slightly different in each camera, the gain parameter value can be set from –1 dB or less to 27 dB or more.
Same as the gain, the parameter value of the GainAnalogRaw can be set from –10 or less to 270 or more.
The setting rage of the gain that guarantees image quality is from 0 dB to 18 dB.

Auto gain (AGC)

By setting AUTOGAIN, the gain is automatically adjusted according to the image pickup environment.
AGC works so that the average level in a detection frame may reach AGC-LEVEL. The AGC detection frame is set to the central region by default.
The detection frame can be displayed or the detection area changed.