CLAIMS

1. A flashlight detection unit, comprising:

a first photoelectric detection module configured to monitor an optical signal in real time and output a corresponding electric signal;

a first triggering generation module, a first input end of which is coupled to the first photoelectric detection module, a first output end of which is coupled to a first interface logic module, and which is configured to generate a first triggering generation signal when the electric signal exceeds a predetermined threshold, and output the first triggering generation signal to the first interface logic module; and

the first interface logic module, a first input end of which is coupled to the first triggering generation module, a second input end of which is coupled to a flashlight detection control unit via a flashlight detection refreshing signal line, a first output end of which is coupled to the flashlight detection control unit via a flashlight detection triggering signal line, and which is configured to output a triggering state signal upon the receipt of the first triggering generation signal.

2. The flashlight detection unit according to claim 1, wherein a second input end of the first triggering generation module is coupled to the flashlight detection control unit via the flashlight detection refreshing signal line, and the first triggering generation module is further configured to receive a flashlight detection refreshing signal from the flashlight detection control unit, and not generate the first triggering generation signal upon the receipt of the flashlight detection refreshing signal.

3. The flashlight detection unit according to claim 1 or 2, wherein the first triggering generation module comprises:

a first pre-processing sub-module, an input end of which is coupled to an output end of the first photoelectric detection module, and which is configured to pre-process the electric signal to generate a processed electric signal; and

~~a first threshold comparison sub-module, an input end of which is coupled to an output end of the first pre-processing sub-module, and which is configured to determine whether a change in the processed electric signal meets a predetermined condition.~~

~~4. The flashlight detection unit according to claim 1 or 2, wherein the first interface logic unit further comprises a first latch configured to store and represent a current operating state, a resetting signal for the first latch is the flashlight detection refreshing signal generated by the flashlight detection control unit, and a setting signal for the first latch is the first triggering generation signal generated by the first triggering generation module.~~

~~5~~1. An anti-flashlight circuit assembly, comprising:

a flashlight detection pixel array comprising a plurality of ~~the~~ flashlight detection units, ~~according to any one of claims 1-4,~~ and configured to respond to a change in a light intensity in a field of view, and output a triggering state signal to a flashlight detection control unit when the change in the light intensity exceeds a predetermined threshold; and

the flashlight detection control unit coupled to the flashlight detection pixel array, and configured to determine whether there is global flashlight in the field of view, and when there is the global flashlight, transmit a flashlight detection mandatory resetting signal to a core circuit assembly, wherein the global flashlight is determined by when the flashlight detection control unit receives the triggering state signal from each flashlight detection unit of the flashlight detection pixel array within a short time period.

2. The anti-flashlight circuit assembly according to claim 1, wherein the flashlight detection unit comprising:

a first photoelectric detection module configured to monitor an optical signal in real time and output a corresponding electric signal;

a first triggering generation module, a first input end of which is coupled to the first photoelectric detection module, a first output end of which is coupled to a first interface logic module, and which is configured to generate a first triggering generation signal when the electric

signal exceeds a predetermined threshold, and output the first triggering generation signal to the first interface logic module; and

the first interface logic module, a first input end of which is coupled to the first triggering generation module, a second input end of which is coupled to the flashlight detection control unit via a flashlight detection refreshing signal line, a first output end of which is coupled to the flashlight detection control unit via a flashlight detection triggering signal line, and which is configured to output the triggering state signal upon the receipt of the first triggering generation signal.

3. The anti-flashlight circuit assembly according to claim 2, wherein a second input end of the first triggering generation module is coupled to the flashlight detection control unit via the flashlight detection refreshing signal line, and the first triggering generation module is further configured to receive a flashlight detection refreshing signal from the flashlight detection control unit, and not generate the first triggering generation signal upon the receipt of the flashlight detection refreshing signal.

4. The anti-flashlight circuit assembly according to claim 2 or 3, wherein the first triggering generation module comprises:

a first pre-processing sub-module, an input end of which is coupled to an output end of the first photoelectric detection module, and which is configured to pre-process the electric signal to generate a processed electric signal; and

a first threshold comparison sub-module, an input end of which is coupled to an output end of the first pre-processing sub-module, and which is configured to determine whether a change in the processed electric signal meets a predetermined condition.

5. The anti-flashlight circuit assembly according to claim 3, wherein the first interface logic unit further comprises a first latch configured to store and represent a current operating state, a resetting signal for the first latch is the flashlight detection refreshing signal generated by the flashlight detection control unit, and a setting signal for the first latch is the first triggering generation signal generated by the first triggering generation module.

6. The anti-flashlight circuit assembly according to claim 5, wherein the flashlight detection control unit is further configured to periodically output a flashlight detection refreshing signal to the flashlight detection pixel array.

7. An image sensor, comprising:

a core circuit assembly comprising a plurality of primary pixel units, and configured to trigger a corresponding primary pixel unit when a change in a light intensity in ~~a~~ the field of view reaches a threshold, and output address information about the triggered primary pixel unit; and

the anti-flashlight circuit assembly according to ~~claim 5 or 6~~ any one of claims 1 - 6 arranged in such a manner as to surround the core circuit assembly, and configured to detect whether there is global flashlight in the field of view, and when there is the global flashlight, reset the core circuit assembly so as to prevent the core circuit assembly from responding to the global flashlight and outputting ~~corresponding~~ the address information, wherein the global flashlight is determined by when the flashlight detection control unit receives the triggering state signal from each flashlight detection unit of the flashlight detection pixel array within a short time period.

8. The image sensor according to claim 7, wherein the anti-flashlight circuit assembly comprises a plurality of flashlight detection units each configured to detect the change in the light intensity in the field of view within a flashlight detection period, and the anti-flashlight circuit assembly is further configured to determine whether there is the global flashlight in the field of view in accordance with the change in the light intensity in the field of view.

9. The image sensor according to claim 7 or 8, wherein the core circuit assembly comprises:

a primary pixel array comprising ~~a~~ the plurality of primary pixel units, and configured to monitor the change in the light intensity in the field of view, and enter a triggered state when the change in the light intensity meets a predetermined condition;

a reading unit configured to respond to the primary pixel unit in the triggered state and output address information about the primary pixel unit; and

a primary pixel array control unit configured to transmit a global resetting signal to each primary pixel unit to control an operating state of each primary pixel unit.

10. The image sensor according to claim 9, wherein the primary pixel array control unit is further configured to, during the initialization, transmit the global resetting signal to each primary pixel unit in the primary pixel array via a global resetting signal line so as to turn off the primary pixel unit, and upon the receipt of ~~a~~ the flashlight detection mandatory resetting signal from the anti-flashlight circuit assembly, transmit the global resetting signal to each primary pixel unit in the primary pixel array via the global resetting signal line so as to turn off the primary pixel unit.