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## INTRODUCTION

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This application note is a summary of the digital output signals for all camera types (C2/C4/C5) and the compact sensor series (C5-CS).

Make sure that you have the newest available firmware version for your camera. Get in contact with our head office or with your distributor to get a firmware update.

The following figures should only demonstrate the schematic functions of the output signals with the help of examples.

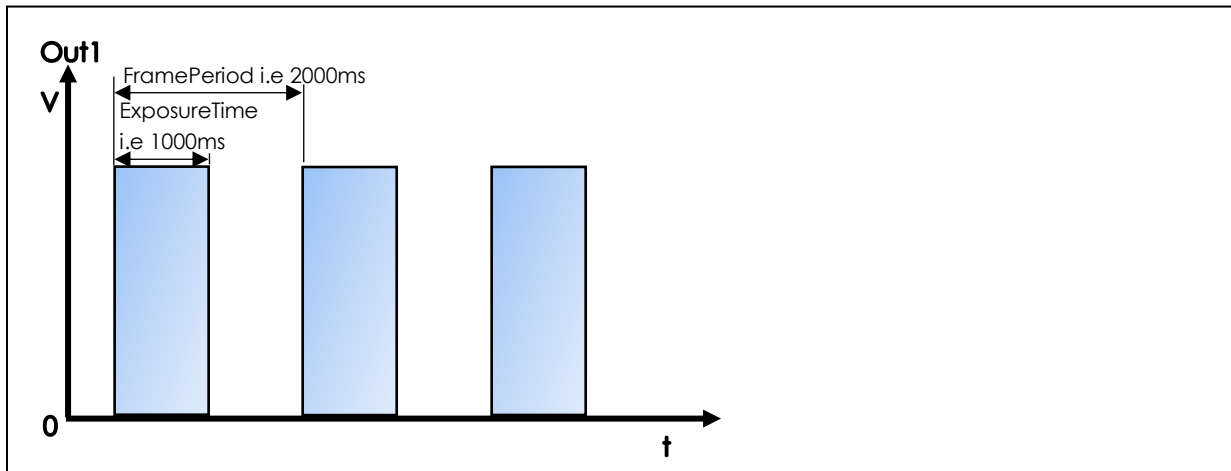
# DIGITAL OUTPUT SIGNALS

## Overview

Name	Interface	Access	Visibility	Description
<i>Output1</i>	IEnumeration	RW	Beginner	List the output signals available for first output  (1): Out1_IntegrationActive (Value= 0) (2): Out1_SequencerActive (Value= 1) (3): Out1_IntegrationDualSlopeActive (Value= 2) (4): Out1_IntegrationTripleSlopeActive (Value= 3) (5): Out1_High (Value= 4) (6): Out1_Low (Value= 5) (7): Out1_InternalTrigger (Value= 6) (8): Out1_SequencerTriggerActive (Value= 7) (9): Out1_FrameValid (Value= 8) (10): LightController0 (Value= 9)
<i>Output2</i>	IEnumeration	RW	Beginner	List the output signals available for second output  (1): Out2_IntegrationActive (Value= 0) (2): Out2_IntegrationDualSlopeActive (Value= 1) (3): Out2_IntegrationTripleSlopeActive (Value= 2) (4): Out2_High (Value= 3) (5): Out2_Low (Value= 4) (6): Out2_TriggerOverrun (Value= 5) (7): Out2_ResolverCountDir (Value= 6) (8): Out2_TriggerBusy (Value= 7) (9): Out2_AutoStart (Value= 8) (10): LightController0 (Value= 9)

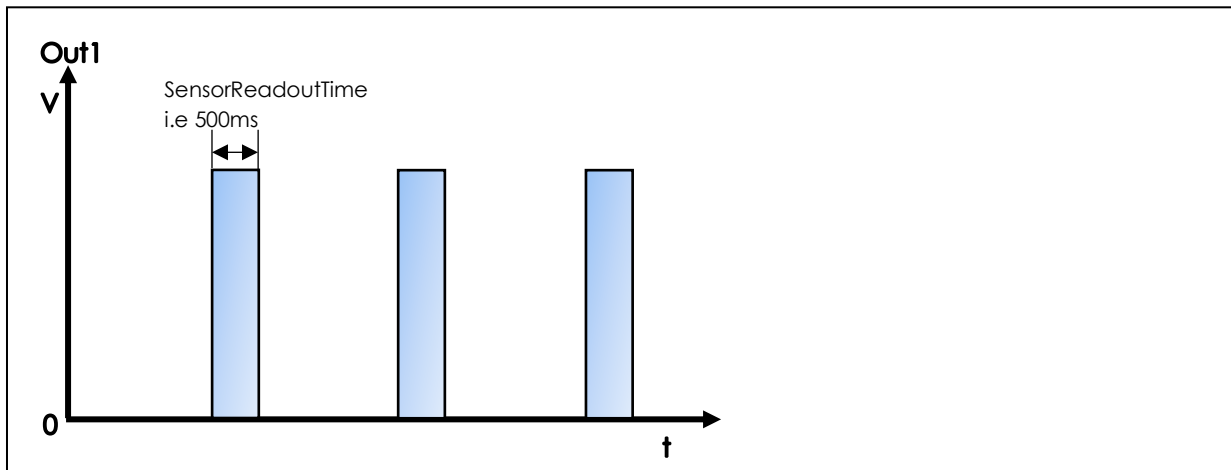
### Output1

*IntegrationActive*



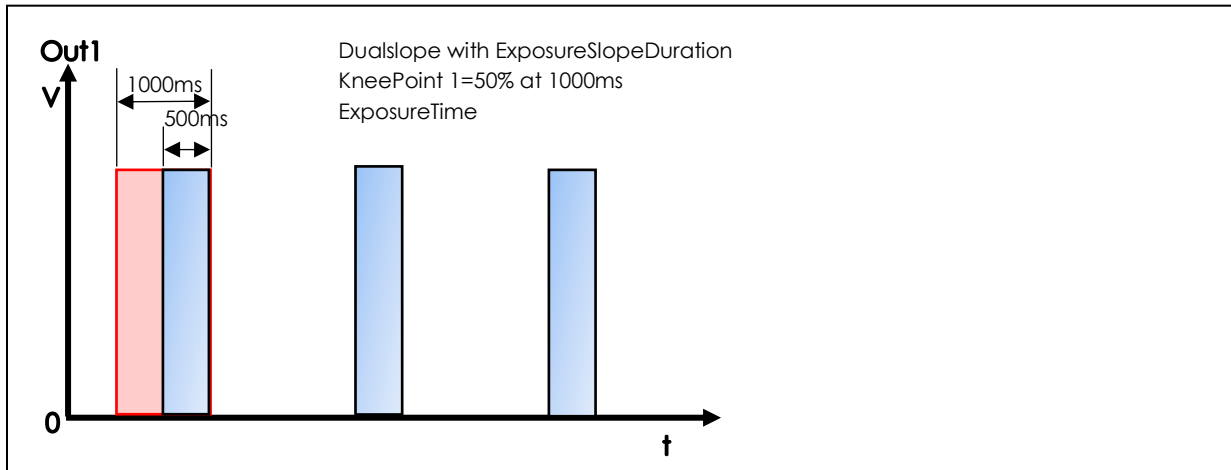
The IntegrationActive signal goes high and last the Sensor Exposure Time.

*SequencerActive*



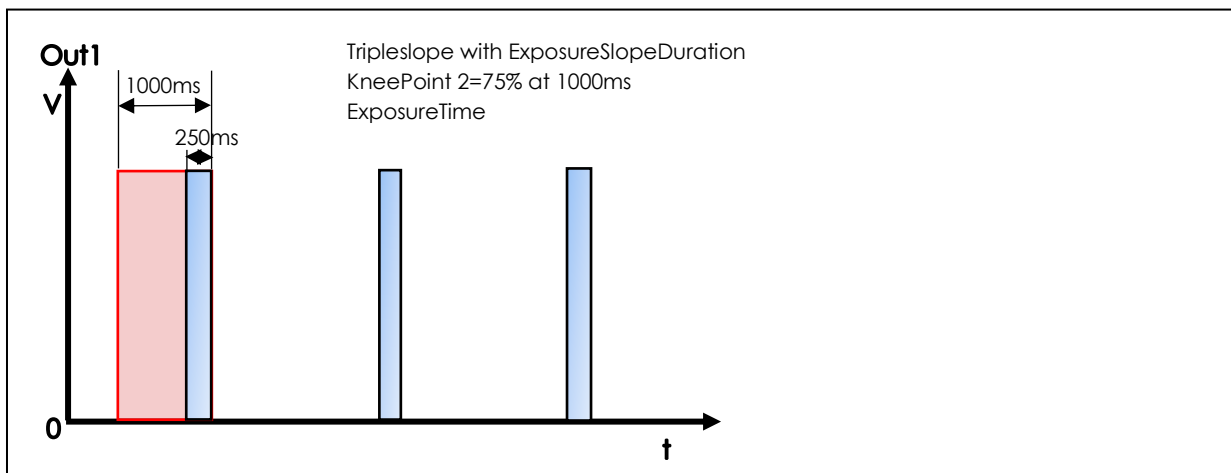
The SequencerActive signal goes high after the exposure time and stays high for the Sensor Readout Time.

*IntegrationDualSlopeActive*



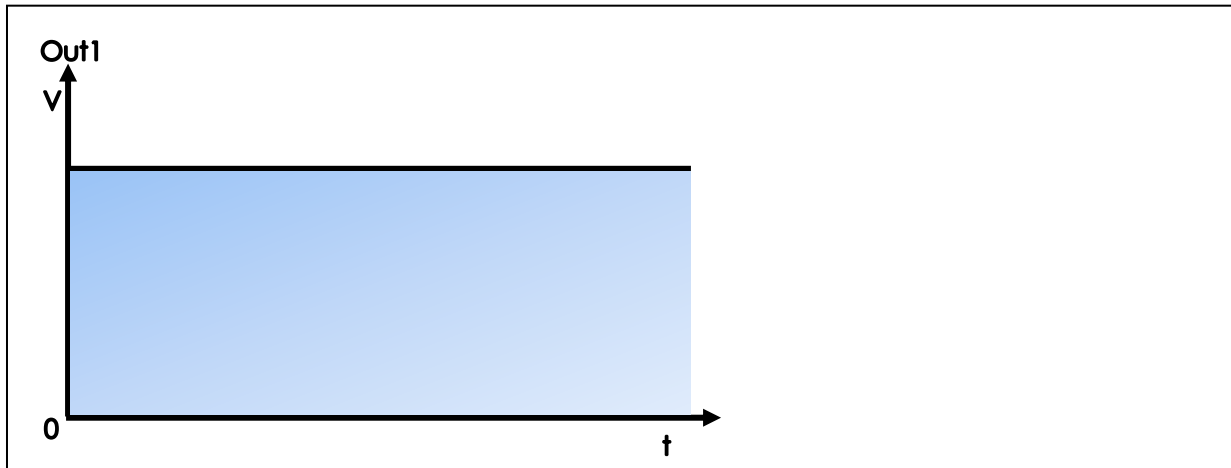
Dualslope Mode, with i.e. ExposureSlopeDuration = 50%, at 1000ms ExposureTime result in 500ms exposure time for KneePoint1.

*IntegrationTripleSlopeActive*



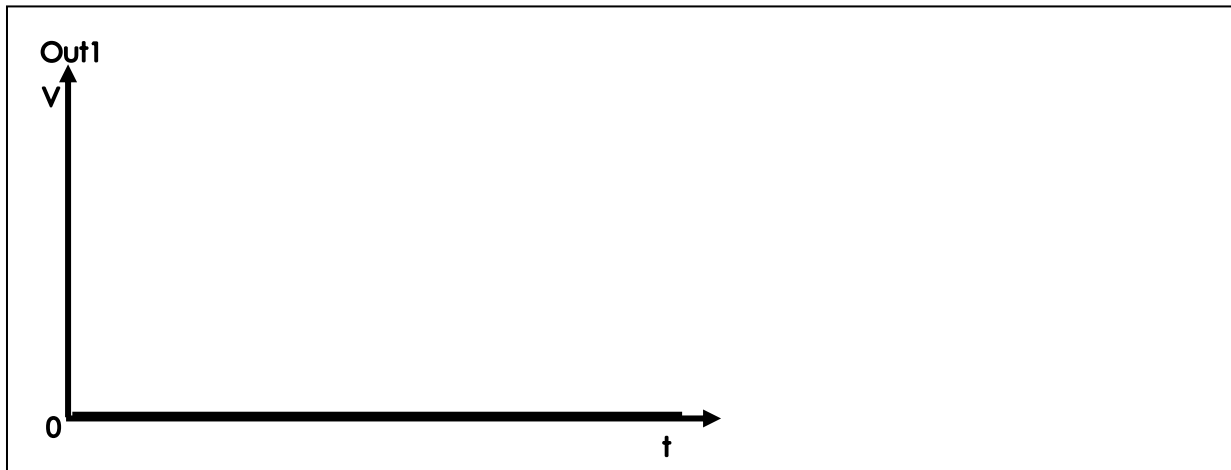
Tripleslope Mode, with i.e. ExposureSlopeDuration = 75%, at 1000ms ExposureTime result in 250ms exposure time for KneePoint2.

High



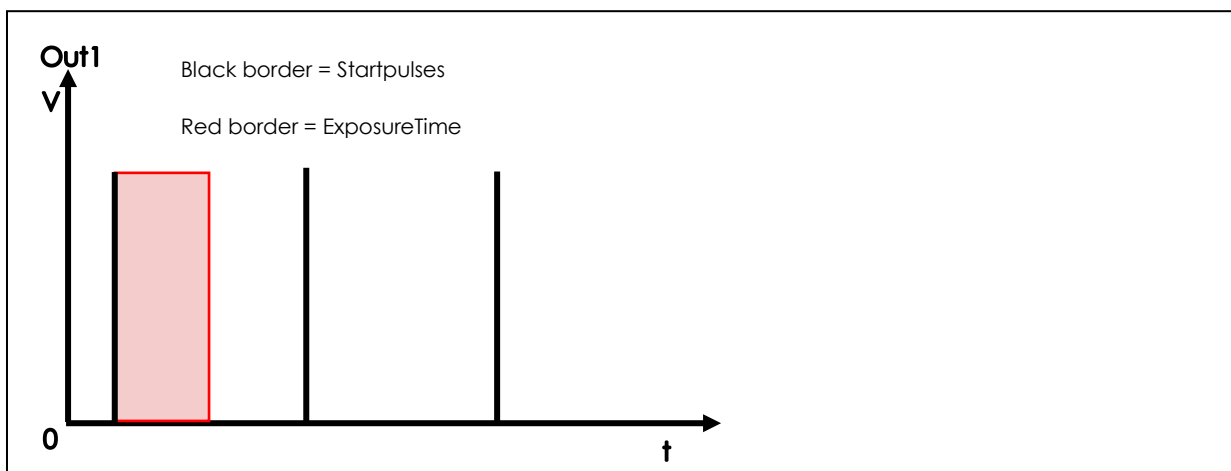
Output signal is continuously high.

Low



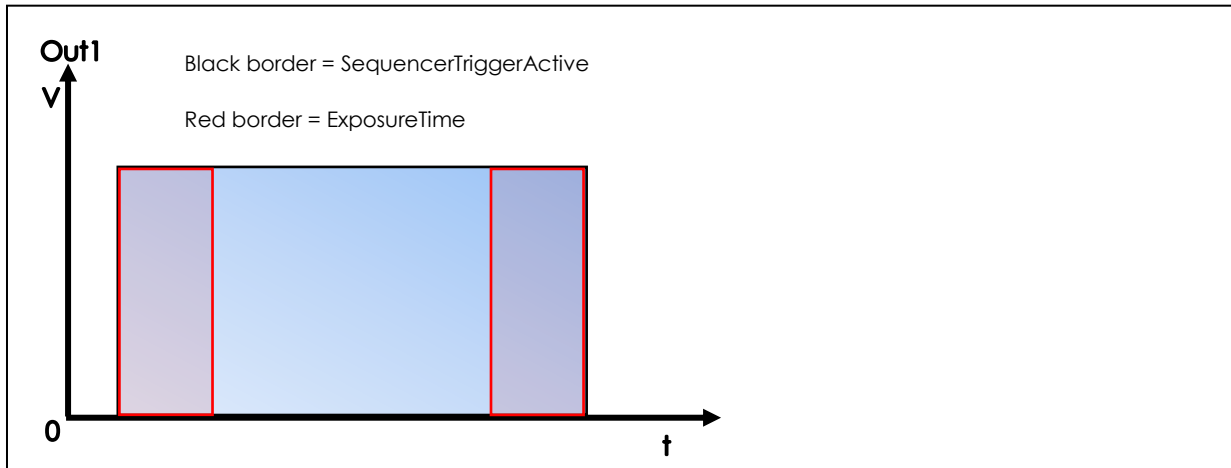
Output signal is continuously on low level.

InternalTrigger



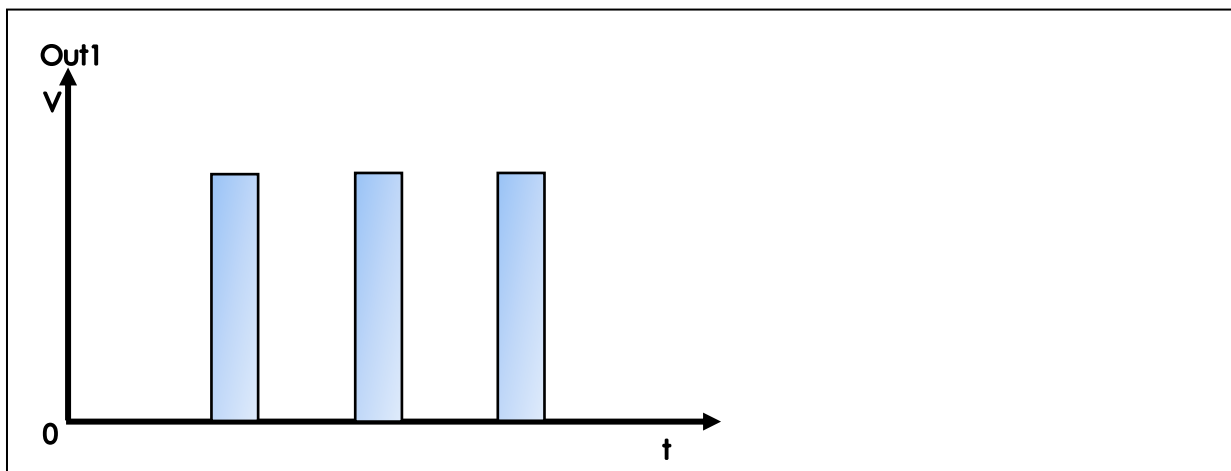
Very short startpulse. Triggers with the raising edge every ExposureTime.

*SequencerTriggerActive*



Starts at the first profile with the rising edge of the ExposureTime and last until the falling edge of the last profile ExposureTime.

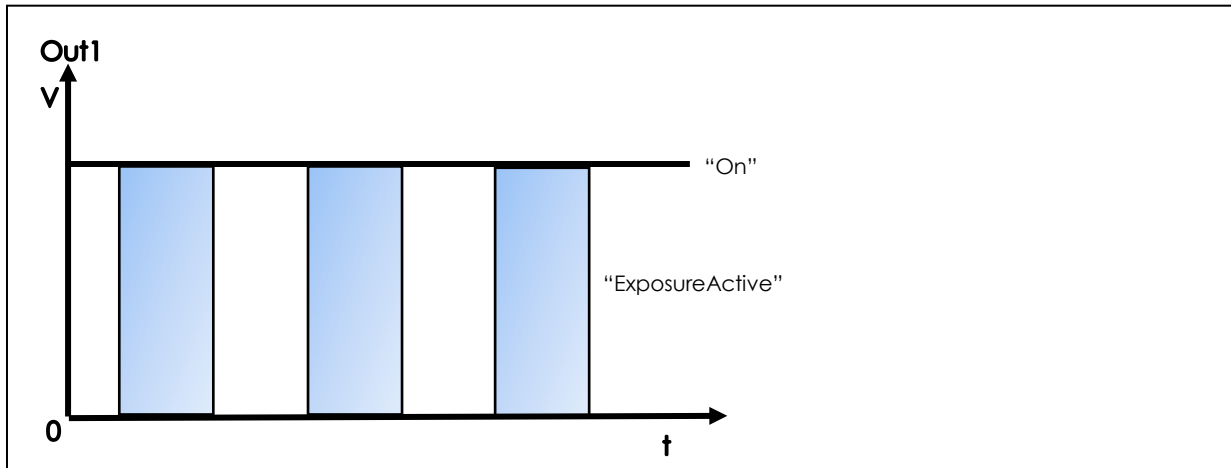
*FrameValid*



FrameValid signal goes high during the SensorReadoutTime and when the sensor data is valid.



*LightController0*



Depending on the LightControllerSource the signal is continuously high ("ON") or goes high during the ExposureTime ("ExposureActive").

## Output2

*IntegrationActive*

Please see for description "Output1 IntegrationActive"

*IntegrationDualSlopeActive*

Please see for description "Output1 IntegrationDualSlopeActive"

*IntegrationTripleSlopeActive*

Please see for description "Output1 IntegrationTripleSlopeActive"

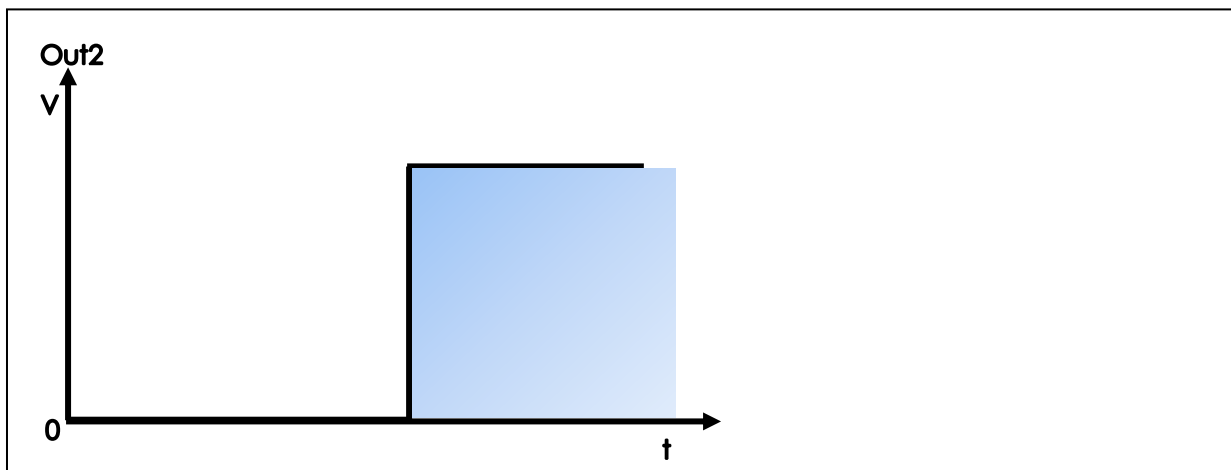
*High*

Please see for description "Output1 High"

*Low*

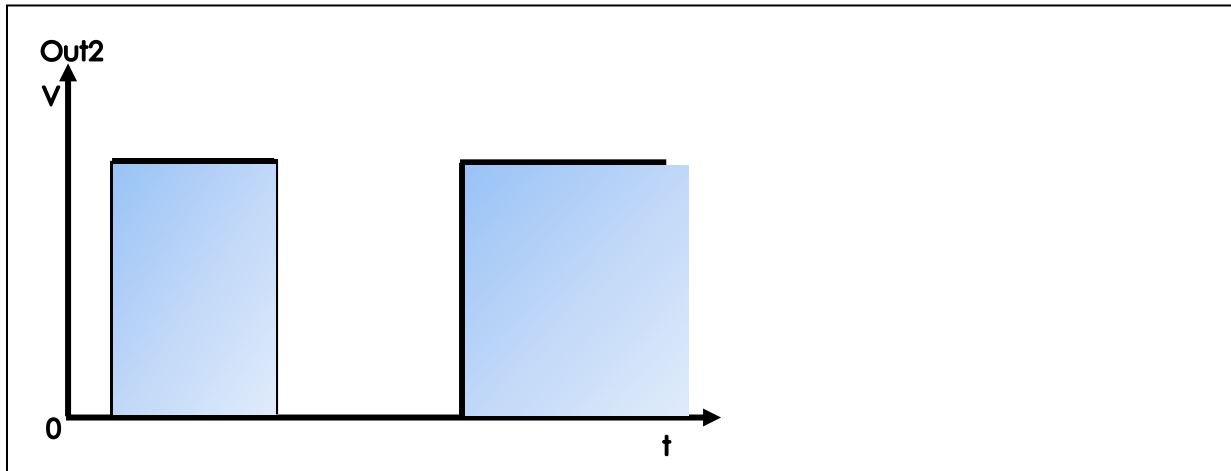
Please see for description "Output1 Low"

*TriggerOverrun*



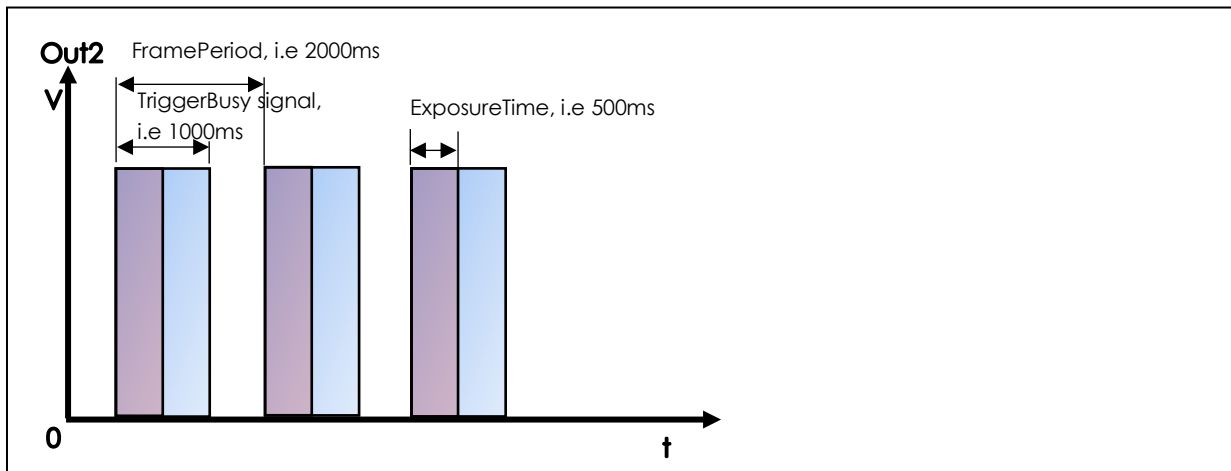
The TriggerOverrun signal goes high when the camera is over triggered and stays high for the overrun.

*Resolver Count Direction*



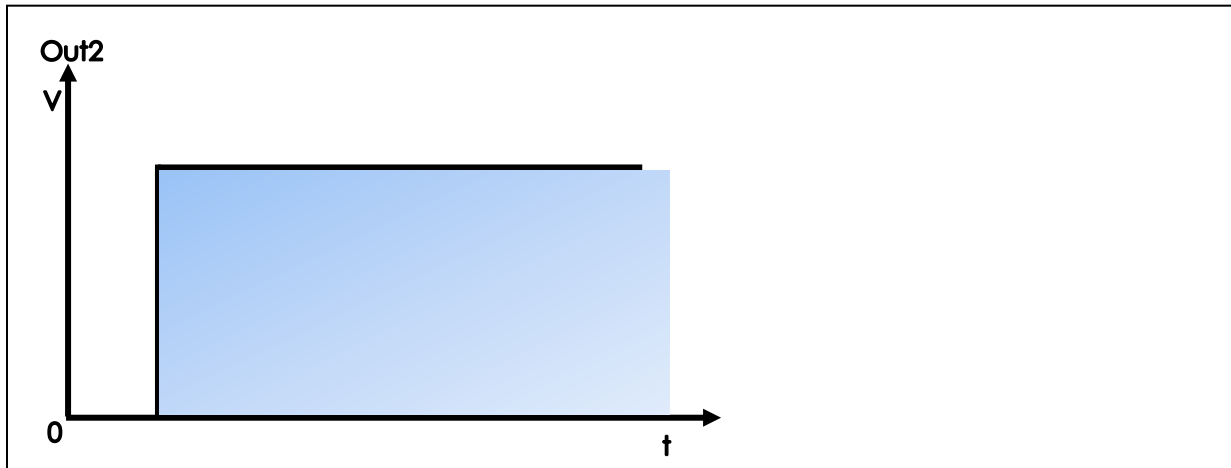
Shows the encoder/resolver count direction. Signal goes high when the count direction keeps the same (i.e. → A,B,A',B') and gets low when count direction switched (i.e. ← B',A',B,A).

*TriggerBusy*



TriggerBusy signal goes high with the rising edge of ExposureTime and last on high level for the SensorReadoutTime.

*AutoStart*



Rising output signal when AutoStart condition is valid and keeps high.

*LightController0*

Please see for description "Output1 LightController0"

## DOCUMENT REVISION

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Rev. No.	Date	Modification
1.0	12.01.2018	First release