v20.8.6083

Read before using

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Overview

This document explains support parameter at C13440-20CU and how to control them by DCAM Properties. This document requires knowledge of basic concept of DCAM-API and SDK. If you need description about them, please reffer other documents.

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How to read the table

Property List is described according to the following rules.

1.Classfication							
2.PropertyID		3.	4.	5.	6.	7.	8.ValueType
	9.PropertyValue				10.Information		

Description table

index	item	explanation
1	Classification	Large classification of the Property.
2	Property ID	Property ID that camera supported.
3	Property Ver	DCAM-API version of this Property.
4	Readable Flag	Whether it is possible to read the value from this Property. In the case of "-" is not readable. In the case of "R" is readable.
5	Writable Flag(Stable)	Whether it is possible to change this Property value during status is "Stable". In the case of "-" is not writable. In the case of "W" is writable.
6	Writable Flag(Ready)	Whether it is possible to change this Property value during status is "Ready". In the case of "-" is not writable. In the case of "W" is writable.
7	Writable Flag(Busy)	Whether it is possible to change this Property value during status is "Busy". In the case of "-" is not writable. In the case of "W" is writable.
8	Value Type	Property value types : MODE, LONG and REAL.
9	Property Value	ID or minimum, maximum, default, step values from this Property.
10	Information	Additional information about this Property.

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Property List

Sensor mode and speed

DCAM_IDPROP_SENSORMODE	-	R	W	-	-	MODE
DCAMPROP_SENSORMODE__AREA (default)						
DCAMPROP_SENSORMODE__PROGRESSIVE						
DCAMPROP_SENSORMODE__SPLITVIEW						
DCAMPROP_SENSORMODE__DUALLIGHTSHEET						
DCAM_IDPROP_READOUTSPEED	-	R	W	-	-	LONG
1 to 2 , step 1 , default 2	When the sensor mode is PROGRESSIVE or DUALLIGHTSHEET, it works as 2 regardless of the Property value.					
DCAM_IDPROP_READOUT_DIRECTION	-	R	W	-	-	MODE
DCAMPROP_READOUT_DIRECTION__DIVERGE	@ DCAMPROP_SENSORMODE__AREA					
DCAMPROP_READOUT_DIRECTION__FORWARD	@ DCAMPROP_SENSORMODE__PROGRESSIVE, SPLITVIEW, DUALLIGHTSHEET					
DCAMPROP_READOUT_DIRECTION__BACKWARD	@ DCAMPROP_SENSORMODE__PROGRESSIVE, SPLITVIEW, DUALLIGHTSHEET					

Trigger

DCAM_IDPROP_TRIGGERSOURCE	-	R	W	W	W	MODE
DCAMPROP_TRIGGERSOURCE__INTERNAL (default)						
DCAMPROP_TRIGGERSOURCE__EXTERNAL						
DCAMPROP_TRIGGERSOURCE__SOFTWARE						
DCAMPROP_TRIGGERSOURCE__MASTERPULSE						
DCAM_IDPROP_TRIGGER_MODE	-	R	W	W	W	MODE
DCAMPROP_TRIGGER_MODE__NORMAL (default)						
DCAMPROP_TRIGGER_MODE__START						
DCAM_IDPROP_TRIGGERACTIVE	-	R	W	W	-	MODE
DCAMPROP_TRIGGERACTIVE__EDGE (default)	ALL DCAM_IDPROP_SENSORMODE					
DCAMPROP_TRIGGERACTIVE__LEVEL	@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW					
DCAMPROP_TRIGGERACTIVE__SYNCREADOUT	@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW					
DCAM_IDPROP_TRIGGER_GLOBALEXPOSURE	-	R	W	-	-	MODE
DCAMPROP_TRIGGER_GLOBALEXPOSURE__DELAYED (default)						
DCAMPROP_TRIGGER_GLOBALEXPOSURE__GLOBALRESET						
DCAM_IDPROP_TRIGGERPOLARITY	-	R	W	W	W	MODE
DCAMPROP_TRIGGERPOLARITY__NEGATIVE (default)						
DCAMPROP_TRIGGERPOLARITY__POSITIVE						
DCAM_IDPROP_TRIGGER_CONNECTOR	-	R	W	W	W	MODE
DCAMPROP_TRIGGER_CONNECTOR__INTERFACE						
DCAMPROP_TRIGGER_CONNECTOR__BNC (default)						
DCAM_IDPROP_TRIGGERTIMES	-	R	W	W	W	LONG
1 to 10000 , step 1 , default 1						
DCAM_IDPROP_TRIGGERDELAY	-	R	W	W	W	REAL (Second)
0 to 10.0 , step 0.000001 , default 0	@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW					
0 to 0.019859008 , step 0.000009744 , default 0.000087699	@ DCAMPROP_SENSORMODE__PROGRESSIVE, DUALLIGHTSHEET					

					Depends on Line Speed and Line Interval, Pre Hsync Count
DCAM_IDPROP_INTERNALTRIGGER_HANDLING	-	R	W	W	-	MODE
DCAMPROP_INTERNALTRIGGER_HANDLING__SHORTEREXPOSURETIME	ALL DCAM_IDPROP_SENSORMODE					
DCAMPROP_INTERNALTRIGGER_HANDLING__INDIVIDUALEXPOSURE	@ DCAMPROP_SENSORMODE__SPLITVIEW					

Sensor cooler

DCAM_IDPROP_SENSORTEMPERATURE	-	R	-	-	-	REAL (degrees Celsius)
-50 to 100						
DCAM_IDPROP_SENSORCOOLER (at Water Cooling only)	-	R	W	W	W	MODE
DCAMPROP_SENSORCOOLER__OFF						
DCAMPROP_SENSORCOOLER__ON						
DCAMPROP_SENSORCOOLER__MAX						
DCAM_IDPROP_SENSORCOOLERSTATUS	-	R	-	-	-	MODE
DCAMPROP_SENSORCOOLERSTATUS__OFF						
DCAMPROP_SENSORCOOLERSTATUS__READY						
DCAMPROP_SENSORCOOLERSTATUS__BUSY						

Binning and ROI

DCAM_IDPROP_BINNING	-	R	W	-	-	MODE
DCAMPROP_BINNING__1 (default)	ALL DCAM_IDPROP_SENSORMODE					
DCAMPROP_BINNING__2	@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW					
DCAMPROP_BINNING__4	@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW					
DCAM_IDPROP_SUBARRAYHPOS	-	R	W	-	-	LONG
0 to 2044 , step 4 , default 0	@ DCAMPROP_SENSORMODE__AREA					
0 to 2047 , step 1 , default 0	@ DCAMPROP_SENSORMODE__PROGRESSIVE					
0 to 1920 , step 4 , default 0	@ DCAMPROP_SENSORMODE__SPLITVIEW, DUALLIGHTSHEET					
DCAM_IDPROP_SUBARRAYHSIZE	-	R	W	-	-	LONG
4 to 2048 , step 4 , default 2048	@ DCAMPROP_SENSORMODE__AREA					
1 to 2048 , step 1 , default 2048	@ DCAMPROP_SENSORMODE__PROGRESSIVE					
128 to 2048 , step 128 , default 2048	@ DCAMPROP_SENSORMODE__SPLITVIEW, DUALLIGHTSHEET					
DCAM_IDPROP_SUBARRAYVPOS	-	R	W	-	-	LONG
0 to 2044 , step 4 , default 0	@ DCAMPROP_SENSORMODE__AREA, PROGRESSIVE					
0 to 1020 , step 4 , default 0	@ DCAMPROP_SENSORMODE__SPLITVIEW, DUALLIGHTSHEET					
DCAM_IDPROP_SUBARRAYVSIZE	-	R	W	-	-	LONG
4 to 2048 , step 4 , default 2048	@ DCAMPROP_SENSORMODE__AREA, PROGRESSIVE					
4 to 1024 , step 4 , default 1024	@ DCAMPROP_SENSORMODE__SPLITVIEW, DUALLIGHTSHEET					
DCAM_IDPROP_SUBARRAYMODE	-	R	W	-	-	MODE
DCAMPROP_MODE__OFF (default)						
DCAMPROP_MODE__ON						
DCAM_IDPROP_FRAMEBUNDLE_MODE (at USB 3.0 connection only)	-	R	W	-	-	MODE
DCAMPROP_MODE__OFF (default)						
DCAMPROP_MODE__ON	Depends on SUBARRAY properties					
DCAM_IDPROP_FRAMEBUNDLE_NUMBER (at USB 3.0 connection only)	-	R	W	-	-	LONG
2 to 1024 , step 1 , default 2	Depends on SUBARRAY properties					

Feature

DCAM_IDPROP_EXPOSURETIME	-	R	W	W	W	REAL (Second)
0.003020752 to 10.0 , step 0.00000001 , default 0.00999771						@ DCAMPROP_SENSORMODE__AREA and DCAM_IDPROP_READOUTSPEED=1 Depends on SUBARRAY properties
0.001003669 to 10.0 , step 0.00000001 , default 0.00999771						@ DCAMPROP_SENSORMODE__AREA and DCAM_IDPROP_READOUTSPEED=2 Depends on SUBARRAY properties
0.000009744 to 0.019956451 , step 0.00000001 , default 0.00999771						@ DCAMPROP_SENSORMODE__PROGRESSIVE Depends on INTERNALLINESPEED and INTERNAL_LINEINTERVAL, SUBARRAY properties
0.003020752 to 6.000025263 , step 0.00000001 , default 0.00999771						@ DCAMPROP_SENSORMODE__SPLITVIEW and DCAM_IDPROP_READOUTSPEED=1 Depends on INTERNALTRIGGER_HANDLING and SUBARRAY properties
0.001003669 to 2.000000842 , step 0.00000001 , default 0.00999771						@ DCAMPROP_SENSORMODE__SPLITVIEW and DCAM_IDPROP_READOUTSPEED=2 Depends on INTERNALTRIGGER_HANDLING and SUBARRAY properties
0.000009744 to 0.009978226 , step 0.00000001 , default 0.00999771						@ DCAMPROP_SENSORMODE__DUALLIGHTSHEET Depends on INTERNALLINESPEED and INTERNAL_LINEINTERVAL, SUBARRAY properties

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DCAM_IDPROP_DEFECTCORRECT_MODE	-	R	W	W	W	MODE
DCAMPROP_DEFECTCORRECT_MODE__OFF						
DCAMPROP_DEFECTCORRECT_MODE__ON (default)						
DCAM_IDPROP_HOTPIXELCORRECT_LEVEL	-	R	W	W	W	MODE
DCAMPROP_HOTPIXELCORRECT_LEVEL__STANDARD (default)						
DCAMPROP_HOTPIXELCORRECT_LEVEL__MINIMUM						
DCAMPROP_HOTPIXELCORRECT_LEVEL__AGGRESSIVE						
DCAM_IDPROP_INTENSITYLUT_MODE	-	R	W	W	-	MODE
DCAMPROP_INTENSITYLUT_MODE__THROUGH (default)						
DCAMPROP_INTENSITYLUT_MODE__PAGE						
DCAM_IDPROP_INTENSITYLUT_PAGE	-	R	-	-	-	MODE
1						
DCAM_IDPROP_EXTRACTION_MODE	4.0	R	-	-	-	MODE
DCAMPROP_MODE__OFF						

Output Trigger

DCAM_IDPROP_NUMBEROF_OUTPUTTRIGGERCONNECTOR	-	R	-	-	-	LONG
return 3						
DCAM_IDPROP_OUTPUTTRIGGER_SOURCE	-	R	W	W	W	MODE
DCAMPROP_OUTPUTTRIGGER_SOURCE__READOUTEND (default)						
DCAMPROP_OUTPUTTRIGGER_SOURCE__VSYNC						
DCAMPROP_OUTPUTTRIGGER_SOURCE__HSYNC						@ DCAMPROP_SENSORMODE__PROGRESSIVE, DUALLIGHTSHEET
DCAMPROP_OUTPUTTRIGGER_SOURCE__TRIGGER						
DCAM_IDPROP_OUTPUTTRIGGER_POLARITY	-	R	W	W	W	MODE
DCAMPROP_OUTPUTTRIGGER_POLARITY__NEGATIVE (default)						
DCAMPROP_OUTPUTTRIGGER_POLARITY__POSITIVE						
DCAM_IDPROP_OUTPUTTRIGGER_ACTIVE	-	R	-	-	-	MODE

DCAMPROP_OUTPUTTRIGGER_ACTIVE__EDGE						
DCAM_IDPROP_OUTPUTTRIGGER_DELAY	-	R	W	W	W	REAL (Second)
0 to 10.0 , step 0.000001 , default 0						
DCAM_IDPROP_OUTPUTTRIGGER_PERIOD	-	R	W	W	W	REAL (Second)
0.000001 to 10.0 , step 0.000001 , default 0.000001						
DCAM_IDPROP_OUTPUTTRIGGER_KIND	-	R	W	W	W	MODE
DCAMPROP_OUTPUTTRIGGER_KIND__LOW (default)						
DCAMPROP_OUTPUTTRIGGER_KIND__EXPOSURE						
DCAMPROP_OUTPUTTRIGGER_KIND__PROGRAMABLE						
DCAMPROP_OUTPUTTRIGGER_KIND__TRIGGERREADY						
DCAMPROP_OUTPUTTRIGGER_KIND__HIGH						
DCAM_IDPROP_OUTPUTTRIGGER_PREHSYNCCOUNT	-	R	W	W	W	LONG
0 to 2047 , step 1 , default 0						
DCAM_IDPROP_OUTPUTTRIGGER_BASESENSOR	-	R	W	W	W	MODE
DCAMPROP_OUTPUTTRIGGER_BASESENSOR__VIEW1						
DCAMPROP_OUTPUTTRIGGER_BASESENSOR__VIEW2						
DCAMPROP_OUTPUTTRIGGER_BASESENSOR__ANYVIEW (default)						
DCAMPROP_OUTPUTTRIGGER_BASESENSOR__ALLVIEWS						

Master Pulse

DCAM_IDPROP_MASTERPULSE_MODE	-	R	W	W	W	MODE
DCAMPROP_MASTERPULSE_MODE__CONTINUOUS (default)						
DCAMPROP_MASTERPULSE_MODE__START						
DCAMPROP_MASTERPULSE_MODE__BURST						
DCAM_IDPROP_MASTERPULSE_TRIGGERSOURCE	-	R	W	W	W	MODE
DCAMPROP_MASTERPULSE_TRIGGERSOURCE__EXTERNAL (default)						
DCAMPROP_MASTERPULSE_TRIGGERSOURCE__SOFTWARE						
DCAM_IDPROP_MASTERPULSE_INTERVAL	-	R	W	W	W	REAL (Second)
0.00001 to 10.0 , step 0.000001 , default 0.1						
DCAM_IDPROP_MASTERPULSE_BURSTTIMES	-	R	W	W	W	LONG
1 to 10000 , step 1 , default 1						

Synchronous timing

DCAM_IDPROP_TIMING_READOUTTIME	-	R	-	-	-	REAL (Second)
return seconds how long takes to reading out a frame.						
DCAM_IDPROP_TIMING_CYCLICTRIGGERPERIOD	-	R	-	-	-	REAL (Second)
return seconds which period cyclic trigger happens in.						
DCAM_IDPROP_TIMING_MINTRIGGERBLANKING	-	R	-	-	-	REAL (Second)
return seconds required minimum trigger blanking.						
DCAM_IDPROP_TIMING_MINTRIGGERINTERVAL	-	R	-	-	-	REAL (Second)
return seconds required minimum trigger interval.						
DCAM_IDPROP_TIMING_GLOBALEXPOSUREDELAY	-	R	-	-	-	REAL (Second)
return seconds how long takes to start global exposure.						
DCAM_IDPROP_TIMING_EXPOSURE	-	R	-	-	-	MODE
DCAMPROP_TIMING_EXPOSURE__ROLLING						
DCAM_IDPROP_TIMING_INVALIDEXPOSUREPERIOD	-	R	-	-	-	REAL (Second)
return seconds of period which exposure is not started from trigger.						
DCAM_IDPROP_INTERNALFRAMERATE	-	R	W	W	W	REAL (Hz)
return number of frames per second in INTERNAL trigger mode.						@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW Read Only when sensor mode is AREA or SPLITVIEW.

20.035817413 to 33.276088453, step 0						@ DCAMPROP_SENSORMODE__PROGRESSIVE Depends on INTERNALLINESPEED and INTERNAL_LINEINTERVAL
25.054552096 to 49.865614232, step 0						@ DCAMPROP_SENSORMODE__DUALLIGHTSHEET Depends on INTERNALLINESPEED and INTERNAL_LINEINTERVAL
DCAM_IDPROP_INTERNAL_FRAMEINTERVAL	-	R	W	W	W	REAL (Second)
return seconds of interval between frames in INTERNAL trigger mode.						@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW Read Only when sensor mode is AREA or SPLITVIEW.
0.030051609 to 0.049910617, step 0						@ DCAMPROP_SENSORMODE__PROGRESSIVE Depends on INTERNALLINESPEED and INTERNAL_LINEINTERVAL
0.020053899 to 0.039912907, step 0						@ DCAMPROP_SENSORMODE__DUALLIGHTSHEET Depends on INTERNALLINESPEED and INTERNAL_LINEINTERVAL
DCAM_IDPROP_INTERNALLINESPEED	-	R	W	W	W	REAL (m/s)
return speed on the sensor.						@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW Read Only when sensor mode is AREA or SPLITVIEW.
0.000065 to 0.667052469, step 0						@ DCAMPROP_SENSORMODE__PROGRESSIVE, DUALLIGHTSHEET
DCAM_IDPROP_INTERNAL_LINEINTERVAL	-	R	W	W	W	REAL (Second)
return seconds of interval between two lines timings.						@ DCAMPROP_SENSORMODE__AREA, SPLITVIEW Read Only when sensor mode is AREA or SPLITVIEW.
0.000009744 to 0.1, step 0.000000004						@ DCAMPROP_SENSORMODE__PROGRESSIVE, DUALLIGHTSHEET

System Information

DCAM_IDPROP_COLORTYPE	-	R	-	-	-	MODE
DCAMPROP_COLORTYPE__BW						
DCAM_IDPROP_BITSPERCHANNEL	-	R	W	-	-	LONG
12 to 16 , step 4 , default 16						@ DCAM_PIXELTYPE__MONO16, MONO12
8 to 8 , step 0 , default 8						@ DCAM_PIXELTYPE__MONO8
DCAM_IDPROP_IMAGE_WIDTH	-	R	-	-	-	LONG
return width pixel of current setting						
DCAM_IDPROP_IMAGE_HEIGHT	-	R	-	-	-	LONG
return height line of current setting						
DCAM_IDPROP_IMAGE_ROWBYTES	-	R	-	-	-	LONG
return horizontal rowbytes of current setting						
DCAM_IDPROP_IMAGE_FRAMEBYTES	-	R	-	-	-	LONG
return bytes per frame of current setting						
DCAM_IDPROP_IMAGE_TOPOFFSETBYTES	-	R	-	-	-	LONG
return offset bytes size to point first data in image						
DCAM_IDPROP_IMAGE_PIXELTYPE	-	R	W	-	-	MODE
DCAM_PIXELTYPE_MONO8						
DCAM_PIXELTYPE_MONO16 (default)						
DCAM_PIXELTYPE_MONO12						
DCAM_IDPROP_BUFFER_ROWBYTES	4.0	R	-	-	-	LONG
return row byte size of user attached buffer						

DCAM_IDPROP_BUFFER_FRAMEBYTES	4.0	R	-	-	-	LONG
return byte size of a frame buffer that should be allocated when you use dcambuf_attach() function						
DCAM_IDPROP_BUFFER_TOPOFFSETBYTES	4.0	R	-	-	-	LONG
return unnecessary data size in front of the actual image data						
DCAM_IDPROP_BUFFER_PIXELTYPE	4.0	R	-	-	-	MODE
DCAM_PIXELTYPE_MONO8						
DCAM_PIXELTYPE_MONO16						
DCAM_PIXELTYPE_MONO12						
DCAM_IDPROP_RECORDFIXEDBYTES_PERFILE	4.0	R	-	-	-	LONG
return additional data size per a file						
DCAM_IDPROP_RECORDFIXEDBYTES_PERSESSION	4.0	R	-	-	-	LONG
return additional data size per a session						
DCAM_IDPROP_RECORDFIXEDBYTES_PERFRAME	4.0	R	-	-	-	LONG
return additional data size per a frame						
DCAM_IDPROP_SYSTEM_ALIVE	-	R	-	-	-	MODE
DCAMPROP_SYSTEM_ALIVE__OFFLINE						
DCAMPROP_SYSTEM_ALIVE__ONLINE						
DCAM_IDPROP_CONVERSIONFACTOR_COEFF	-	R	-	-	-	REAL
return current conversion factor coefficient						
DCAM_IDPROP_CONVERSIONFACTOR_OFFSET	-	R	-	-	-	REAL
return current conversion factor offset						
DCAM_IDPROP_NUMBEROF_VIEW	-	R	-	-	-	LONG
return number of view						
DCAM_IDPROP_IMAGEDETECTOR_PIXELWIDTH	4.0	R	-	-	-	REAL (um)
return 6.5						
DCAM_IDPROP_IMAGEDETECTOR_PIXELHEIGHT	4.0	R	-	-	-	REAL (um)
return 6.5						
DCAM_IDPROP_IMAGEDETECTOR_PIXELNUMHORZ	4.0	R	-	-	-	LONG
return 2048						
DCAM_IDPROP_IMAGEDETECTOR_PIXELNUMVERT	4.0	R	-	-	-	LONG
return 2048						
DCAM_IDPROP_TIMESTAMP_PRODUCER	4.0	R	-	-	-	MODE
DCAMPROP_TIMESTAMP_PRODUCER__DCAMMODULE						
DCAMPROP_TIMESTAMP_PRODUCER__IMAGINGDEVICE						
DCAM_IDPROP_FRAMESTAMP_PRODUCER	4.0	R	-	-	-	MODE
DCAMPROP_FRAMESTAMP_PRODUCER__DCAMMODULE						
DCAMPROP_FRAMESTAMP_PRODUCER__IMAGINGDEVICE						

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