



Dhyana Series TUCAM-API Properties & Capabilities



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1. Before Use

This document explains the supported properties and capabilities of the Dhyana series cameras and how to control them through TUCAM-API. Before use them, please understand the basic concepts of the TUCAM-API and SDK.

The Dhyana series cameras list:

Camera Model	Versions	Name
Dhyana 400BSI	V1.0	Dhyana 400BSI
	V2.0	Dhyana 400BSI V2
	V3.0	Dhyana 400BSI V3
	XF / XV	Dhyana XF/ XV400BSI (X-ray imaging)
Dhyana 400D	V1.0	Dhyana 400D
Dhyana 400DC	V1.0	Dhyana 400DC
Dhyana 201D	V1.0	Dhyana 201D
Dhyana 401D	V1.0	Dhyana 401D
Dhyana 4040	V1.0	Dhyana 4040
	V2.0	Dhyana 4040 V2
Dhyana 4040BSI	V1.0	Dhyana 4040BSI
	XF	Dhyana XF4040BSI (X-ray imaging)
Dhyana 6060	V1.0	Dhyana 6060
Dhyana 6060BSI	V1.0	Dhyana 6060BSI
Dhyana 95	V1.0	Dhyana 95
	V2.0	Dhyana 95 V2
	XF / XV	Dhyana XF95 / Dhyana XV95 (X-ray imaging)
Aries 16 LT	V1.0	Aries 16 LT
Aries 16	V1.0	Aries 16

2. Reference Table

Note:

- 1) Macro definitions that are not listed indicates that they are not supported.
- 2) ●: supported, ○: not supported

2.1. Capability Reference Table (prefixed with "TUIDC_")

Camera Model	RESOLUTION (0x00)	PIXELCLOCK (0x01)	BITOFDEPTH (0x02)	ATEXPOSURE (0x03)	HORIZONTAL (0x04)
400BSI	●	●	●	●	●
400D	●	●	●	●	●
400DC	●	●	●	●	●
201D	●	●	●	●	●
401D	●	●	●	●	●
4040	●	●	●	●	●
4040BSI	●	●	●	●	●
6060	●	●	●	●	●
6060BSI	●	●	●	●	●
95	●	●	●	●	●
16	●	●	●	●	●

Camera Model	VERTICAL (0x05)	ATWBALANCE (0x06)	FAN_GEAR (0x07)	ATLEVELS (0x08)	SHIFT (0x09)	HISTC (0x0A)
400BSI	●	○	●	●	●	●
400D	●	○	●	●	●	●
400DC	●	●	●	●	●	●
201D	●	○	○	●	●	●
401D	●	○	○	●	●	●
4040	●	○	●	●	○	●
4040BSI	●	○	●	●	○	●

6060	●	○	●	●	○	●
6060BSI	●	○	●	●	○	●
95	●	○	●	●	●	●
95 V2	●	○	●	●	○	●
95 XF/XV	●	○	●	●	○	●
16	●	○	●	●	○	●

Camera Model	CHANNELS (0x0B)	DFTCORRECTION (0x0D)	ENABLEDENOISE (0x0E)	FLTCORRECTION (0x0F)
400BSI	○	○	○	●
400D	○	○	●	●
400DC	●	●	●	●
201D	○	○	●	●
401D	○	○	●	●
4040	○	○	●	●
4040BSI	○	○	●	●
6060	○	○	●	●
6060BSI	○	○	●	●
95	○	○	●	●
16	○	○	○	●

Camera Model	DATAFORMAT (0x11)	DRCORRECTION (0x12)	VERCORRECTION (0x13)
400BSI	○	○	●
400D	○	○	●
400DC	●	●	●
201D	○	○	●
401D	○	○	●
4040	○	○	●
4040BSI	○	○	●
6060	○	○	●
6060BSI	○	○	●

95	○	○	●
16	○	○	●

Camera Model	BLACKBALANCE (0x15)	IMGMODESELECT (0x16)	CAM_MULTIPLE (0x17)	ENABLELED (0x1E)
400BSI	○	●	●	●
400D	○	○	●	○
400DC	●	○	●	○
201D	○	○	●	○
401D	○	○	●	○
4040	○	●	●	●
4040BSI	○	●	●	●
6060	○	●	●	●
6060BSI	○	●	●	●
95	○	○	●	●
16	○	○	●	●

Camera Model	ENABLETIMESTAMP (0x1F)	ENABLEPI (0x17)	TESTINGMODE (0x2B)	SENSORRESET (0x2C)
400BSI	●	○	○	○
400D	○	○	○	○
400DC	○	○	○	○
201D	○	○	○	○
401D	○	○	○	○
4040	●	●	●	●
4040BSI	●	●	●	●
6060	●	●	●	●
6060BSI	●	●	●	●
95	●	○	○	○
95 V2	●	●	○	○
16	●	●	○	○

Camera Model	ENABLETRIOUT (0x35)	ROLLINGSCANMODE (0x36)	ROLLINGSCANLTD (0x37)
400BSI V2	○	○	○
400BSI V3	●	●	●
400D	○	○	○
400DC	○	○	○
201D	○	○	○
401D	○	○	○
4040	○	○	○
4040BSI	○	○	○
6060	○	○	○
6060BSI	○	○	○
95	○	○	○
95 V2	●	○	○
16	●	○	○

Camera Model	ROLLINGSCANS LIT (0x38)	ROLLINGSCANDI R (0x39)	ROLLINGSCANRE SET (0x3A)	ENABLETEC (0x3B)
400BSI V2	○	○	○	○
400BSI V3	●	●	●	○
400D	○	○	○	○
400DC	○	○	○	○
201D	○	○	○	○
401D	○	○	○	○
4040	○	○	○	○
4040BSI	○	○	○	○
6060	○	○	○	○
6060BSI	○	○	○	○
95	○	○	○	○
95 XF/XV	○	○	○	●
16	○	○	○	○

2.2. Property Reference Table (prefixed with "TUIDP_")

Camera Model	GLOBALGAIN (0x00)	EXPOSURETIME (0x01)	BRIGHTNESS (0x02)	BLACKLEVEL (0x03)	TEMPERATURE (0x04)
400BSI	●	●	●	●	●
400D	●	●	●	●	●
400DC	●	●	●	●	●
201D	●	●	●	●	●
401D	●	●	●	●	●
4040	●	●	○	●	●
4040BSI	●	●	○	●	●
6060	●	●	○	●	●
6060BSI	●	●	○	●	●
95	●	●	●	●	●
16	●	●	○	○	●

Camera Model	SHARPNES (0x05)	NOISELEVEL (0x06)	HDR_KVALUE (0x07)	GAMMA (0x08)	CONTRAST (0x09)	LFTLEVEL (0x0A)
400BSI	○	●	●	●	●	●
400D	○	●	●	●	●	●
400DC	●	○	●	●	●	●
201D	●	○	●	●	●	●
401D	●	○	●	●	●	●
4040	○	●	●	●	●	●
4040BSI	○	●	●	●	●	●
6060	○	●	●	●	●	●
6060BSI	○	●	●	●	●	●
95	○	●	●	●	●	●
16	○	●	●	●	●	●

Camera Model	RGTLEVELS (0x0B)	CHNLGAIN (0x0C)	SATURATION (0x0D)	CLRTEMPERATURE (0x0E)	DPCLEVEL (0x10)
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400BSI	●	○	○	○	○
400D	●	○	○	○	○
400DC	●	●	●	●	●
201D	●	○	○	○	●
401D	●	○	○	○	●
4040	●	○	○	○	○
4040BSI	●	○	○	○	○
6060	●	○	○	○	○
6060BSI	●	○	○	○	○
95	●	○	○	○	○
16	●	○	○	○	○

Camera Model	BLACKLEVELHG (0x11)	BLACKLEVELLG (0x12)	FRAME_RATE (0x19)	START_TIME (0x1A)
400BSI	●	●	○	○
400D	●	●	○	○
400DC	●	●	○	○
201D	●	●	○	○
401D	●	●	○	○
4040	●	●	●	●
4040BSI	●	●	●	●
6060	●	●	●	●
6060BSI	●	●	●	●
95	●	●	○	○
16	●	●	●	○

Camera Model	FRAME_NUMBER (0x1B)	INTERVAL_TIME (0x1C)	GPS_APPLY (0x1D)	AMB_TEMPERATURE (0x1E)
400BSI	○	○	○	○
400D	○	○	○	○
400DC	○	○	○	○
201D	○	○	○	○

401D	○	○	○	○
4040	●	●	●	●
4040BSI	●	●	●	●
6060	●	●	●	●
6060BSI	●	●	●	●
95	○	○	○	○
16	○	○	○	○

Camera Model	AMB_HUMIDITY (0x1F)	AUTO_CTRLTEMP (0x20)
400BSI	○	○
400D	○	○
400DC	○	○
201D	○	○
401D	○	○
4040	●	●
4040BSI	●	●
6060	●	●
6060BSI	●	●
95	○	○
16	○	○

3. Detailed Reference Table

Note:

Camera models not listed indicate that the camera is not supported.

3.1. Capability Reference Table

3.1.1. TUIDC_RESOLUTION

Camera Model	Range	Default	Step	Description
Dhyana 400BSI	[0, 2]	0	1	0: "2048x2040(Normal)" 1: "2048x2040(Enhance)" 2: "1024x1020(2x2Bin)"
Dhyana 400BSI V2	[0, 3]	0	1	0: "2048x2040(Normal)" 1: "2048x2040(Enhance)" 2: "1024x1020(2x2Bin)" 3: "512x510 (4x4Bin)"
Dhyana 400BSI V3				
Dhyana 400D	[0, 2]	0	1	0: "2048x2040(Normal)" 1: "2048x2040(Enhance)" 2: "1024x1020(2x2Bin)"
Dhyana 400DC	[0, 0]	0	0	0: "2048x2044"
Dhyana 201D	[0, 2]	0	1	0: "2048x1152" 1: "1024x576(2x2Bin)" 2: "512x288 (4x4Bin)"
Dhyana 401D	[0, 2]	0	1	0: "2048x2048" 1: "1024x1024(2x2Bin)" 2: "512x512 (4x4Bin)"
Dhyana 4040	[0, 2]	0	1	0: "4096x4096" 1: "2048x2048(2x2Bin)" 2: "1024x1024(4x4Bin)"
Dhyana 4040BSI				
Dhyana 6060	[0, 2]	0	1	0: "6144x6144" 1: "3072x3072(2x2Bin)" 2: "1536x1536(4x4Bin)"
Dhyana 6060BSI				
Dhyana 95	[0, 1]	0	1	0: "2048x2048" 1: "1024x1024(2x2Bin)""
Dhyana 95 V2	[0, 2]	0	1	0: "2048x2048" 1: "1024x1024(2x2Bin)"" 2: "512x512 (4x4Bin)"
Dhyana 95 XF / XV				

Aries 16 LT/Aries 16	[0, 0]	0	0	0: "800x600"
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3.1.2. TUIDC_PIXELCLOCK

Camera Model	Range	Default	Step	Description
Dhyana 400D	[0, 0]	0	0	0: "High" 40MHZ
Dhyana 400BSI				
Dhyana 400BSI V2	[0, 0]	0	0	0: "High" 50MHZ
Dhyana 400BSI V3				
Dhyana 201D				
Dhyana 401D				
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 6060	[0, 0]	0	0	0: "High" 35MHZ
Dhyana 6060BSI				
Dhyana 400DC	[0, 0]	0	0	0: "High" 25MHZ
Dhyana 95 (All)				
Aries 16 LT/Aries 16	[0, 0]	0	0	0: "High" 37MHZ

3.1.3. TUIDC_BITOFDEPTH

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[16, 16]	16	0	16: 16Bit data bit depth
Dhyana 400D				
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 95				
Aries 16 LT/Aries 16				
Dhyana 400DC	[8, 16]	8	8	8: 8Bit data bits

Dhyana 201D				16: 16Bit data bit depth
Dhyana 401D				

3.1.4. TUIDC_ATEXPOSURE

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[0, 2]	0	1	0: Manual exposure mode 1: Automatic exposure mode 2: Reserved (current effect with 1)
Dhyana 400D				
Dhyana 201D				
Dhyana 401D				
Dhyana 95 (All)				
Aries 16 LT/Aries 16				
Dhyana 400DC	[0, 1]	0	1	0: Manual exposure mode 1: Automatic exposure mode
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

3.1.5. TUIDC_HORIZONTAL

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 1]	0	1	0: Non-horizontal mirror state 1: Horizontal mirror state

3.1.6. TUIDC_VERTICAL

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 1]	0	1	0: Non-horizontal mirror state 1: Horizontal mirror state

3.1.7. TUIDC_ATWBALANCE

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 2]	1	1	0: Manual white balance state 1: Automatic white balance state 2: Single white balance state (reserved)

3.1.8. TUIDC_FAN_GEAR

Camera Model	Range	Default	Step	Description
Dhyana 400BSI	[0, 5]	2	1	0: "Fan 1" 1: "Fan 2" 2: "Fan 3" 3: "Fan 4" 4: "Fan 5" 5: "Fan 6"
Dhyana 400D				
Dhyana 400DC				
Dhyana 95				
Dhyana 4040	[0, 2]	0	1	0: "High" 1: "Medium" 2: "Low"
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 400BSI V2	[0, 3]	0	1	0: "High" 1: "Medium" 2: "Low" 3: "Off (Water Cooling)"
Dhyana 400BSI V3				
Dhyana 4040BSI				
Dhyana 95 V2				
Dhyana 95 XF / XV				
Aries 16 LT/Aries 16		1		

3.1.9. TUIDC_ATLEVELS

Camera Model	Range	Default	Step	Description
Dhyana full	[0, 3]	0	1	0: Manual color gradation state

series				<p>1: Automatic left color scale state (must open histogram statistics)</p> <p>2: Automatic right color scale state (must be turned on histogram statistics)</p> <p>3: Automatic left and right color scale state (must open histogram statistics)</p>
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3.1.10. TUIDC_SHIFT

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[0, 8]	0	1	0: Display 8Bit data [8, 15]
Dhyana 400D				1: Display 8Bit data [7, 14]
Dhyana 400DC				2: Display 8Bit data [6, 13]
Dhyana 201D				3: Display 8Bit data [5, 12]
Dhyana 401D				4: Display 8Bit data [4, 11]
Dhyana 95				5: Display 8Bit data [3, 10] 6: Display 8Bit data [2, 9] 7: Display 8Bit data [1, 8] 8: Display 8Bit data [0, 7]

3.1.11. TUIDC_HISTC

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 1]	0	1	<p>0: Turn off histogram statistics (auto color scale is invalid)</p> <p>1: Turn on histogram data statistics (automatic color scale is effective)</p>

3.1.12. TUIDC_CHANNELS

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 3]	0	1	0: Shared channel (RGB or

				Gray) 1: Red channel 2: Green channel 3: Blue channel
--	--	--	--	--

3.1.13. TUIDC_DFTCORRECTION

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 1]	1	1	0: Turn off bad point correction (reserved, currently not valid) 1: Open bad point correction

3.1.14. TUIDC_ENABLEDENOISE

Camera Model	Range	Default	Step	Description
Dhyana	[0, 1]	0	1	0: Turn off noise reduction 1: Turn on noise reduction
Dhyana Series				Except for Dhyana 400BSI

3.1.15. TUIDC_FLTCORRECTION

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 3]	0	1	0: Turn off flat field correction 1: Grabbing frame data 2: Calculate the flat field correction 3: Open flat field correction (calculation can be effective successfully)

3.1.16. TUIDC_DATAFORMAT

Camera Model	Range	Default	Step	Description
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Dhyana 400DC	[0, 1]	0	1	0: YUV format image data 1: Bayer format image data
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3.1.17. TUIDC_DRCORRECTION

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 1]	0	1	0: Turn off dynamic range correction 1: Turn on dynamic range correction

3.1.18. TUIDC_VERCORRECTION

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 1]	1	1	0: Turn off vertical mirror correction 1: Turn on vertical mirror correction (Windows system default)

3.1.19. TUIDC_BLACKBALANCE

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 1]	0	1	0: Reserved, same effect as 1 1: Execution of black balance parameters

3.1.20. TUIDC_IMGMODESELECT

Camera Model	Range	Default	Step	Description
Dhyana 400BSI	[0, 1]	0	1	0: Turn off "CMS" mode 1: Turn on "CMS" mode
Dhyana 400BSI V2	[0, 3]	1	1	1: "CMS" 2: "11Bit" 3: "GlobalReset"
Dhyana 400BSI V3	[0, 5]	2	1	1: "CMS"

				2: "HDR" 3: "HighSpeedHG" 4: "HighSpeedLG" 5: "GlobalReset"
Dhyana 4040	[0, 1]	1	1	0: "Base2X8" 1: "FullMode"
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 95 (All)	[0, 2]	0	1	0: "HDR" 1: "Std_High" 2: "Std_Low"

3.1.21. TUIDC_CAM_MULTIPLE

Camera Model	Range	Default	Step	Description
Dhyana full series	[1, 4]	1	1	Set the number of cameras capturing data simultaneously and divide the USB bandwidth equally

3.1.22. TUIDC_ENABLEDLED

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V2	[0, 1]	1	1	0: Turn off the LED light 1: Turn on the LED light
Dhyana 400BSI V3				
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 95 V2				
Aries 16 LT/Aries 16				

3.1.23. TUIDC_ENABLETIMESTAMP

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V2	[0, 1]	0	1	0: Close timestamp statistics 1: Turn on timestamp statistics
Dhyana 400BSI V3				
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 95				
Aries 16 LT/Aries 16				

3.1.24. TUIDC_ENABLEPI

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 1]	0	1	0: Close PI heating film 1: Open PI heating film
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 95 V2				
Aries 16 LT/Aries 16				

3.1.25. TUIDC_TESTIMGMODE

Camera Model	Range	Default	Step	Description
Dhyana 400D	[0, 1]	0	1	0: Normal mode 1: Test images
Dhyana 4040 Dhyana 4040BSI Dhyana 6060 Dhyana 6060BSI	[0, 4]	0	1	0: Normal mode 1: Horizontal slope 2: Vertical slope 3: Static slope 4: Rolling slope

3.1.26. TUIDC_SENSORRESET

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 1]	0	1	0: Reserved 1: Sensor reset 1 time
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

3.1.27. TUIDC_ENABLETRIOUT

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V3	[0, 1]	0	1	0: Turn off the trigger output signal 1: Turn on the trigger output signal
Dhyana 95 V2				
Aries 16 LT/Aries 16				

3.1.28. TUIDC_ROLLINGSCANMODE

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V3	[0, 2]	0	1	0: Close 1: Line delay 2: Slit height

3.1.29. TUIDC_ROLLINGSCANLTD

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V3	[0, 8928]	0	1	Roll-up scan line delay time

3.1.30. TUIDC_ROLLINGSCANSPLIT

Camera Model	Range	Default	Step	Description
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Dhyana 400BSI V3	[1, 2048]	0	1	Roll-up scanning interval height
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3.1.31. TUIDC_ROLLINGSCANDIR

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V3	[0, 2]	0	1	0: Down 1: Up 2: Bottom-up cycle

3.1.32. TUIDC_ROLLINGSCANRESET

Camera Model	Range	Default	Step	Description
Dhyana 400BSI V3	[0, 1]	0	1	0: Reset scan direction off 1: Reset scan enable

3.1.33. TUIDC_SHUTTER

Camera Model	Range	Default	Step	Description
Aries 16 LT/Aries 16	[0, 1]	0	1	0: "Rolling" 1: "Global Reset"

3.2. Property Reference Table

3.2.1. TUIDP_GLOBALGAIN

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[0, 5]	0	1	0: "HDR"
Dhyana 400D				1: "High gain"
Dhyana 400DC				2: "Low gain"
Dhyana 201D				3: "HDR - Raw"

Dhyana 401D				4: "High gain - Raw" 5: "Low gain - Raw"
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 95				
Dhyana 6060	[0, 3]	0	1	0: "HDR 16Bit" 1: "HG 12Bit" 2: "LG 12Bit" 3: "HG 14Bit"
Dhyana 6060BSI				
Aries 16 LT/Aries 16	[0, 3]	0	1	0: "HDR" 1: "High Gain" 2: "Low Gain" 3: "Low Noise"

3.2.2. TUIDP_EXPOSURETM

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, -]	-	-	The range and step of the exposure time is related to the resolution and minimum exposure time, and the range is obtained through the interface.

3.2.3. TUIDP_BRIGHTNESS

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[20, 255]	255	1	Auto exposure status is in effect
Dhyana 400D				
Dhyana 400DC				
Dhyana 201D				
Dhyana 401D				
Dhyana 95 (All)				

3.2.4. TUIDP_BLACKLEVEL

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[1, 8191]	70	1	Camera black level value
Dhyana 400D				
Dhyana 201D				
Dhyana 401D				
Dhyana 95 (All)				
Dhyana 400DC	[1, 8191]	30	1	
Dhyana 4040	[0, 1023]	100	1	
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

3.2.5. TUIDP_TEMPERATURE

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[0, 100]	50	1	Camera (Sensor) temperature Actual temperature -50
Dhyana 400D				
Dhyana 201D				
Dhyana 401D				
Dhyana 95 (All)				
Dhyana 400DC	[0, 100]	40	1	
Dhyana 4040	[0, 100]	30	1	
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Aries 16 LT	[0, 1000]	200	1	Camera (Sensor) temperature , Min Temperature -50
Aries 16	[0, 1500]	700	1	Camera (Sensor) temperature , Min Temperature -100

3.2.6. TUIDP_SHARPNESS

Camera Model	Range	Default	Step	Description
Dhyana 201D	[0, 255]	0	1	Sharpening level, the larger the value, the greater the sharpening intensity
Dhyana 401D				
Dhyana 400DC	[0, 255]	4	1	

3.2.7. TUIDP_NOISELEVEL

Camera Model	Range	Default	Step	Description
Dhyana 400BSI (All)	[0, 3]	3	1	Noise reduction level, the larger the value, the greater the noise reduction intensity
Dhyana 400D				
Dhyana 4040				
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Dhyana 95 (All)				
Aries 16 LT/Aries 16				

3.2.8. TUIDP_HDR_KVALUE

Camera Model	Range	Default	Step	Description
Dhyana full series	[1, 1024]	800	1	Manufacturer reserved, not recommended to set by yourself

3.2.9. TUIDP_GAMMA

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[60, 255]	210	1	Gamma school is in the middle of
Dhyana Series Others	[0, 255]	100	1	

3.2.10. TUIDP_CONTRAST

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 63]	33	1	Contrast value
Dhyana Series Others	[0, 255]	128	1	

3.2.11. TUIDP_LFTLEVELS

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 254]	0	1	8Bit Data Correspondence Range
	[0, 65534]	0	1	16Bit Data Correspondence Range

3.2.12. TUIDP_RGTLEVELS

Camera Model	Range	Default	Step	Description
Dhyana full series	[1, 255]	255	1	8Bit Data Correspondence Range
	[1, 65535]	65535	1	16Bit Data Correspondence Range

3.2.13. TUIDP_CHNLGAIN

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0,1022]	256	1	Gain value of the corresponding channel

3.2.14. TUIDP_SATURATION

Camera Model	Range	Default	Step	Description
Dhyana 400DC	[0, 255]	128	1	Saturation value

3.2.15. TUIDP_CLRTEMPERATURE

Camera Model	Range	Default	Step	Description
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Dhyana 400DC	[0, 65]	0	1	Confirm the color temperature value according to the RGB gain value
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3.2.16. TUIDP_DPCLEVEL

Camera Model	Range	Default	Step	Description
Dhyana 201D	[0, 3]	0	1	Bad point correction, the larger the value, the greater the correction intensity
Dhyana 401D				
Dhyana 400DC	[0, 8]	3	1	

3.2.17. TUIDP_BLACKLEVELHG

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 65535]	0	1	Manufacturer reserved, not recommended to set by yourself

3.2.18. TUIDP_BLACKLEVELLG

Camera Model	Range	Default	Step	Description
Dhyana full series	[0, 65535]	0	1	Manufacturer reserved, not recommended to set by yourself

3.2.19. TUIDP_FRAME_RATE

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 65535]	0	1	Accuracy 0.1, input frame rate x 10 For example: you need a frame rate of 35fps, set 350
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				
Aries 16 LT/Aries 16				

3.2.20. TUIDP_START_TIME

Camera Model	Range	Default	Step	Description
Dhyana 4040	8 bytes	0	1	Valid for access to GPS module
Dhyana 4040BSI				Set the start time for GPS triggering, and the camera will only start capturing images when the set start time has elapsed.
Dhyana 6060				
Dhyana 6060BSI				The software forces Start time>UTC Reference Time, which only supports setting hours, minutes and seconds. For example: UTC time is 23:50 pm, need to start collecting at 24:10 pm, need to start after 20 minutes.

3.2.21. TUIDP_FRAME_NUMBER

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 4294967295]	0	1	Valid when connected to GPS module
Dhyana 4040BSI				Set the maximum value to enter the infinite loop trigger mode; set less than the maximum value to stop triggering when the number of trigger sheets reaches the specified number.
Dhyana 6060				
Dhyana 6060BSI				

3.2.22. TUIDP_INTERVAL_TIME

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 4294967295]	0	1	Valid for access to GPS module
Dhyana 4040BSI				Set the interval time between images with microsecond accuracy. The software has
Dhyana 6060				

Dhyana 6060BSI				to do a limit to meet the trigger frame interval must be greater than the time period of the maximum frame rate.
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3.2.23. TUIDP_GPS_APPLY

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 1]	0	1	0: Disable GPS 1: Open GPS (Valid for access to GPS module)
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

3.2.24. TUIDP_AMB_TEMPERATURE

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 2000]	1000	1	Ambient temperature (external device incoming)
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

3.2.25. TUIDP_AMB_HUMIDITY

Camera Model	Range	Default	Step	Description
Dhyana 4040	[0, 100]	0	1	Ambient humidity (external device incoming)
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

3.2.26. TUIDP_AUTO_CTRLTEMP

Camera Model	Range	Default	Step	Description
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Dhyana 4040	[0, 1]	0	1	0: Turn off automatic temperature control 1: Turn on automatic temperature control
Dhyana 4040BSI				
Dhyana 6060				
Dhyana 6060BSI				

4. Annexes

4.1. Dhyana 400BSI Gain Table

4.1.1. Dhyana 400BSI

Gain Mode	Bit deep	TUIDC_IMGMODESELECT	TUIDP_GLOBALGAIN
HDR	16Bit	0	0
HighGain	12Bit		1
LowGain	12Bit		2
CMS	12Bit	1	0

4.1.2. Dhyana 400BSI V2

Gain Mode	Bit deep	TUIDC_IMGMODESELECT	TUIDP_GLOBALGAIN
CMS	12Bit	1	0
HDR	16Bit	2	0
HighGain	11Bit	2	1
	12Bit(Global Reset)	3	
LowGain	11Bit	2	2
	12Bit(Global Reset)	3	

4.1.3. Dhyana 400BSI V3

Gain Mode	Bit deep	TUIDC_IMGMODESELECT	TUIDP_GLOBALGAIN
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CMS	12Bit	1	0
HDR	16Bit	2	0
HighGain	11Bit	2	1
	12Bit(HighSpeed)	3	
	12Bit(Global Reset)	5	
LowGain	11Bit	2	2
	12Bit(HighSpeed)	4	
	12Bit(Global Reset)	5	