

Description of the OPC / OPD / OPE configuration and parameters

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The parameters in the table below can be set using the `SetSpecificSingleParameter` method in the software interface. To do this, the interface DLLs has to be integrated into the programming environment and the programming lines mentioned below must be executed.

All the examples relate to the Visual Studio 2010 programming environment and to the C# (C sharp) programming language.

Below is an example program for integrating and triggering the OPC / OPD / OPE:

```
class Program
{
    static void Main(string[] args)
    {
        PF.Foundation.VsxFactory.PFVsxFacoryVCCustom sensor;
        sensor = new PF.Foundation.VsxFactory.PFVsxFacoryVCCustom();
        sensor.Connect("192.168.2.3", 50005);

        sensor.SetSpecificSingleParameter(1, "Command", "TriggerStart", "1");

        System.Threading.Thread.Sleep(1000);

        sensor.Disconnect();
    }
}
```

Configuration Overview OPC / OPD / OPE

Config ID	Parameter ID	Value	Config Version		Description	From Firmware
			from	to		
System	EnableRS232	0,1	1		Enable RS232 Interface	5415
	DataSize	5,6,7,8	1		Data size RS232	5415
	StopBits	1,2	1		Stop Bits RS232	5415
	BaudRate	BAUD_115200 BAUD_19200 BAUD_38400 BAUD_57600 BAUD_9600	1		Baud rate RS232	5415
	ParityMode	PARITY_EVEN PARITY_NONE PARITY_ODD	1		Parity RS232	5415
	TriggerString	string	1		Trigger string (RS232)	5415
	EnableResultPort	0,1	1		Enable TCP/IP Result	5415
	UDP	0,1	1		Enable UDP Result	5415
	PortOut	1-65536	1		TCP Port	5415
	PortOutUdp	1-65536	1		UDP Port	5415
	PosLeds	0,1	1		Switch Position LEDs on/off	6106
	EnableVGA	0,1	1		OPE only: Enable or disable VGA-output	8738
	PulseLengthGOOD	0-30000	1		Pulse length in ms for output signal GOOD	8474
	PulseLengthBAD	0-30000	1		Pulse length in ms for output signal BAD	8474
	TriggerDelay	0-30000			Trigger delay in ms	
	SensorName	string	1		User-definable string	8470
	ImageFormat	752x480 752x240 752x160 752x120	1		Image format, the camera chip area that is captured and processed.	6022
	ImageFinePosition	-50 - +50	1		If image format < 480 rows: Vertical position offset in rows relative to center position	8597
	ImageTransfer	ALL_IMG ERROR_IMG GOOD_IMG	1		Which images are transferred to the connected client	7818
	ImageTransferActive	0,1	1		Enable transfer of vsx image message after each cycle	6064
	ImageBuffer	ALL_IMG ERROR_IMG GOOD_IMG	1		Which images are buffered , buffer is implemented as FIFO	7818
	OverwriteBuffer	0,1	1		Overwrite buffered images if buffer is full	8473

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			from	to		
Camera	FlashTime	0-255	1		Flash time in ms	5415
	Gain	0-255	1		Manual input of the exposure time in ms (AutoExposure must be deactivated).	5415
Filter	ExpansionFilterEnabled	0,1			Enable Expansion filter Filter enlarge certain pixels in an image. Usually used with dot peen Data Matrix symbols	
	ExpansionFilterType	EXPANSION_DILATION EXPANSION_CLOSING			Filter type Dilation filter: pixels with ExpansionFilterPixelColor get dilated Closing filter: pixels with ExpansionFilterPixelColor get dilated, then eroded	
	ExpansionFilterPixelColor	EXPANSION_PIXEL_COLOR_DARK EXPANSION_PIXEL_COLOR_LIGHT			Color of foreground pixels, usually the module color of the Data Matrix symbol	
	ExpansionFilterSizeX	1-6			Size of horizontal filter mask	
	ExpansionFilterSizeY	1-6			Size of vertical filter mask	
Command	TriggerStart	1	1		Starts one trigger	5930
	BlockTrigger	1	1		Blocks trigger	5971
	ShowCounter	1	1		Requests counter values (number of images, successful logo comparisons, failed decodings, mismatched decodings)	8606
	ResetCounter	1	1		Resets counter values	8578
	GetLastImg	1	1		Requests last captured image	5415
	GetErrImg	1	1		Request error image	5415
	SetDefaultParams	1	1		Sets default parameters	7900
Trigger Modes	TriggerMode	TRIGGER_DIRECT_MODE TRIGGER_ENCODER_MODE	1		Sets the type of trigger	5783
	DirectMode	TRIGGER_DIRECT_EDGE TRIGGER_DIRECT_LEVEL	1		Sets the trigger signal characteristics (edge or level)	6022
	EdgeMode	TRIGGER_EDGE_POS TRIGGER_EDGE_NEG	1		Set the trigger signal polarity: rising or falling edge if DirectMode = TRIGGER_DIRECT_EDGE high or low active if DirectMode = TRIGGER_DIRECT_LEVEL	6022
	ContinueConnect	0,1	1		In DirectMode = TRIGGER_DIRECT_LEVEL: Continue triggering when VSX-connection is active	7818
	LvlTrigCycle	8-1000	1		Cycle time for DirectMode = TRIGGER_DIRECT_LEVEL	7869
	CreateDebugImage	0,1	1		Create and send debug image	6064
	EncoderResolution	100-3000	1		OPC+OPD only: No of increments/m	5988
	TriggerOffset	0-32767	1		OPC+OPD only: Offset of first trigger in mm	5988
	TargetDistance	70-200	1		OPC only: Distance of target to sensor in mm	5988
	SheetLength	100-300	1		OPC+OPD only: Length of sheet in mm	5988
	DistanceTolerance	0-20	1		OPC+OPD only: Tolerance value addressing slippage	5988
	MoveDirection	MOVE_HOR_NEGATIVE MOVE_HOR_POSITIVE MOVE_VER_NEGATIVE MOVE_VER_POSITIVE	1		OPC+OPD only: Moving direction from sensor POV: Left>Right Right>Left Down>Up Up>Down	5988
	ResetCycle	1	1		OPC+OPD only: Reset a started cycle when TriggerMode = TRIGGER_ENCODER_MODE	5988

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			from	to		
Window N N= 1,2,3,4	WinActive	0,1	1		Enable/Disable Window N	5415
	XStart	0-751	1		Horizontal distance of upper left corner of ROI	5415
	YStart	0-479	1		Vertical distance of upper left corner of ROI	5415
	RoiWidth	1-752	1		Width of ROI	5415
	RoiHeight	1-480	1		Height of ROI	5415
	XStart_Pattern	0-751	1		Horizontal distance of upper left corner of pattern ROI	5415
	YStart_Pattern	0-479	1		Vertical distance of upper left corner of pattern ROI	5415
	RoiWidth_Pattern	64,128,196,256	1		Width of pattern ROI	5415
	RoiHeight_Pattern	64,128,196,256	1		Height of pattern ROI	5415
	InspectionTask	INSPECTION_TYPE_1_DECODE_1D2D INSPECTION_TYPE_2_MATCH_1D2D INSPECTION_TYPE_3_MATCH_LOGO INSPECTION_TYPE_4_PRESENCE_CHECK	1		Sets type of inspection task	5415
	CheckDataMatrix	0,1	1		Enables/disables Data Matrix decoding (exclusive)	5415
	CheckInterleaved2of5	0,1	1		Enables/disables Interleaved 2/5 decoding	5415
	CheckCode128	0,1	1		Enables/disables Code128 decoding	5415
	CheckCode39	0,1	1		Enables/disables Code39 decoding	5415
	CheckCode13	0,1	1		Enables/disables Code13 (EAN/UPC/JAN) decoding	5415
	CheckPharma	0,1	1		Enables/disables Pharma Code decoding (exclusive)	5415
	MinCodeLen1D	1-255	1		Min. code length in characters (only used for 1D-decoding)	7892
	MaxCodeLen1D	1-255	1		Max. code length in characters (only used for 1D-decoding)	10095
	CheckSum125	0,1	1		Enable/disable checksum check	5716
	SuppressDuplicates	0,1	1		Enable/disable suppression of consecutive decoding of same code content	7892
	MatchString	string	1		Sets match string	5415
	UpdateMatchString	1	1		Sets match string from last successful decode	5716
	CheckCheckPosition	0,1	1		Enable position check for barcodes	5422
	deltaX	0-752	1		Horizontal tolerance for barcode position check	5415
	deltaY	0-480	1		Vertical tolerance for barcode position check	5415
	PresenceEdgeThreshold	0-255	1		Edge threshold	8102
	PresenceEdgeFilterWidth	1-5	1		Width of edge filter	8102
	PresenceEdgeRatioMin	0-2000	1		Edge ratio	8102
	PresenceEdgesHorizontal	0,1	1		Enable/disable calculation of horizontal edges	8102
	PresenceEdgesVertical	0,1	1		Enable/disable calculation of vertical edges	8102
	PresenceInvertOut	0,1	1		Invert presence check logic	8102
	PresenceEdgeImage	0,1	1		Show edge calculation in image	8102

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			from	to		
Window N N= 1,2,3,4	PharmaOrientation	hor ver			Set orientation for pharma-code decoding	10092
	SearchStart	top bottom			Set start edge for searching pharma-codes	10092
	PharmaDir	top bottom			Set direction for decoding pharma-codes	10092
	MinOkLine	1-100			Number of lines with identical pharma-code readings	10092
	DataMatrixInvers	INVERS_autoChange INVERSE_off INVERSE_on	1		Set inverse decoding behavior of Data Matrix decoding	7892
	DataMatrixMirror	MIRROR_autoChange MIRROR_off MIRROR_on	1		Set mirror decoding behaviour of Data Matrix decoding	7892
	Orientation	0-7	1		Set possible orientations of DM-Codes	8597
	DataMatrixSymbolCornerOrientationSW	0,1			Enable Data Matrix symbol orientation SW (south west)	
	DataMatrixSymbolCornerOrientationNW	0,1			Enable Data Matrix symbol orientation NW (north west)	
	DataMatrixSymbolCornerOrientationNE	0,1			Enable Data Matrix symbol orientation NE (north east)	
	DataMatrixSymbolCornerOrientationSE	0,1			Enable Data Matrix symbol orientation SE (south east)	
	CalcISOQuality	0,1			Enable calculation of ISO quality values (Data Matrix)	
	Timeout1D2D	0- 65534	1		Timeout in ms	5415
	TimeoutMatch1D2D	0- 65534	1		Timeout in ms	5415
	GoodString	string	1		String in case inspection of window is successful, may contain placeholder for details of particular inspection	8349
	BadString	string	1		String in case inspection of window is not successful, may contain placeholder for details of particular inspection	8349