

VisionPackages & Scorpion

Configurable Software For Machine Vision



Scorpion Vision Software

- Easy To Use
- Powerful And Flexible
- B/W And Color Processing
- For IEEE1394-Cameras
- Communication: Digital I/O, RS-232, TCP/IP, OPC and PROFIBUS



SCORPION

VISION SOFTWARE™

Scorpion Vision Software™ is a very cost-effective machine vision tool based on IEEE1394-Technology. It is an ideal choice for the production engineer wanting to automate or secure quality. The system gives the end-user the ease of use of a vision sensor and still the flexibility and power of a custom vision-pc system. It is flexible and designed for applications like quality control, gauging, identification, robot guiding and assembly verification.

Man Machine Interface

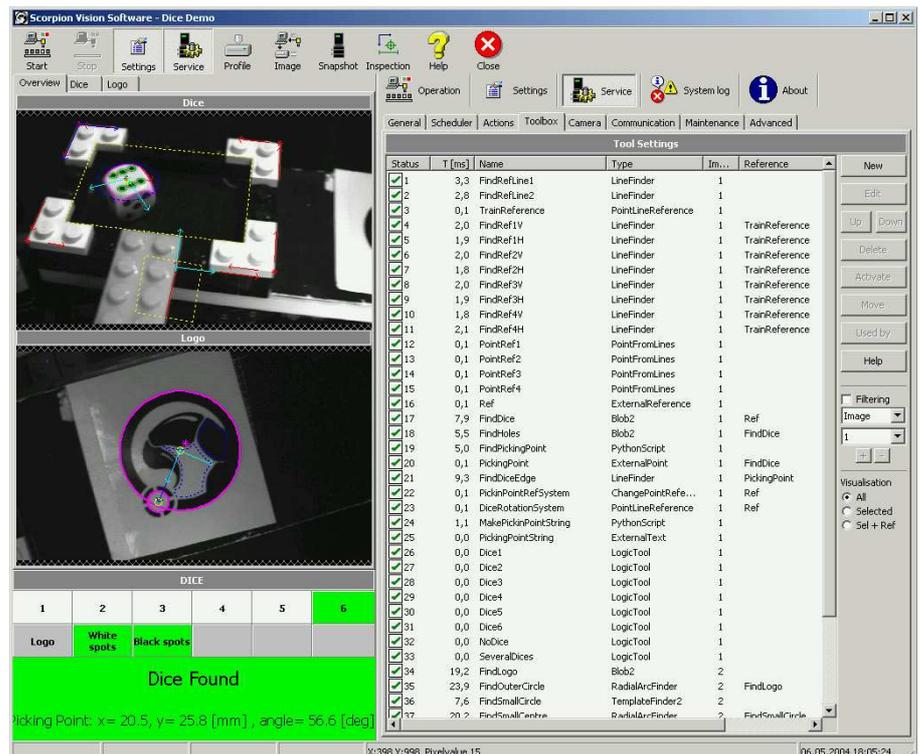
Scorpion has a feature rich and configurable Man Machine Interface with image display, result panels, image history list, real-time trends, logging, event log and quality alarms.

Customable User Interface - Integrated Web-Browser

The custom user- interface is designed using html pages and a set of easy to use Scorpion ActiveX - controls. A solution's usability is improved by reducing the man machine interface to the essential minimum.

Camera Interface

The typical image source is a IEEE 1394 camera, mainly a Marlin. Using the ImageProp command, all properties of IEEE-1394 cameras are dynamically controlled. There is no restriction on image size, image number or camera connections in Scorpion.

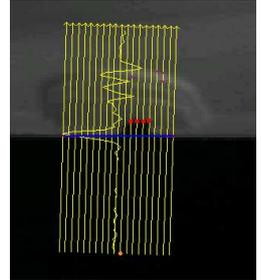


Status	T [ms]	Name	Type	Im...	Reference
1	3,3	FindRefLine1	LineFinder	1	
2	2,8	FindRefLine2	LineFinder	1	
3	0,1	TrainReference	PointLineReference	1	
4	2,0	FindRef1V	LineFinder	1	TrainReference
5	1,9	FindRef1H	LineFinder	1	TrainReference
6	2,0	FindRef2V	LineFinder	1	TrainReference
7	1,8	FindRef2H	LineFinder	1	TrainReference
8	2,0	FindRef3V	LineFinder	1	TrainReference
9	1,9	FindRef3H	LineFinder	1	TrainReference
10	1,8	FindRef4V	LineFinder	1	TrainReference
11	2,1	FindRef4H	LineFinder	1	TrainReference
12	0,1	PointRef1	PointFromLines	1	
13	0,1	PointRef2	PointFromLines	1	
14	0,1	PointRef3	PointFromLines	1	
15	0,1	PointRef4	PointFromLines	1	
16	0,1	Ref	ExternalReference	1	
17	7,9	FindDice	LogicTool	1	Ref
18	5,5	FindHoles	Blob2	1	FindDice
19	5,0	FindPickingPoint	PythonScript	1	
20	0,1	PickingPoint	ExternalPoint	1	FindDice
21	9,3	FindDiceEdge	LineFinder	1	PickingPoint
22	0,1	PickinPointRefSystem	ChangePointRef...	1	Ref
23	0,1	DiceRotationSystem	PointLineReference	1	Ref
24	1,1	MakePickingPointString	PythonScript	1	
25	0,0	PickingPointString	ExternalText	1	
26	0,0	Dice1	LogicTool	1	
27	0,0	Dice2	LogicTool	1	
28	0,0	Dice3	LogicTool	1	
29	0,0	Dice4	LogicTool	1	
30	0,0	Dice5	LogicTool	1	
31	0,0	Dice6	LogicTool	1	
32	0,0	NoDice	LogicTool	1	
33	0,0	ServerDices	LogicTool	1	
34	19,2	FindLogo	Blob2	2	
35	23,9	FindOuterCircle	RadialArcFinder	2	FindLogo
36	7,6	FindSmallCircle	TemplateFinder2	2	
37	20,2	FindSmallCentre	DualArcFinder	2	FindSmallCircle

Configurable Machine Vision Tools

Scorpion offers a wide range of tools in the Scorpion Toolbox. The tools are divided into the following groups: Basic, Data, Reference, Edge, and Advanced. All tools have user-friendly interfaces and no programming skills are required to develop industrial strength solutions.

A major feature of the Scorpion toolbox is the reference system concept. Location and orientation come easy with an unlimited number of references in a profile.



A set of flexible edge finders is suited for high-precision gauging. The LineFinder tool's unique constraints make it easy to add geometric knowledge. This makes it very robust even in low contrast problems. The trace combs concept, see image, provides a very robust and selective method to find edges with sub-pixel accuracy. The intensity variations are handled using first or second order differentiation.

The advanced Blob2 supports form of any shape – ideal for detecting presence of objects and print inspection. To the left Blob2 checks the flaw of the letter R. The ROI consists of two user-defined polygons: One to define the outer contour and the other subtracting the interior contour.

Flexibility with Integrated Python Scripting

The Python script language is integrated in Scorpion. This enhances Scorpion with a large open source library of Python modules. In Scorpion, scripts are used to process and validate image-processing results, manage profiles, perform robust geometric filtering and add command extensions.

Configurable and Event Driven communication

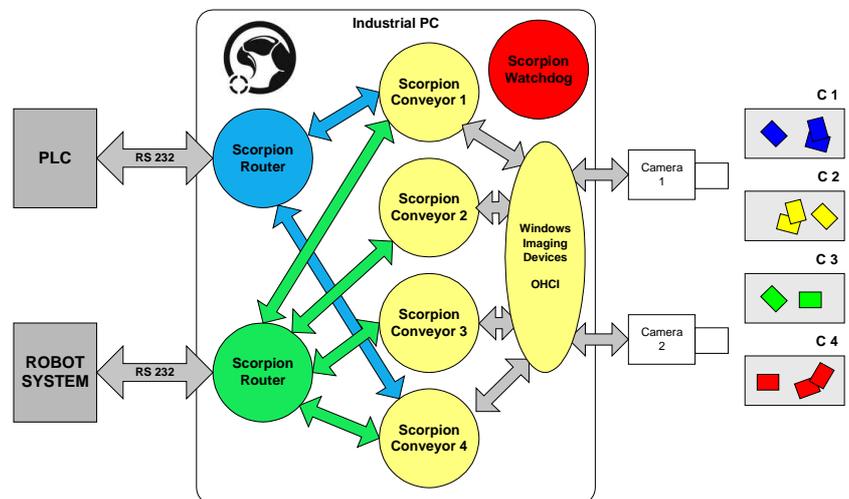
Scorpion supports standards like digital I/O, RS-232, TCP/IP, OPC and PROFIBUS through a common configurable command interface. Commands are simple text and can be used to control Scorpion from e.g. a PLC, a robot, or from a remote control unit. Using the integrated RS-232 communication modules, Scorpion easily interfaces to any robot system.

Configurable Logging of Images, Results and Inspection Statistics

Scorpion can be configured to log: images, values, states and inspection statistics. Logging of images and values can be triggered by user-defined criteria thus enabling Scorpion users to limit the amount of data stored and to simplify the offline analysis of the logged data. Scorpion offers logging of selected values to standard csv-files. Combining Python scripts and the Scorpion system events, the user can configure the system to comply with any logging requirement.

VisionPackages

Polytec combines all necessary equipment to solve vision applications. Illumination, lens and camera are packed together with an industrial pc running Scorpion as a VisionPackage. Based on a standard, they are individually set up to meet the requirements of the specific application.



GESCHÄFTSBEREICH

Photonik

Tel.+49 (0)72 43 604-180/
BV@polytec.de -181

POLYTEC GMBH

Polytec-Platz 1-7
D-76337 Waldbronn
Tel.+49 (0)72 43 6 04-0
Fax +49 (0)72 43 6 99 44
info@polytec.de