VisionNavi/Inspect

Intuitive GUI Machine Vision Edge Application Software

Features

- Intuitive GUI without programming skills
- Flexible licensing options including full, ID, alignment
- Supports up to six GigE vision cameras with up to 20M resolution in mono and bayer formats
- Supports conditional operator, external API for advanced applications

Introduction

Advantech VisionNavi/Inspect is a configurable GUI-based machine vision application software that facilitates developing and deploying machine vision applications without any programming skills.

Flowchart and video instructions help lower your learning curve by following four simple steps in image capture, processing, conditional operators, and output results used to accomplish tasks. With its powerful alignment, gauging, inspection, and identification toolkits, VisionNavi/Inspect supports a wide range of machine vision applications on the factory floor.

Customers can define criteria for object classification or output data to standard communication protocol devices like position sensors, PLCs, and robots to meet Industry 4.0 requirements. Using APIs and VisionNavi/Inspect, customized apps can be integrated with motion control and production systems. VisionNavi/Inspect is designed with an open architecture, it supports standard x86 platforms and most popular GigE Vision cameras.

Specifications

Image Acquisition

- **Cameras** — QCAM(Advantech industrial cameras), ICAM(Advantech smart cameras), and standard machine vision cameras
- **Interface** — GigE
- **No. of cameras** — 6
- **Mode** — Software trigger, hardware trigger, API
- **Resolution** — Up to 20 Mega pixels
- **Format** — Mono, bayer

Tools

- **Calibration** — Dot grid, multiple points, linear, script for coordinate transformation
- **Preprocessing** — Color space conversion, high pass/low pass/medium filter, histogram, rotation, scaling, gain/offset/threshold, erosion/dilation
- **ROI** — Rectangle, circle, polygon, ellipse, arc, rotation rectangle
- **Identification** — 1D bar code, Data Matrix code, QR code, ISO/IEC 15415, ISO/IEC15416; O.C.R (optical character recognition), OCR training
- **Alignment** — Pattern matching
- **Gauge** — Line, circle, angle, arc, sub pixel accuracy

Conditional Operator

- **Sequence** — Switch case, loop, if else
- **Operator** — And, or, not, xor, addition, subtraction, multiplication, division
- **Data format** — String, numeric

I/O and Communication

- **Protocol** — TCP/IP, API
- **Command** — Trigger mode, parameter, stop/start, ROI
- **Digital I/O** — AIIS-E730, Advantech PCI-1730, trigger input, digital output

Environment

- **OS** — Windows 10 64 bit,
- **Language** — English/Chinese simplified language
- **Display** — 1920 x 1080 or above

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Ordering Information

SW License

- **96PD-ESRP-VIFU01** Full license
- **96PD-ESRP-VIAL01** Alignment partial license
- **96PD-ESRP-VIID01** ID partial license

Industrial Camera

- **QCAM-GM1300-090HD** 1280 x 1024, 90fps, Mono, GigE
- **QCAM-GM1920-030HE** 1920 x 1200, 30fps, Mono, GigE
- **QCAM-GM2500-020HD** 2448 x 2048, 20fps, Mono, GigE
- **QCAM-GM3000-017HE** 3072 x 2048, 17fps, Mono, GigE
- **QCAM-GM3800-007HE** 3840 x 2748, 7fps, Mono, GigE

Platform

- **AIIS-3410** Compact vision system, supports Intel® 6th generation core i CPU
- **MIC-770** Compact fan less System with 8th Gen Intel® Core™ i CPU
- **IPC-220** Compact industrial computer system with 6th/7th Gen Intel® Core™ i CPU
- **UNO-2100** Intel® 7th Core™ i7/i5 ® 3965U Regular-Size modular box platform
- **TPC-300** Touch panel computer with 8th Gen Intel® Core™ i CPU
- **PPC-3181SW** All-in-one fan less panel PC 6th Gen Intel® Core™ i CPU
- **AMAX-5580** Intel® Core™ i7/i5/Celeron® control IPC With EtherCAT slice IO expansion

Capture cards

- **PCIE-1674V-CE** 4-Port PCI Express GigE vision frame grabber
- **PCIE-1672V-CE** 2-Port PCI Express GigE vision frame grabber

I/O Cards

- **PCIE-1730-AE** 32-ch TTL and 32-ch isolated digital I/O PCIE card

Smart Camera

- **ICAM-7100** 1280 x 960, 54fps, Mono
- **ICAM-7110** 1280 x 960, 54fps, Color
- **ICAM-7500** 2592 x 1944, 14fps, Mono
- **ICAM-7510** 2592 x 1944, 14fps, Color