Al Image Recognition

AKUSENSE AIVS

AKUSENSE AIVS (Artificial Intelligent Vision System) provides from image acquisition to model deployment and upgrade, and then to the production line for complete closed loop, through the docking with imaging equipment to achieve image acquisition, the user annotates the collected data, and then perform model training with one-click operation, Export and deploy the model to the production line to directly inspect the materials in real time Measurement. As the production line changes, AKUSENSE AIVS will conduct independent training and upgrade models, There is no need for professional Al algorithm personnel to participate in the whole process.



0 Programme 1 Deploy 2 Contents 3 Operations

AKUSENSE AIVS(Artificial Intelligence Vision System) consists of training and running, no need programming requirements, only 3 steps to complete model training, and 1 click deployment to the production line.

Program Overview

AKUSENSE AIVS is a set of end-to-end solution for industrial vision AI, mainly with two parts: model training and operation. It can provide full flow, one stop AI empowerment and management capabilities for industrial manufacturing to create intelligent manufacturing standardized AI delivery system.

The AIVS model training platform is aimed at AI algorithm autonomous training for complicated scenes like material tracking, defect positioning, workpiece measurement of the production line, and Multi-class appearance detection. The AIVS model running platform imports the model generated by the training platform and deploys it directly to the production line, then connect with the production line equipment to achieve real-time AI detection.

AKUSENSE AIVS decreases the industries'dependence to professional Al ability. With the program launched, the corporations do not need algorithm personnel to program onsite, the training and deployment of the Al model can be completed with simple mouse click, so that Al can be used in industrial production line to improve production efficiency, and fulfil the intelligent upgrade of traditional manufacturing. This solution can be widely used in consumer electronics, automobiles, new energy, and pan-industries. At present, it has provided services for a great number of Fortune 500 manufacturers in different fields, with production line equipments seamlessly connected to realize Al real-time detection.



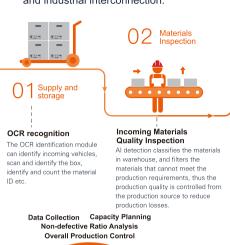
Application

For typical cases and industry applications, please refer to P51-54

AKUSENSE AIVS

Application Scenarios

AKUSENSE AIVS provides AI services for the entire manufacturing process, and helps to improve production traceability management and industrial interconnection





Quality control

After the production line is assembled, Al can be used for detection to control product quality and reduce the probability of defective products flowing into the next process. At the same time, it collects data on all aspects of production, reports the production line capacity in real time, provides early warning for production management, and dynamically adjusts production

Flow Tracking

When products are ready for shipment, OCR identification can be used to perform product batch scanning and logistics tracking etc to connect delivery and after-sales services, thus realizes the datamation and full connectivity of the intermediate process

Al can provide solutions for all production stages in the factory, realize full-line digitalization through OCR, and carry out traceability management; With quality inspection during storage, assembly, and delivery process etc, detailed statistical analysis on the detected defects will help to improve the production process of the product. Al technology can solve the problem of complex scenes in industrial production, and through continuous data value

mining, it boosts industry interconnection and realizes the overall control of the production process.

Core Algorithm Function

OCR



lulululdlimidludd

Adopting end-to-end solution based on deep learning, it supports single-character and multi-character labeling and recognition, and recognize different background characters, such as steel stamping, laser engraving, printing, textiles etc, breaking the technical limitations of traditional approaches and solving curved characters Recognition, low-contrast character recognition, large character recognition and other complex issues

Detection



Production Line

Al can realize the disorderly

of production and assembly.

the automatic assembly. Meanwhile, execute 3D inspection

defective items during the

production process.

Production Traceability Whole process of production

Intelligent Interconnection

Exploring the Value of Data

materials tracking

grabbing of materials in the process

conduct goal guidance, and realize

for the production module, it duly reduces the risk of manufacturing

Monitoring

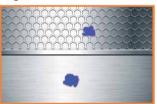
Positioning and categorizing the targets in the detected materials, it is suitable for multi-target detection, small target detection, counting etc, can be used as drug pill counting and 3C device detection

Classification



Classify and analyse the tested materials. such as the OK/NG two-class judgment of materials, the color of the object, the type of food material, and the detailed classification of 3C defects etc

Segmentation



Pixel level detection and edge recognition of the detected object. Such as identifying the crack area of the silicon wafer, and the bearing bump area etc.



When the detection objects are very dense, with only 4–5 pixels between different targets, ordinary algorithms cannot distinguish it well. AKUSENSE $\,$ AIVS detects the label structure information of the target through the auto-encoder learning, which can identify the granularity as low as 4 pixels.



Boost 10%+

In order to solve the issue of fewer training samples, AKUSENSE AIVS solution will search for typical cases among the samples, cyclically guides and rectifies for the prediction results, so that the recognition rate of the final small samples increases by over 10%



100 Million Pixels

Super model parallel capability, image processing on a multi-card machine, can handle 4 times the field of view of the normal network, and can conduct up to 100 million pixels in a single image.

Dynamic Data Enhancement

Up to 30x Enhancement

The uneven distribution of training sample data leads to poor prediction effects of the model. AKUSENSE AIVS can automatically match the AKUSENSE AIVS can automatically match the optimal data enhancement strategy according to different task requirements, generate new simulation data through learning iteration, and increase the data utilization rate by over 30 times.

Remarks: The above algorithm effect data are calculated based on the actual measurement data of AKUSENSE's running projects. Specific to similar projects measured results may produce small deviations

Fiber Optic Slot Sensors

Photoelectric Laser

Proximity Displacement

Magnetic Contact

Area

Ultrasonio

Code Readers

Vibration

Temperature

RFID

Safety door lock

Pressure Switch

Communication

Accessories

Guidance

Vision Camera

Fiber Optic Slot Sensors Photoelectric Laser Proximity Displacement

Magnetic

Contact

Ultrasonic

Code Readers Vibration Temperature

Area

RFID Safety door lock Pressure Switch Communication Accessories

Guidance

Vision Camera

AKUSENSE AIVS

Functional Features





Consumer-level Product Experience

It provides data labeling, management and other functions, humanized interactive design helps to complete labeling work smoothly through guided labeling and guickly close up: the platform supports image and labeling data import and export, which can be used for data sharing and management.







Visual Training Process

AKUSENSE AIVS features characters such as automatic parameter tuning and intelligent data distribution. Users do not need to acquire professional Al knowledge, but conduct simple parameter configuration to perform one-click training; during the model training process, the system provides real-time model effect trend curve, Model performance is shown clearly.









The model can be tested after training. The test result includes model information,test indicators and visual images for users to judge the performance of the model promptly. The test report supports one-click export, which is convenient for users to conduct further deep learning analysis and

Agile Project Delivery

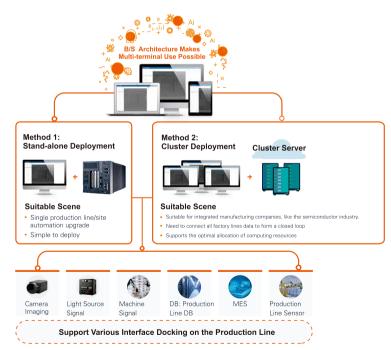
The agile project delivery model can be easily deployed to the operating platform, and the detection results can be displayed in real time. The operating platform supports docking with various camera data interfaces and multi-view configuration. The model can be operated on the production line with simple operation.



Clear Test Results

summary for the report.

Application



AKUSENSE AIVS provides two deployment methods, and users can choose flexibly according to

For a single site/production line, only single link problem needs to be solved through AI, and then stand-alone deployment method can be used. For production lines with high digital interconnection requirements, in addition to solve the single-

point problem of the production line, it is also necessary to open up the data of the whole plant to form industrial interconnection and drive digital management cluster deployment can be adopted. AKUSENSE AIVS can adapt to multiple types of interfaces and communication protocols in industrial production scenarios, and supports the docking of multiple models of cameras, light source industrial computers, common sensors, MES and databases, etc., to open up the data link of the production line



Stand-alone Deployment Characteristics

One click deployment, promptly used on the production line, lightweight operation, and supports cross-operating systems



Cluster Deployment Features

AKUSENSE AIVS supports multiple server clusters (data centers). training and running machine mixing to achieve maximum sharing of computing power to achieve optimal allocation of resources and to ensure the full mobilization of idle resources. In addition, it can also provide capacity monitoring and statistical analysis of the entire production line to guide for yield analysis and process improvement



Platform Architecture Characteristics

The platform adopts B/S architecture, no matter which deployment solution is selected, users can apply to multiple terminals under the same network segment to use various services provided by AKUSENSE AIVS.

VDS10 Series



Shell Style Square	Basic Features	Operating Principle	Intelligent Vision Sensor						
Field of View		Shell Style	Square						
Focal Length 6-mm 16mm Focus Adjustment Method Manual Focus 1280-9800 Light Source Non-polarized Red Light/Non-polarized White Light/Polarized Red Light/Polarized White Light Color/Black and White Shutter Global Indicator Light 2 green light spots indicate the center area of scanning position; 3 status LEDs and buzzer Image Sensor Size 3 jun x 3 jun Target Surface Size 3 jun x 3 jun Target Surface Size 6 00 Exposure Time 20jus-10080jus Gain 0 d8 ~ 255d8 Operating Voltage 24V DC Power Consumption 5 SW Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Interface 7 TeO Perver, TCP Client, Mod8us TCP, Mod8us RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial Communication Interface 8 RS232. Ethernet Operating Temperature 0-45°C Connection Method Cable Connection Unique Temperature 1-20~70°C Humidity S%-95%RH/Non-condensing) Protection Level 1P67 Connection Method Cable Connection Mon-polarized Red Light VDS10-BH0106-WP VDS10-BQ0116-WP		Detection Range	301 300mm 40~300mm(@6mm),100~400mm(@16mm)						
Light Source Non-polarized Red Light/Non-polarized White Light/Polarized White Light/Polarized White Light/Polarized White Light Color/Black and White Shutter Global Indicator Light 2 green light spots indicate the center area of scanning position; 3 status LEDs and buzzer James Sensor Size 3 jun x 3 jun Target Surface Size 1/4" Maximum Reading Speed 60 Exposure Time 28 jun-10000 jus Gain 0 dB ~ 255 dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types, three non-isolated outputs Communication Interface RS232, Ethernet O-45°C Storage Temperature 0-45°C Storage Temperature 0-45°C Operating Temperature 1/PC Operating Temperature 1/PC Operating Temperature 1/PC Dimensions 47x25x43mm Weight 3bite Connection Method Cable Connection Mon-polarized Red Light VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD		Field of View	-						
Light Source Non-polarized Red Light/Non-polarized White Light/Polarized White Light/Polarized White Light/Polarized White Light Color/Black and White Shutter Global Indicator Light 2 green light spots indicate the center area of scanning position; 3 status LEDs and buzzer James Sensor Size 3 jun x 3 jun Target Surface Size 1/4" Maximum Reading Speed 60 Exposure Time 28 jun-10000 jus Gain 0 dB ~ 255 dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types, three non-isolated outputs Communication Interface RS232, Ethernet O-45°C Storage Temperature 0-45°C Storage Temperature 0-45°C Operating Temperature 1/PC Operating Temperature 1/PC Operating Temperature 1/PC Dimensions 47x25x43mm Weight 3bite Connection Method Cable Connection Mon-polarized Red Light VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD		Focal Length	6n	16mm					
Light Source Non-polarized Red Light/Non-polarized White Light/Polarized White Light/Polarized White Light/Polarized White Light Color/Black and White Shutter Global Indicator Light 2 green light spots indicate the center area of scanning position; 3 status LEDs and buzzer James Sensor Size 3 jun x 3 jun Target Surface Size 1/4" Maximum Reading Speed 60 Exposure Time 28 jun-10000 jus Gain 0 dB ~ 255 dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types, three non-isolated outputs Communication Interface RS232, Ethernet O-45°C Storage Temperature 0-45°C Storage Temperature 0-45°C Operating Temperature 1/PC Operating Temperature 1/PC Operating Temperature 1/PC Dimensions 47x25x43mm Weight 3bite Connection Method Cable Connection Mon-polarized Red Light VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD		Focus Adjustment Method	Manual Focus Liquid Focus						
Color/Black and White Black and White Shutter Global		Resolution	1280*800						
Shutter Global Indicator Light 2 green light spots indicate the center area of scanning position. 3 status LEDs and buzzer Image Sensor Size 3µm x 3µm Target Surface Size 1/4" Maximum Reading Speed 60 Exposure Time 20µs~10000µs Gain 0dB ~ 255dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol TOP Server. TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial Communication Interface RS232, Ethernet Operating Temperature 0~45°C Storage Temperature -20~70°C Humidity 5%~95%RH(Non-condensing) Protection Level IP67 Connection Method Cable Connection Dimensions 47x25x43mm Weight about 100g Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD		Light Source	Non-polarized Red Light/Non-polarized White Light/Polarized Red Light/Polarized White Light						
Indicator Light 2 green light spots indicate the center area of scanning position; 3 status LEDs and buzzer Image Sensor Size 3µm x 3µm Target Surface Size 1/4* Maximum Reading Speed 60 Exposure Time 20µs~10000µs Gain 0 dB~255dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol TCP Server, TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial Operating Temperature 0~45°C Storage Temperature 1P67 Connection Method Cable Connection Weight 3bout 100g Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0116-RP VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD		Color/Black and White	Black and White						
Image Sensor Size Target Surface Size Maximum Reading Speed Exposure Time Exposure Time 20µs~10000µs Gain OdB ~ 255dB Operating Voltage Power Consumption Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol Communication Interface TCP Server, TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial RS232, Ethernet Operating Temperature Operating Temperature Humidity S%~95%RH(Non-condensing) Protection Level Connection Method Cable Connection Dimensions 47x25x43mm Weight Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BH0106-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RP VDS10-BH0116-RD VDS10-BH0116-RD		Shutter	Global						
Target Surface Size Maximum Reading Speed Exposure Time Cain Operating Voltage Power Consumption Output Type Communication Interface Communication Interface Operating Temperature Operating NPN, PNP Ptypes; three non-isolated outputs		Indicator Light	2 green light spots indicate the center area of scanning position; 3 status LEDs and buzzer						
Maximum Reading Speed		Image Sensor Size	3µm x 3µm						
Exposure Time 20µs~10000µs Gain 0 dB ~ 255dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol TCP Server, TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial Communication Interface RS232, Ethernet Operating Temperature 0~45°C Storage Temperature -20~70°C Humidity 5%~95%RH(Non-condensing) Protection Level Protection Level Connection Dimensions 47x25x43mm Weight Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RD VDS10-BQ0116-RD		Target Surface Size	1/4"						
Gain 0 dB ~ 255dB Operating Voltage 24V DC Power Consumption 5W Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol TCP Server, TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial Communication Interface RS232, Ethernet Operating Temperature 0~45°C Storage Temperature -20~70°C Humidity 5%~95%RH(Non-condensing) Protection Level IP67 Connection Method Cable Connection Dimensions 47x25x43mm Weight about 100g Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RD VDS10-BQ0116-RD		Maximum Reading Speed	60						
Power Consumption Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol Communication Interface RS232, Ethernet Operating Temperature Operating Temperature Storage Temperature Humidity Frotection Level Connection Method Cable Connection Dimensions M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BH0106-RP VDS10-BH0106-RP VDS10-BQ0116-RP VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD	т	Exposure Time	20µs~10000µs						
Power Consumption Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol Communication Interface RS232. Ethernet Operating Temperature Operating Temperature Storage Temperature Humidity S%~95%RH(Non-condensing) Protection Level Connection Method Cable Connection Dimensions Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ01106-RP VDS10-BQ01106-RD	lectri	Gain	0 dB ~ 255dB						
Power Consumption Output Type Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs Communication Protocol Communication Interface RS232. Ethernet Operating Temperature Operating Temperature Storage Temperature Humidity S%~95%RH(Non-condensing) Protection Level Connection Method Cable Connection Dimensions Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ01106-RP VDS10-BQ01106-RD	cal da	Operating Voltage	24V DC						
Communication Protocol Communication Interface RS232, Ethernet Operating Temperature Storage Temperature Humidity Frotection Level Connection Method Cable Connection Dimensions Weight Accessories Non-polarized Red Light Non-polarized Red Light VDS10-BH0106-RP VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BH0106-RD VDS10-BQ0116-RD	ita	Power Consumption	5W						
Communication Interface Operating Temperature Storage Temperature Humidity Protection Level Connection Method Cable Connection Dimensions Weight Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-WP VDS10-BH0106-WP VDS10-BQ0116-RP VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD VDS10-BQ0116-RD		Output Type	Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs						
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Storage Temperature -20~70°C Humidity 5%~95%RH(Non-condensing) Protection Level IP67 Connection Method Cable Connection Dimensions 47x25x43mm Weight about 100g Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0106-RP VDS10-BQ0116-RP Non-polarized White Light VDS10-BH0106-RD VDS10-BQ0106-RD VDS10-BQ0116-RD		Communication Interface	RS232、Ethernet						
Protection Level		Operating Temperature	0~45℃						
Protection Level	Envi	Storage Temperature	-20~70℃						
Protection Level	ronm	Humidity	5%~95%RH(Non-condensing)						
Dimensions 47x25x43mm Weight Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0106-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RP VDS10-BQ0116-RD VDS10-BQ0116-RD	ental s	Protection Level	IP67						
Weight about 100g Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0106-RP VDS10-BQ0116-RP Non-polarized White Light VDS10-BH0106-WP VDS10-BQ0106-WP VDS10-BQ0116-WP Polarized Red Light VDS10-BH0106-RD VDS10-BQ0106-RD VDS10-BQ0116-RD	_	Connection Method	Cable Connection						
Weight about 100g Accessories M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0106-RP VDS10-BQ0116-RP Non-polarized White Light VDS10-BH0106-WP VDS10-BQ0106-WP VDS10-BQ0116-WP Polarized Red Light VDS10-BH0106-RD VDS10-BQ0106-RD VDS10-BQ0116-RD	da M	Dimensions	47x25x43mm						
Non-polarized Red Light VDS10-BH0106-RP VDS10-BQ0106-RP VDS10-BQ0116-RP	ichan	Weight	about 100g						
Non-polarized White Light VDS10-BH0106-WP VDS10-BQ0106-WP VDS10-BQ0116-WP Polarized Red Light VDS10-BH0106-RD VDS10-BQ0106-RD VDS10-BQ0116-RD	nical	Accessories	M12-17PIN cable, 24V power adapter (optional), L-shaped mounting bracket + screws						
Polarized Red Light VDS10-BH0106-RD VDS10-BQ0106-RD VDS10-BQ0116-RD	Model	Non-polarized Red Light	VDS10-BH0106-RP		VDS10-BQ0116-RP				
Total Education Conference of the Conference of		Non-polarized White Light	VDS10-BH0106-WP	VDS10-BQ0106-WP	VDS10-BQ0116-WP				
Polarized White Light VDS10-BH0106-WD VDS10-B00106-WD VDS10-R00116-WD		Polarized Red Light	VDS10-BH0106-RD	VDS10-BQ0106-RD	VDS10-BQ0116-RD				
		Polarized White Light	VDS10-BH0106-WD	VDS10-BQ0106-WD	VDS10-BQ0116-WD				

Dimensions 43 Unit: mm AKUSENSE K-04 47

Fiber Optic Slot Sensors Photoelectric

Laser Proximity

Displacement Magnetic

Contact

Ultrasonic

Al Image

Code Readers Vibration

Temperature

Safety door lock

RFID

Pressure Switch

Communication

Accessories

Guidance

Vision Camera AKUSENSE AIVS

Vision Sensor

VDS20 Series



NEW!

Fiber Optic Slot Sensors Photoelectric Laser Proximity Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature RFID	
Photoelectric Laser Proximity Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	
Photoelectric Laser Proximity Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	
Photoelectric Laser Proximity Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	Fiber Optic
Laser Proximity Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	Slot Sensors
Proximity Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	Photoelectric
Displacement Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	Laser
Magnetic Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	Proximity
Contact Area Ultrasonic Al Image Code Readers Vibration Temperature	Displacement
Area Ultrasonic Al Image Code Readers Vibration Temperature	Magnetic
Ultrasonic Al Image Code Readers Vibration Temperature	Contact
Al Image Code Readers Vibration Temperature	Area
Code Readers Vibration Temperature	Ultrasonic
Vibration Temperature	Al Image
Temperature	Code Readers
	Vibration
RFID	Temperature
	RFID

....

Safety door lock

Pressure Switch

Communication

Accessories

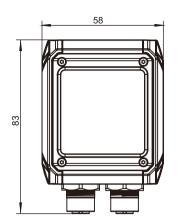
Guidance

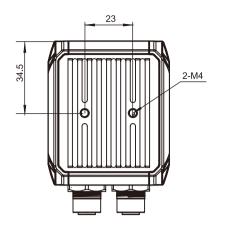
Vision Camera

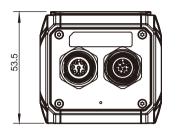
AKUSENSE AIVS

	On continue Britania I.	Intelligent Visits Communication								
Basic Features	Operating Principle	Intelligent Vision Sensor								
	Shell Style	Square Shape								
	Detection Range	100~1000mm								
	Field of View	-								
	Focal Length	8mm	12mm	16mm	8mm	12mm	16mm			
	Focus Adjustment Method	Mechanical Focus								
	Resolution	1280*800 1920*1200								
	Light Source	Non-polarized Red Light/Non-polarized White Light/Polarized Red Light/Polarized White Light								
	Color/Black and White	Black and White								
	Shutter	Global								
	Indicator Light	1 green light spot indicates the center area of scanning position; 5 status LEDs and buzzer								
	Image Sensor Size	3µm x 3µm								
	Target Surface Size		1/4"			1/2.6"				
	Maximum Reading Speed	60								
m	Exposure Time	20μs~10000μs								
lectri	Gain									
Electrical data	Operating Voltage	24V DC								
ita	Power Consumption	15W								
	Output Type	Two optically isolated inputs, supporting NPN, PNP types; three non-isolated outputs								
	Communication Protocol	TCP Server, TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Serial								
	Communication Interface	RS232、Ethernet								
	Operating Temperature	0~45℃								
Env	Storage Temperature	-20~70℃								
Environme	Humidity	5%~95%RH(Non-condensing)								
Environmental conditions	Protection Level	IP67								
	Connection Method	Cable Connection								
Mechanical data	Dimensions	58x53.5x83mm								
	Weight	about 220g								
	Accessories	M12-12PIN-3M (3m high-flex), M12-8PIN-3M (3m high-flex), L-shaped mounting bracket, 24V power adapter (optional), screw kit								
Model	Non-polarized Red Light	VDS20-BX0108-RP	VDS20-BX0112-RP	VDS20-BX0116-RP	VDS20-BX0208-RP	VDS20-BX0212-RP	VDS20-BX0216-RP			
	Non-polarized White Light	VDS20-BX0108-WP	VDS20-BX0112-WP	VDS20-BX0116-WP	VDS20-BX0208-WP	VDS20-BX0212-WP	VDS20-BX0216-WP			
	Polarized Red Light	VDS20-BX0108-RD	VDS20-BX0112-RD	VDS20-BX0116-RD	VDS20-BX0208-RD	VDS20-BX0212-RD	VDS20-BX0216-RD			
	Polarized White Light	VDS20-BX0108-WD	VDS20-BX0112-WD	VDS20-BX0116-WD	VDS20-BX0208-WD	VDS20-BX0212-WD	VDS20-BX0216-WD			

Unit: mm Dimensions







Fiber Optic

Slot Sensors
Photoelectric

Laser

Proximity

Displacement

Magnetic

Contact

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Ultrasonic

Al illiage

Code Readers

Vibration

Temperature

RFID Safety door lock

Pressure Switch

Communication

Accessories

Guidance

Vision Camera

AKUSENSE AIVS

Vision Sensors