Sparrow IMS Series

Color/Monochrome 1394b Industrial CCD Camera

RoHS CE FC

1394b IEEE 1394b | B/W Camera | Color Camera | External Trigger | AOI function | AES key | 64K Data Flash

Features:

- Progressive-scan for on-the-fly applications
- VGA resolution up to 1.3 mega-pixel super high resolution
- Built-in 32MB memory buffer
- Mini size and compact industrial housing design
- 64K Data flash and AES project encryption function
- Robust external trigger I/O interface supported
- Supports Windows2000/XP driver

Applications:

- Electronic component inspection
- Alignment AOI system
- Manufacturing quality control
- Food and beverage inspection
- Factory automation inspection

Introduction:

The Sparrow is a new IEEE 1394 camera product line of ICP DAS, designed for industrial machine vision applications. The Sparrow IMS series are designed with high sensitivity industrial CCD sensor and can be set to acquire color image or monochrome image. The IMS-30 offers 640 x 480 resolutions and acquisition speed up to 83fps, and the IMS-130 offers 1288 x 964 resolutions and acquisition speed up to 31 frames per second.

Meanwhile Sparrow series has offers industrial digital I/O and screw locked 1394b connector interface designed. The Sparrow IMS series designed with small and exquisite compact industrial housing and it's ideally to set up in any kind inspection system as well as robot arms inspection operation. The Sparrow IMS series for demanding image applications such as semiconductor, electric component, high-speed assembly and manufacture quality control.

Software Supported:

- Microsoft Visual C++ 6.0
- Microsoft Visual Basic 6.0
- Microsoft Boland C++ Builder 6.0
- Microsoft C#.Net 2003
- Microsoft Visual Studio.Net 2005

Free ICP DAS Utility:

EZView Pro

EZView Pro utility provides a simple yet powerful means to setup, configure, test, and debug the vision system. User can manually control the Sparrow camera series without any programming requirement.
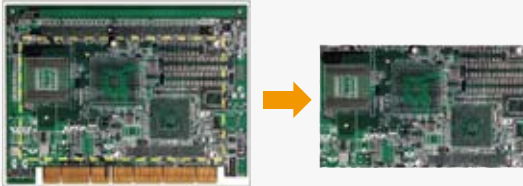

Specification

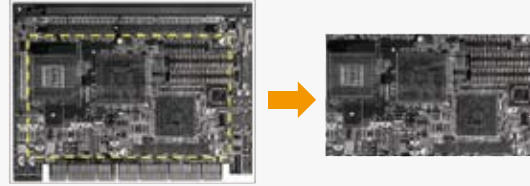| Model No.	IMS-30*	IMS-130
Sensor Size	1/3" CCD	1/3" CCD
Pixel Size	7.4um x 7.4um	3.75um x 3.75um
Resolution	644 x 488	1288 x 964
Frame Rate	Max. up to 83fps	Max. up to 31fps
A/D converter	12-bit Analog to Digital converter	
Image Data Format	Mono 8-bit, Mono 16-bit, RGB 24-bit	
Interfaces	9-pin IEEE 1394b for camera control and video data transmission, 8-pin Hirose for general purpose digital I/O	
Power Consumption	2W, max at 12V	
S/N Ratio	59dB	60dB
Dimensions	29 x 29 x 30mm(without Lens)	
Mass	58g (without Lens)	
Lens Mount	C-Mount	
1394 Compliance	IIDC 1394 based digital camera specification V1.31	
Operating Temperature	0°C ~45°C	
Storage Temperature	-30°C ~60°C	
Certificated	CE, FCC	

Advanced Features:

AOI Image Acquisition Function

The AOI (Area of Interest) function allows users to select an area of interest, for the camera's CCD array to specifically read, display, and transmit. The AOI function will enhance the acquisition speed and saving the image processing time.
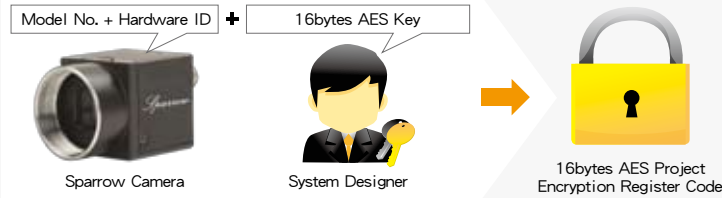
Color Mode AOI Image Acquisition
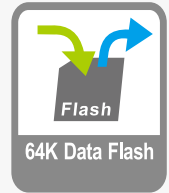
Monochrome Mode AOI Image Acquisition

AES Project Encryption Function

The Sparrow IMS series camera has offers an AES project encryption function. The system designer can use this function to generated unique security key to protected the copy right of their system.

Model No. + Hardware ID **+** 16bytes AES Key

Sparrow Camera

System Designer

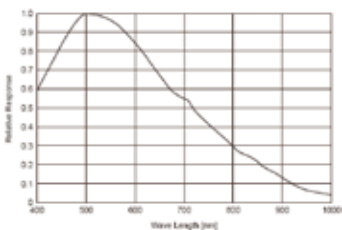16bytes AES Project Encryption Register Code

Data Flash Function

Sparrow series has offers 64K bytes Data Flash memory for customer to save the camera configuration settings or the system application program running check information.

Flash

64K Data Flash
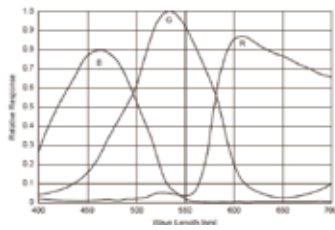
Spectral Response:

IMS-30* Monochrome Mode Spectral Sensitivity

ICX424

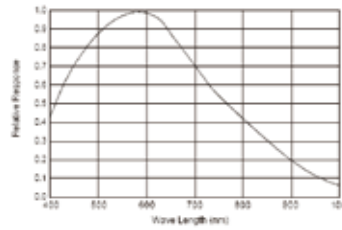**IMS-30* Color mode Spectral Sensitivity**

ICX424

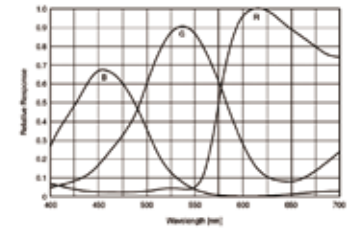**IMS-130 Monochrome Mode Spectral Sensitivity**

ICX445

IMS-130 Color mode Spectral Sensitivity

ICX445

Interface PIN Assignment

8-pin GPIO	
Pin	Define
1	Opto-Isolated Trigger Input
2	Opto-isolated Output
3	TTL GPIO2
4	TTL GPIO3
5	Opto GND
6	TTL GND
7	VEXT
8	+3.3V

IEEE 1394b	
Pin	Define
1	TPB-
2	TPB+
3	TPA-
4	TPA+
5	TPA(R)
6	Power GND
7	Status Contact
8	Power
9	TPB(R)

Ordering Information:

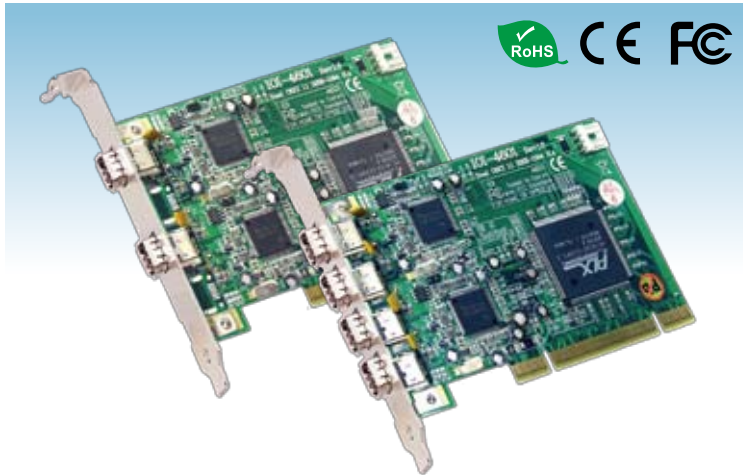| Model No.	Product Description
IMS-30*	1/3" CCD (644 x 488, 83fps) 1394b color/monochrome digital camera
IMS-130	1/3" CCD (1288 x 964, 31fps) 1394b color/monochrome digital camera

IMS-30* - Y2009Q3, Call for availability

Accessories

Model No.	Product Description
CA-1394B-45	1394b high-flex 4.5m cable
IOI-4601-21	IEEE 1394a Dual ports full speed interface card
IOI-4601-22	IEEE 1394a 4-Channels interface card
CA-1394AB-45	1394a to 1394b high-flex bilingual 4.5m cable

PAC

I8K Module

Vision Box

Industrial Camera

PCI Control Card

Remote Control

Remote I/O

Accessories

IOI-4601-21 IEEE 1394a Dual ports full speed interface card
IOI-4601-22 IEEE 1394a 4-Channels interface card

Features:
- 32-bit, 33MHz Universal PCI Interface
- Dual ports data transmission (each port 400Mbps)
- PCI to PCI Bridge
- DC12V IEEE 1394 bus power connector

Applications:
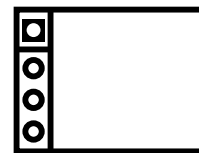- Standard 1394a Camera connection
- IEEE 1394a compliant device connection

Introduction:

The IOI-4601 series is dual IEEE 1394a host controller PCI interface card. It's capable of supporting dual ports data transmission at rates of 400Mbps per port. The IOI-4601-21 is full speed 2-channels interface card; The IOI-4601-22 is 4-channels interface card and each 1394a host controller will handle 2-channels data input by share bandwidth.

IOI-4601 Interface card Specification

Item	Model No.	
	IOI-4601-21	IOI-4601-22
Host Bus	32-bit PCI local bus complies with PCI 2.1 and 2.2 specification Use only one IRQ for both OHCI 1.1 channels	
Interface Protocol	Bus Master DMA	
1394 Bus Transfer Rate	100/200/400 Mbps	
Host Bus Burst Data Rate	Up to 133 MB/s burst rate	
IEEE-1394 to PCI Chip	Ti TSB43AB21 OHCI controller x 2	
1394 Connector	6-pin 1394a connector x 2	6-pin 1394a connector x 4
1394 Bus Power Connector	Mini 4-pin DC +12V power connector	
Bus Power Connector	with mini 4-pin DC + 12V Power Connector	
Performance	Maximum 1394 Bus Transfer is 800 Mbps (400 Mbps per channel)	
Dimension	121.19mm x 132.32mm (Includes connector)	
Net Weight	69g	
Certificated	CE, FCC	

Interface PIN Assignment

Pin1	+12V
Pin2	GND
Pin3	GND
Pin4	VCC5

J1 DC +12V

Ordering Information:

Model No.	Product Description
IOI-4601-21	IEEE 1394a Dual-port full speed interface card
IOI-4601-22	IEEE 1394a 4-Channels interface card

PAC

I8K Module

Vision Box

Industrial Camera

PCI Control Card

Remote Control

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Accessories

Accessories

Terminal Boards for PISO-PS200/I-8092F

DN-8237GB

Photo-isolated terminal board for PISO-PS200/I-8092F
- For General Purpose Usage
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8237DB

Photo-isolated terminal board for PISO-PS200/I-8092F
- For Delta ASDA-A Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8237MB

Photo-isolated terminal board for PISO-PS200/I-8092F
- For Mitsubishi J2 Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8237PB

Photo-isolated terminal board for PISO-PS200/I-8092F
- For Panasonic Minas-A Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8237YB

Photo-isolated terminal board for PISO-PS200/I-8092F
- For Yaskawa Sigma Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

Terminal Boards for PISO-PS400/I-8094F/I-8094A/I-8094H

DN-8468GB

Photo-isolated terminal board for PISO-PS400/i-8094/i-8094F/i-8094A/i-8094H
- For General Purpose Usage
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8468DB

Photo-isolated terminal board for PISO-PS400/i-8094/i-8094F/i-8094A/i-8094H
- For Delta ASDA-A Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8468MB

Photo-isolated terminal board for PISO-PS400/i-8094/i-8094F/i-8094A/i-8094H
- For Mitsubishi J2 Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8468PB

Photo-isolated terminal board for PISO-PS400/i-8094/i-8094F/i-8094A/i-8094H
- For Panasonic Minas-A Servo
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8468YB

Photo-isolated terminal board for PISO-PS400/i-8094/i-8094F/i-8094A/i-8094H
- For Yaskawa Sigma Servo Amplifier
- High speed photo-coupling isolated.
- Supporting pulse command type step motors or servo motors.
- Providing power led and other status LEDs (home, limit switches, …)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

DN-8468FB

Photo-isolated terminal board for PISO-PS400/i-8094/i-8094F/i-8094A/i-8094H
- For FUJI FALDIC-W servo Amplifier
- High speed photo- coupling isolation
- Supporting Pulse command type stepper motors or servo motors.
- Providing power led and other status LEDs(Home, Limit switch…)
- Providing FRnet terminal for high-speed serial I/O expansion when the mother supports FRnet.

Terminal Boards for PISO-PS600/VS600/PMDK

DN-8368GB

Photo-isolated terminal board for PISO-PS600/PISO-VS600/PISO-PMDK
- For General Purpose Usage
- High speed photo- coupling isolation
- Supporting Pulse command type stepper motors or servo motors.
- Providing power led and other status LEDs(Home, Limit switch…)

DN-8368MB

Photo-isolated terminal board for PISO-PS600/PISO-VS600/PISO-PMDK
- For Mitsubishi J2 Servo Amplifier
- High speed photo- coupling isolation
- Supporting Pulse command type stepper motors or servo motors.
- Providing power led and other status LEDs(Home, Limit switch…)
- Providing RS-232 connector for CN3 of Mitsubishi J2 Servo Amplifier.
- Providing jumper to set Encoder source from servo amplifier or expansion linear scar.

DN-20M

Manual-Pulsar-Generator(MPG) and FRnet input board for PISO-PS600/VS600/PMDK
- MPG and FRnet connector Block with Din-Rail mounting
- 20-pin SCSI-II connector
- Pin to Pin screw terminal for Manual Pulsar Generator connected
- Screw terminals for easy field wiring
- RJ-45 for FRnet connector
- Dimension: 103mm x 86mm

Encoder Input Board

DN-68

Encoder Input Board for PISO-Encoder300/600
- I/O connector Block with Din-Rail Mounting
- 68-pin SCSI-II connector
- Pin to Pin screw terminal for I/O connected
- Screw terminals for easy field wiring
- Dimension: 103mm x 86mm

Accessories for MAVIS

CA-1394-45

IEEE 1394a 4.5m cable

1394R3B

1394 Repeater (1port to 2ports)

Accessories for Sparrow

CA-1394AB-45

1394a to 1394b high-flex bilingual 4.5m cable

CA-1394B-45

1394b high-flex 4.5m cable

Power Module

DP-665

24V/2.5A, 5V/0.5A Power Supply
Input voltage : 85Vac to 264Vac
Input frequency : 47Hz to 63Hz
Outputs : +24V/2.5A ; +5V/0.5A

DP-1200

24V/5A Power Supply
Input voltage : 85Vac to 264Vac
Input frequency : 47Hz to 63Hz
Outputs : +24V/5A

Cables:

CA-3710
DB-37 Male-Male D-sub cable 1M
Cable for Daughter Board(45º)

CA-3720
DB-37 Male-Male D-sub cable 2M
Cable for Daughter Board(45º)

CA-3710DM
DB-37 Male-Male D-sub cable 1M
Cable for Daughter Board(180º)

CA-3730DM
DB-37 Male-Male D-sub cable 3M
Cable for Daughter Board(180º)

CA-3750DM
DB-37 Male-Male D-sub cable 5M
Cable for Daughter Board(180º)

CA-SCSI15
SCSI II 68-pin & 68-pin Male connector cable 1.5M

CA-SCSI30
SCSI II 68-pin & 68-pin Male connector cable 3M

CA-SCSI50
SCSI II 68-pin & 68-pin Male connector cable 5M

4PCA-MINI68-15
Mini SCSI II 68-pin to SCSI II 68-pin & 68-pin Male connector cable 1.5M

CA-SCSI20-M1
SCSI II 20-pin & 20-pin Male connector cable 1M, for Mitsubishi motor

CA-SCSI20-M3
SCSI II 20-pin & 20-pin Male connector cable 3M, for Mitsubishi motor

CA-SCSI20-M5
SCSI II 20-pin & 20-pin Male connector cable 5M, for Mitsubishi motor

CA-SCSI50-D1
SCSI II 50-pin & 50-pin Male connector cable 1M, for Delta ASDA A series motor

CA-SCSI-D3
SCSI II 50-pin & 50-pin Male connector cable 3M, for Delta ASDA A series motor

CA-SCSI50-D5
SCSI II 50-pin & 50-pin Male connector cable 5M, for Delta ASDA A series motor

CA-SCSI50-PY1
SCSI II 50-pin & 50-pin Male connector cable 1M, for Panasonic & Yaskawa motor

CA-SCSI30-PY3
SCSI II 50-pin & 50-pin Male connector cable 3M, for Panasonic & Yaskawa motor

CA-SCSI50-PY5
SCSI II 50-pin & 50-pin Male connector cable 5M, for Panasonic & Yaskawa motor

4PCA-2P4C-0100
2P4C cable For FRNet-Modules, Length:100M

Accessories for FALCON

CA-SF1LAN
6-pin Hirose Female to RJ-45 LAN cable

CA-SF1TRIG
6-pin Hirose Male to open end Trigger and power cable

CA-SF1COM
12-pin Hirose Female to open end COM port serial I/O cable

CA-SF1VGA
10-pin Hirose Male to VGA D-sub interface cable (SF-163V)

PAC

I8K Module

Vision Box

Industrial Camera

PCI Control Card

Remote Control

Remote I/O

Accessories