

❖ **TS-4032 EN/TSC-4032 EN**  
High Dynamic Range Camera



- **139 dB total system dynamic range**  
(combined from imager, dual-slope algorithm, and light sensor) provides readable images in harshest lighting conditions
- **Built-in dynamic range control**  
automatically adjusts based on external light sensor input to maximize license plate contrast/readability
- **56 dB S/N ratio**  
Produces much cleaner night time images
- **Zero smear technology**  
eliminates blooming and loss of license plate data due to sun glare or glint
- **High near-IR sensitivity**  
enables the use of supplemental illumination without distracting or impacting drivers' vision
- **Built-in Frame Memory buffer**  
stores images for efficient processing (no dropped vehicles) during peak traffic periods
- **Uses network time protocol (NTP) and user-definable image identifiers**  
ensures consistent date/time stamps in multi-camera installations
- **Flexible triggering capability**  
enables immediate capture of a single full frame or a complete pre/post image sequence
- **Built-in PowerPC processor running real-time Linux OS**  
eases in-field maintenance and FW upgrades
- **Monochrome or Color version available**

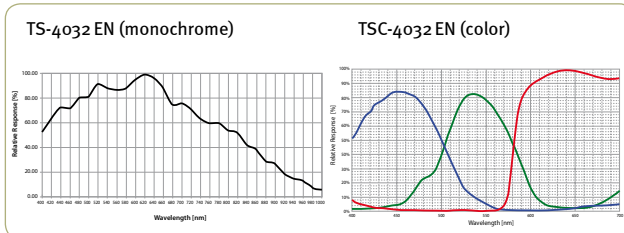


# TS-4032 EN

## System Specifications

Sensor	43.3 mm progressive scan CMOS
Active area	24.6mm x 19.56mm
Active pixels	2048 (H) x 1628 (V) @ 19 fps
Cell size	12 μm x 12 μm
Pixel clock	66 MHz
Resolution	Digital: 2048 (H) x 1628 (V)
S/N ratio	56 dB min.
Dynamic range	139 dB total 66 dB imager (linear) 12 dB dual-slope algorithm 61 dB light sensor
Color (TSC-4032 EN only)	Color interpolation SW required (provided by JAI upon request)
AGC	OFF, light-sensor controlled
Gamma Mono/Color	0.45
Electronic shutter	"No-delay" async global shutter 1/2,000 – 1/42,000 (5 msec max)
Spectral response	400-1000 nm
Lens mount	M-42 mount (F-mount optional)
Power	12V DC ± 10%, 400 mA (typical at 25° C) (1.2A powerup surge current)
Operating temperature	-10° C to 55° C
Vibration	7 Grms (10 Hz to 320 Hz) Random
Shock	70G, 11 ms, half-sine
Weight	417 grams
<b>Processor Module</b>	
CPU	Power PC
SDRAM	128 MB
O/S	Real-time Linux
<b>External I/O Interfaces</b>	
Trigger interface	TTL, serial or Ethernet input
Ethernet interface	10/100 BaseT Ethernet, TCP/IP, FTP, UDP
Serial interfaces	2 serial TTL I/F and one RS-232 debug port
<b>Options</b>	
OP-IR	No IR cut filter
OP-RED	Red filter

## Spectral Response



JAI is the world leader in high-performance vehicle imaging technologies that target the specific needs and concerns of roadway operators and transit authority executives. JAI delivers advanced real-world proven lane hardware and software that delivers superior performance. We also offer products and services to reduce back-office enterprise processing costs. No other industry provider can compete with our breadth of uniquely tailored products such as high speed vehicle capture (0-200 MPH), license plate reading (LPR) combined with vehicle fingerprinting, delivering patented video billing products, and specific homeland security services.

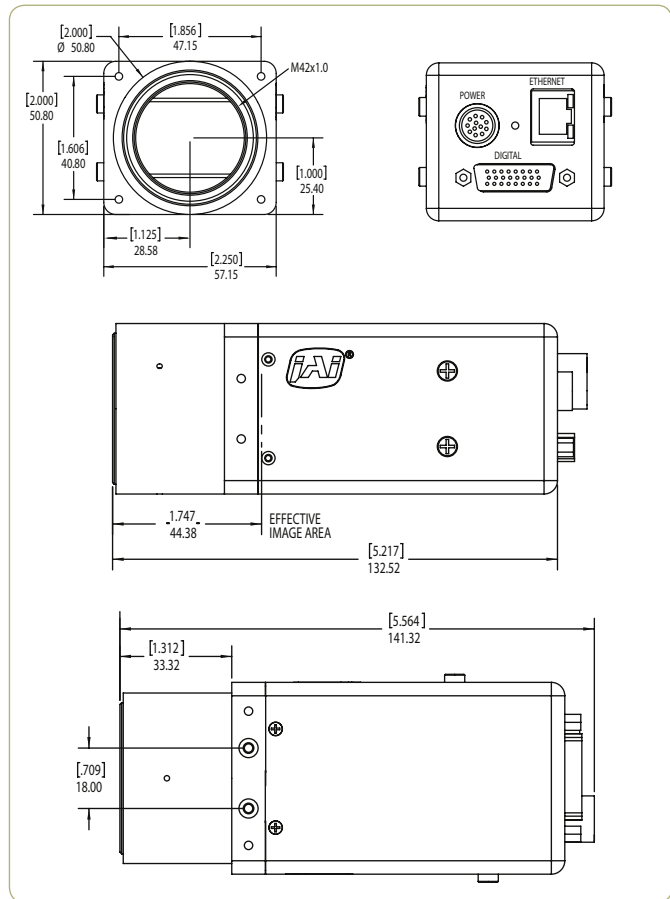
Working together with our valued system integrator partners around the world, JAI has delivered more than 20,000 vehicle imaging cameras and systems devoted to the electronic tolling collection, speed enforcement, parking lot systems, and Homeland Security markets. JAI manufactures core imaging cameras and vehicle imaging products and services for worldwide traffic industry partners.

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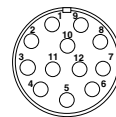
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## Dimensions



## Connector Pin-outs



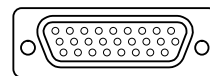
### 12-Pin Connector

1 GND (Power)	7 Reserved
2 +12V Input	8 Strobe out
3 GND (Analog)	9 Reserved
4 Test Point	10 RS232 Rx/D
5 GND (Digital)	11 Reserved
6 Trigger Input	12 RS232 Tx/D



### 10/100 BaseT Ethernet

1 Ethernet Tx/D A+	5 NC
2 Ethernet Tx/D A-	6 Ethernet Rx/D B-
3 Ethernet Rx/D B+	7 NC
4 NC	8 NC



### High-Density 26-Pin D-Sub Connector (female)

1 GND (power)	14 Tamper Input
2 +12V Input	15 Reserved
3 Rx/D LVD (TTL)	16 LVD/I/O Selector
4 Tx/D LVD (TTL)	17 Ethernet D+
5 LVD DIR Control (TTL)	18 Ethernet Tx/D A-
6 Ethernet C+	19 GND (Analog)
7 Ethernet C-	20 Test point
8 Ethernet B-	21 Trigger Input
9 Ethernet B+	22 LC Tx/D (TTL)
10 GND (Digital)	23 LC Rx/D (TTL)
11 Flash Strobe Output	24 LC DIR Control (TTL)
12 Flash Status Input	25 Ethernet D-
12 Status Input	26 Ethernet A+

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