

INCA4

Picture Perfect Measurements™

The **INCA4** camera, designed and manufactured by Geodetic Systems Inc. (GSI), is our fourth generation **IN**telligent **CA**mera. It is the only camera designed specifically for the demanding requirements of high-accuracy, in-place 3D measurement via photogrammetry. It is ideally suited for single-camera, static measurements with our **V-STARS/S** systems and for multiple-camera, real-time dynamic measurements with our **V-STARS/M** systems.

“The most versatile and capable camera ever for Industrial Photogrammetry”



INCA4 single-camera operation



INCA4 multiple-camera wireless operation

INCA4 retains the ruggedness, reliability and ease-of-use that are hallmarks of our previous **INCA** cameras while providing improved features including higher resolution and accuracy, faster operation, an electronic shutter and a high-speed flash. The camera also has real-time image compression and built-in, ultra-fast wireless connectivity for unprecedented, astoundingly fast wireless operation.

INCA4's accuracy, portability and ruggedness make it well-suited for a wide variety of applications in many industries, such as aerospace, antenna, automotive, heavy engineering, shipbuilding and more.

For more information on this exciting development in measurement technology, please contact GSI.



INCA4 FEATURES

"INCA4 is an INcredible CAmera"

Most Capable Camera Ever - INCA4's state-of-the-art imaging sensor and lens together with GSI's proprietary calibration techniques make this the most accurate INCA camera ever. It's powerful embedded processor provides real-time image compression (images typically < 1MB) and processing, and supports multiple interfaces for maximum speed and flexibility. INCA4 is an INtelligent CAmera.

Rugged, Reliable, Protected - INCA4's metal frame, dual handles and dual lampheads surround and form a "protective frame" around the camera and lens. The lens is also protected by an integrated lens cap that never gets lost. The lens compartment is completely sealed and the electronic shutter generates no particles or debris and never wears out. INCA4 is an INdustrial CAmera.

Fast - With its fast electronic shutter (<50us minimum exposure time), and integrated stroboscopic flash (< 40 us typical exposure time), INCA4 can measure high-speed events or fast-moving objects even in full sunlight. INCA4 is an INstantaneous CAmera.

Easy Aiming and Viewfinding - INCA4 has dual aiming line lasers that make aiming easy even in difficult situations. An optional, removable parallax viewfinder is also available.

Easy Handling and Use - INCA4 is powerful but simple to use and operate. Each handle has a combined laser/trigger switch so the camera can be held and operated with either or both hands. The camera's only other button is the menu button. The LCD display and buzzer provide clear, simple feedback and instruction. Exposure is automatic and the focus is fixed so INCA4 is truly a "point and shoot" camera.

Wide-Angle Lens - INCA4's wide field-of-view (72 degrees H x 58 degrees V) reduces setback distance for easier measuring in tight areas.

Powerful and Portable - INCA4 can measure using targets, or by touching features with GSI's small, wireless hand-held probes, or by using one of our Pro-Spot target projectors to project high-contrast dots for high-density targetless measurement. All components fit in airplane carry-on or checked baggage size cases.

Multiple Interfaces for Maximum Flexibility - Compressed images (typical compression > 10:1) are saved on removable USB disks for off-line measurements, or are transferred either wired (GigE), or wirelessly (802.11) for on-line measurements.

For more information on INCA4 or any other GSI product, please contact GSI or your local GSI distributor.



SPECIFICATIONS

Accuracy	4.5um + 4.5 um/M in S mode ¹ , 9um + 9um/M in M-Mode ²
Resolution	> 12 million pixels - 4096 Horizontally (H) x 3072 Vertically (V)
Speed	3 to 10Hz (depending on mode and computer)
Power	12-16 Volts, 15 watts, either by thin integrated power and data cable or by battery
Cables	9 M long (Standard), 36 meters maximum. Cables can be daisy chained together
Batteries	Small (450 grams – 1.5 hours), Medium (900 grams – 3 hrs), Large (2Kg, 8 hours)
Interfaces	GigaBit Ethernet (GigE), USB thumb drive, Wireless - 802.11 ac (optional)
Dimensions	127 x 76 x 180mm without battery & handle, 200 x 110 x 180mm with both
Weight	1.5Kg, 3.3 lb. without battery & handle, 2Kg, 4.4 lb with both
Temperature	0-40°C, non-condensing

- Conditions for meeting S accuracy specification:
 - Targets are of acceptable size and quality
 - Each target is seen in at least eight pictures with good geometry
- Conditions for meeting M accuracy specification:
 - Standard two-camera configuration with good geometry

Your local distributor

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