

# Marshall Electronics

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FOR IMMEDIATE RELEASE

## High Temperature Lenses Help Robots Operate in Tough Environments

*New long pinhole lenses improve camera survivability when operating in extreme temperature environments.*

El Segundo, CA (December 1, 2013) –Marshall Electronics, a leading manufacturer of optical components for robotics and industrial applications, has designed and released 323mm (12.72 inch) and 600mm (23.6 inch) overall length Pinhole Lenses. The lenses are specifically designed to perform in harsh industrial conditions such as extreme heat, high pressure, highly toxic, or contamination.

The longer lengths of the lenses allow cameras to be recessed inside cooling equipment or held at longer distances where they are better protected from heat-related damage. New models include 600mm overall lengths with straight, 90°, 120°, and 135° viewing angles.

Marshall High Temperature Pinhole lens models are well suited for robotic industrial processes where equipment is performing in extreme temperatures such as inside kilns, furnaces, incinerators, or other high temperature conditions. Applications may include welding, iron and steel, glass production, power generation, and scientific research.

Stainless steel housing offers extreme durability, sapphire and quartz optical elements offer superior environmental tolerances permitting short-term lens operation at temperatures reaching 1000°C for up to 10 minutes. The sapphire and quartz elements also withstand impact from scatter sand, gravel, or contaminants making them ideal for volatile environments.

Various lens models include fixed/variable focal lengths, 95mm/323mm/600mm overall lengths, straight/90°/120°/135° viewing angles, 1.2mm/3.8mm pinhole diameters, as well as lens extenders and SLR adapters.

Learn more at <http://www.marshall-usa.com/optical/lenses/#pinhole>.

### About Marshall Electronics' Optical Systems

Marshall Electronics' Optical Systems Division supplies lens and camera products to end-user and OEM customers worldwide. Marshall is a global OEM optical products supplier to Tier-1 automotive, leading IP camera, industrial, security, machine vision, military and police equipment Original Equipment Manufacturers. Marshall produces more than 100,000 standard and custom design lens models monthly fulfilling modest to large scale production shipments from our Tier-1 Quality Process Audit-approved production facility. Marshall's comprehensive line of pinhole, high temperature pinhole, telephoto, and low light lensing is used in law enforcement, military, security and process applications globally.

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