

Phase One Innovates UAV-based Aerial Imagery with Metric Cameras and Motorised Lenses



Phase One Industrial has launched the iXM series: an innovative aerial camera platform driven by a fast medium-format imaging sensor. The iXM 100MP is a high-productivity metric camera with a range of high-resolution lenses, especially engineered by UAV-imaging missions. The iXM is ready for integration with a wide range of UAV platforms, including Phase One's DJI Matrice 600 Pro solution.

The iXM 100MP metric camera incorporates a medium-format sensor with backside-illumination technology, enabling high light sensitivity and extended dynamic range. Fast, highly responsive, robust, and weatherproof (IP53 compliant), the iXM 100MP delivers the necessary quality aerial imaging and flexible operation to satisfy diverse mapping, surveying, and inspection applications.

RSM lenses

In addition, Phase One announced four new specially developed RSM lenses – with focal lengths ranging from 35mm to 150mm – to seamlessly fit the new sensor's 3.76µm pixel size and 33x44 mm frame size, ensuring image sharpness across the entire FOV. The lenses are available with either fixed-focus or motorized-focus functionality.

The *fixed-focus* 35mm and 80mm lenses provide impressive image radiometric quality, high ground resolution, and large coverage – making them very suitable for surveying applications.

The *motorized-focus* 80mm and 150mm lenses are ideal for a wide range of inspection applications, including electricity poles, wind turbines, bridges, and other private-sector or government structures.

Motorized-focused lenses, having no external moving parts, enable a number of new uses for inspection applications where the focusing distance can be predefined based on flight planning, or by the operator, using a wireless remote control. With the motorized lens, the camera captures sharp and highly detailed images of multi-distance or 3D objects.

Full benefits of new sensor technology

The cameras' RSM lenses incorporate a new leaf-shutter technology, which supports 3 fps capture – with a speed of 1/2500 sec – while guaranteeing 500,000 actuations. The lenses are thermally stable to ensure consistent focus over a wide range of temperatures and flight altitudes. With optics designed to exploit the full benefits of the new sensor technology, the lenses provide with greater productivity, flexibility, and reliability, offering superb image quality.

The new iXM platform adds XQD high-speed storage technology to handle the sensor's extremely fast frame rate. Also on all cameras, HDMI output from actual exposure provides UAV operators simple and outage-free feedback of actual view, exposures, and camera status in overlays. In addition, the new platform includes USB-C and 10G Ethernet for versatility of connectivity to large UAVs and aircraft.

For complete technical specifications, [see here](https://www.phase-one.com/en/Products/Industrial/ixm).

Working with Phase One's UAV partners, the company sees a fast-growing market driven by great potential for time and cost savings over traditional inspection and surveying methods, said Dov Kalinski, general manager of Phase One Industrial. With its new technology, design, and capabilities, the iXM 100MP promises to help start a new era in inspection missions with UAVs. Phase One Industrial continues to push technical boundaries to equip drones and larger UAVs with superior imaging technology – engineering advanced systems, cameras, and software – to help achieve that potential, he added.

