

New solution from Mitsubishi Electric

High-speed contact image sensor offers compact, distortion-free alternative to line scan cameras

Germany, Ratingen 31st of May, 2016

Mitsubishi Electric has responded to the needs of the surface inspection market, in particular within the print industry, with the launch of a high-speed version of its contact image sensor (CIS), distributed under the name Mitsubishi Electric Line Scan Bar. Offering high quality, distortion-free image acquisition right up to the edges of the material, the new CIS scans surfaces at speeds up to 1000m per minute and above, in a compact, easy to install format.

For all machine builders, system integrators and end users, the CIS offers an ideal alternative to line scan cameras for inspecting defects on flat surfaces. Compared with a line scan camera, the CIS is simple to install, held in place directly above the surface of interest at a fixed height, with all LED illumination and optics built in. [Mitsubishi Electric](#) estimates that, with just four screws and four cables, the CIS can be installed in just a few minutes, compared with the hours or even days that might be required to install and align a line scan camera system with its complex set-up and numerous ancillaries.

By being close to the material instead of mounted high above, the CIS also helps to significantly reduce the overall footprint, and therefore the costs and complexity of the machine. Ease of installation and removal means maintenance and support requirements are also significantly reduced. This benefits not only machine builders but also end users who now no longer need to have specialist engineers on standby and

who can be assured of minimal downtime in the event of a problem.

Typical application areas for the CIS include the print and thin film production industries, where it can be used to detect surface defects on paper, plastics, fabrics, banknotes and even holograms. The CIS is available in a range of widths that match the most common print sizes, and for larger material widths multiple CIS sensors can be cascaded side-by-side with seamless image acquisition right across the full width of the material. The CIS can also be used for the surface inspection of wood, glass and other materials. In addition, the CIS can form the heart of an automated optical inspection system for circuit boards.

This significant development has already been implemented by Lake Image Systems Ltd. in its Discovery Maxscan product that has been designed to deliver high quality document integrity for its clients. One of the first to take advantage of this technology is Data One, a company that prints transactional documents and personalized direct mail on its Xerox Impika eVolution printer. The high resolution, distortion-free images are sent to the Discover Multiscan3 inspection platform in real-time, while the printer is running, for image processing.

Each image is processed to capture variable barcodes, text (OCR) and other elements on the document, Multiscan3 then verifies the codes are present, in the right location and readable. Codes are matched against a supplied control file or database to check for sequencing and integrity errors. Print quality inspection can also be performed by analyzing registration marks and detecting for voids, streaks and spots.

The Mitsubishi Electric Line Scan Bar has also been adopted by Hunkeler AG as an integral part of its WI8 Web Inspection System for quality and content control. The WI8 is used in a number of Hunkeler post finishing modules for applications in the transactional, direct mail,

publishing and commercial print segments. The company offers scalable quality assurance systems for web inspection and tracking solutions through the Hunkeler control platform.

For the end user, this latest advance in high speed imaging offers assurance that the documents they print are complete, correct and acceptable in terms of print quality. It also mitigates the risks associated with the printer sending out sensitive financial information to the wrong recipient and maintains client satisfaction levels. For the OEM, this technology can be seamlessly integrated without costly additional rollers, redesigned web paths or complex optical assemblies that are typical with standard camera inspection technologies.

Markus Köhler, Mitsubishi Electric Business Development Manager, comments: “The new CIS offers high quality image acquisition in the smallest footprint ever. Taking up so little space, and with its ease of installation and integration, the CIS is a solution that all machine builders, system integrators and end users have been waiting for. By addressing the widely appreciated challenges associated with using line scan cameras we have a potentially popular, game changing solution. With guaranteed distortion-free image acquisition right up to the edges of the material, and no need to sacrifice resolution for larger material widths - as you would have to with a line scan sensor, the CIS improves both defect detection and machine throughput. And with this new high-speed version, we can match any line scan camera system for headline performance.”

This latest development from Mitsubishi Electric will be supported in the European markets by Stemmer Imaging, which is the preferred distributor for the contact image sensor.

With the print industry being a key market for the CIS, visitors to the

Drupa exhibition (Düsseldorf, Germany, May 31 – June 10) will be able to see the advantages of the sensor themselves. It will be in operation in live demonstrations on equipment on a number of Mitsubishi Electric's customers' stands, including Hunkeler (Hall 8a, Stand C20) and Lake Image Systems (Hall 11, Stand B42) and others.

Note:

See how Mitsubishi Electric is able to respond to today's automation demands:

eu3a.mitsubishielectric.com/fa/en/solutions

Image caption:



Picture 1: Mitsubishi Electric has responded to the needs of the surface inspection market, in particular within the print industry, with the launch of a high-speed version of its Mitsubishi Electric Line Scan Bar, contact image sensor (CIS).

[Source: Hunkeler AG



Picture 2: Lake Image Systems has implemented the technology in its Discovery Maxscan product, which will provide its clients with a competitive advantage in print quality inspection.

[Source: Lake Image Systems]



Picture 3: Compared with a line scan camera, the CIS is simple to install, held in place directly above the surface of interest at a fixed height, with all LED illumination and optics built in.

[Source: Mitsubishi Electric Europe B.V.]

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Note to Editor: if you would like the text in another language please contact Philip Howe at DMA Europa – philip@dmaeuropa.com.

About Lake Image Systems

Lake Image Systems is a world leader in the design, development and manufacture of imaging and scanning technologies for the world's printing, labelling and packaging industries. By reading and processing the variable data which is now commonplace on many printed items its systems inspect, verify, track and report on millions of documents, printed pieces, plastic cards and packages daily using codes such as OCR, barcodes, 2D codes, QR codes and many more.

With over 3000 installations worldwide, Lake Image Systems products have given data traceability and variable print integrity confidence to customers for 20 years, optimizing their processes, enhancing their product quality and increasing their profitability. With manufacturing in Europe and the USA, Lake Image Systems provides turnkey integrity solutions which identify defective print, generate detailed audit trail reports and feed ADF and MIS architecture with piece/pack level information.

For more information visit: lakeimage.com

About Hunkeler AG

Working for the printing industry since 1922, Hunkeler AG is an independent, owner-managed family business which today employs some 280 people around the world. Its performance is concentrated on advanced pre- and post solutions for high performance digital printing systems for print on demand, data centers, direct mailing and security printing industry.

Hunkeler has over 6000 digital print finishing solutions installed and is the leader in end to end solutions including web inspection and tracking.

For more information visit: www.hunkeler.ch

About Mitsubishi Electric

With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 129.000 employees the company recorded consolidated group sales of 36,0 billion US Dollars* in the fiscal year ended March 31, 2015. Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe B.V., Factory Automation European Business Group (FA-EBG) has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

**Exchange rate 120 Yen = 1 US Dollar, Stand 31.3.2015 (Source: Tokyo Foreign Exchange Market)*

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