



Q1250

quality tools

komax

Q1250

With the Q1250 module, Komax has achieved a new dimension in optical quality monitoring. The intelligent and fully automatic system enables comprehensive monitoring of the crimping process. In a first step, the Q1250 checks every wire end for correct stripping and seal insertion before crimping. The Q1250 then carries out additional quality checks after the crimping process.

Visual checking by the operator is largely eliminated. This means that the required quality features are checked automatically and comprehensively.

Predefined operator-independent quality

- Minimal operator involvement as the relevant quality features are controlled and monitored by the system.
- The fully automatic monitoring significantly relieves the burden on the operator in carrying out visual follow-up checks.

Robust image capturing in any environment

- The high-quality digital camera and specially developed dome lighting ensure detailed photos with perfect illumination.
- The intelligent control and evaluation adjusts automatically to the particular conditions to deliver a reliable result.

Fully integrated quality system

- Image and measurement data are transferred directly to the Komax HMI where they are displayed clearly.
- Full traceability is available via the familiar machine interface.
- Thanks to the predefined parameters that are loaded automatically with the order, changeover times are minimal and are independent of the operator.

INTELLIGENT OPTICAL STRIP, SEAL AND CRIMP MONITORING FOR DIGITAL INSPECTION OF THE CRIMP QUALITY



Innovative technology

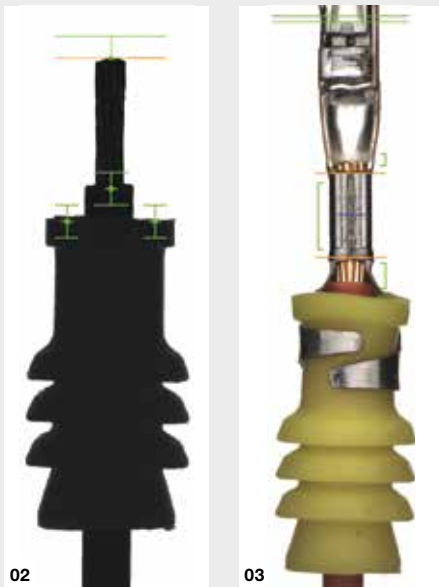
An innovative image evaluation algorithm analyzes the high-resolution color image and reliably detects any crimped-on or protruding strands. Using intelligent color recognition, the system also checks whether any insulation is in the crimp and whether sufficient conductor brush length is available.

Full quality control

Initially, the strip quality and the seal insertion (where applicable) are checked as the swivel arm travels towards the crimping module.

On the way back, the Q1250 checks the crimp quality within just fractions of a second. During this process, inspections are made for copper overhangs, crimped-on and protruding strands at each end of the wire.

The Q1250 therefore provides full control of the production batch. The visual check of the parameterized quality features by the operator is eliminated. All quality features can be tracked and recorded.



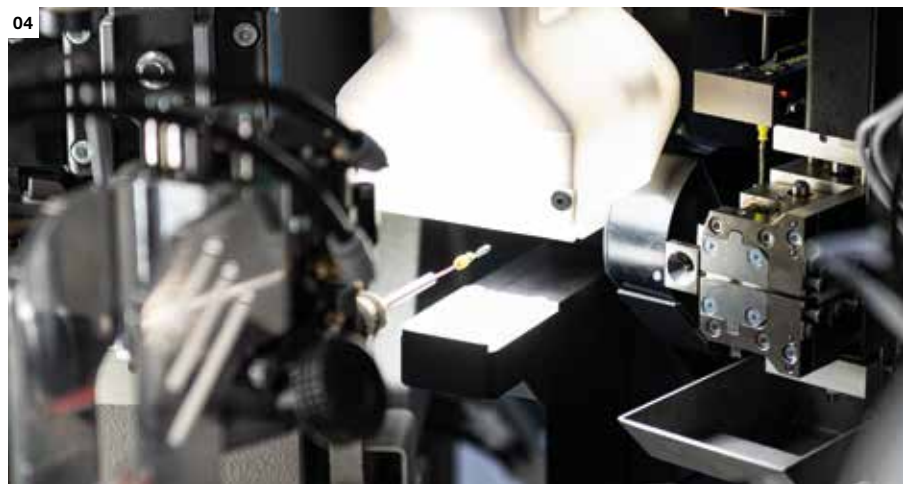
- 01 Q1250 with dome lighting
- 02 Monitoring of the strip and seal position
- 03 Monitoring of the crimp quality
- 04 Optical crimp monitoring in action

Process overview

Cut Strip	Pulled strands	
	Strip recognition	
	Strip length	
	Wire splay	
	Missing strands (partial)	
	Partially stripped	
	Insulation burrs	
Seal insertion	Seal position	
	Seal presence	
	Insulation in front of seal	
	Seal orientation	
	Pierced seal	
Crimp	Missing terminals	
	Crimped-on strands	
	Protruding strands	
	Distance from insulation to conductor crimp	
	Conductor brush length	

Technical data

Wire cross sections	0.13–6 mm ² (AWG 26–AWG 10)
Full or half stripping	max. 18 mm (0.71 in.)
Resolution	1280 × 1024 (1.3 MB pixels)
Inspection area	27 × 20 mm (1.06 × 0.78 in.)
Dimensions (L × B × H)	318.9 × 90.9 × 522 mm (12.56 × 3.58 × 20.55 in.)
Control system	Komax HMI
Communication	USB 3.0
Machine types	Alpha 530, Alpha 550



Komax – leading the field now and in the future

As a pioneer and market leader in the field of automated wire processing, Komax provides its customers with innovative and sustainable solutions for any situation that calls for precise contact connections. Komax manufactures series and customer-specific machinery for various industries, catering to every degree of automation and customization. Its range of quality tools, test systems, and intelligent networking solutions complete the portfolio, and ensure safe and efficient production. Komax is a globally active Swiss company with development and production facilities on several continents. Komax uses its extensive distribution and service network, which includes local companies and their employees, to support customers across the world on site, thus ensuring the availability and value of their investments after equipment commissioning through standardized service processes.



Market segments

Komax offers outstanding competence and solutions for various areas of application and draws on them to generate the desired value-added for the entire process and optimize economic efficiency in line with customer requirements. The main markets of Komax are as follows: automotive, aerospace, industrial and telecom & datacom. With this breadth of experience, customers obtain expert knowledge for process optimization and access to the latest technologies.

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YEARS
CUTTING
EDGE

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