



# ZETA 620

harness manufacturing

**komax**

## ZETA 620

The compact, fully automatic Zeta 620 wire processing machine produces entire parts lists and stores wires sorted and labeled, all in the tightest of spaces. Tried and tested Zeta technology and attractive module options simplify production considerably and ensure noticeable time and cost savings. Take advantage of this low-cost entry point into automation and secure a significant competitive advantage, both now and in the future.

### Cost-efficient automation process

- Enormous time savings of up to 50% due to higher efficiency and accuracy
- Significant simplification in production
- Continuous data flow from ECAD or DLW to the machine
- Cost-efficient just-in-time production for batches of any size
- Optimal wire depositing

### High productivity

- Complex jobs are completed quickly and without great effort
- Batch or sequence production without changeovers
- Automatic wire changer with up to 24 different wires
- Automated marking of the wire by inkjet and tube marking
- Processing of seven different ferrules with the CM F20 and CM04 Duo module

### Reliable processing with the highest quality

- Sequential processing of single-conductor wires in the cross-section range 0.5 – 6 mm<sup>2</sup>
- Consistently high quality thanks to fully automatic production

### Attractive entry-level model with low space requirement

- Compact dimensions 2150 × 1545 mm
- Fits in any room
- Up to two inkjet markers can be optionally integrated

▶ The bundler sorts the batches and fixes the matching wires with adhesive tape in one process step.

**EFFICIENT**  
AUTOMATION IN CONTROL CABINET  
CONSTRUCTION

# HIGH PRODUCTIVITY FROM A BATCH SIZE OF ONE



## **Time savings of up to 50%**

Manual processes cost time. The Zeta 620 reduces manual work to a minimum. It automatically assembles all wires required and prepares them fully equipped in the correct sequence and length – including labeling and terminals. The wires then only have to be laid at the control cabinet. Manual processes such as cutting to length, stripping, labeling and inserting sleeves are eliminated.

## **Continuous data flow from ECAD to the machine**

Production data can be sent directly to the machine from specific ECAD systems via the Komax WPCS interface. Exporting data from ECAD systems to a cutting list is also possible. This is converted into readable data and inputted, eliminating the need to manually program articles on the machine. This is highly efficient for any batch size – even a batch size of one.

## **Consistently high quality thanks to automation**

Fully automatic production guarantees reproducible, consistent quality. Automated data transfer eliminates sources of error, as no manual input is required at the machine.



01

02

**01**  
The Zeta 620 offers space for two process modules, which can be equipped with various combinations of ferrule modules or alternatively with a tube marking module.

**02**  
The sheer number of control cabinet construction variants calls for a high quantity of wires to be available. The automatic wire changer contains up to 24 different wires from the entire cross-section range.

### Wire bundles simplify subsequent wiring in the control cabinet

Depending on the job, wires can be produced, sorted and bundled in an ideal sequence, in one process step. The wire bundles make it quicker and easier to lay wires in the control cabinet. Batches can be taken out in advance while production is running. The binder type is freely defined for each wire, independent of the production mode (batch or sequence production).

### Reliable sequential processing

The special cutting head with three pairs of blades allows cross-sections from 0.5 to 6 mm<sup>2</sup> to be processed perfectly in sequence. High-quality, durable blades and components allow high processing speeds, which shortens throughput times accordingly.

### Required materials available at any time

Versatile control cabinet construction requires many different materials, such as wire types and ferrules. These are available on the Zeta 620 without the need for changeovers. The automatic wire changer contains up to 24 different wires from the entire cross-section range. The automated marking system labels the wires optimally and the ferrule modules then fit them with up to seven different ferrules.

03

With its compact dimensions, the Zeta 620 fits into any room. The optional inkjet markers are integrated into the chassis by means of a drawer.

03



**Wires equipped easily with seven different ferrules**

The CM F20 is an attractive, flexible solution for control cabinet construction. Five different taped ferrules with cross-sections of 0.5 – 2.5 mm<sup>2</sup> and crimp lengths of 8 or 10 mm can be processed quickly and easily in sequence. Special ferrules (Multinorm, AWG) are also not a problem. The ferrule rollers are inserted without tools or component changeovers. The touch display is

intuitively designed. A two-stage process ensures reliable processing. Automatic cable centering adjusts to the cross-section. The CM F20 is a high-performance ferrule module that is easily integrated into a fully automatic Komax machine such as the Zeta 620.

The CM04 Duo supplements the cross-section range for processing wire-end ferrules in the 4 – 6 mm<sup>2</sup> range. The module

makes it possible to process two types of ferrules without changeover. Crimp lengths of 8, 10 or 12 mm can be processed easily and sequentially. The cable centering automatically adapts to the selected cross-section, which ensures reliable processing. In combination with a CM F20 or CM 1/5, wire harnesses with a cross-section of 0.5 – 6 mm<sup>2</sup> can be equipped with wire end ferrules.



**Technical data**

	CM F20	CM04 Duo
Cross-section range	0.5 – 2.5 mm <sup>2</sup> (AWG 20–14)	4 – 6 mm <sup>2</sup> (AWG 11 – 9)
Ferrules	Z+F ferrules on rolls, 0.5 – 2.5 mm <sup>2</sup> (AWG 20–14) Type: N,HL (standard) / S-N,S-HL (Multinorm, AWG)	Z+F Wire end ferrules bulk material, 4 – 6 mm <sup>2</sup> (AWG 11 – 9) Type: K-N-HL
Ferrule length	8 mm or 10 mm	8 mm, 10 mm or 12 mm
Crimp form	Trapezoid crimp form	Quadro
Operating pressure	5 – 6 bar	5 – 6 bar
Dimensions (WxDxH)	205 × 397 × 491 mm without castors 283 × 460 × 635 mm with castors	265 × 510 × 440 mm
Weight	26.5 kg	40 kg



◀ The optional M1650 Tube equips cables with a pre-labeled tube. The position of the labeling is thus flexible.



**DLW – the simple alternative**

For automation of the control cabinet construction process, an important requirement is to collect the production data, including the wire length. DLW (digital lean wiring) software developed by Komax offers the ideal solution for this with its clear focus on simplicity and flexibility.

**Virtual wiring**

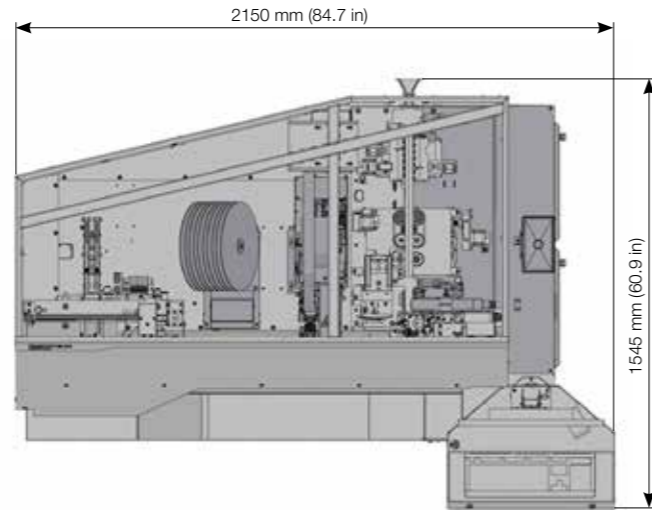
On the basis of a photo or a 2D drawing, technicians can complete the wiring virtually on a screen using DLW. This is a highly efficient method of determining the wire lengths per connection. The production data is then converted and loaded onto the wire processing machine, which produces the wires ready for installation.

**Technical data Zeta 620**

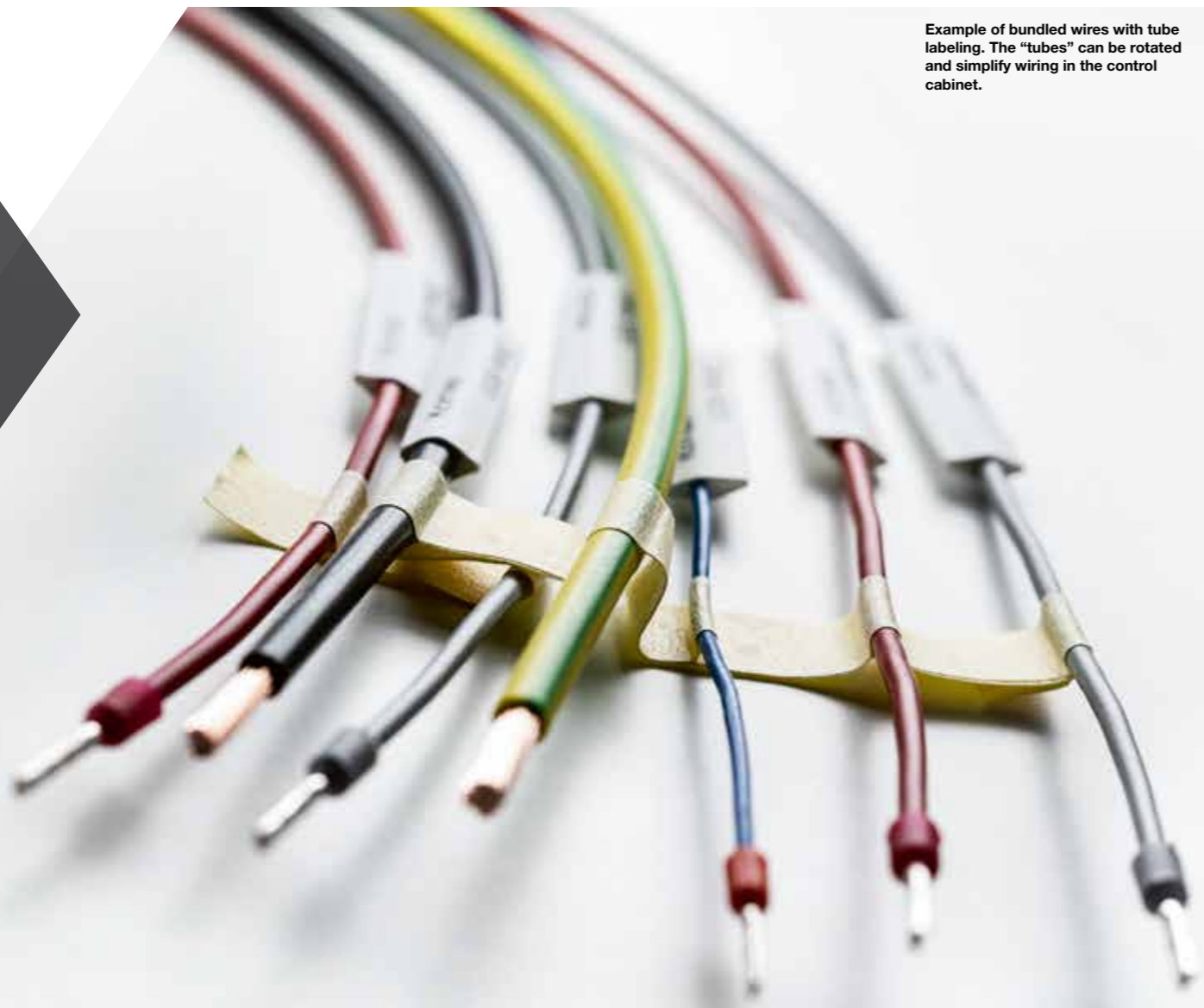
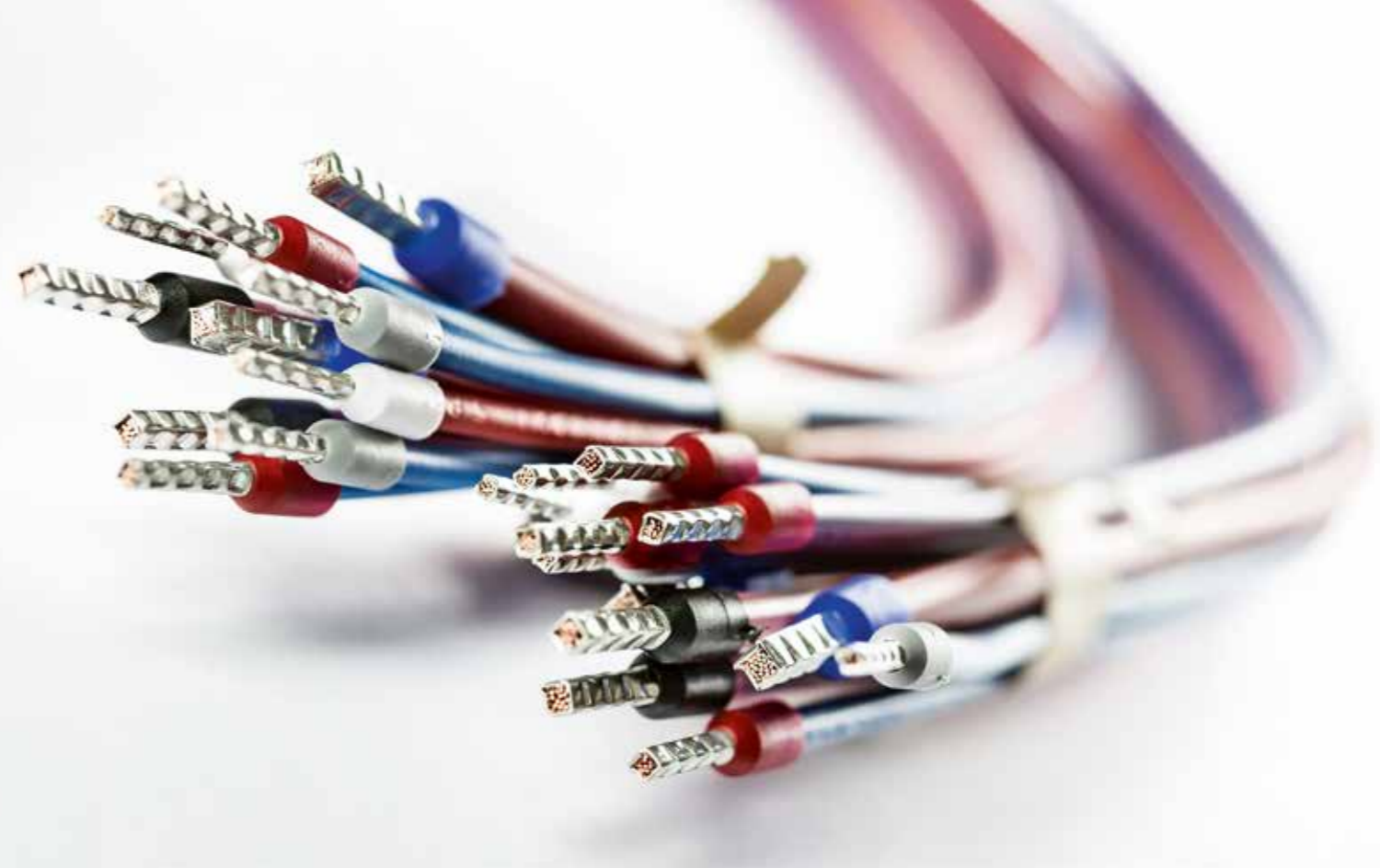
Outer wire diameter	Max. 6 mm (0.24 in)
Wire cross-sections	0.5–6 mm <sup>2</sup> (AWG 20–10)
Wire length tolerance	±0.5% + 2 mm (0.079 in)
Wire length range for double-sided processing	240 mm to 4 m (9.44 in to 13.1 ft)
Wire length range for one-sided processing	60 mm to 4 m (2.36 in to 13.1 ft)
Wire changer	Maximum 24
Strip length	Up to 25 mm (0.98 in)
Number of stations	2
Piece output, AEH – AEH	360 pcs/h
Piece output, stripped on both sides	700 pcs/h
Weight	Approx. 700 kg

## Module combinations

Station 1	Station 2
CM F20	CM F20 AEH-LS CM 1/5
AEH-LS	CM F20 AEH-LS CM 1/5
M1650 Tube	M1650 Tube CM F20 AEH-LS CM 1/5 CM04 Duo
CM04 Duo	CM F20 AEH-LS CM 1/5 CM04 Duo



Machine height with closed safety cover 1765 mm (69.5 in.)  
Machine height with open safety cover 2765 mm (108.8 in.)



Example of bundled wires with tube labeling. The "tubes" can be rotated and simplify wiring in the control cabinet.

## Options and accessories

Marking systems	M1630 Jet • M1650 Tube tube marking module
Wire draw-in	Wire changer 24-fold
Process modules	Ferrule module CM F20 • AEH-LS • CM 1/5 • CM 04 Duo
Software	WPCS networking interface • TopConvert data conversion • Komax MES • DLW

## Processing examples

Cutting		Wire deposit system/spot taping	
Cutting pulled strands		Wire length correction	
Full stripping		Good and bad separation/ bad-part cutting	
Half stripping		Sequence processing	
Ferrule crimping		Batch separation	
Wire end solidifying, splicing, welding*		Networking (control center, WPCS)	
Inkjet marking		Material verification	
Tube marking		Wire changer	
Wire draw-in			

\* Available on request

## Komax – leading the field now and in the future

As a pioneer and market leader in automated wire processing, Komax provides its customers with innovative solutions. Komax manufactures series and customer-specific machinery, catering to every degree of automation and customization. Its range of quality tools, test systems, and intelligent software and networking solutions complete the portfolio, and ensure safe, flexible, and efficient production.

Komax is a globally active Swiss company with highly qualified employees and development and production facilities on several continents. It provides local support to customers worldwide through its unique sales and service network and offers services that help them get the most out of their investments.

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