ALPHA 530

crimp to crimp

komax

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ALPHA 530 THE ROBUST ALL-ROUNDER

Solid, reliable technology coupled with innovative solutions ensures and increases your company's ability to add value. The Alpha 530 – the fully automatic wire processing machine for one and two-sided crimping and seal insertion – meets this criteria with solid, powerful technology. In addition, double crimp, sleeve insertion, ferrule crimping, strand twisting and tinning can be processed efficiently. The fast setup and conversion times of the Alpha 530 contribute to a high level of productivity. The highest quality requirements are met with its high degree of process capability and retrofittable quality options such as ACD and Q1240.

Unrivaled robustness and durability

– Reliable processing of wire cross sections ranging from 0.13 to 4 mm² (optionally 5 mm²)
– Solid and reliable processes with powerful, durable technology
– Reduced maintenance costs thanks to the unique approach to wearing parts
– Designed for demanding ambient conditions

Precise and outstanding quality

– First time right – perfectly synchronized machine processes enable excellent CpK results
– Highly robust machine configuration
– Can be retrofitted with unique quality monitoring such as ACD, Q1240
– Wires handled carefully, gently during processing

Productive due to fast changeover

– High productivity performance thanks to ultra-fast machine setup and operation
– Quick and highly efficient changing of cables, crimp tools, terminal rolls
– New deposit system for maximum output

DURABLE INVESTMENTS ARE MORE PROFITABLE

Absolutely precise processing with single-line blade holder.

kennex
0335772
R=0.30
0335772
R=0.30

ROBUST AND
HIGHLY PRODUCTIVE

Attains maximum productivity in no time at all

The work flow is enhanced by short paths for the operator between crimp and wire and cutting stations, all with LED-illuminated work zones. With the help of the optional linear quick wire changer and the quick mobile (MTC) or stationary (STC) terminal changer, the Alpha 530 can be converted even more quickly.

Lightning-quick to convert, parallel setup procedures

Simple, fast setup and conversion approaches allow short travel paths while accelerating the conversion and setup procedures. With the touch screen, keyboard and mouse, the Alpha 530 can be operated in a time-saving and ergonomic fashion. The TopWin software allows the next job to be loaded without halting operations and the material and the tool to be prepared. Indicator lamps and LED-illuminated work zones optimize and expand user guidance.

First-time-right approach – minimal rejects

Top precision, even at maximum system performance and excellent CpK results – the machine processes and the functions for quality assurance are perfectly attuned to each other. The reliable EtherCAT technology guarantees optimum processes.

Quality assurance by Komax

Quality production means quality products: Komax develops and produces the elements of quality assurance itself. The highest requirements of the automotive industry are satisfied. The optional available automatic conductor detector (ACD) reduces operator influence and ensures quality monitoring even for the finest wires. The ACD detects the slightest contact between blade and conductor strands during stripping. Other available options include integrated strip monitoring (Q1240), crimp force analysis (CFA+/CFA) and seal position monitoring (SPM).

Gentle wire guidance

The pneumatic wire straightener enables high feed-in speed and excellent deposit quality even with difficult conductor material. With the actively controlled roller pressure, any changes in the cable containers and draw-in speed are compensated. To avoid indentations on the cables during machine stops, the roller pressure is automatically reduced.
The speed of the deposit conveyor belt is automatically adjusted, assuring neat and gentle wire deposit. The deposit tray features a smooth surface to prevent any cable damage.

The market leader's quality and expertise

Komax assures the maximum performance capability of the Alpha 530 by delivering holistic, comprehensive quality. It considers all components and rounds out these efforts with local services globally.

01
Quick and reliable setup directly on the crimp module.
02
The tools are within reach at any time in the practical, lockable drawer situated directly under wire draw-in.
03
Uniform guide tubes support cable handling for the thinnest cables from 0.13 mm² to 4 mm².

01

02

03

AUTOMOTIVE
CONFIGURATION

Q1240
STRIP MONITORING

S1441
SEAL MODULE

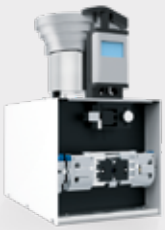
C1370/C1340
CRIMP MODULE

C1370 / C1340
Shortest setup and conversion times are achieved thanks to efficient user guidance with wire positioning directly on the module. CFA+ assures the highest level of quality and the lowest possible rate of rejects. In combination with time savings productivity can be increased considerably. Functions such as stroke and split cycle are easily programmed.
The C1370 adjusts the crimp hight automatically during the teaching process.

S1441 seal module for maximum flexibility
The module automatically fits wires with common seals and mini-seals. The combination of precision mechanics and the new Q1240 seal position monitoring function guarantees a high degree of process safety and maximum productivity. The module can be simply and quickly switched from one seal variety to another.

Q1240 strip monitoring for maximum quality
The Q1240 quality tool runs an optical check on the strip quality and automatically rejects defective products. It can be easily integrated into the production process without training. Seal monitoring, which checks the seal position and alignment, is also available. The product quality can be seamlessly traced by means of statistics, image storage and network feedback.

AEH-LS/AEH-G
FERRULE MODULE



CM03
MIL-CRIMP MODULE

MCI 792
SLEEVE MODULE

DC
DOUBLE GRIPPER MODULE

X1582
TWISTING MODULE

INDUSTRIAL
CONFIGURATION

X1585
TINNING MODULE

C1340/C1320
CRIMP MODULE

C1340
Shortest setup and conversion times are achieved thanks to efficient user guidance with wire positioning directly on the module. CFA+ assures the highest level of quality and the lowest possible rate of rejects. Functions such as stroke and split cycle are easily programmed.

C1320
The robust design is the ideal foundation for industrial production environments. The crimp module's precision mechanics ensure maximum stability for the crimping process. The crimp quality can optionally be monitored with the no-nonsense crimp force monitoring system MicroForce 70.

AEH-G / AEH-LS
The AEH-G and AEH-LS ferrule modules are flexible solutions for controlled crimping of taped or bulk ferrules on stripped conductors.

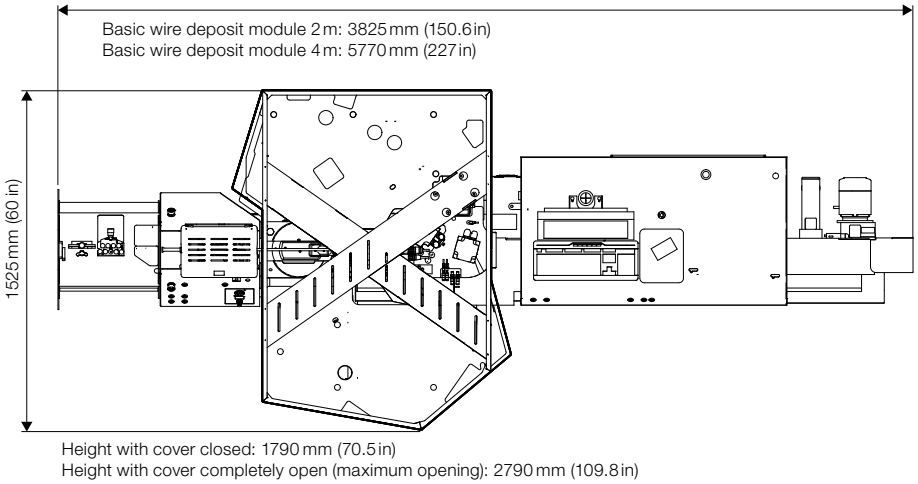
Double gripper module
A clever rotary gripper brings together two conductors on the fully automatic wire processing machine and stores them intermediately. The wire gripper takes over the two conductors (in horizontal or vertical position depending on the setting) and swivels them to the crimp module.

mci 792
The sleeve insertion module mci 792 marks up with an efficient and reliable insertion of different sleeve types on one device. By an application set the device quickly can be converted to other sleeve types.

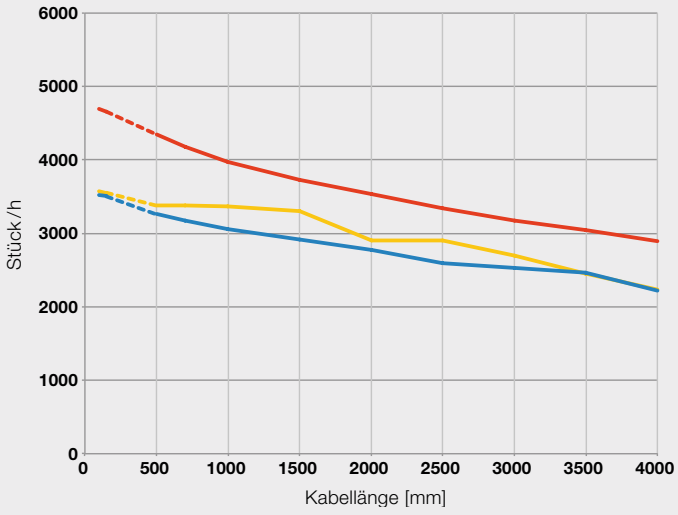
X1585
The X1585 fluxing/tinning module enables versatile, lead-free tinning of strand ends. Constant tin flow allows for consistent quality.

X1582
The X1582 twists stripped wire ends and offers the ideal basis for optimum tinning processes.

CM03
The MIL-Crimp module CM03 processes turned pin and socket contacts reliably and precisely.



Output rate



FLRY conductors	0.5 mm² (AWG 20)
Pressure	6 bar (87 psi)
Wire feed speed	9 m/s
Crimp module	C1370
Seal module	S1440
Crimp force monitoring	Active
ACD, Q1240	Inactive
Deposit gripper	Active

Crimp / Crimp
Crimp / Crimp-Seal
Crimp-Seal / Crimp-Seal

The actual output rate can vary with application and machine configuration.

Options and accessories

Automatic delivery systems	Komax 106 • ads 119 • ads 123 • F1150
Wire drive	Belt drive • Roller drive
Marking systems	Komax 26 hot-stamp marker • Komax IMS inkjet marking systems • Laser marking on request
Blade holders	Single-blade line for V blades • Double-blade line for V blades and special blades
Process modules	C1370/C1340/C1320 crimp module • S1441/S1440 seal module • X1582 twisting module • X1585 tinning module • mci 792 sleeve module • Double gripper module • AEH ferrule module • MIL crimp module • Welding module • Ultrasonic compaction
Quality control	Komax 341 Integrated crimp height measurement • Q1210 Integrated pull-out force measurement • ACD automatic conductor detection • Q1240 Strip monitoring • Material change detection • Material verification • Splice detection • Q1140 spark tester • SPM seal position monitoring • Terminal end detection • MicroForce 70
Deposit systems	Basic module 2 m (78.7 in) or 4 m (157.5 in) • Extension module 2 m (78.7 in) or 4 m (157.5 in) • Deposit gripper
Accessories	MTC or STC Crimp tool quick-change system • Wire quick-change system • Bar code scanner • MX5050 intermediate stripping
Software	WPCS networking interface • TopConvert data conversion • Komax HMI • TopWin • DLW

The finished cables are placed in the smooth deposit unit made of stainless steel.

Technical data

Wire cross sections	0.13 – 4 mm² (AWG 26 – 11)* Optional 0.13 – 5 mm² (AWG 26 – 10)
Wire draw-in speed	max. 9 m/s (29 ft/s) belt drive max. 6 m/s (19 ft/s) roller drive
Outer diameter of conductor	max. 5.1 mm (0.20 in.)
Length range	60 – 65'000 mm (2.35 in. – 213 ft.)
Full stripping	0.1 – 15.5 mm (0.004 – 0.6 in.) optional up to 29 mm (1.14 in.)
Half stripping	15.5 mm (0.6 in.) optional up to 35 mm (1.38 in.)
Crimp force	1 – 22 kN (224 – 4'496 lbf.)
Process modules side 1/2	2 / 2
Noise level	< 80 dB (without crimp tool)
Electrical connection	3 × 208 – 480 V / 50 – 60 Hz / 5.6 k VA
Compressed air connection	5 – 8 bar (73 – 116 psi.)
Air consumption Crimp / Crimp Seal crimp / Seal crimp	< 7 m³/h (247 ft³/h) < 11 m³/h (388.5 ft³/h)
Weight (incl. 2 crimp modules)	1.3 t (2866 lbs.)

*Depends on wire material

The efficient belt drive reliably draws in the cable at a speed of up to 9 m/s.

Processing examples

Cutting to length		Intermediate stripping		Sleeve insertion	
Cutting pulled strands		Crimping		Ferrule crimping	
Full stripping		Double crimping		MIL crimping	
Half stripping		Split cycle for closed barrels		Wire-end compaction, splicing, welding	
Core processing		Seal insertion		Hot-stamp marking	komax © Hot stamp
Double casing, coaxial and triaxial cables		Twisting / tinning		Inkjet marking	Ink Jet TopWin

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 for 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. It supports customers locally in more than 60 countries with its extensive distribution and service network, ensuring the availability and value of their investments after equipment commissioning through standardized service processes. Komax includes more than 30 companies worldwide and employs more than 1800 members of staff.

40 YEARS CUTTING EDGE

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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Subject to change