ALPHA 530

crimp to crimp

komax

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DURABLE INVESTMENTS ARE MORE PROFITABLE

ALPHA 530 THE ROBUST ALL-ROUNDER

Stable, tried-and-tested technology combined with innovative solutions secures and increases the added value of your company. Alpha 530 – the fully automatic wire processing machine for crimping and loading of seals – on both sides – meets these criteria with its solid, powerful technology. In addition, double crimp, sleeve assembly and ferrule assembly can also be efficiently processed and the strands twisted and tinned. The quick set-up and changeover times of Alpha 530 contribute to high productivity. High process capability and retrofittable quality options such as Q1250 scalable and ACD meet the highest quality requirements.

Unrivaled robustness and durability
- Reliable processing of wire cross sections ranging from 0.13 to 6 mm²
- Production of special and complex applications thanks to flexible machine configurations
- 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 systems such as Q1250 scalable and ACD
- 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

Absolutely precise processing with single-line blade holder.

ROBUST AND
HIGHLY PRODUCTIVE

Maximum productivity in no time at all
Short distances for the operator between crimping, cable and cutting stations, as well as LED-illuminated work zones increase productivity. The user interface is clearly structured and can be expanded. The user guidance is sequence-controlled and can be individually adapted. Changeovers with the Alpha 530 can be even faster using the optional linear wire quick changer and the stationary (STC) terminal quick change system.

Quick changeover; set up in parallel
Simple, fast set-up and changeover concepts enable short distances and speed up the processes for changeover and set-up. The Alpha 530 is time-saving and ergonomic to operate via touch screen, keyboard and mouse. The intuitive user interface makes it possible to load the next job on the fly – as well as prepare material and tools. Control displays and LED-illuminated work areas optimize and enhance 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
Komax develops and produces its own quality assurance technology. This QA technology meets the highest standards of the automotive industry. Also available are the integrated optical stripping, seal and crimp monitoring function (Q1250 scalable) and crimp force monitoring (CFA+/CFA) for detecting missing strands and other crimp faults. The optional Automatic Conductor Detector (ACD) reduces operator intervention and ensures quality control of even the finest wires. The ACD detects the slightest contact between the blade and the conductor strand during the stripping process.

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.

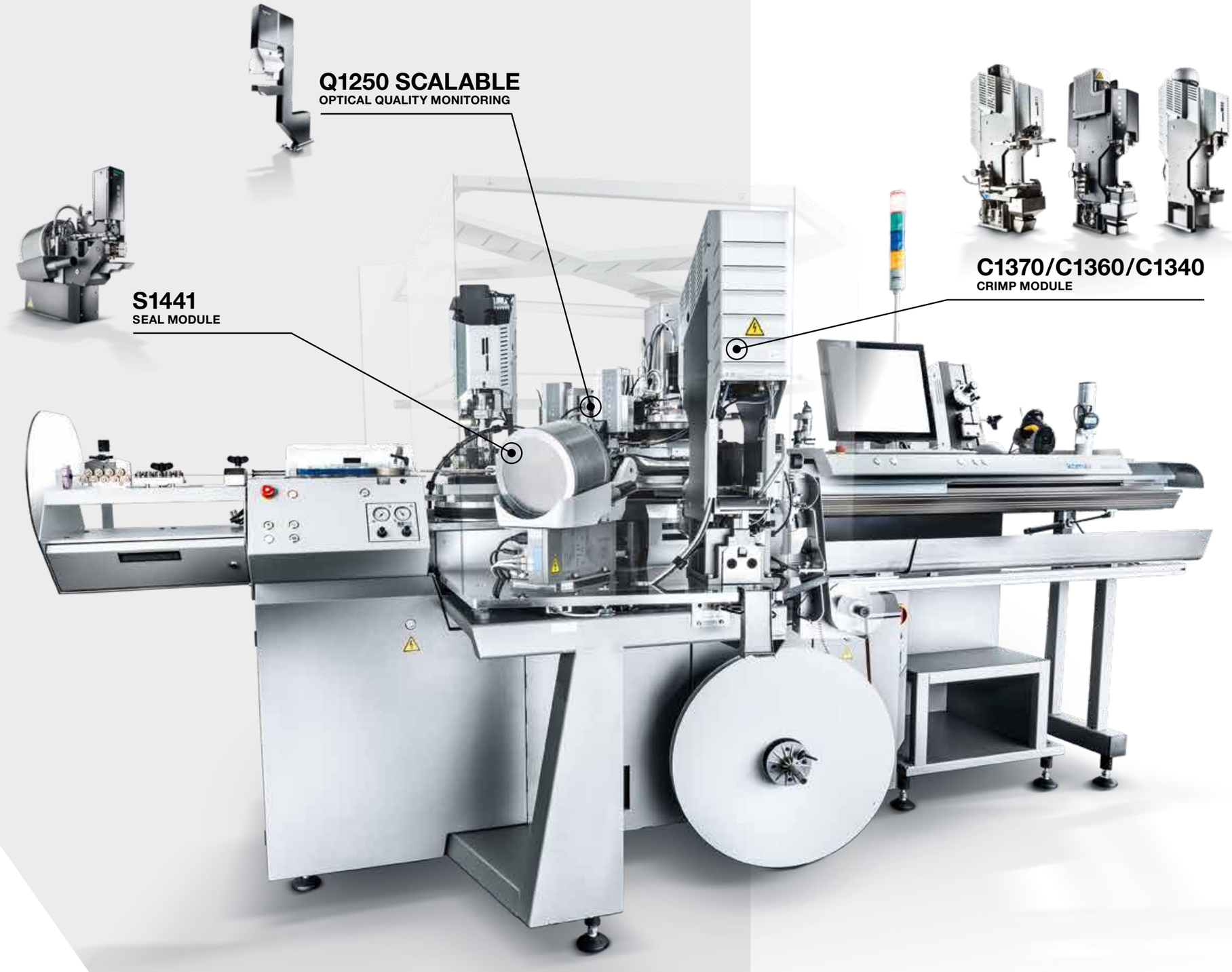
01
Quick and reliable setup directly on the crimp module.
02
The tools are within reach at any time in the practical, lockable drawer situated directly under wire draw-in.
03
Quick change of the guide tubes without tools. Processing of cables with seals and crimp with the same guide tube (one guide tube length).


01


02


03

AUTOMOTIVE
CONFIGURATION

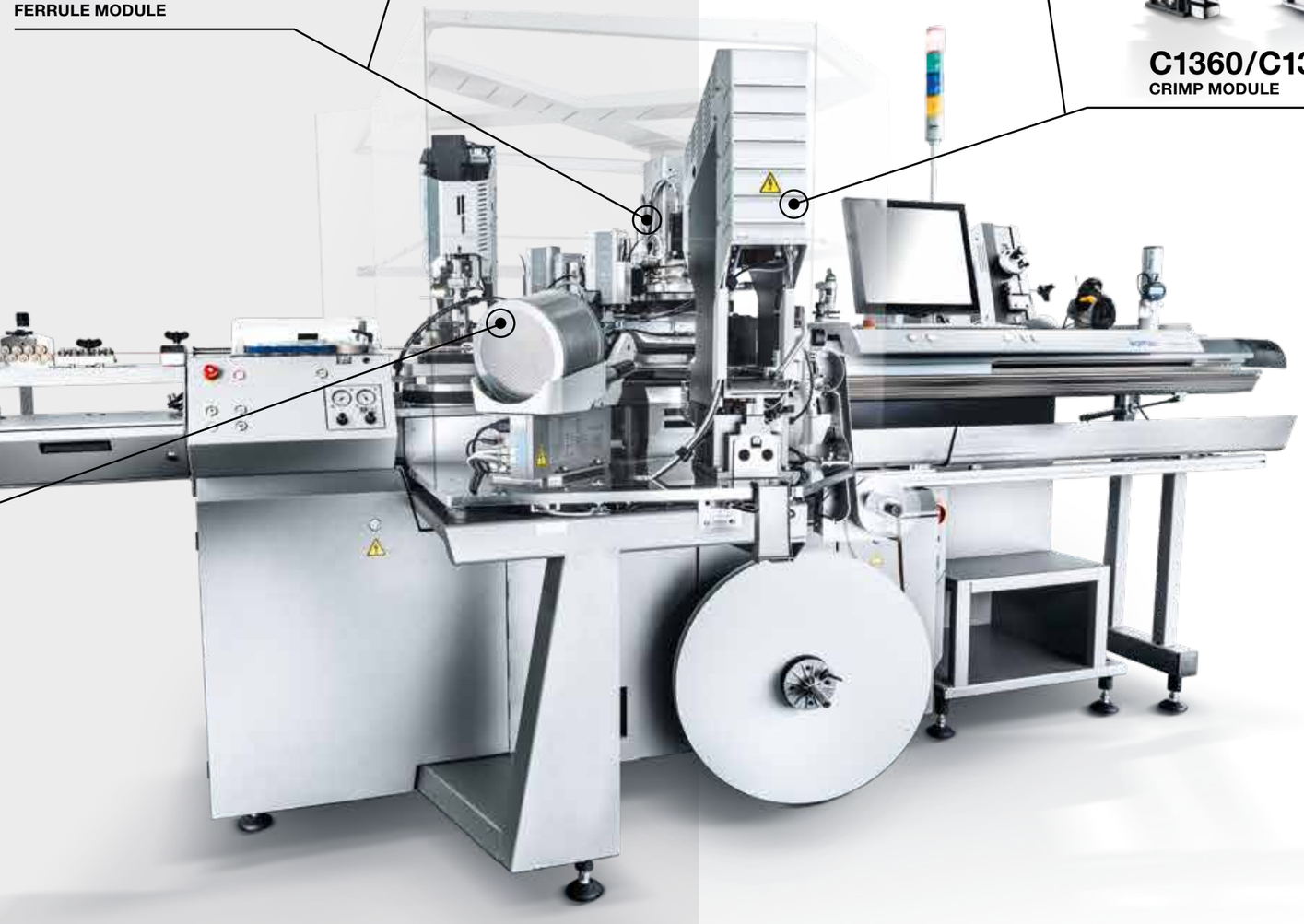


Crimp modules C1370/C1360/C1340
Shortest setup and conversion times are achieved thanks to efficient user guidance with wire positioning directly on the module. CFA+ assures the highest level of quality and the lowest possible rate of rejects. In combination with time savings productivity can be increased considerably. Functions such as stroke and split cycle are easily programmed.
The C1370/C1360 adjusts the crimp hight automatically during the teaching process. The C1370 also offers maximum positioning accuracy and sequencing capability.

S1441 seal module for maximum flexibility
The module automatically fits wires with common seals and mini-seals. The combination of precision mechanics and the Q1250 scalable 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.

Optical quality control Q1250 scalable for maximum quality
The quality tool visually checks the stripping quality and automatically rejects faulty products. A seal monitoring function is also available that monitors the seal position and orientation. Thanks to the high-performance color camera, any crimp defects such as crimped-on strands or insulation in the crimp can be monitored. Easy to integrate into the production process. Product quality can be seamlessly tracked using statistics, image saving and network feedback.

INDUSTRIAL
CONFIGURATION



AEH-LS
FERRULE MODULE

CM03
MIL-CRIMP MODULE

X1585
TINNING MODULE

C1360/C1340
CRIMP MODULE

SLEEVE MODULE

DC
DOUBLE GRIPPER MODULE

X1582
TWISTING 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.

C1360
Crimp height programmable crimp module. Efficient user guidance. Integrated crimp force monitoring CFA+/CFA.

AEH-LS
The AEH-LS ferrule module is a flexible solution for controlled crimping of bulk ferrules on stripped conductors.

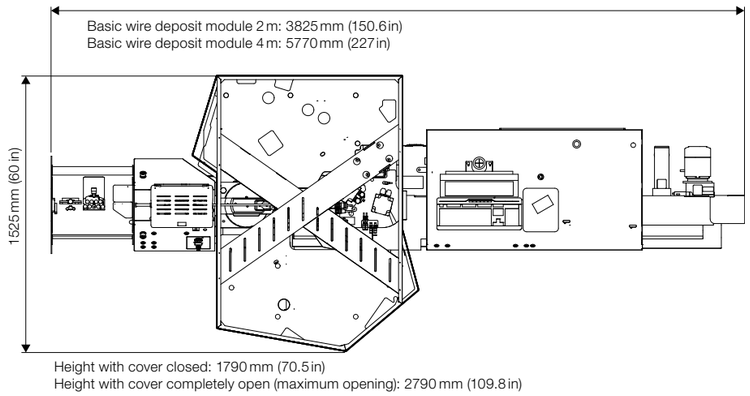
Double gripper module
With the double gripper module, two wires can be connected in one crimp.

Sleeve module
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.

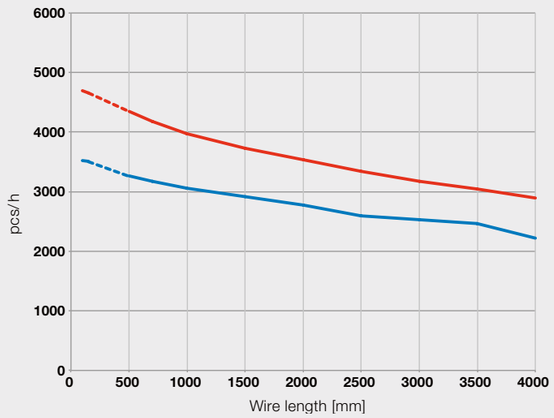
X1582
The X1582 twists stripped wire ends and offers the ideal basis for optimum tinning processes.

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



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

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	S1441
Crimp force monitoring	Active
ACD, Q1250 scalable	Inactive
Deposit gripper	Active

Crimp / Crimp
Crimp-Seal / Crimp-Seal

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

Options and accessories

Automatic delivery systems	F1110 • F1150 • Komax 106 • ads 119 • ads 123
Wire drive	Belt 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/C1360/C1340 crimp module • S1441 seal module • X1582 twisting module • X1585 tinning module • 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 • Q1250 scalable optical stripping- and crimp monitoring • Material change detection • Material verification • Splice detection • Q1140 spark tester • Terminal end detection
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	STC Crimp tool quick-change system • Wire quick-change system • Bar code scanner • Intermediate stripping
Software	Komax HMI • Komax MES • MIKO networking interface • WPCS/MIKO Converter • TopConvert data conversion

Technical data

Wire cross sections	0.13 – 6 mm² (AWG 26 – 10)*
Wire draw-in speed	max. 9 m/s (29 ft/s) belt drive
Outer diameter of conductor	max. 5.1 mm (0.20 in.)
Length range	60 – 65'000 mm (2.35 in. – 213 ft.)** optional 30 – 60 mm (1.18 – 2.36 in.)
Full stripping	0.1 – 18 mm (0.004 – 0.71 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 – 4'946 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.)

* Very hard or tough wires may not be able to be processed under certain circumstances although they are within the specification. Komax offers feasibility tests for testing the wires in advance. The processing of larger wire cross sections is possible on request.
** Wire length tolerance ±(0.2% + 1 mm (0.039 in))

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 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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Alpha 530 V11 02-2023
Subject to change