

HIGHLY CONFIGURABLE EC FAN MOTORS

- + BEST-IN-CLASS ENERGY EFFICIENCY
- + COMPLETE DIGITAL CONTROL OF MULTIPLE FANS
- + START, REVERSE & VARIABLE SPEED FUNCTIONS
- + 3 DIFFERENT PROGRAMMABLE SPEEDS



KULTHORN ARE AN INNOVATIVE ASIAN SUPPLIER
TRUSTED BY REFRIGERATION OEMS WORLDWIDE

hawco

The Latest Evolution in Fan Technology is Delivering a New Standard for Efficiency

Improving energy efficiency in refrigeration benefits everyone. OEMs can **improve the energy rating** of their equipment while retail customers **meet environmental goals**. To achieve these aims, a new generation of programmable digital fans has been developed.

The key to achieving efficiency gains lies in how precisely a series of fans can be programmed to **meet the specific cooling needs** of each application. The UC+ fan motor from Kulthorn offers customisable controls unmatched by any other motor, with a choice of **four different wiring configurations**.

This enables system engineers to **independently program up to 10 fan packs** at a time with any combination of speed, direction and start options to ensure maximum energy savings are made.



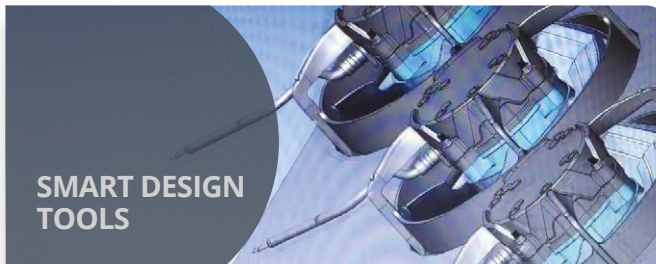
Complete control over any sequence of start options, speed and direction for up to 10 motors

- Choice of 2-wire, 3-wire, PWM & U-BUS wiring options provides greater design flexibility
- Serial data comms built directly into each motor for independent two-way control
- Available with timed-reverse, constant volume and soft-start options



Significantly improved air flow from an enhanced EC motor delivers new levels of energy savings

- Variable speed minimises wasted energy by exactly matching power to demand
- Optimal blade design cuts noise by up to 3dBA, reducing low-frequency resonance



Reduce development time with access to full engineering toolkit and expert technical advice

- Use of open protocols offers system engineers real-time test data as part of product design
- Remote support on hand to resolve any application design challenges quickly
- Product features common to every model making it easy to make future design changes



Trusted Asian producer respected worldwide for its quality, knowledge and product reliability

- Tested to international standards in Europe and US, including UL, CSA, CE, TÜV & CCC
- ATEX-approved for use with hydrocarbon refrigerants and IP66 rated
- Each motor fully traceable by unique serial code

EC Fan Motors

Variable speed

UC Max:

30w Output
400 to 2450 RPM
100-240V 50/60Hz

UC-HS:

30w Output
400 to 2800 RPM
120 or 230V 50/60Hz



Also available in fixed speed, 8, 12 & 25w versions

EC Fan Packs

172mm or 200mm diameter



Kulthorn fans and motors are recognised and trusted by display case manufacturers and supermarkets around the world.

With ATEX-approval and IP66 rating, they are an ideal choice for a wide range of cooling and refrigeration applications, including combination cases, horizontal and vertical freezers, multi-deck coolers, sales counters and shelf systems.



Air Conditioning & Heat Pumps



Bottle Coolers



Commercial Chillers



Commercial Freezers

FOR FULL PRODUCT SPECIFICATIONS, VISIT WWW.HAWCO.CO.UK/KULTHORN

GIVING SYSTEM ENGINEERS MORE OPTIONS

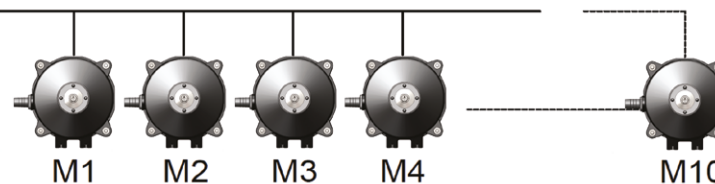
The UC+ motor comes with a choice of wiring configurations to match the features required by each new application - with 3-wire versions offering additional design capabilities not found in any other motor. For example, program a reverse or slow start alongside two operational speeds. Alternatively, set three fully variable speeds for different conditions, like normal operation, defrost and night time.

With unmatched programmability, six motors can be programmed at the same time in only minutes - using a single connector without the need to gain direct access to the cabinet or fans motors. Or use U-BUS for the ultimate solution offering full control over each individually addressable motor.

	Programmable	Direction CW/CCW	Reverse on Start	Set Speed on Start	Single Speed	3 - Speed	Reverse on Demand	Constant Volume	Fully Variable Speed	U - Bus Serial Comms
2-Wire	✓	✓	✓	✓	✓					
3-Wire	✓	✓	✓	✓	✓	✓	✓			
PWM	✓	✓	✓	✓	✓	✓	✓	✓		
U-BUS	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Choice of Wiring Options

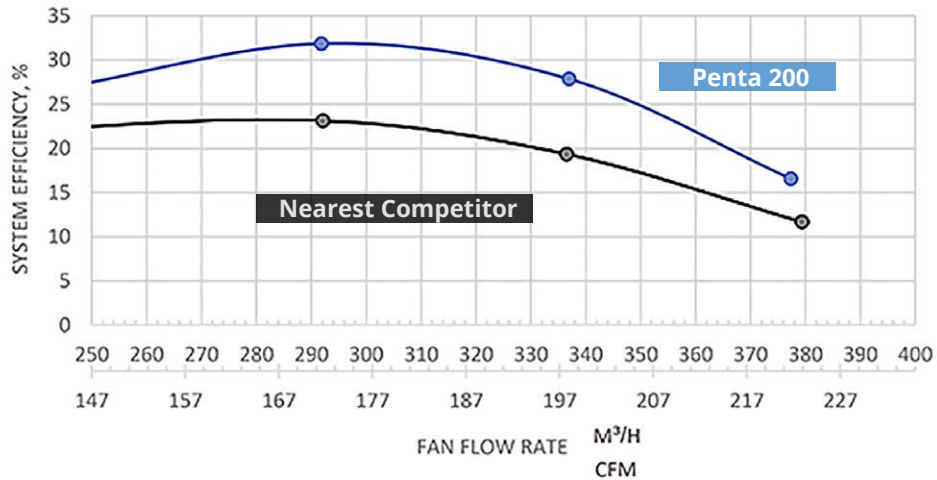
Full Serial Data Comms



Bluetooth connectivity for instant feedback during R&D testing

Competitor Comparison

Independent tests show a 8.73% improvement in system efficiency compared to the next best competitor alternative



SPECIFICATION	
TEMPERATURE RANGE	-40°C to +50°C
EFFICIENCY - MOTOR	≥70%
PEAK SYSTEM EFFICIENCY - FAN	31.85%
RATED SPEED	400 to 2250 rpm
DIRECTION OF ROTATION	CCW, CW, REVERSIBLE
OUTPUT POWER	0-25 W
RATED CURRENT	0.42 A/0.25A
RATED VOLTAGE	120/230 V; 50/60 Hz
MOTOR PROTECTION	ELECTRONICALLY/THERMALLY PROTECTED
APPROVALS	UL/TUV/CE/RCM/CCC
LIFETIME	L10, 45,000 HOURS
INGRESS PROTECTION	APPROVED FOR IP66
ATEX	OPTIONAL APPROVAL
SOUND (AT 1800 RPM)	56.7 dB(A)

GOT A PROJECT IN MIND? WE CAN HELP

Every day, our in-house design team advise OEM customers on the components they need.

We can source a suitable part from an existing design specification or set of technical drawings. Or we can investigate a number of different solutions based on original requirements.

If you want advice on how to improve your product or reduce its cost, discuss your project with us.



REQUEST A TEST SAMPLE FOR YOUR PRODUCT DESIGN



ARRANGE A MEETING WITH A TECHNICAL EXPERT



SEND US YOUR PROJECT SCOPE

TO TALK TO OUR EXPERT TEAM,
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