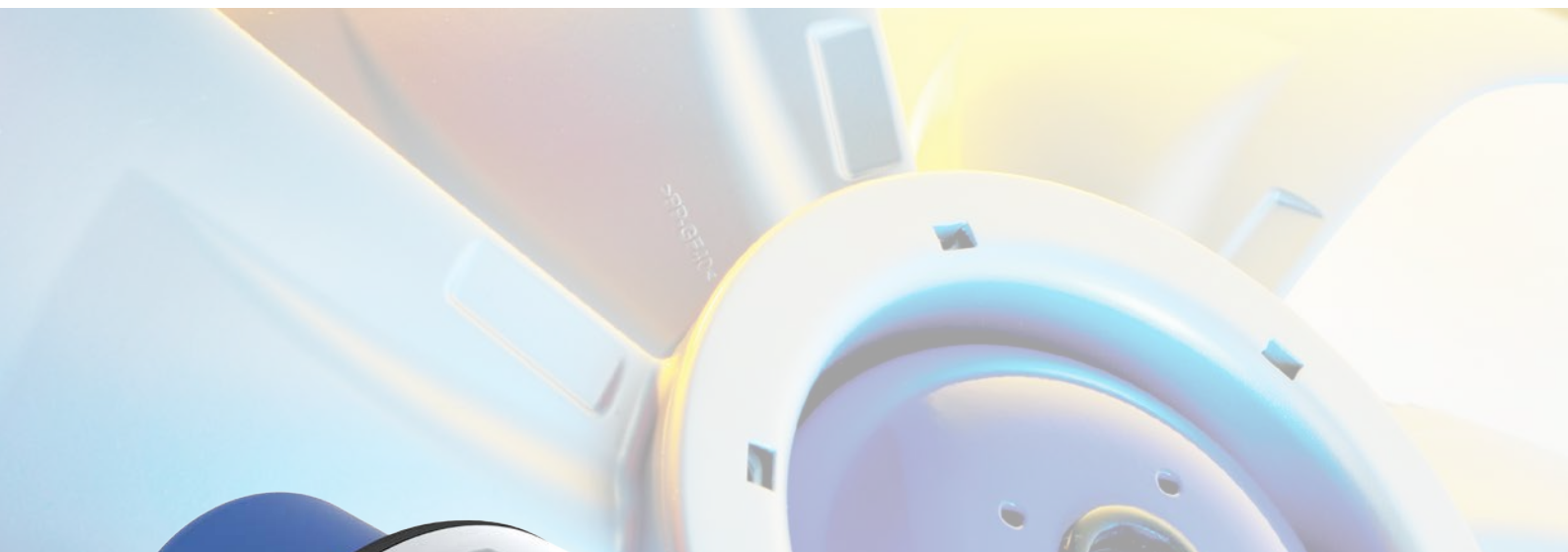




Movement by Perfection



The Royal League in ventilation, control and drive technology



ECblue high-efficiency motors

The complete range for axial and centrifugal fans

Choose efficiency:

The innovative range of ECblue motors.

Save energy, time and effort. Benefit from both the cost-effectiveness of our high-efficiency motors and the depth of our product range. We are your one-stop shop, with a unique variety of motors and fans, control technology and Add-On modules for upgrading to the functionality you want. This slims down your entire workflow and makes it more profitable, from the time saving of standardised technology to the speed of logistical processing and the comfort of comprehensive advice and support.

Minimum operating costs, maximum success

With ECblue motors from ZIEHL-ABEGG, you can reduce your energy consumption to a minimum. At the same time, you

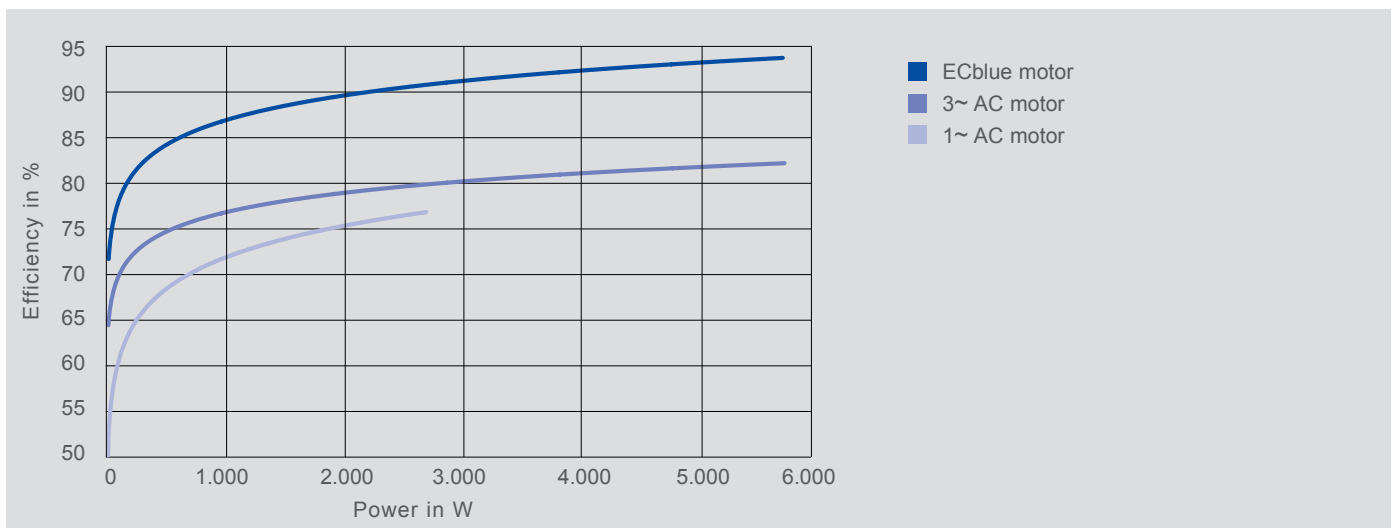
ensure that your systems meet market and customer needs for environmentally friendly technology. Naturally, ECblue motors fulfil all relevant EU energy efficiency directives. The efficiency level of ECblue motors lies above the minimum efficiency level required by the IE4 class (Super Premium Efficiency).

Outstanding efficiency, even in partial load range

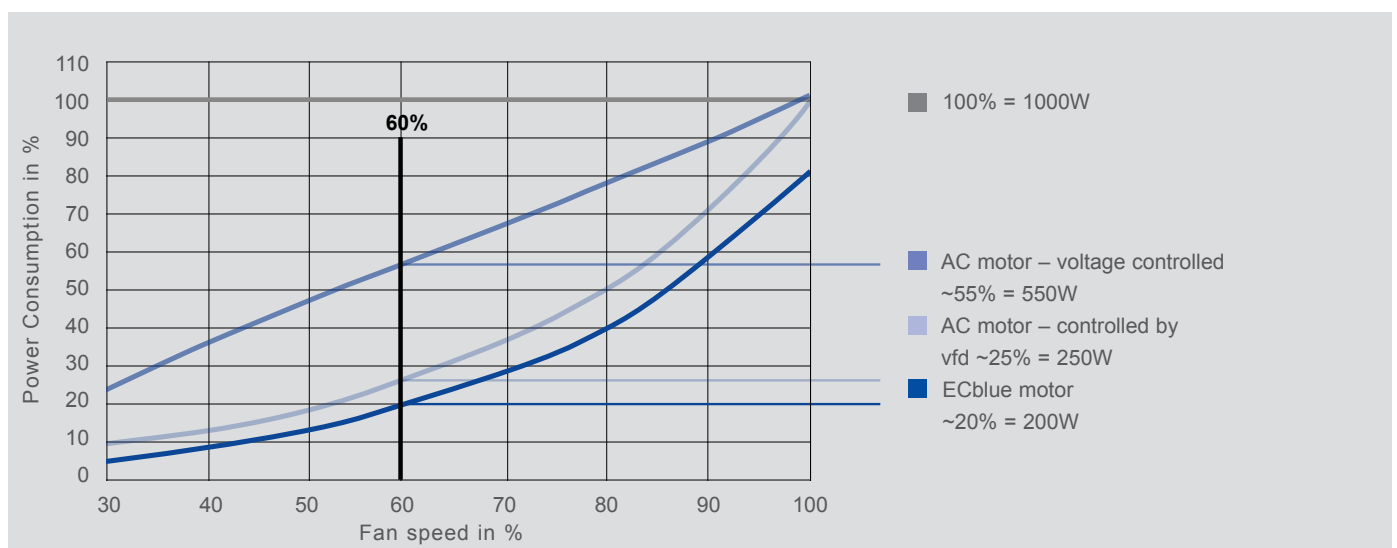
The benefits of EC technology can be seen by comparing EC and AC external-rotor motors.

ECblue motors achieve an efficiency level of up to 93%, 3~ AC external rotor motors up to 82% and 1~ AC external rotor motors up to 77%.

Motor Efficiency Level



Power Consumption for speed control



ECblue high-efficiency motors give you cutting-edge technology in an extremely compact package. The motors can be connected at any time with compatible system components and are also easy and

convenient to operate. Combined with ZIEHL-ABEGG impellers and blades, which are equally efficient in their material and design, you benefit from a unique total package.

Discover more:

The innovative EC technology:

Solutions for the future from ZIEHL-ABEGG.

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The full product portfolio:

ECblue high-efficiency fans

Size: 55, 74, 90, 116, 152

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Overview:

Centrifugal fans - Size: 175mm to 800mm

Axial fans - Size: 250mm to 1250mm

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The complete system:

ECblue and PMblue motors up to 15kW

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One system for all your applications

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Application areas:

Benefit in every respect.

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Bewegung durch Perfektion | Movement by Perfection



ECblue
Premium Efficiency

ZIEHL-ABEGG 

Innovative EC technology: Solutions for the future from ZIEHL-ABEGG

Since the middle of the 80's, ZIEHL-ABEGG has been performing pioneering work in the development and production of efficient EC external rotor motors for fans. Nearly 25 years later, a new era in EC technology begins: ECblue. ECblue is ZIEHL-ABEGG's third generation of EC motors. This latest EC technology sets new standards for control, efficiency and reliability.

These EC motors are external rotor DC motors that are fitted with permanent magnets. When the motor turns, the electronics determine the position of the rotor, which is then used to actuate the motor windings. This form of actuation is known as commutation. The inherent advantage of the compact external rotor motor is combined with the gain in efficiency resulting from the DC motor. This in turn ensures that only the exact amount of energy required to induce rotary motion is actually supplied, resulting in a highly efficient form of operation. The motor itself is not operated directly from the mains, but rather has electronics connected upstream. The electronics supply variable voltage in the right frequency and voltage level for the respective operating point. Contemporary EC motors often have these electronics integrated directly in the motor.

Everything under control: status LED

Service-friendly status display 24 hours a day, 7 days a week

An integrated LED constantly displays the operating state of the fans, meaning you have everything under control. This removes the need to spend time connecting a control unit to check the current state of the EC fans. The current operating state of the ECblue fans is indicated by different flashing codes.

ECblue inside: The facts

Integrated power electronics

For efficient motor speed control

Integrated motor protections

Protects the motor and power electronics

Continuous speed control

Via 0-10V signal or MODBUS

Outstanding efficiency

Even in partial load range

Active temperature management

Extremely reliable, even under the toughest operating conditions

Wireless communication*

Easy to configure and read out data

Power factor correction

Power factor of virtually 1 across a wide operating range

Top EMC standard

Integrated filters enable compliance with:

Interference emission according to EN 61000-6-3
(household applications)

Interference immunity according to EN 61000-6-2 (industry)

ECblue: simple & functional

Even the Basic configuration provides the functionality required to cover around 90% of all applications.

A motor for all applications, anywhere in the world

Power electronics with wide voltage range:

1~ 100...130V, 50/60Hz

1~ 200...277V, 50/60Hz

3~ 200...240V, 50/60Hz

3~ 380...480V, 50/60Hz

3~ 200...480V, 50/60Hz on request



*Wireless communication in conjunction with MODBUS module
(EC116 and EC152)

The full product range: ECblue high-efficiency motors



With the new EC055 and the proven motors in sizes up to 152, ZIEHL-ABEGG now offers you a range of small and large motors for all of your applications.

EC055

Voltage supply

- 1~ 200...240V 50/60Hz
- 1~ 100...130V 50/60Hz

Power up to 170W

Protection class IP54

Continuous speed control
via 0-10V signal

Final products

- ZAvblue Centrifugal fan 190mm, step by step expansion to further sizes 175 - 250mm
- Housing fan 108 - 150mm from end 2015
- Axial fans FE2owlet 250 - 400mm middle of 2015

Applications

Ventilation, heat pumps, electronics cooling, cooling devices, refrigeration

EC074

Voltage supply

- 1~ 200...277V 50/60Hz

Power up to 230W

Protection class IP54

Continuous speed control
via 0-10V signal

Final products

- Centrifugal fans Vpro 190 - 315mm
- Housing fans, RG...S 140 - 160mm
- Axial fans FE2owlet 250 - 350mm

Applications

Ventilation, heat pumps, electronics cooling, cooling devices, refrigeration





EC090

Voltage supply

- 1~ 200...277V 50/60Hz
- 1~ 100...130V 50/60Hz

EC116

Voltage supply

- 1~ 200...277V 50/60Hz
- 3~ 200...240V 50/60Hz
- 3~ 380...480V 50/60Hz

EC152

Voltage supply

- 3~ 200...240V 50/60Hz
- 3~ 380...480V 50/60Hz

Power up to 800W

Protection class IP54,
IP20 for clean room

Continuous speed control
via 0-10V signal or MODBUS

MODBUS as standard

Active PFC as standard

Final products

- Centrifugal fans Vpro 250 - 500mm, Cpro/Calu 250 - 315mm
- Housing fans RG...R 180 - 280mm, RD...R 250 - 280mm
- Axial fans FE2owlet 300 - 710mm; FE2owlet ZAplus ECblue 450 - 710mm

Applications

Ventilation, air-conditioning, heat pumps, electronics cooling, cooling devices, cleanroom, refrigeration

Power up to 4000W

Protection class IP54, IP20 for
clean room, IP55 on request

Continuous speed control
via 0-10V signal or MODBUS (Add-On)

Basic electronics plus Add-On
modules for individual customisation

Encapsulated electronics for maximum
reliability

Final products

- Centrifugal fans Vpro 315-560mm, Cpro/Calu 315-450mm
- Housing fans RG...R 250-315mm, RD...R 315mm
- Axial fans FE2owlet 500-910mm, FE2owlet ZAplus ECblue 500-910mm, FFowlet 500-910mm

Applications

Ventilation, air-conditioning, heat pumps, electronics cooling, cooling devices, cleanroom, refrigeration, agriculture

Power up to 6000W

Protection class IP54, IP55 on request

Continuous speed control
via 0-10V signal or MODBUS (Add-On)

Basic electronics plus Add-On
modules for individual customisation

Encapsulated electronics for maximum
reliability

Final products

- Centrifugal fans Vpro 450 - 630mm, Cpro 400 - 630mm, Calu 400 - 800mm
- Housing fans RG...R 315 - 450mm, RD...R 400 - 450mm
- Axial fans FE2owlet 630 - 1250mm, FE2owlet ZAplus ECblue 630 - 910mm

Applications

Ventilation, air-conditioning, heat pumps, refrigeration, agriculture

Overview of fans:

When combined with outstanding impellers and blades, ECblue high-efficiency motors really come into their own. The unique efficiency of the motors is augmented by that of the

impellers and blades. This is down to high-performance composite materials and innovations like the ZAmid technology for centrifugal impellers and the revolutionary bionic blade

Centrifugal fans

C-Alu



Cpro



Vpro



ZAvblue



Housing fan



geometry for axial fans. That makes every ZIEHL-ABEGG fan a high-performance package for the users' benefit.

Axial fans

FE2owlet



FFowlet



ZAplus

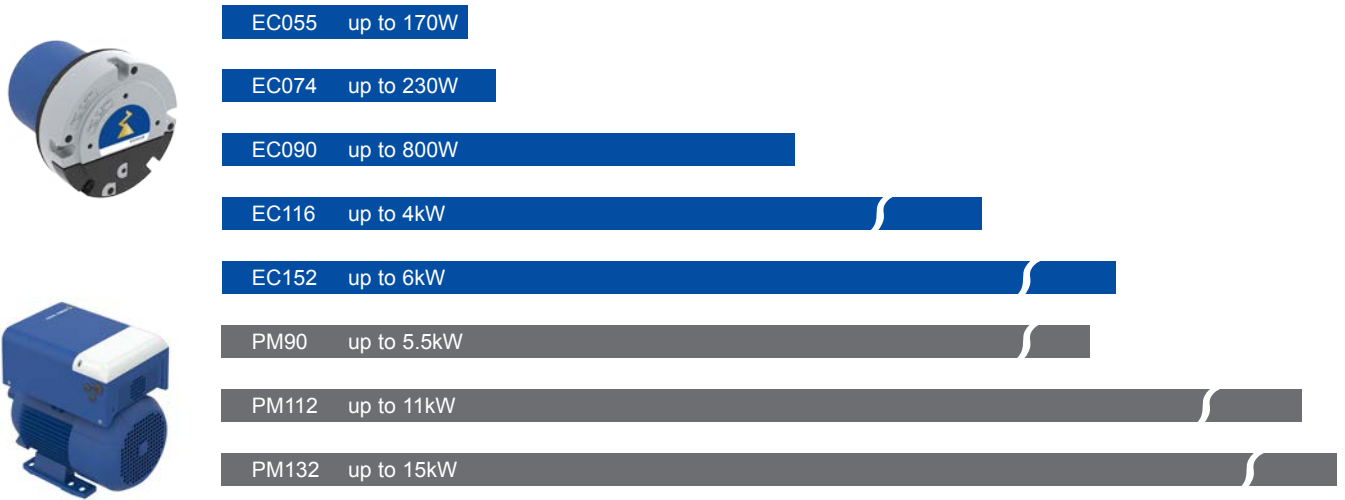


The complete system: ECblue and PMblue motors up to 15kW

Different motors, one single control system, many Add-Ons

PMblue, the ZIEHL-ABEGG motor range with larger and even more powerful high-efficiency motors, takes over where ECblue leaves off.

Aside from the large and complete product range, another benefit is that all motors are operated according to the same standard concept.



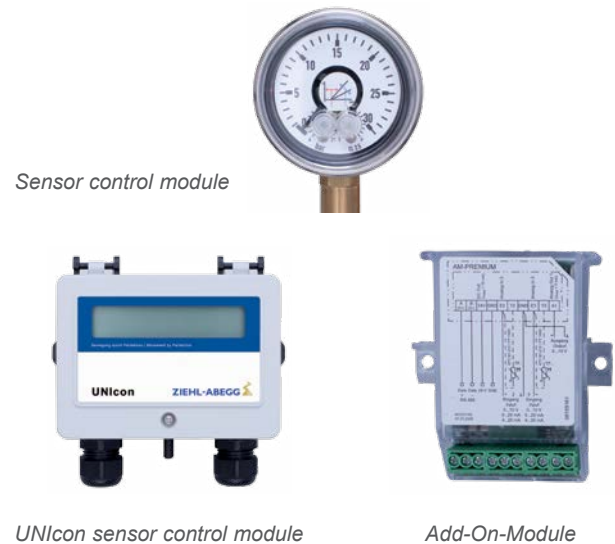
Control and modulation: Build on a solid base with Add-On modules for expanded functionality

ECblue motors have an integrated frequency inverter. This compact concept for PMblue combines with a directly installed frequency inverter, PMcontrol Basic-M. Expansion modules MODBUS

Wireless and MODBUS Premium are available, enabling respectively, wireless communication or enhanced functionality. Sensor control modules can be used for simple system regulation.

Basic products/basic control

Expanded functionality



Application areas:

Benefit in every respect

You are a specialist at what you do, we are specialists in providing outstanding all-round solutions for your applications. From refrigeration to air-conditioning, from cooling of data centres and switch cabinets to electronic components and transformers, from train and transport companies to wind

energy, from clean room technology to agriculture. Covering your various applications with ZIEHL-ABEGG means you can benefit from synergies and smooth processes.



Refrigeration



Air-conditioning



Heating technology



Ventilation



Cooling electronics



Cleanroom



Cooling devices



Railroad applications

One system for all your applications

Add-On modules help realise our customers' individual wishes without making things more complicated for them. We believe in offering customers the greatest possible benefit in a way

that is well thought-out and convenient for them. An example of this is the flexibility to use different bus systems with the help of Add-On modules.



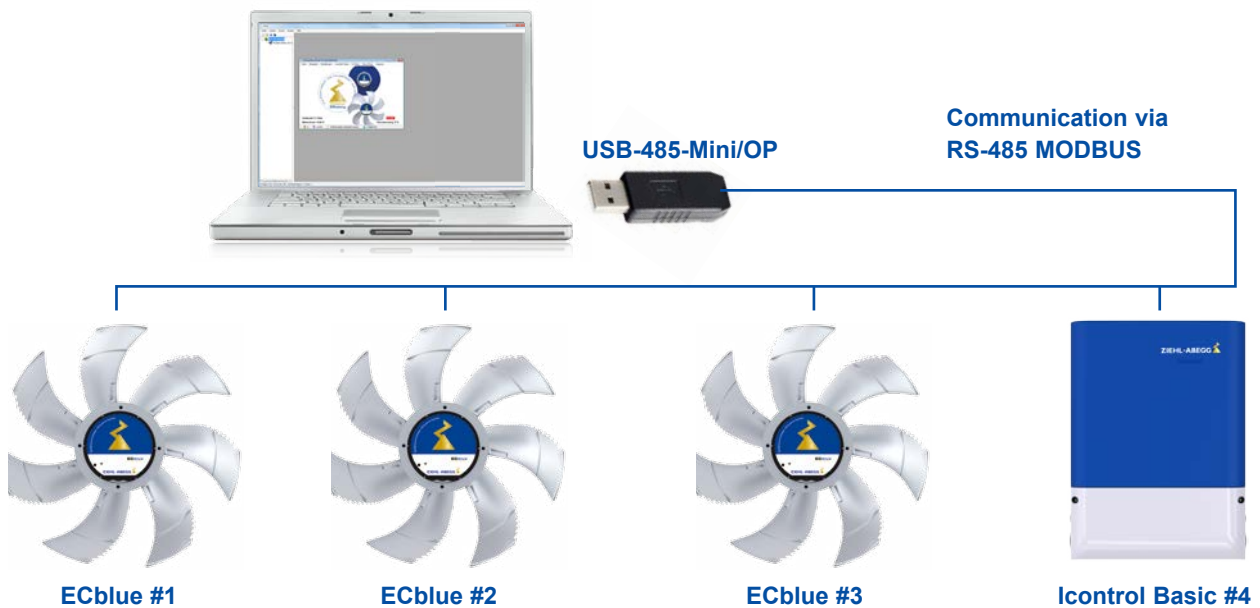
UNICON MODBUS master field device for addressing and commissioning ZA-MODBUS field devices with patented auto-addressing.

The hand terminal allows motor data to be read out wirelessly or via cable.

ZAsset: Quick and simple configuration via PC.

ZIEHL-ABEGG's MODBUS field devices can be commissioned and configured easily with a PC via a USB interface. You have

the choice between menu-led and tabular programming.



The Royal League

