

## EMC, IP68 protection and temperatures down to -40°C

### Compact fan for extreme conditions

**A new addition to the 420J product range from ebm-papst: The tubeaxial fans withstand temperatures down to -40°C and are now also available for 48 V DC voltage input, degree of protection IP68 and EMC protection class B.**

So far the 40 x 40 x 28 mm product range has been designed for 12 and 24 V DC voltage inputs. Thanks to the new 48 V version, the fan can also be used for applications operating as standard with 48 V, e.g. base stations in telecommunications systems.

#### Operation possible down to -40°C

The minimum operating temperature of -40°C, as opposed to the usual -10°C or -20°C, is the absolute exception in the 40 mm fan class. Special software and a special circuit design ensure reliable start-up and operation at such temperatures. A characteristic feature of all versions (12 V, 24 V and 48 V) is their high level of energy efficiency.

#### EMC Class B limit values and IP68

The electronics of the 48 V DC version have been optimized, so that it is now no problem to comply with the more stringent EMC Class B limit values for both conducted interference and radiated interference (DIN EN 55022:2007-04). There is thus no need for separate protection filters and shields. For applications involving greater dust, moisture and salt fog impact, the tubeaxial fans can now even optionally be supplied with degree of protection IP68 (dust-proof and with protection against continuous submersion). Not only the electronics, but also the winding, is then encapsulated in plastic.

#### Ideally equipped

The extremely low operating temperature in combination with protection class IP68 considerably facilitates use in outdoor applications such as cellular base stations or frequency converters for satellite transmission. All these features also mean the 420J product range is predestined for use in IT servers and routers, as well as for laser cooling.

The 48 V DC fan type 428J/2HPU with EMC Class B and IP68 protection is already available. Further 12 V and 24 V versions with EMC Class B and, optionally, IP 68 will be available in series as of the spring of 2019. Specimen models can be supplied with immediate effect.

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Picture 1: The compact 420J fan is now also available for 48 VDC.

Picture 1      ebm-papst  
Characters    approx. 2,100, including headings and sub-headings  
Tags          Tubeaxial fan, Axial fan, 48 V DC, EMC, Class B, IP68,  
                  Electronics  
Link          <https://www.ebmpapst.com>

### About ebm-papst

The ebm-papst Group is the world's leading manufacturer of fans and motors. Since it was founded, the technology company has continuously set global industry standards: from the digital interconnection of electronically controlled EC fans to aerodynamic improvements for fan blades to the use of eco-friendly materials.

In fiscal year 2017/18, the company achieved sales of over € 2 billion. ebm-papst employs over 15,000 people at 27 production sites (e.g. in Germany, China and the US) and in 48 sales offices worldwide. Fans and motors from the world market leader are used in many industries, including ventilation, air conditioning and refrigeration, household appliances, heating, automotive and drive engineering.

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