

Design software for BLDC motors

Design software for BLDC motors

Content

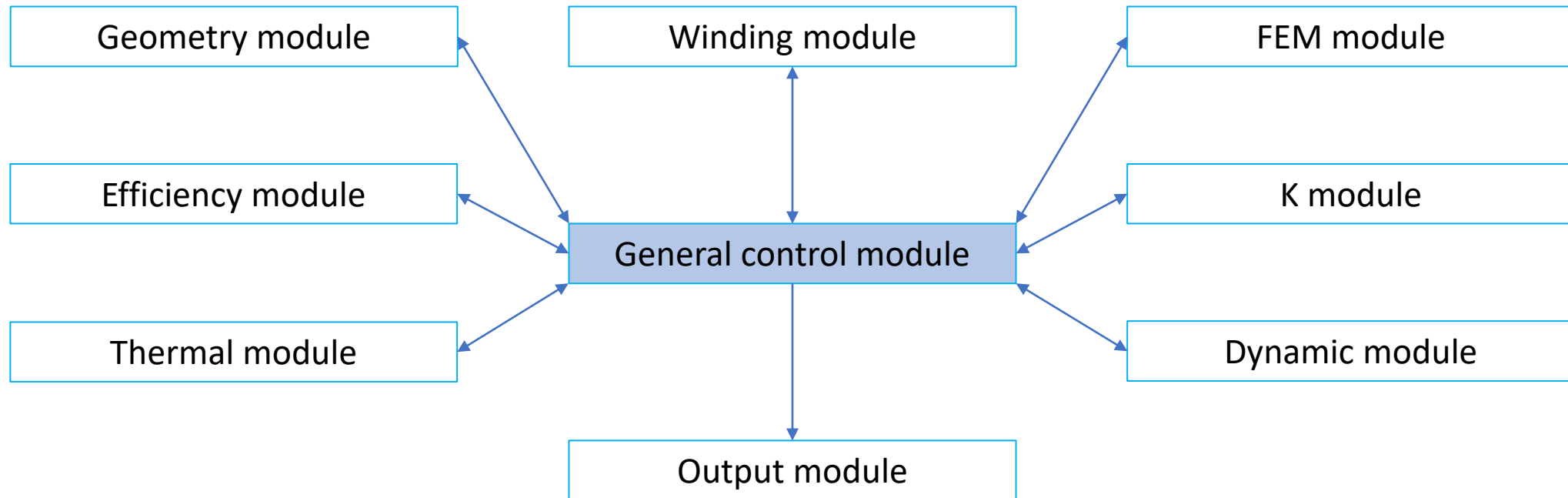
- A brief description of the software for design of BLDC motors
- Operation modes for our software
- Conclusions

Design software for BLDC motors

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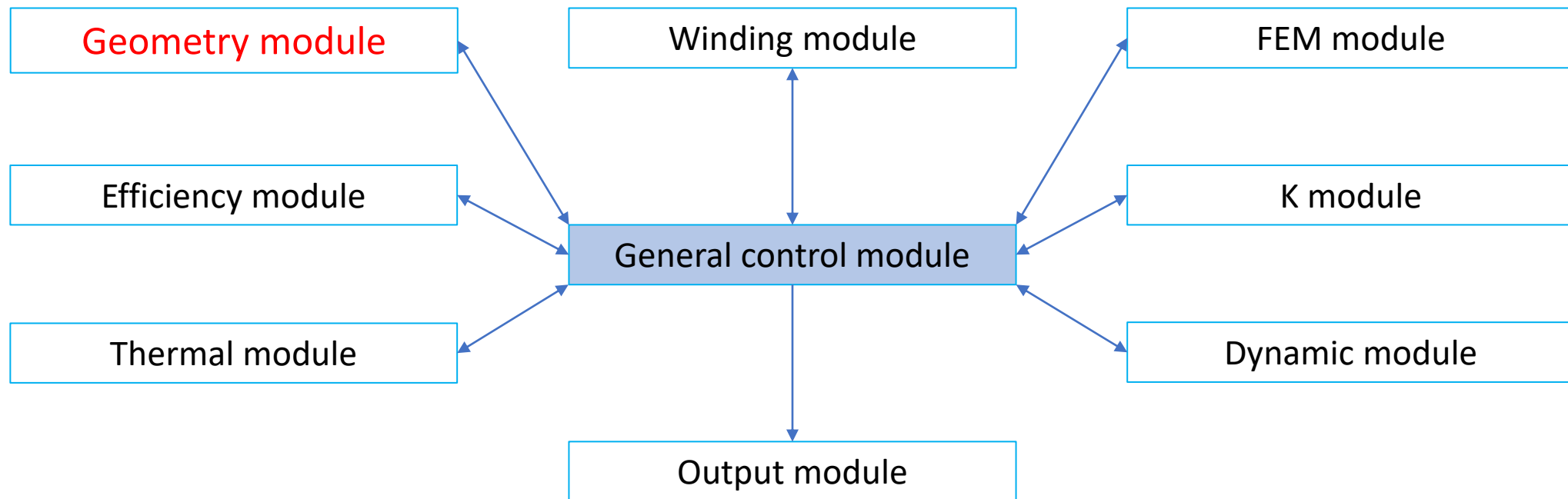
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A brief description of the software for design of BLDC motors



7 calculation modules, 1 general control module, 1 output module

A brief description of the software for design of BLDC motors

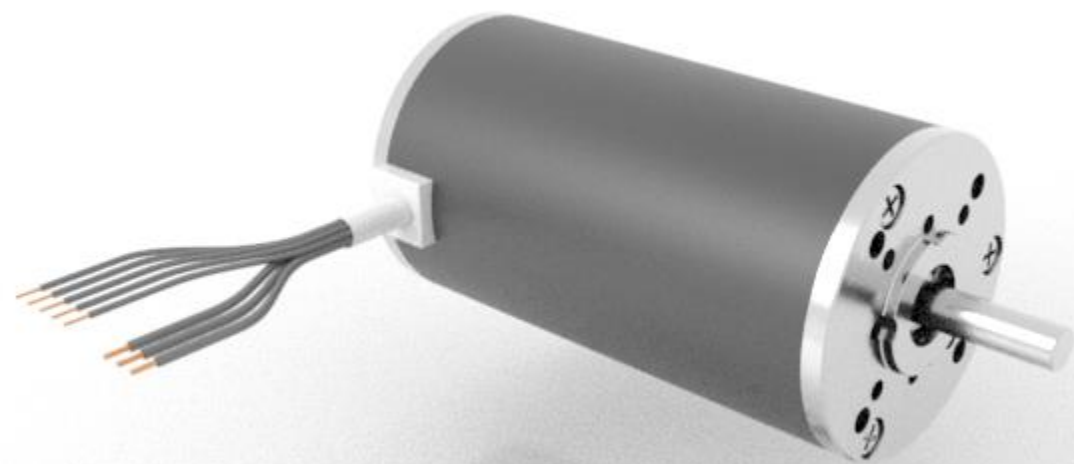


Geometry module is used for generation of the motor geometry.

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Geometry module

Geometry module defines geometry of the motor.

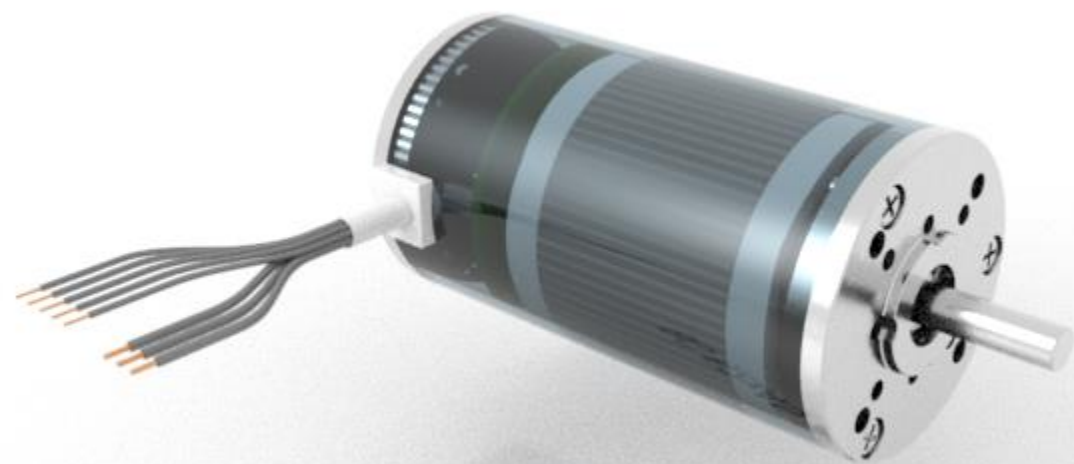


Geometry module is used for generation of the motor geometry.

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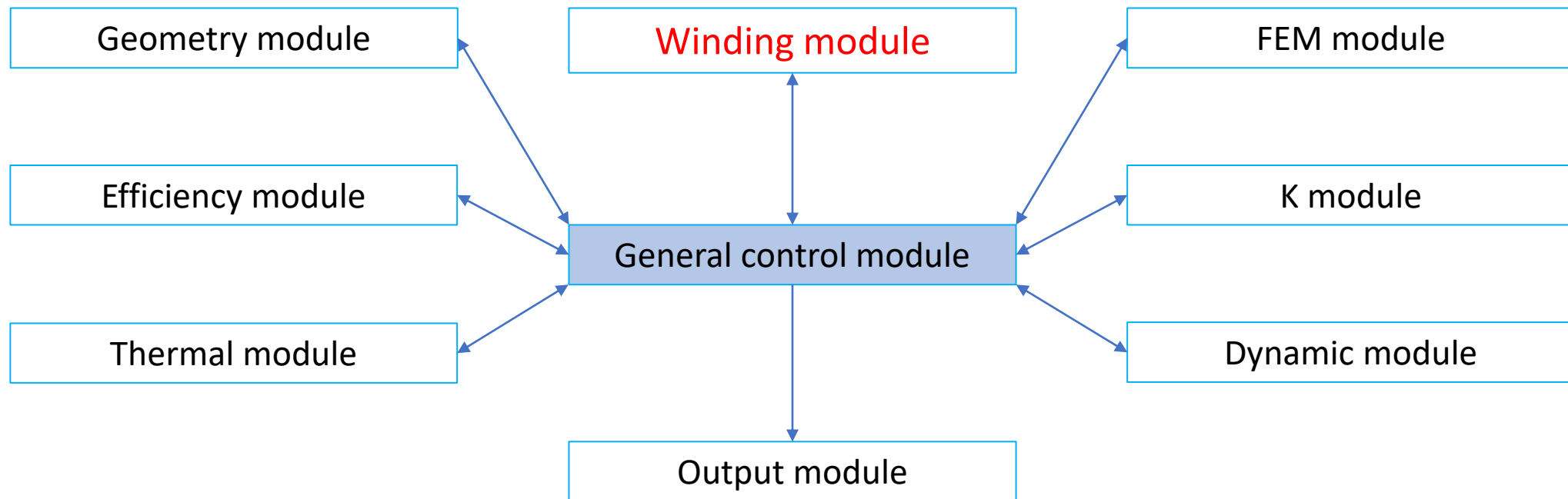
Geometry module

Geometry module defines geometry of the motor and motor components.



Geometry module is used for generation of the motor geometry.

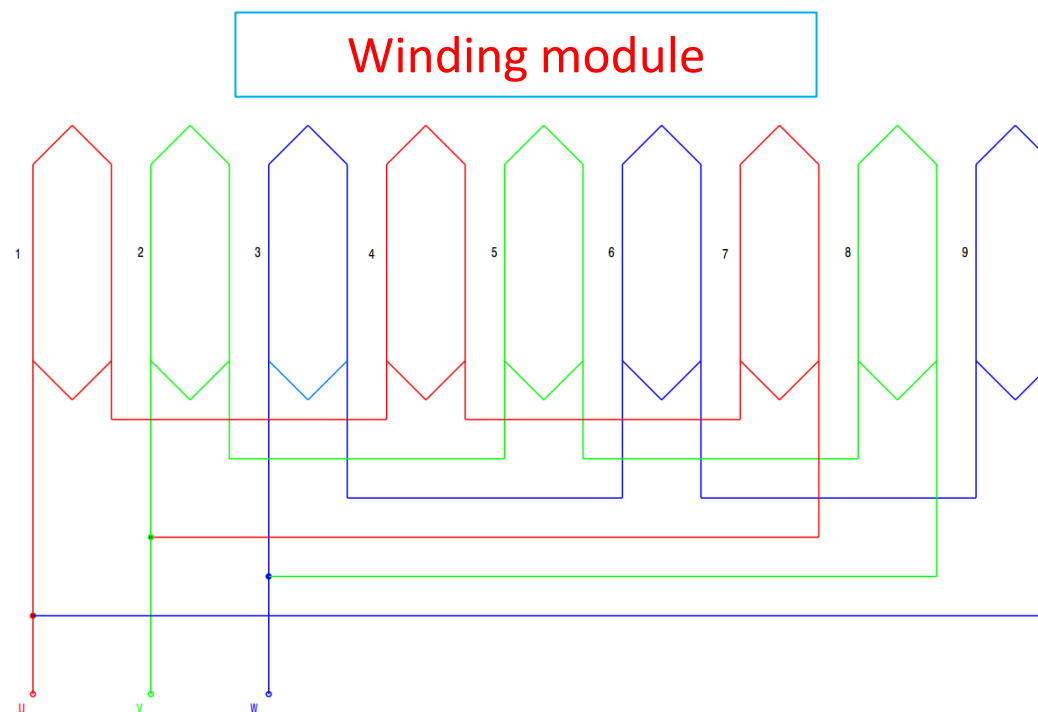
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Winding module is used for generation of a stator winding

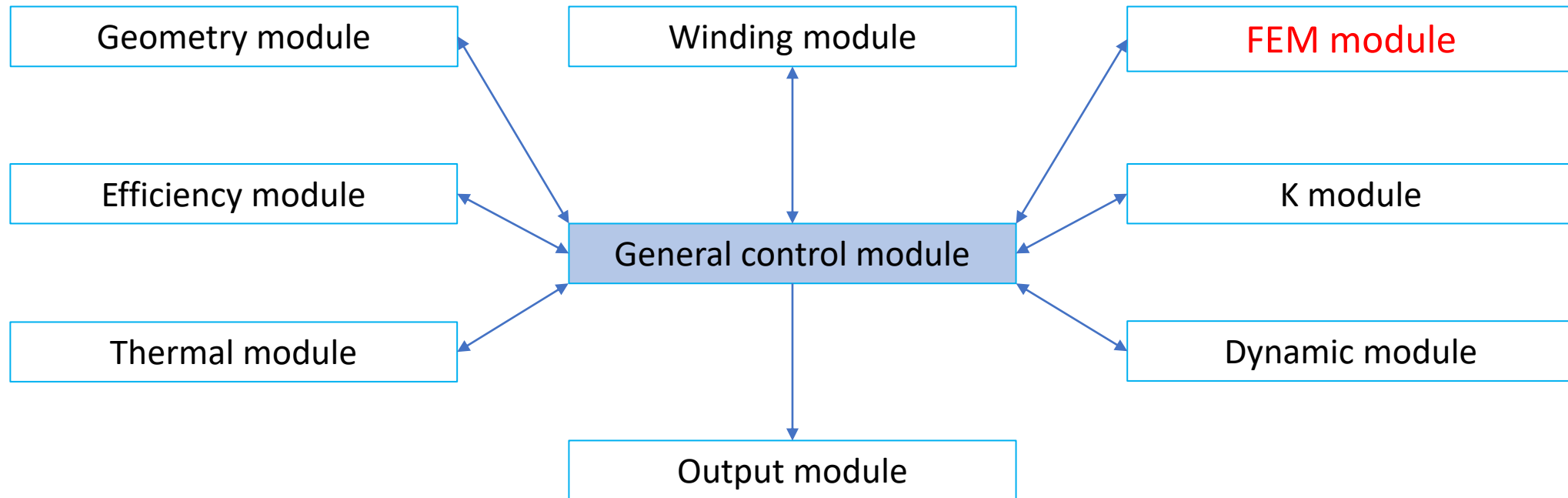
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Winding module incorporates selection of wire, number of turns and selection of a winding scheme.



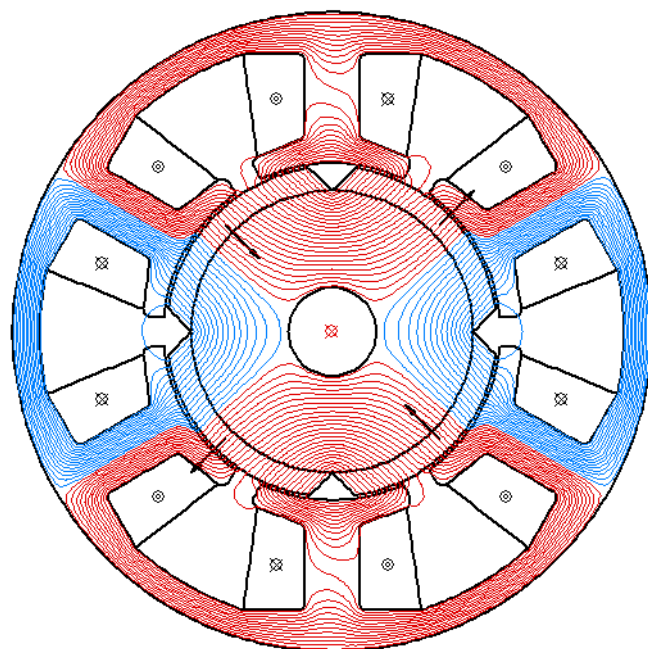
Winding module is used for generation of a stator winding

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FEM module provides an interface with a FEM software.

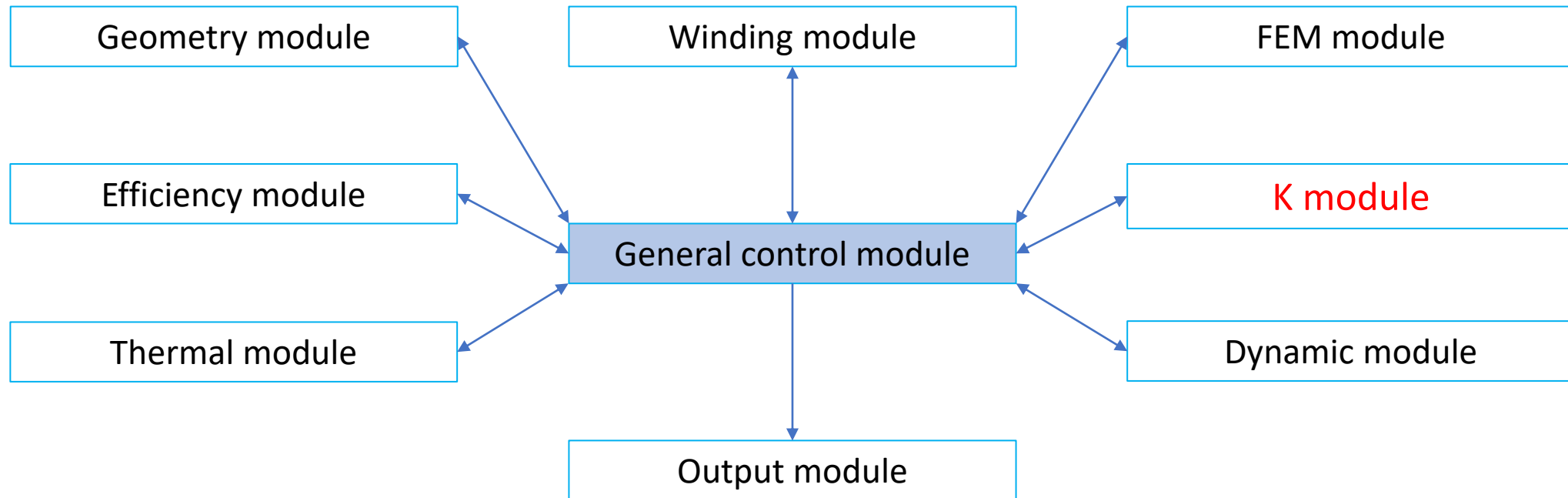
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FEM module

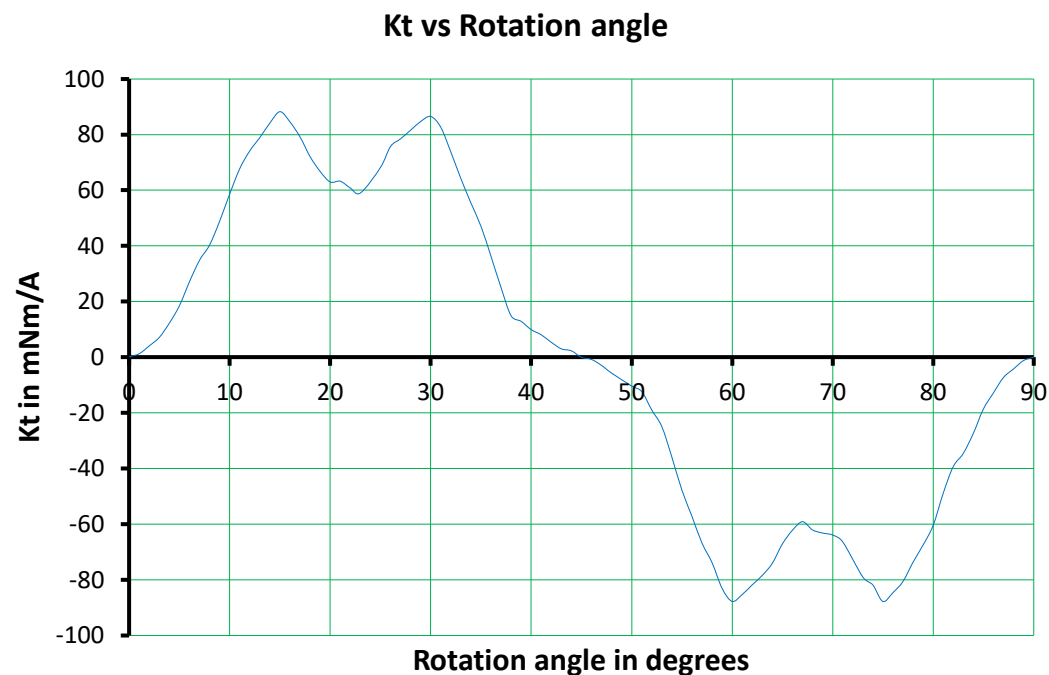
FEM module provides an interface with a FEM software.

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K module incorporates advanced electromagnetic analysis of the motor and provides K_e and K_t for the motor designs.

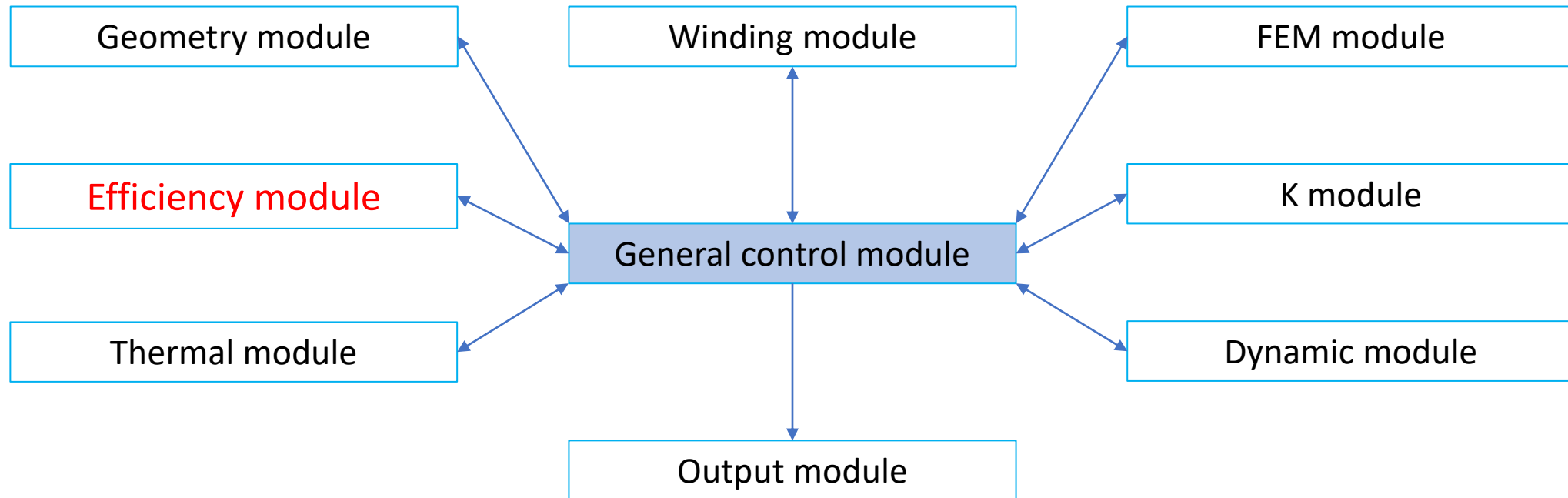
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K module

K module incorporates advanced electromagnetic analysis of the motor and provides K_e and K_t for the motor designs.

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Efficiency module incorporates analysis of losses in the motor and delivers motor efficiency.

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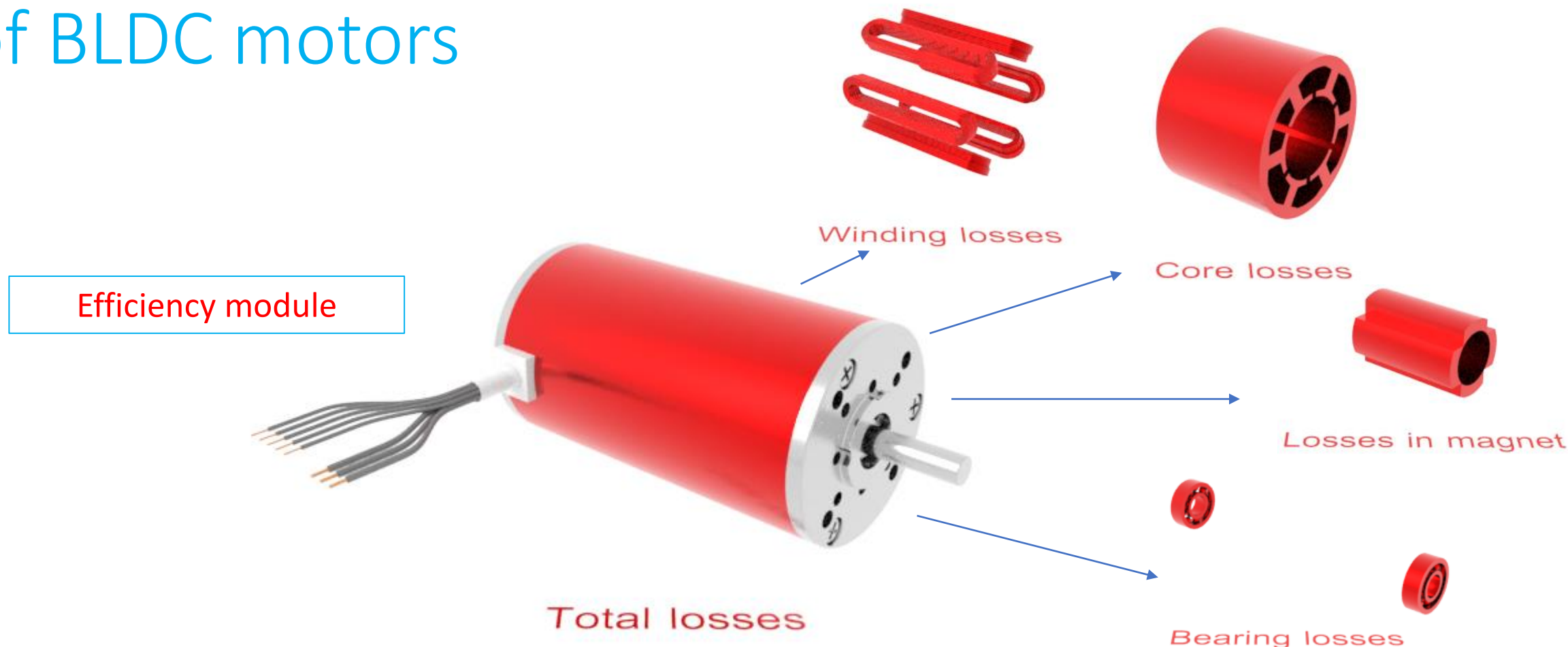
Efficiency module



Total losses

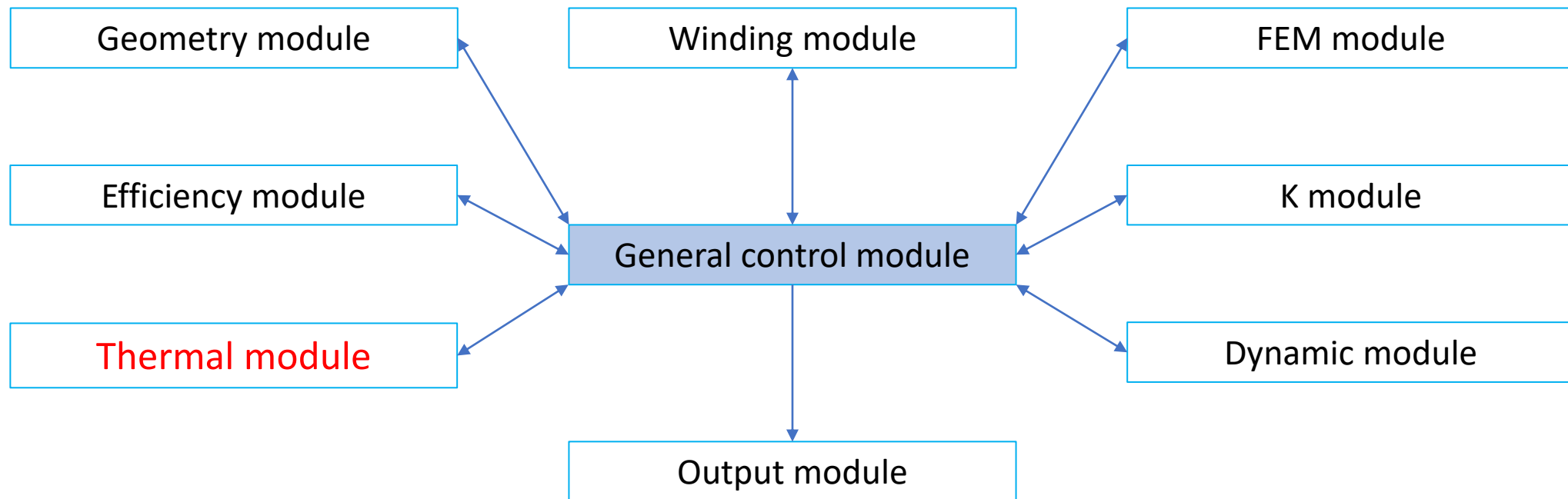
Efficiency module incorporates analysis of losses in the motor and delivers motor efficiency.

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Efficiency module incorporates analysis of losses in the motor and delivers motor efficiency.

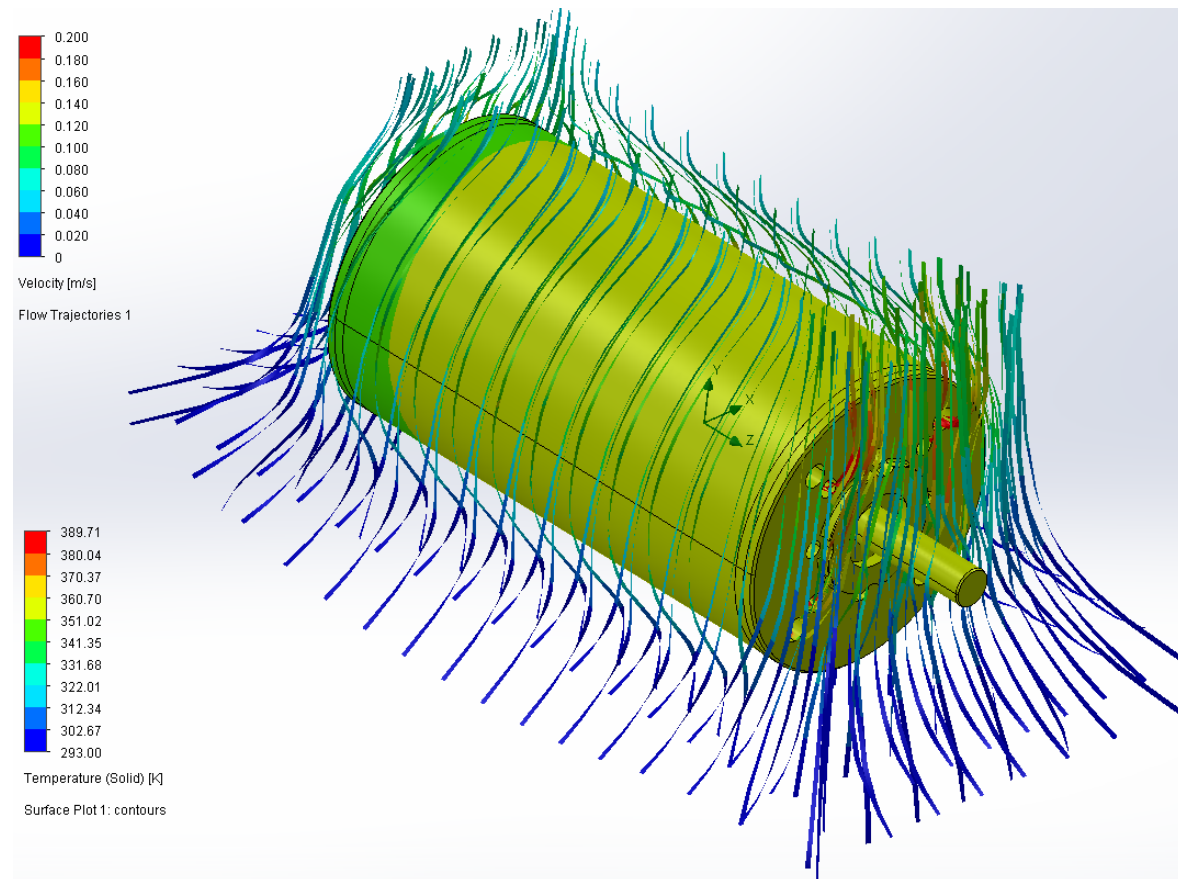
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Thermal module is used for analysis of the motor cooling and for evaluation of temperature distribution in the motor.

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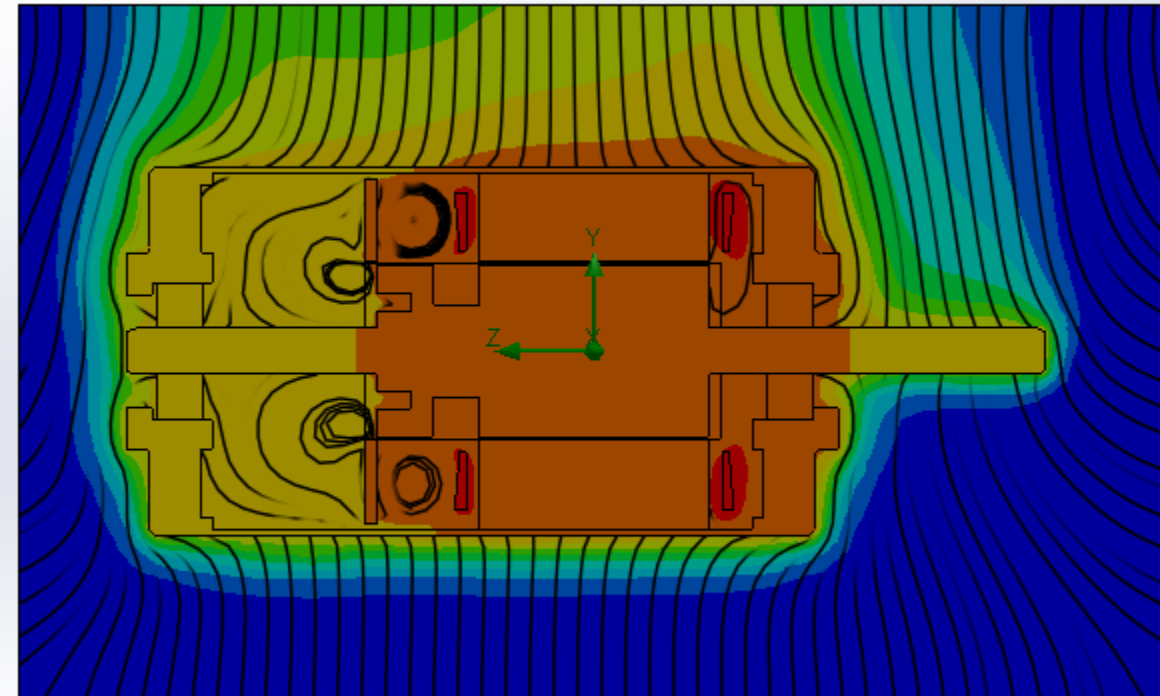
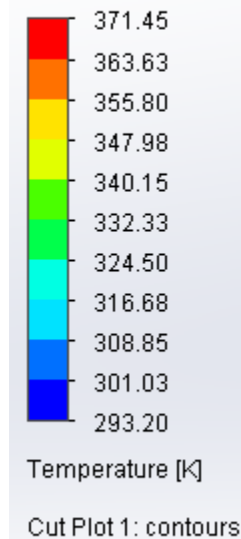
Thermal module



Thermal module is used for analysis of the motor cooling and for evaluation of temperature distribution in the motor.

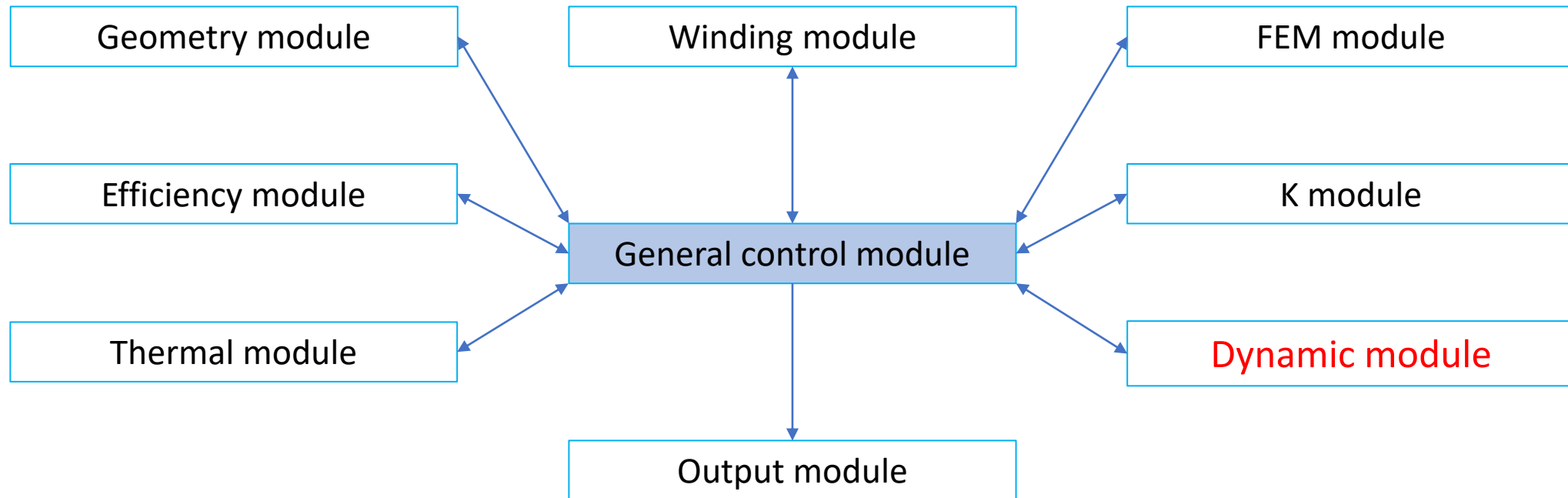
A brief description of the software for design of BLDC motors

Thermal module



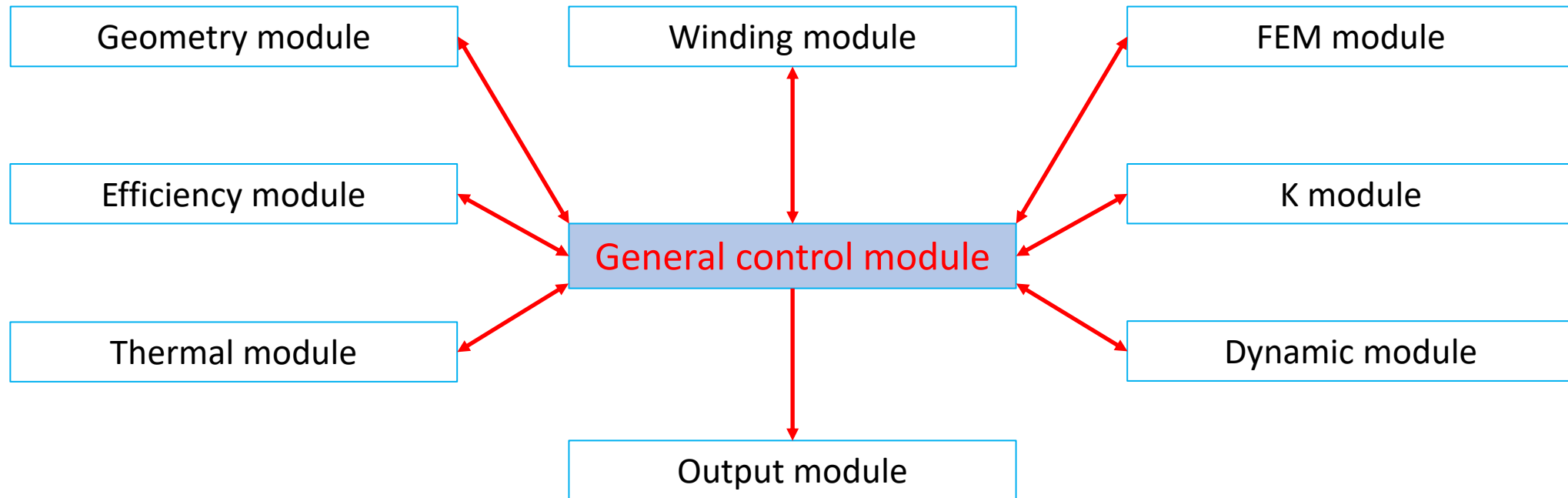
Thermal module is used for analysis of the motor cooling and for evaluation of temperature distribution in the motor.

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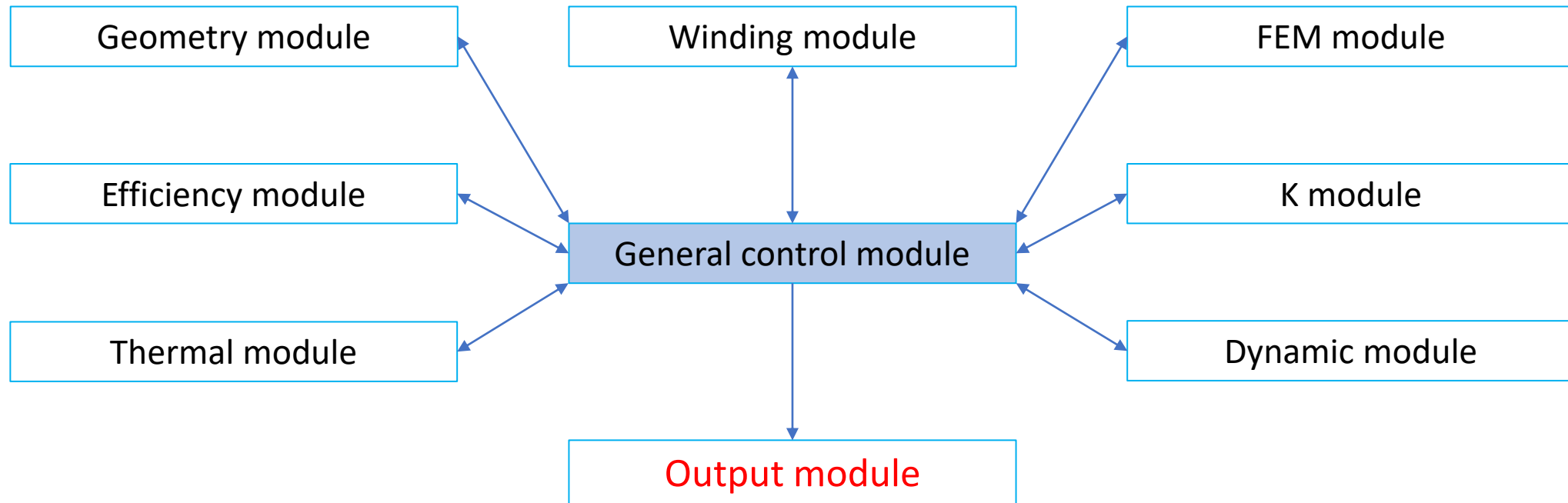
Dynamic module is used for calculation of dynamic regimes and transient processes in the motor.

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General control module is used for executing calculation modules and for data transfer between modules.

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Output module is used for generation of motor documentation

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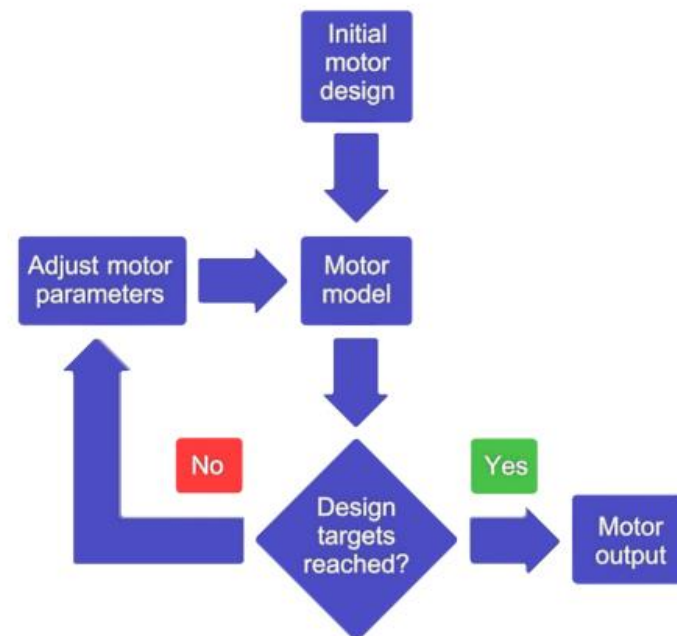
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- A brief description of the software for design of BLDC motors
- **Operation modes for our software**
- Conclusions

Operation modes for our software

Our design software is used in 2 operation modes:

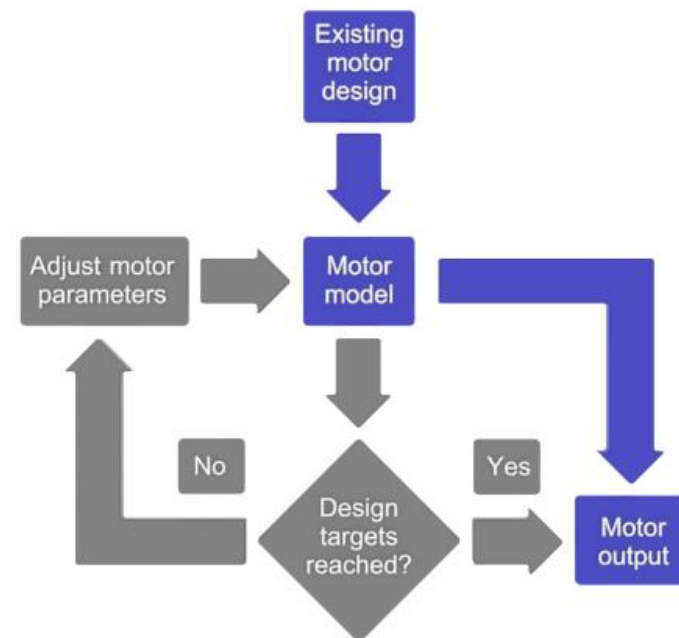
1) **Design mode** is used for generation of new designs.



Operation modes for our software

Our design software is used in 2 operation modes:

- 1) **Design mode** is used for generation of new designs.
- 2) **Verification mode** is used for analysis of existing motors.



Conclusion

- 1) Our design software enables development of new BLDC motors
- 2) Our design software also allows reverse engineering of existing BLDC motors

Please, proceed with following presentations where we provide experimental verification of our design software.