

# RA Ecosystem Partner Solution

## BFG Motor Control



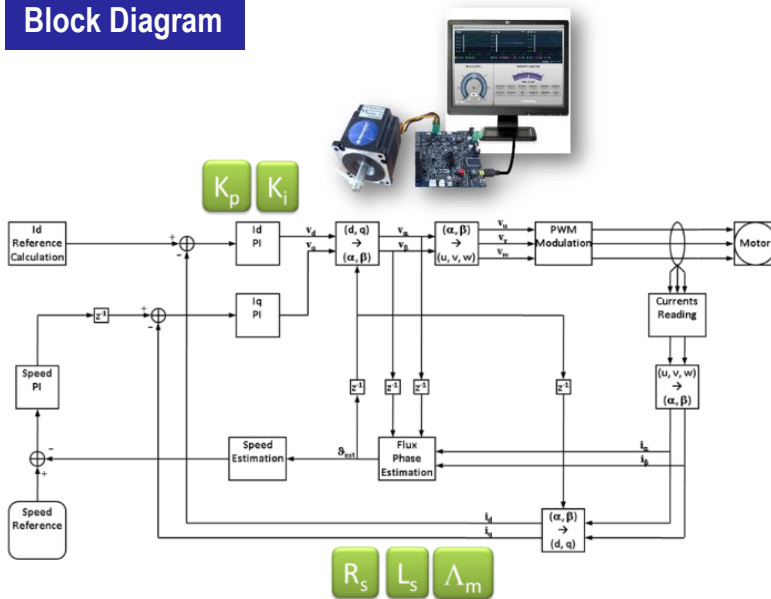
### Solution Summary

The BFG motor control reference design and software solution addresses a wide range of embedded motor driven applications. The motor control reference design for Renesas RA is integrated with FSP (Flexible Software Package) based development kits for a total project-ready solution.

### Features/Benefits

- State of the art 3-phase BLDC/PMSM field oriented control
- Sensor-less 3-shunt method
- Auto tuning capabilities including motor parameter identification
- System parameters enabled for optimization at run-time
- Supports low voltage and external high voltage inverters
- Supported on toolchains including e2studio

### Block Diagram



### SOFTWARE

*Field-Oriented Control*

*3-Shunt for Sensor-Less*

*Auto-Tuning & Identification*

*GUI Motor Demonstrator*

### HARDWARE

*Hall Sensor I/F*

*Encoder I/F*

*PMOD H/W Extension I/F*

*DC 48V / 5A PEAK*

*External Power Stage I/F*

### Target Markets and Applications

- All Three-Phase Motor Driven Applications for:
  - Smart Appliance
  - Smart Home
  - Smart Buildings
  - Industrial Control



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## Embedded Design & Advanced Control Solutions

**BFG Engineering** is a development house focused on hardware & software design. We operate mainly in the fields of **advanced control** for electric drives, small **machinery automation** and **control of industrial processes**.

Our company is a group of highly **experienced** engineers and technicians.

Our mission is to develop electronics to quickly meet customer needs and expectations by providing **customized** solutions.

We aim to be more than a solution supplier. Our goal is to be a "**partner**", communicating a passion for our work in transferring knowledge and technical expertise, offering innovative solutions, requiring continuing education and research for our team, and by taking care of details for products and projects.

Through these standards, we became **Platinum Partners for Renesas Electronics Europe**, a world leader in the manufacture and supply of microcontrollers. By continuing to follow these strict standards, we hope to share the development and success of many other partners.

From concept to complete solutions, we provide designs and deliver the right solutions for embedded control systems enabling specific client requirements.

We stay focused on innovation from concept/design to final product.

Benefit: Fast Prototyping, Efficiency, Partnership.

Key Applications Focus Area: Motor/Drive Control.

- Power Generation & Conversion [AC/DC - DC/DC]
- Induction Heating
- Small Appliances (coffee machines, shavers...)
- Metering
- High End User Interface
- Serial Communications
- Software Porting

<http://www.bfgengineering.it>