

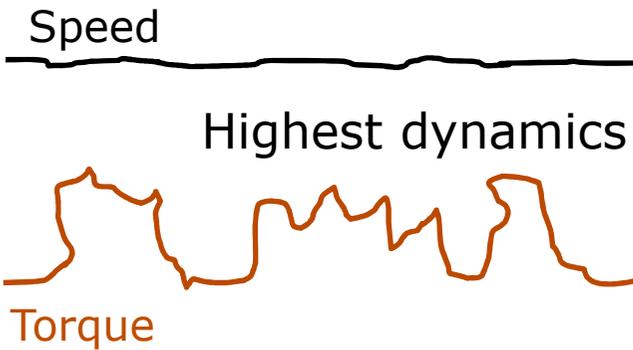


Drive your AC Brushless
motor easily with **RX62T**

Experiment – Calibrate – Integrate.

Renesas Electronics Europe
ICBG
Vincent Mignard
January 2014 Rev. 1.00

Which target applications vs. requirements?



Highest MCU cost
Low CPU load



Medium MCU cost
Mid CPU load



Lowest MCU cost
High CPU load



Set of Motor control solution for your inverters



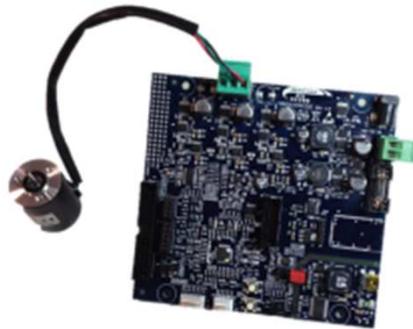
Highest dynamics



Highest MCU cost
Low CPU load



Good dynamics



Medium MCU cost
Mid CPU load



Lowest dynamics



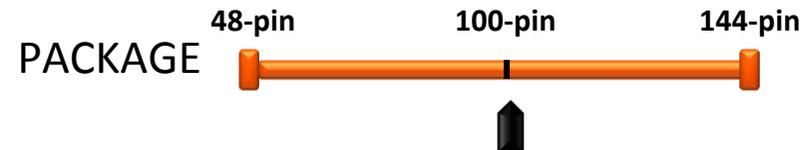
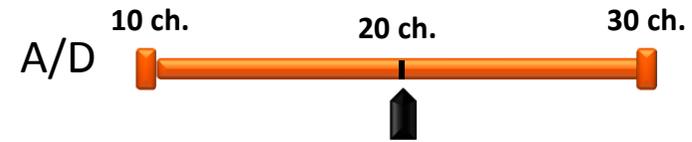
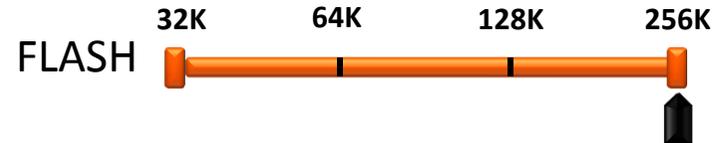
Lowest MCU cost
High CPU load



Why RX62T is a suitable MCU for inverter?



32-Bit MCU
@ 100MHz
8K Data Flash
2.7 V to 5.5V
6 x Op. AMP
6 x Comparators



RX62T MCU Benefits ?



100MHz, MAC, FPU enable complex algo. & full support of Matlab/Scilab equations

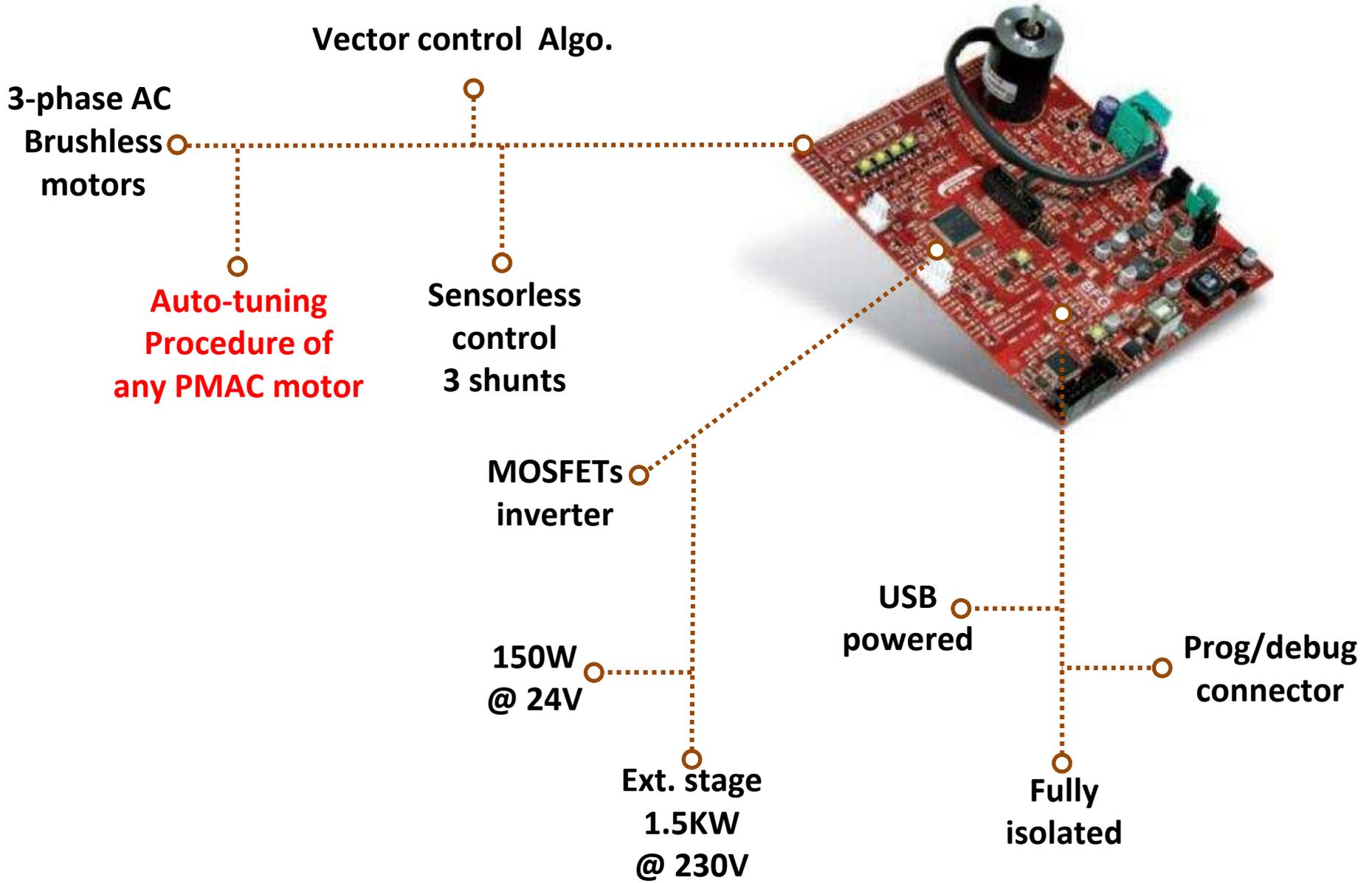
MC timer to drive **two** 3-phase motors, full h/w support of hall sensors, encoder

12-bit A/D with S/H on-chip single/three shunts sensorless algorithm

True 5V enabling high MCU immunity, proven by Langer burst test report.

h/w safety: MPU, POE, CRC, WDT, self-test A/D to comply IEC60730-1

Which Ref. design did we build for you?



What's inside the kit?



PC GUI s/w



Schematics, Gerber, BOM Datasheets, User's Manual HEW Source code



Quick Start Guide



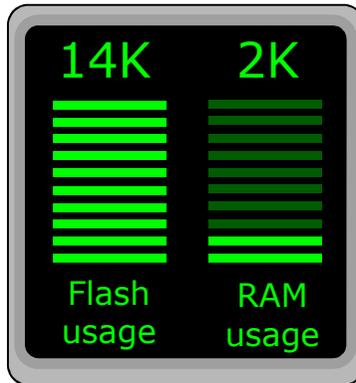
USB powered



Single PCB inverter based on RX62T + AC Brushless motor

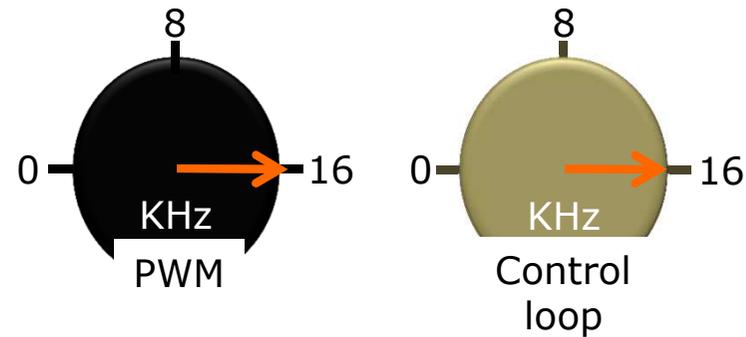
What is doing the embedded software?

Small footprint

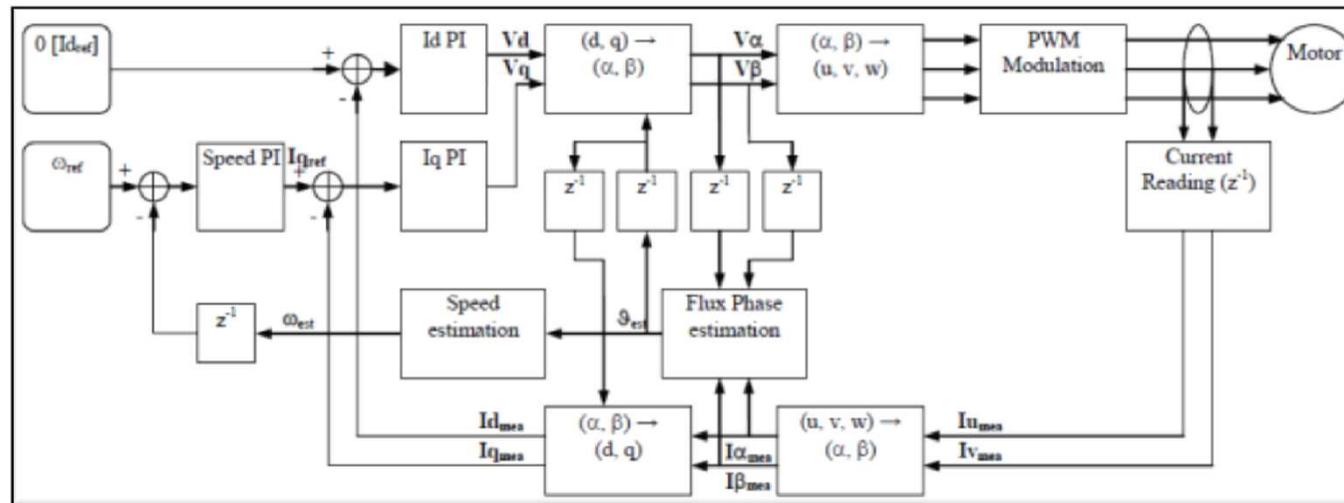


Good Dynamics

CPU load below 60% at 16KHz control loop



Sensorless Field Oriented Control Algorithm



Advanced PC GUI to speed-up evaluation



Custom motor calibration
in a few mouse clicks

Alarms status
displayed

Tuning of key parameters:
PI coefficients, start-up, etc.

Real-time torques displayed

Which benefits do you get from such kit?



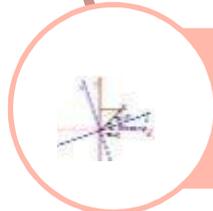
€169



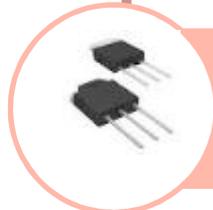
p/n: YROTATE-IT-RX62T



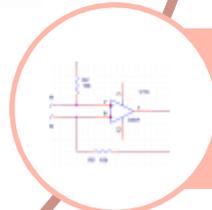
Calibrate & drive any 3-phase Brushless AC motors thanks to the Auto-tuning procedure in 45 seconds



Use royalty-free vector control s/w using small flash footprint and minimum CPU resources



5V MCU & MOSFETs on-board, 1.5KW external power stage ready to be connected



For only €169, it contains: Schematics, Gerber, BOM list, datasheets, User's Manual, Video

Feel free to evaluate the RX62T MC kit to reach:





Renesas Electronics Europe

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