



I/O Module iC5000 Add-On

Create real-world debug and test scenarios

- Combine/drive/control/extend a debug and/or (unit) test session with digital/analog I/O
- Real-time trace/profiling of I/O signals to increase observability and time accurate correlation of hardware events to the program flow.
 - ↳ Simplifies debug of hard to catch corner cases, e.g., a hardware event which causes an IRQ/task switch resulting in a worst case timing condition
- Trigger on I/O signals
 - ↳ Speeds up integration testing
- Generate custom waveforms using the integrated pattern generator
 - ↳ Besides correct event generation to stimulate the embedded software this feature provides a key benefit during hw/sw integration testing as it enables fault injection/disturbance testing
- Seamlessly integrated in the software development (winIDEA) and software test (testIDEA) environment
- Automated control of the I/O module using iSYSTEM's generic API isystem.connect (e.g., via script languages such as Python, Perl, TCL, Java, ...)

Measure and optimize target power consumption

- Shunt based measurement
- Optional power interface board to select different current and voltage ranges

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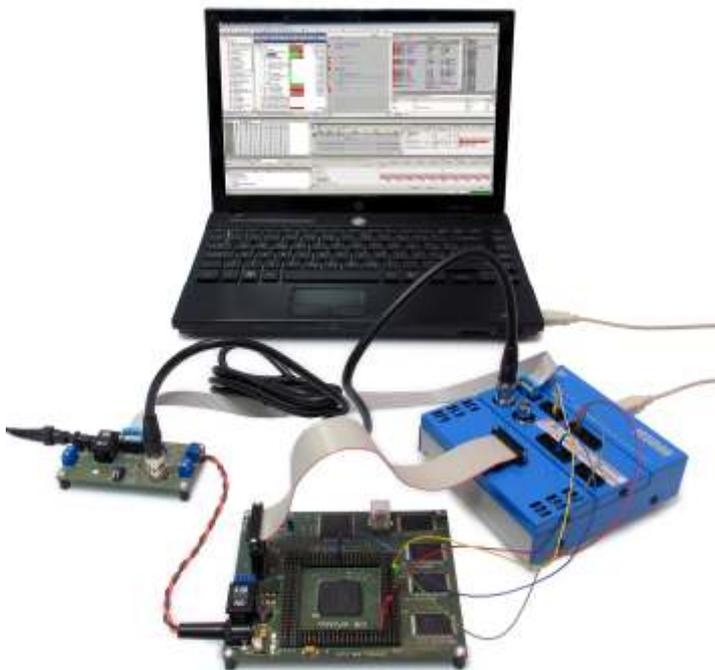
[Users Manual](#)



I/O Module - iC5000 Add-On

Features	IOM2	IOM2-D
System Port: inter-emulator synchronization and trigger output, 100ohm series termination	✓	✓
Digital inputs: 10kOhm input impedance, 5V tolerant, ESD protected	8	24
Digital outputs: 100ohm output series termination, ESD protected	8	8
Analog inputs: 8-bit ADCs, 1MOhm input impedance, range is ±5.0V with 1:1 probe, ±50V with a 10:1 probe, 3ns acquisition time. Power measurement probe uses these two inputs for power measurement.	2	-
Analog outputs: 8-bit DACs, ±4.5V bipolar output, ±7mA drive, 100ohm output resistance	2	2
Current Sense Port: For power measurement via Power Probe	✓	-
10MHz temperature compensated precision oscillator TCXO for high accuracy long duration trace/analyzer session measurements	Option	Option

Custom I/O Modules on request



Requirements

- iC5000 Base Unit (Rev. E)
- winIDEA2012
- Licenses to increase # of use cases

I/O Modul Functionality	License
Monitoring Input Signals	
Manipulation Output Signals	
Use Pattern Generator	
Tracing of I/O Signals	●
Use Trigger Configuration	●
Profiling of I/O Signals	●
Power Measurement	(●)
Use I/O Signals within testIDEA	(●) / ●

● = Trace License

● = testIDEA Professional

() not needed but increases use cases