Otii Ace Pro

Product Specification

Otii Ace Pro is the ultimate tool for energy optimization of battery-driven devices up to 25V. Made for hardware, firmware, and software developers and teams, for R&D, testing and quality assurance. It comprises Otii Ace, the hardware and Otii Pro software.

Otii Ace Pro comes with one 1-year Otii Pro software license. If the license is not renewed Otii Ace Pro can be used with the Otii basic software, which is free but limited in features. You can upgrade with software add-ons to elevate Otii Ace Pro to a programmable tool for automation, battery profiler and simulator.
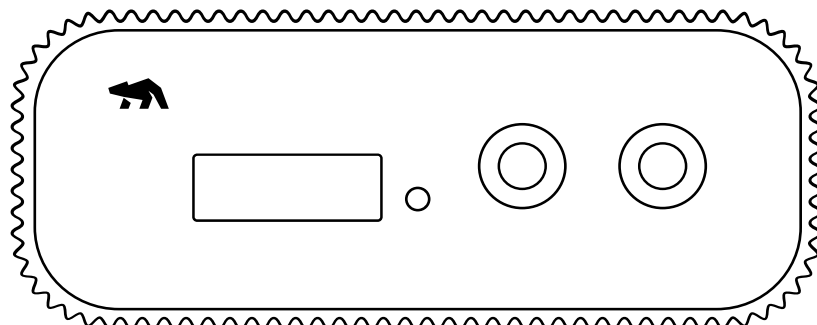
Otii Ace
Otii Ace is the hardware comprising a power supply, a current and voltage measurement unit and a data-acquisition module that comes in a Qoitech's signature compact and portable form factor. It is powered by USB and optionally by using an external DC adapter. Otii Arc is shipped with a USB C cable and USB A to USB C adapter.

Otii Pro software
Otii Ace is best utilized with Otii Pro software, a powerful and easy-to-use desktop application for Windows, Ubuntu & macOS. Otii Pro software is a subscription-based software.

Explore software features: https://www.qoitech.com/software/
Download the software: https://www.qoitech.com/download/

Use Otii Ace Pro every day to:

- power your devices under development
- energy profile microcontrollers, sensors, devices and electronics up to 25V in real-time and over time
- optimize sleep current, extend battery life
- measure inrush current
- measure component leakage current over time
- design power-efficient hardware, firmware and software through regression testing
- troubleshoot your hardware and software

and more!

Hardware spec in short

Current and voltage measurement
- Current measurement accuracy: ±(0.05% + 25nA) for -5 A to 5 A
- 0.4 nA current measurement resolution
- 24 bit ADC with automatic switching between ranges
- No burden voltage
- Voltage measurement accuracy ±(0.01% + 1 mV)

Sample rate
- Adjustable sample rate up to 50 ksps for main current and voltage channel
- 50 ksps for all other channels (adc current, adc voltage, sense+, sense-, GPI1, GPI2)

Power supply
- 0-25V
- Isolated power supply, ±200 V.
- 5 A sink current

Digital interface
- Digital IO voltage 1.2-5.0V

Software features in short

- Basic measurements (current, voltage, power)
- GPI measurements
- ADC (sub-system) measurements
- Basic statistics
- Check statistics of the accumulated energy consumption while recording
- Select a part of recording for analysis, while recording continues in the background
- Name recordings
- Export data to CSV
- Save/load projects
- Unlimited undo/redo
- Offset calibration
- Downsampling
- Crop
- Multiple recordings
- Record more than 10 minutes
- Record UART logs
- Sync data with UART logs
- Sync multiple recordings
- Multiple Otii boxes
- Customize statistics
- USB-UART
- Battery life calculator

and more!

Hardware specifications

	Min	Unit	Max
GENERAL			
OPERATING ENVIRONMENT			
Temperature	10 °C / 50 °F		30 °C / 86 °F
Humidity	30%		60%
MAIN			
POWER SUPPLY			
Output voltage	0 V		25 V
Output voltage setting resolution		1 mV	
Self-consumption		3.5 W	
Output power, max continuous		30 W [1,5]	
Output power, max peak		50 W [1]	
Voltage between USB/DC jack and Main −	-200 V [2,3]		200 V [2,3]
Voltage between expansion DGND/AGND and Main −	-200 V [2,3]		200 V [2,3]
PROGRAMMABLE CURRENT SINK (requires an Otii Toolbox)			
Sink current	0 A		5 A
Sink current, setting resolution		1 µA	
Sink voltage	0 V		25 V
Sink power, max continuous		15 W	
Sink power, max peak		125 W	
CURRENT MEASUREMENT			
Accuracy 0-5A		±(0.05% + 25 nA)	
Resolution		0.4 nA	
Internal sample rate		250 ksps	
Analog bandwidth (3 dB)		50 kHz	
VOLTAGE MEASUREMENT			
Accuracy		±(0.01% + 1 mV)	
Internal sample rate		250 ksps	
Analog bandwidth (3 dB)		50 kHz	
Output voltage readback resolution		3.5 uV	

EXPANSION PORT

UART			
Bitrate	50 bps		5.25 Mbps

DIGITAL I/O			
Digital IO operating voltage	1.2 V	Vio	5 V
VIL Low-level input voltage			Vio*0.2V
VIH High-level input voltage	Vio*0.8V		
Imax, Maximum sink/source current (total for all GPIOs)	-10mA		10mA

ADC, Differential Analog/Digital Conversation pins ADC-,ADC+			
Voltage input	-10 V		25 V
Resolution		12.2 nV	
Accuracy		±(0.1% + 1 µV)	
Input impedance		>100Mohm	

ADC, Single ended Analog/Digital Conversation pins ADC-,ADC+			
Voltage input	-10 V		25 V
Resolution		3.1 uV	
Accuracy		±(0.1% + 250 µV)	
Input impedance		>100Mohm	

SENSE, pins SENSE- and SENSE+			
Voltage input	-10 V		25 V
Resolution		3.1 uV	
Accuracy		±(0.1% + 250 µV)	
Input impedance		>100Mohm	

EXPANSION PORT POWER SUPPLY			
Output voltage	0 V		15 V
Output voltage setting resolution		5 mV	
Output current			600 mA
Voltage between USB/DC jack and Expansion Port DGND/AGND	-200 V [2,3]		200 V [2,3]

USB and DC JACK

DC JACK			
Input voltage	7V		20V
Input current			5A

USB			
VBUS voltage [4]	4.75V		20V
VBUS current [4]			3A

[1] Depends on available input power
[2] USB and DC jack GND is connected internally to chassis GND
[3] DGND and AGND are internally connected
[4] USB PD 2.0
[5] Max 3A in on DC plug in and max 4A output current

QOITECH

Qoitech is a Swedish company bringing to market the most effective developer tools for visualisation, measurement and analysis of energy consumption of battery driven products. By enabling ease of use, our toolboxes help developers, throughout the stack, to develop for longer battery life, shorter development time and increased product quality.

Learn more at www.qoitech.com.