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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.

Quick install, plug-and-play setup.

Otii Ace Pro can be upgraded with Otii Toolboxes, software licenses that elevate the instrument into specialized tools such as battery profiler and simulator, or automation tool.

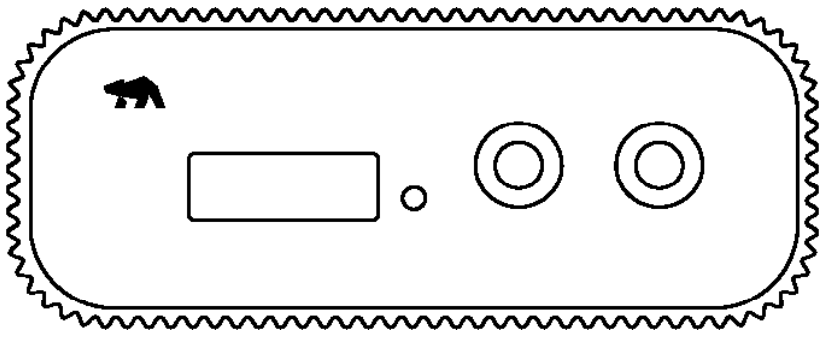
Otii Ace Pro
Otii Ace Pro is a small portable power supply, a current and voltage measurement unit and a data-acquisition module that comes in a Qoitech's signature compact and portable form factor.
It is powered by USB and optionally by using an external DC adapter.

It can be used in product development, test and verification, quality assurance and maintenance (for example as part of continuous integration set-up), and in technical sales.

The Otii Ace Pro measures 10.9 cm x 14.4 cm x 4.4 cm (W x L x H) and weighs 450 grams. It is designed for the office, lab, usage at home, and field measurements. The innovative mechanical design allows for efficient heat dissipation, so no fan is needed resulting in low noise.
Made in Sweden.

A USB-C cable and a USB-A to USB-C adapter are included in the package.

Otii Software
Otii Ace Pro comes with Otii Software, a powerful and easy-to-use desktop application for Windows, Ubuntu and macOS.



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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
- Voltage measurement accuracy ±(0.01% + 1 mV)

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

Power supply
- 0 - 25V
- Isolated power supply, ±200 V.
- 5 A sink current
- Active voltage regulation, no burden voltage

Digital interface
- Digital IO voltage 1.2 - 5.0V

Software features in short

- Current, voltage and power measurements
- Unlimited recordings
- Sync and compare multiple recordings
- Add new recordings in existing projects
- Record UART output
- Sync data with UART output
- Run long measurements
- Run multiple Otii hardware in one Otii project
- Battery life calculator
- Support for in-line measurements
- Support for 4-wire measurements
- Offline license mode
- GPI measurements
- ADC (sub-system) measurements
- Customize 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
- Offset calibration
- Set sample rate
- Downsampling
- Configuarable UI
- Scale, hide and customize measurements
- Crop
- Unlimited do/redo functionality
- In-app help

and more!

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Hardware specifications

	Min	Typical	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 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 -5A to 5 A		±(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 µV	

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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, Max sink/source current (total for GPIOs)	-10mA		10mA
Differential ADC pins, ADC-,ADC+			
Voltage input	-10 V		25 V
Shunt voltage range	-102.4mV		102.4mV
Resolution		12.2 nV	
Accuracy		±(0.1% + 1 µV)	
Input impedance		>100Mohm	
Single ended ADC, pins ADC+			
Voltage input	-10 V		25 V
Resolution		3.1 µV	
Accuracy		±(0.1% + 250 µV)	
Input impedance		>100Mohm	
SENSE, pins SENSE- and SENSE+			
Voltage input	-10 V		25 V
Resolution		3.1 µV	
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 & 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.

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