



ISEO

Intelligence Synchronisation Electronics for Optics

FEATURES

- Jitter free synchronisation architecture
- Timing control of measurement instruments on laser experiments
- External synchronisation signal
- Possibility to cascade several ISEO units
- Adjustable delay and width
- PC controlled
- Integrable burst generator : multi-pulse, continuous mode, burst mode

APPLICATIONS

- Ultrafast systems
- Instrumentation
- Pulse synchronisation
- Timer Unit



Full timing control of a complex laser system

ISEO is a low cost compact system, used to generate synchronisation signals (high and low frequency) with programmable timing for one or several laser systems and pulse sequences similar to the Burst Generator.

ISEO provides 20 outputs with tuning accuracy of 1 ns and typical jitter of less than 50 ps, regardless of the chosen delay between the signals.

Driven by an internal or external R.F. at up to 100 MHz (from laser oscillator for example), ISEO is used to control the timing of each element (pump lasers, Pockels cells, Q-switches, shutters) and allows to improve jitter as well as the stability of all signals.

ISEO also includes laser safety control. Each timer output can be inhibited through software conditions and safety interlock: In case of oscillator clock failure, an internal clock is generated to provide clean system shutdown and safe operation of the pump lasers used in large femtosecond systems.

For users with more specific needs, custom configurations are also available on special request, or several ISEO units can be cascaded if more synchronisation signals are needed.

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Specifications

Inputs/Outputs available on the front panel

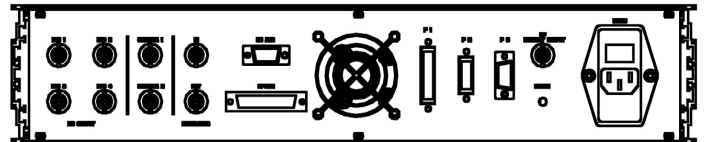
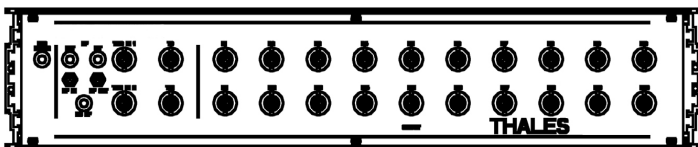
RF IN	External Clock	Input 50 Ω	(20 MHz -100 MHz)	4 V max ⁽¹⁾
RF OUT	Copy of External Clock	Output 50 Ω	(20 MHz - 100 MHz)	3.3 Vpp max
TRIG IN 1 and 2	External Trigger	Input 50 Ω	(1 Hz - 20 kHz)	5 V max
T0	Output referential time base	Output 50 Ω	(1 Hz - 20 kHz)	5 V max ⁽²⁾
T(-1)	Output programmable before T0	Output 50 Ω	(1 Hz - 20 kHz)	5 V max ⁽²⁾
D1 to D20	Output programmable delays	Output 50 Ω	(1 Hz - 20 kHz)	5 V max ⁽²⁾
LED	Power, RF IN, RF OUT, RF			

Inputs/Outputs available on the rear panel

PhD 1 to PhD 4	Photodiode power supply	(5 V DC to 20 V DC factory adjustment)	100 mA
SHUTTER 1 and 2	Shutter control	24 V DC	300 mA
INTERLOCKS IN/OUT	Security loop	Dry contact	
RS232	Serial communication port		
RF FAULT OUTPUT	Output RF FAULT report	5 V DC	5 mA
OPTION, P1, P2	Digital Input/Output	5 V DC	20 mA ⁽³⁾

⁽¹⁾ Adjustment on site necessary ⁽²⁾ Adjustable with 1 ns accuracy ⁽³⁾ Options available on request

Physical characteristics (Size: H x W x L)



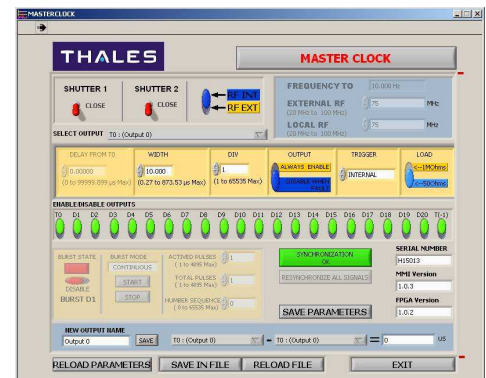
Rack version 19", 2U 3.5 x 19.1 x 13.8 in 8.8 x 48.5 x 35 cm

Utilities and environment requirements

Power ⁽⁴⁾	Voltage	208 VAC	230 VAC
	Current	2 A, single phase	2 A, single phase
	Frequency	60 Hz	50 Hz
Computer	RS232, Windows XP		
Option	DLL files can be supplied to control ISEO with a dedicated use software		

⁽⁴⁾ Contact factory for 110 VAC option

ISEO interface example



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