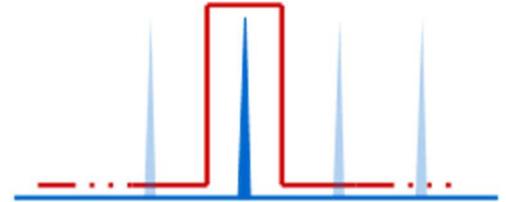


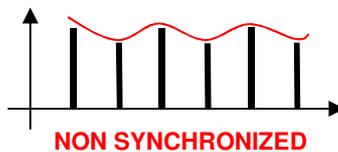
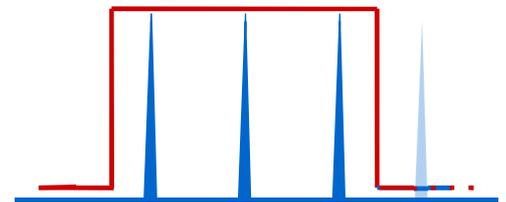
### Product Overview

These drivers have been designed in order to offer the highest possible performances in high speed Pulse Picking applications with repetition rates 0.01 to 85MHz. They aim to push down prices for OEM users, whilst retaining the highest achievable specifications.



### Features

- High stability system with superior Pulse to Pulse Stability
- Input reference clock from Laser. Repetition rate in 0.01-85MHz (depending on model)
- With Built-in High accuracy signal generator
- Including Digital delay and window gate adjustments
- Consecutive pulse extinction ratio (CPEP) optimisation
- Remote control, USB, RS32 communication for set up
- RoHS compliant



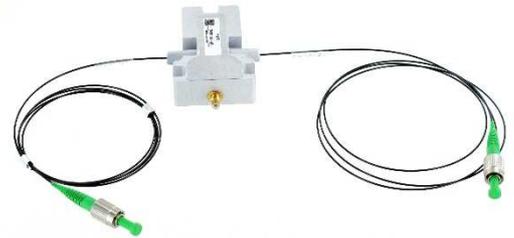
## VERSIONS

### Fiber Pigtailed Pulse Pickers

Model	Laser Repetition rate	Carrier frequency	Delay Range/step	Pulse width range	AO Models Fiber pigtailed
<b>PPKA</b> c250-B-xx-20*	75-85 MHz	Adapted to RR	20ns (0.1ns)	20ns (0.1ns)	MT250-IR6-Fio-PM-Ic
<b>PPKA</b> 250-B-xx-20	40-75 MHz	250 MHz	25ns (0.1ns)	15ns (0.1ns)	MT250-IR6-Fio-PM-Ic
<b>PPKS</b> 250-B-xx-128	5-60 MHz	250 MHz	200ns (1ns)	56ns (1ns)	MT250-IR6-Fio-PM-Ic
<b>PPKS</b> 200-B-xx-128	5-55 MHz	200 MHz	200ns (1ns)	56ns (1ns)	MT200-IR10-Fio-PM-Ic
<b>PPKS</b> 200-B-xx-640	1-30 MHz	200 MHz	1224ns (5ns)	56ns (5ns)	MT200-IR10-Fio-PM-Ic
<b>PPKS</b> 80-B-xx-640	1-20 MHz	80 MHz	1080ns (5ns)	200ns (5ns)	MT80-IR30-Fio-PM-Ic2 MT80-FIR40-Fio-PM

xx=30: 1 watt version  
xx=34: 2.5 watts version  
xx=36: 4 watts version

**\*With Synchronized carrier frequency (High Stability)**  
Other carrier frequencies on request.



### Free Space

Model	Laser Repetition rate	Carrier frequency	Delay Range*	Pulse width range	AO Models Free space
<b>PPKA</b> c250-B-xx-20*	75-85 MHz	Adapted to RR	20ns (0.1ns)	20ns (0.1ns)	MT250-A0.12-1064
<b>PPKA</b> 250-B-xx-20	40-75 MHz	250 MHz	20ns (0.1ns)	20ns (0.1ns)	MT250-A0.12-1064
<b>PPKS</b> 250-B-xx-128	0,01-60 MHz	250 MHz	128ns (1ns)	128ns (1ns)	MT250-A0.12-1064
<b>PPKS</b> 200-B-xx-128	0,01-55 MHz	200 MHz	128ns (1ns)	128ns (1ns)	MT200-A0.4-1064
<b>PPKS</b> 80-B-34-640	0,01-20 MHz	80 MHz	640ns (5ns)	640ns (5ns)	MT80-A1-1064 MT80-A0.4-2000

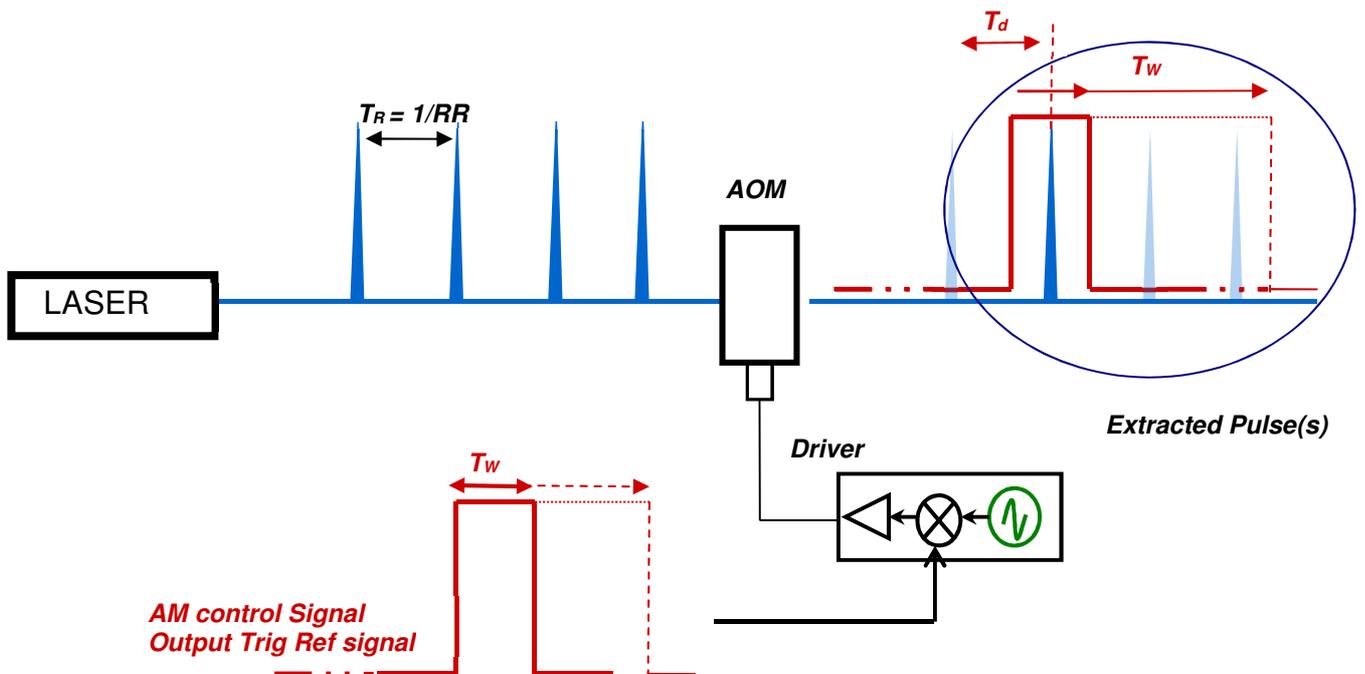
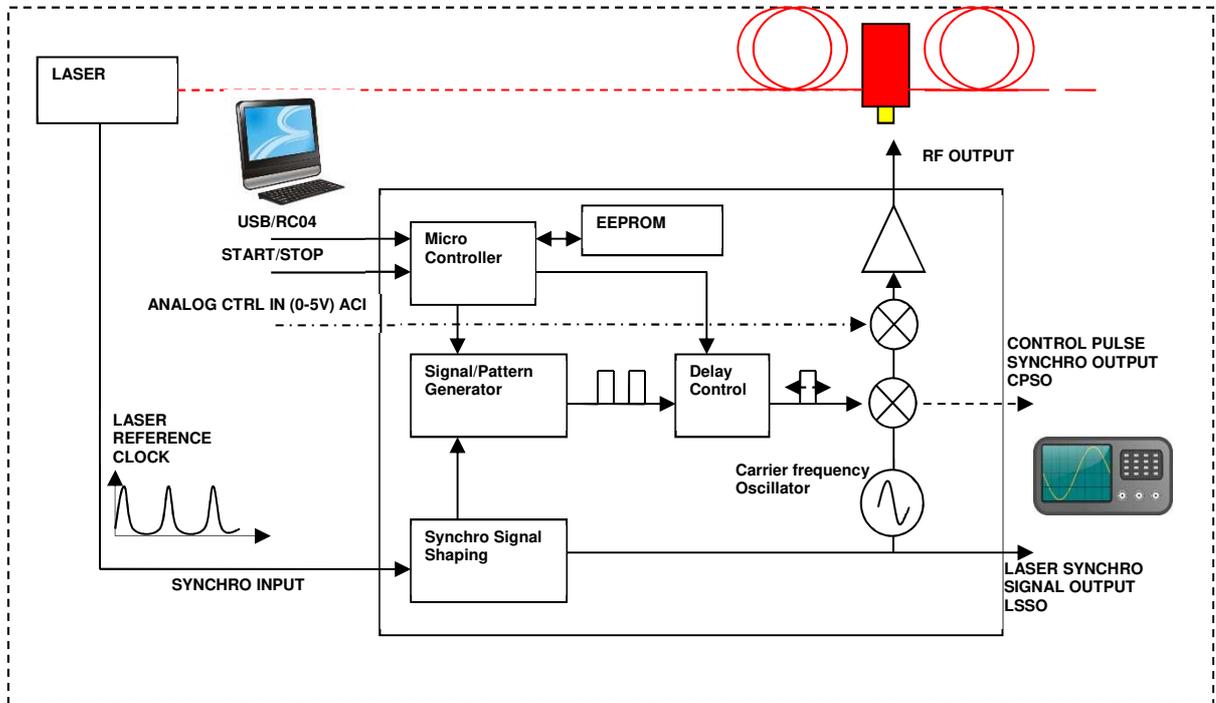
\*Main delay range obtained by laser beam translation inside pulse picker

xx=30: 1 watt version  
xx=34: 2.5 watts version  
xx=36: 4 watts version  
xx=42: 15 watts version (@80MHz)

**\*With Synchronized carrier frequency**  
Other carrier frequencies on request.



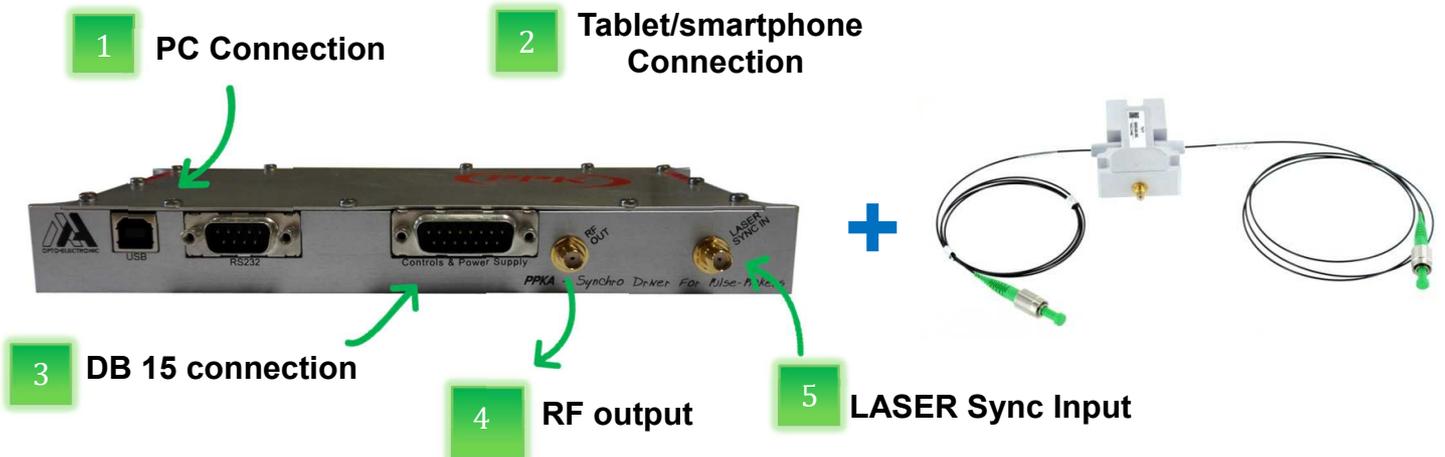
**SYNOPTICS**



## SPECIFICATIONS

Parameters	Specifications
Reference Input Signal from Laser Synchro Input	<b>LASER Repetition Rate</b> RR in [0.01-85] MHz – Level TTL/50 Ohms (On request=Peak Voltage max 5 Volts, min 100mV, duty cycle in [10-90%], nom 50 Ohms), SMA Connector, $T_{RR}$ = Time between 2 Laser pulses = 1/RR – SMA connector
Reference Output Signals from Driver	<b>LSSO</b> : Shaped Analog 0-3,5V/50 Ohms reference Output – Laser repetition Rate – DB15 connector [0.01-85MHz] <b>CPSO</b> : Shaped Analog 0-3,5V/50 Ohms trig Output – AOM control signal – DB15 connector
Internal Pulse generator Picking control	<b>Number of picked pulses</b> : N / M, N pulses picked out of M pulses, N in [1-1022], M in [2-1023] <b>Optical window gate duration</b> : $T_w$ , Adjustable as: $T_w = N * T_{RR} + T_A$ , $T_A$ =Time Adjust in [0-yy ns] by typ steps of 0.1-5ns (yy is version dependent) <b>Pulse Delay time</b> : $T_D$ , Adjustable in [0-zz ns] by typ steps of 0.1-5ns (zz is version dependent) <b>Start/Stop control</b> : SSTI: E/D, Enable/Disable digital signal TTL level (1=OFF), TRIG INPUT, Response time nom 10ns
Parameters set-up	<b>Method of control</b> : RC04 (Remote control, Android), USB, RS232 (SDK and Apps available) <b>Adjustable parameters by user</b> : N, M, $T_w$ , $T_D$ , Max RF power level <b>Store</b> : Parameters stored in EEPROM, Automatic reload of stored parameters
Carrier frequency	40, 80, 110, 180, 200, 250 MHz, Adapted to laser/AO device
Power supply	24 VDC – Option Laboratory 110-230VAC
Output RF Power	1, 2, 4W max, other power with external power amplifier
Rise time/Fall time	<3ns @200-250MHz
External AM control	<b>ACI</b> : Analog 0-5Volts/1KOhms - Rise/Fall time nom 10ns, Dynamic 40dB
Extinction ratio	>50dB (internal pulse generator)
Output impedance	50 Ohms
V.S.W.R.	<1.5/1
Input connectors	USB, DB9 (RS232), DB15 (power supply & signals), SMA (Laser Synchro IN, REF)
Output connectors	SMA (RF OUT), DB15 (signals)
Size	OEM: 207 x 99 x 26.1mm <sup>3</sup> , Option 110-230VAC: Rack 19", 1U
Weight	Nom 0.6, Option 110-230VAC: 4 kg
Heat Exchange	Conduction through baseplate, Option 110-230VAC: standalone
Operating temperature	10 – 40°C -Attention, for best stability of the system, it is recommended to operate in a +/- 1°C environment
Maximum Case temperature	50°C (OEM version)

**CONNECTIONS**



**1. PC connection**



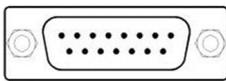
- PPK driver can be controlled through USB/RS232 communication (SDK available for Third Party Interface)
- Adjustment of Picking ratio, pulse delay, pulse width, RF power
- PC software available for ease of adjustments

**2. Tablet/smartphone connection**



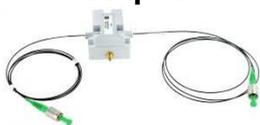
- PPK driver can be controlled via Bluetooth tablet for Lab purpose
- Adjustment of Picking ratio, pulse delay, pulse width, RF power
- PPK Android application available on request

**3. DB 15 connection**



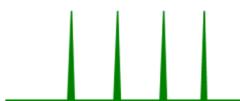
- Monitoring via scope (Synchro external signals for trig)
- START/STOP Function (Enable/Disable picking function)
- Analog Input Control (RF power fast amplitude control)
- 24 VDC power supply

**4. RF output**



- PPK driver can be used with fiber pigtailed or freespace AOM

**5. Laser Sync Input**



- Reference clock from LASER for synchronization
- Between 1 and 85MHz depending on Model

**MECHANICAL DRAWING (Sizes in mm)**

