

# coupled.

Versatile module for robust phase and frequency locks between two lasers



## PFD pro

For convenient phase and offset frequency locking

- Broad range of offset frequencies 5 MHz .. 10 GHz
- Support of frequency scans and jumps
- User friendly remote control
- Designed to cooperate with FALC pro

learn more...



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# PFD pro



DANGER – AVOID EXPOSING EYES AND SKIN TO THE LASER BEAM, INCLUDING ANY STRAY LASER LIGHT. CLASS 3B LASER PRODUCT, EN 60825-1:2014

Specifications	
<b>Input and output</b>	
Input signal	Photo diode beat signal from superposition of two lasers
Output signal	Error signal from a phase or frequency difference, implementation of Phase Locked Loop (PLL) requires PID controller like FALC pro as a loop filter
<b>Low frequency port</b>	
Offset frequency range	5 MHz – 200 MHz
Frequency range for continuous scans	10 MHz
Frequency range for jumps	100 MHz
<b>High frequency port</b>	
Offset frequency range	200 MHz – 10 GHz
Range for continuous frequency scans	1 GHz
Range for frequency jumps	1 GHz
<b>Additional Functions</b>	
Integrated scan generator	Triangular scan with a maximum scan rate of 1 kHz
External scan generator	Triangular scan with a maximum scan rate of 1 kHz via dedicated digital input channel
Frequency jumps	Frequency jumps between up to 4 pre-defined frequencies (external signal generator required) Settle time (90% of target frequency value, for electrical error signal generation): 10 µs
Integrated counter	For monitoring of beat frequency, reference signal and intermediate frequency signal Resolution: 1 Hz (integration time of 2 s)
<b>General</b>	
Control software	Parameter settings, activation and operation via DLC pro or via Difference Frequency Comb software
Remote control	Remote control via TCP/IP PC-GUI or command interface, support of remote click & lock of offset lock using DLC PRO LOCK
Configuration options	Support of up to 4 PFD pro and 4 FALC pro together with 4x DL pro or 2x TA pro laser systems from a single DLC pro
Mounting options	Table-top or rack-mountable into TOPTICA's 19" T-RACK
Electrical power requirement	15 or 24 V
Size	54.2 x 105 x 200 mm3 (H x W x D) without mounting brackets