

All-Digital Servo Module

CONTROL ELECTRONICS & MODULES



All-Digital Servo Module Precilasers has launched an all-digital servo module for laser frequency locking. This controller internally integrates a modulation-demodulation module and a PID module, which completes the full process from frequency sweeping, error signal generation to laser frequency locking. It also supports the display of relevant signal waveforms and can provide locking control for various common frequency stabilization technologies, such as absorption spectroscopy, saturated absorption spectroscopy, modulation spectroscopy, modulation transfer spectroscopy, and PDH technology.

- High Bandwidth Low Noise
- All
- Digital Control Automatic Locking
- Automatic Relocking
- Laser Frequency Stabilization Precision
- Measurement

Specifications

Parameter	Specification
Modulation Signal Power	0~16dBm
Modulation Signal Frequency	2.5kHz ~ 20MHz
Modulation Signal Resolution	2.5kHz
Phase Range	0-360°
Input Signal Range	<200mVpp
Input Signal Coupling Mode	AC Coupling
Input Signal Impedance	50Ω
PID Stages	2 Stages
PID-P Gain	<60dB
Fast PID-I Corner Frequency	<10MHz
Fast PID-D Corner Frequency	[1kHz, 30MHz]
Fast PID Output Signal Circuit Bandwidth	5MHz
Fast PID Output Signal Range	-1.6V~1.6V
Fast PID Circuit Delay	160ns
Fast PID Output Impedance	50Ω
Slow PID-I Corner Frequency	<500kHz
Slow PID-D Corner Frequency	[0.1kHz, 500kHz]
Slow PID Output Circuit Bandwidth	500kHz
Slow PID Output Signal Range	-5V~5V
Slow PID Circuit Delay	1us
Locking at Designated Lock Point	Supported
Locking at Designated Error Threshold	Supported
Automatic Relocking	Supported
Automatic Relocking Time	<50ms
Power Supply	12V, >2A

Source: WaveQuanta product database. For ordering, customization (wavelength, power, package) and quotation, contact sales@wavequanta.com.