



# Fiber Optic Modem VCH-608

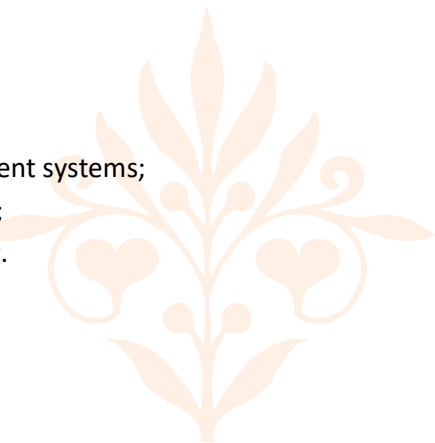


Fiber-optic modem VCH-608 is designed for receiving and transmitting signals of atomic clocks through a fiber optic communication line (FOCL). The signals are:- 1 PPS with delay compensation;- sine 100 MHz with phase instability compensation.

Also, the VCH-608 generates sine signals with nominal frequencies of 5 and 10 MHz – coherent to the input signal. Reception/transmission of high precision signals via the FOCL is provided using a pair of modems: one is configured as a Transmitter and installed at the end of the FOCL whereas the signal source is located, the second – as a Receiver and installed at the remote end of the FOCL.

## Key Applications

- ◆ Metrology;
- ◆ Time and frequency high precision measurement systems;
- ◆ Radio astronomy and the like (antennas feed);
- ◆ Reference signal sources in production testing.



## VCH-608 Specifications

### Inputs :

Wave-form	Qty	Signal Level	Pulse Width	Type / Load
100 MHz (Sine)	1	$1 \pm 0.2 V_{RMS}$	-	SMA / 50 $\Omega$
1PPS	1	$\geq 2.5 V$	$15 \pm 5 \mu s$	SMA / 50 $\Omega$

### Outputs :

Wave-form	Qty.	Signal Level	Pulse Width	Type / Load
5MHz (Sine)	1	$1 \pm 0.2 V_{RMS}$	-	SMA / 50 $\Omega$
10 MHz (Sine)	1	$1 \pm 0.2 V_{RMS}$	-	SMA / 50 $\Omega$
100 MHz (Sine)	1	$1 \pm 0.2 V_{RMS}$	-	SMA / 50 $\Omega$
1 PPS (TTL)	1	2.5 - 5 V	$15 \pm 5 \mu s$	SMA / 50 $\Omega$

Output 1PPS to input 1 PPS synchronization error : < 200 ps

Frequency stability	Allen Var. (Noise Floor)
1 s	$\leq 8 \times 10^{-14}$
10 s	$\leq 1 \times 10^{-14}$
100s	$\leq 2 \times 10^{-15}$
3,600s	$\leq 1 \times 10^{-16}$

Optical Fiber Specifications	
Distance	max. attenuation $\leq 15dB$ ( $\leq 50 \sim 70Km$ )
Connector Type	FC/APC
Class 1 Laser safety	IEC 60825-2-2013

### Operating Requirements :

Interfaces:	USB 2.0 (configuration and diagnostics)
Temperature:	+10°C to +35°C
Humidity:	$\leq 80\%$ (non-condensing) @ 25°C
Power supply:	220 VAC, 50 Hz.
Consumption:	30 VA
Size (HxWxD) :	133x483x328 mm
Weight:	$\sim 8Kg$

**Note:** With four duplex I/O and special software features enable to organize the reservation of the transmission lines and monitoring the quality of synchronization (by transmission signals in the opposite direction).

## Motionets Technology Pte. Ltd.

Level 42 Suntec Tower Three, 8 Temasek Boulevard, Singapore 038988

T: +65 6866 3735 F: +65 6866 3838

E: sales@motionets.com

U: www.motionets.com