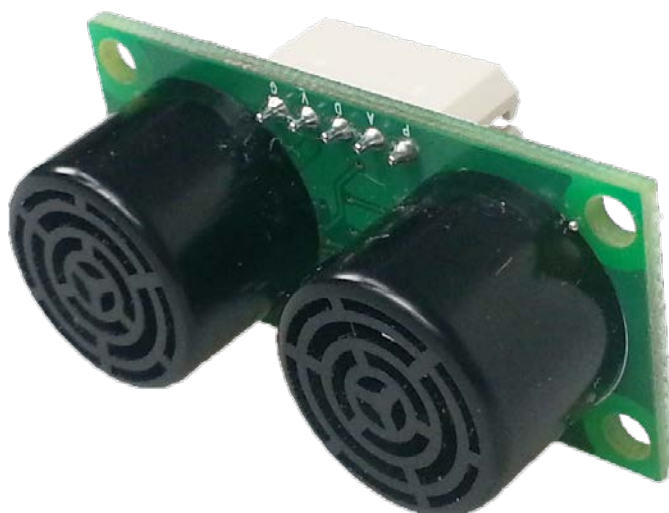


Distance measurement interface boards with Combi ASIC Ultrasonic Sensor & Module (HG-LB40C-5V-DM)



Distance measurement interface boards with Combi ASIC Ultrasonic Sensor & Module

■ Model : HG-LB40C-5V-DM

■ Features

- Low-power, high-sensitivity module.
- Choose from a wide variety of input/output Mode.
- Auto sensitivity control function as a distance proportional to the distance error captain.
- The same standards as existing foreign products and mutually replaceable.



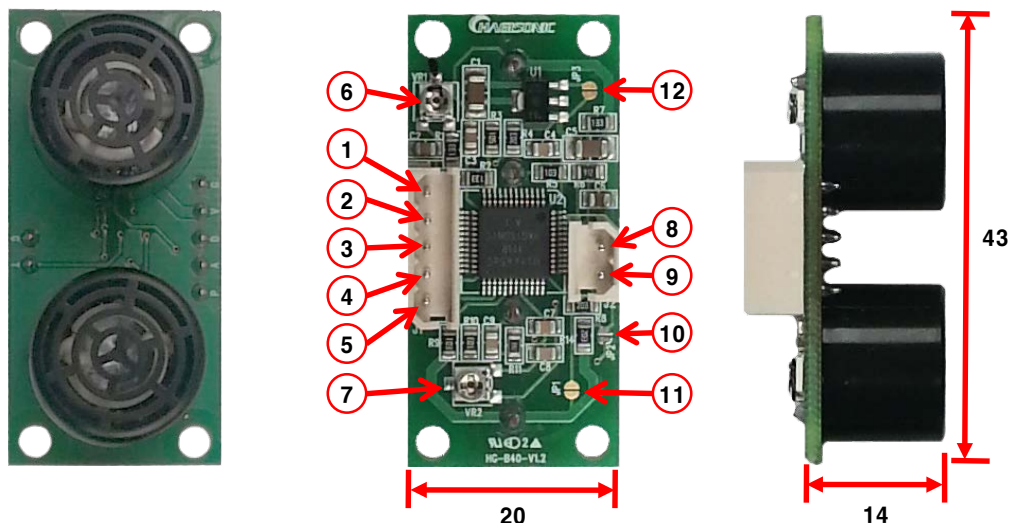
■ Specification

Frequency (KHz)	40±2	
Transmit Mode	External Trigger	TTL Pulse (100~700 μs)
		Repetition Rate (10~30 time / sec)
Receiver Output Signal	Analog	±2 V max at 2.5 V Base Line
	Real Time Pulse	4~5 V TTL, All the objects detected
	Distance Pulse	4~5 V TTL Only the nearest Object
Input DC & Detecting Range (at in front angle flat plate)	Low Voltage Type (5V)	0~3 m (Conventional, HG-LB40C)

Distance measurement interface boards with Combi ASIC Ultrasonic Sensor & Module

■ Model : HG-LB40C-5V-DM

■ Terminals & Parts Description

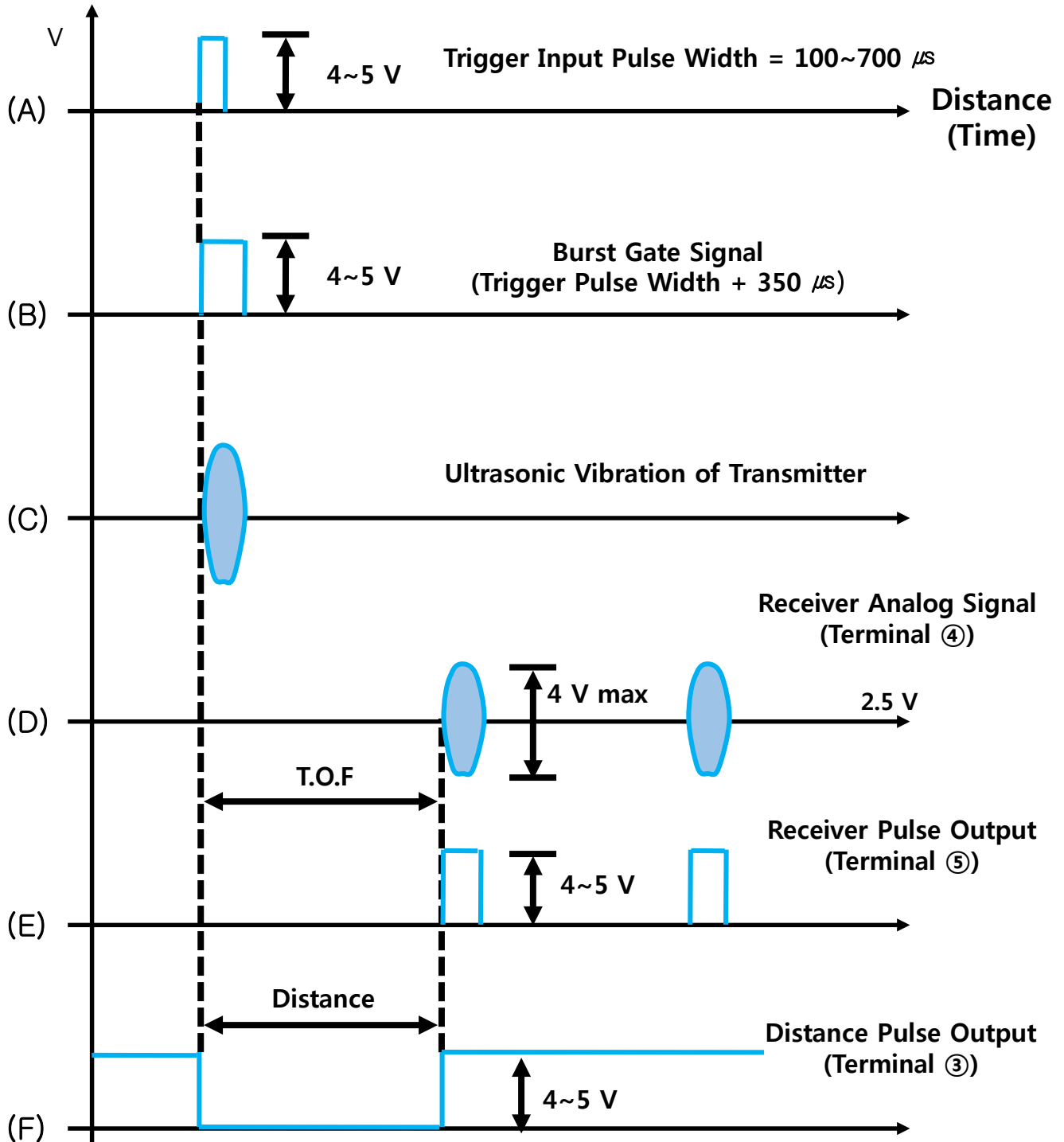


- ① GND
- ② DC input power terminal : $5V \pm 0.5V$ (For low voltage type only)
- ③ Distance pulse output : The pulse width is proportional to the distance
- ④ Receive analog signal output : Amplified receive signal (Real time)
- ⑤ Receive pulse output : Real time square wave form of receiver
- ⑥ Internal ultrasonic frequency adjust VR(VR1) : $40 \text{ kHz} \pm 2 \text{ kHz}$ (Adjusted in factory) **<Please do not change this setting>**
- ⑦ Receiver gain adjust VR(VR2)
- ⑧ GND
- ⑨ Trigger input / output :
 - External Trigger Mode : signal input ($100 \mu\text{s} \sim 700 \mu\text{s}$ pulse width TTL is recommended)
- ⑩ Transmit mode select pad(JP2) :
 - External trigger input mode : open **(Factory Default)**
 - Free run mode : Short with soldering
- ⑪ Auto Time gain control (T.G.A) mode select pad(JP1) : Auto gain control (open), Maximum fixed gain (Short with soldering)
- ⑫ DC input power select pad(JP3) : 5V Low-voltage type factory
 - 5V Low-voltage type : Short with soldering **(Factory Default)**
 - 6~16V High-voltage type : open

Distance measurement interface boards with Combi ASIC Ultrasonic Sensor & Module

■ Model : HG-LB40C-5V-DM

■ Timing Chart

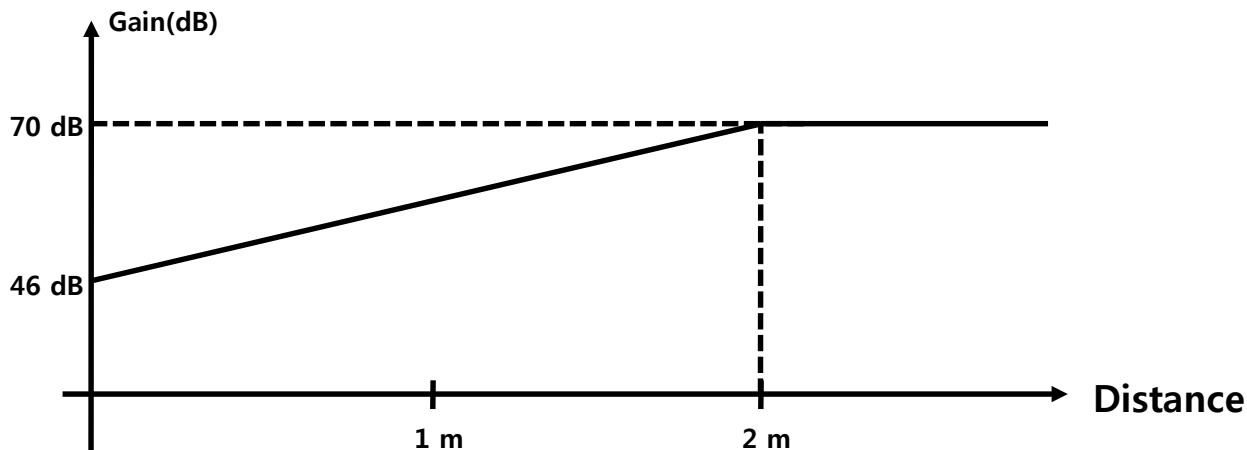
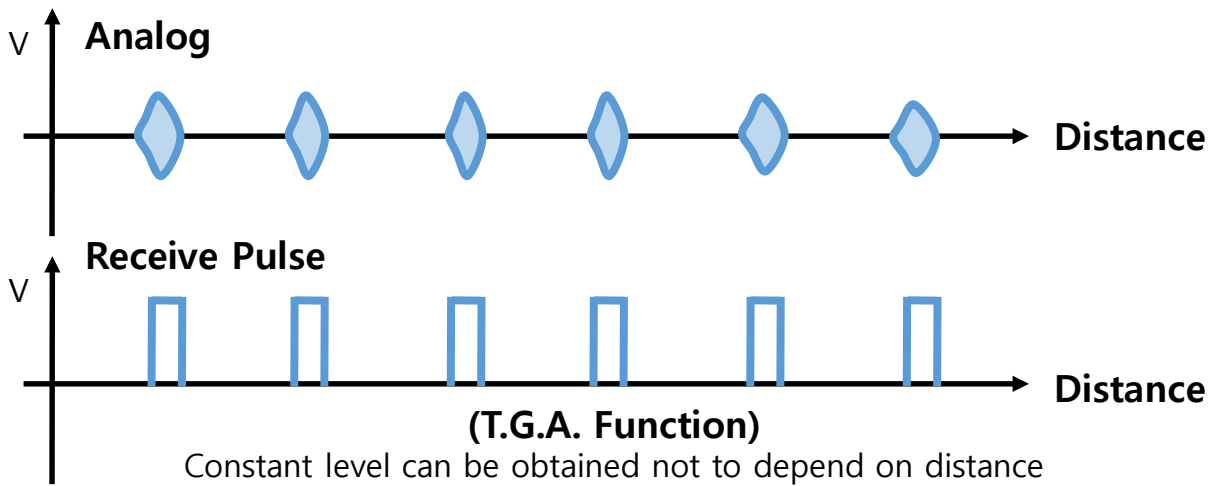
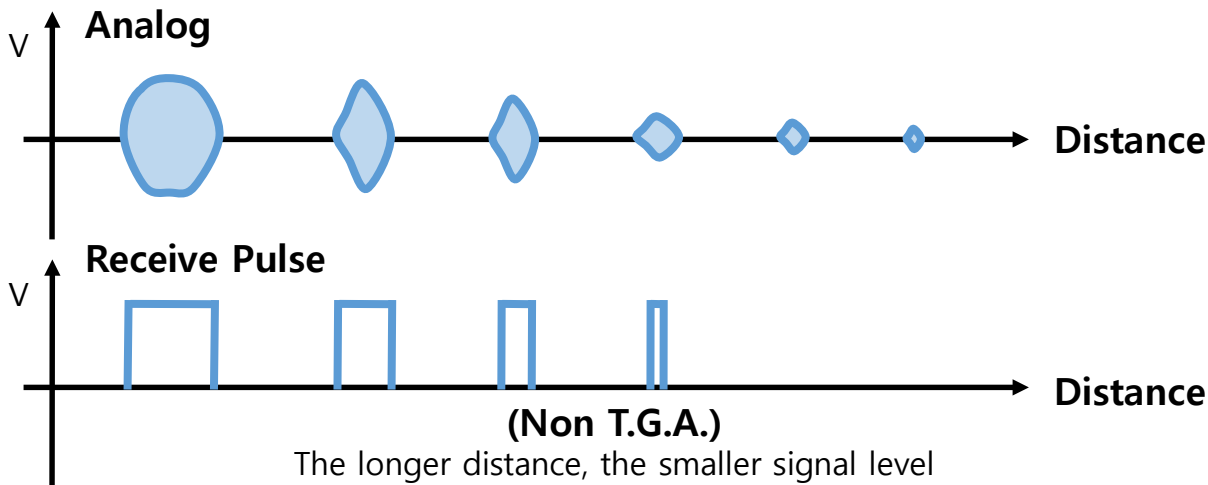


※ If the transmit mode is selected to Free Run Mode
The burst gate signal (B) can be observed at monitor terminal and its pulse width is about 600 μ s fixed.

Distance measurement interface boards with Combi ASIC Ultrasonic Sensor & Module

■ Model : HG-LB40C-5V-DM

■ The Effect of T.G.A. (Time Gain Amplification)



Characteristics of Gain Control vs. Distance (Time)
(Compensation proportional to distance in the range of 0~2m)