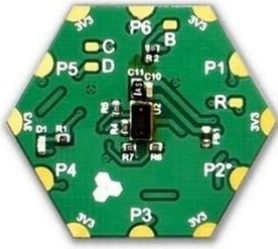




H08R60 IR ToF (Lidar) Sensor

Technical Specifications



Top (1:1)



Bottom (1:1)

- Six array ports and six power ports (+3.3V and GND).
- Access to 6xUART, 2xI²C, SWD, BOOT0, RESET.
- STVL53L0X Time-of-Flight (ToF) ranging and gesture detection sensor:
 - 940nm Laser VCSEL.
 - Eye safe Class I laser.
 - Measures absolute range up to 2m.
 - Reported range is independent of the target reflectance
- STM32F091CBU6 MCU.
- 8MHz external oscillator.

Available colors:



Commands use with any serial terminal software

command parameter1 parameter2 ...

sample

Take one sample measurement.

stream [par1] [par2] [par3] [par4]

Stream command will support 2 syntaxes to transfer measurement result from ToF module to UART port/ a buffer:

- ✓ *par1: period(ms) to get measurement result from ToF module*
- ✓ *par2: total time(ms) to run measurement ranging. After that time, it will stop streaming data.*

[Syntax to transfer data to UART port]

- ✓ *par3: port*
- ✓ *par4: module*

[Syntax to store data to a buffer in memory]

- ✓ *par3: buffer*

Commands continued

stop

Stop continuous or timed ranging.

units unit

Set the range output with *unit (mm, cm, inch)*

max

Get sample measurement of maximum distance.

Examples

```
max
units mm
stream 100 5000 2 1
stop
```

Messages for inter-array communication

code, parameter1 [value], parameter2 [value], ...

CODE_H08R6_SAMPLE

CODE_H08R6_STREAM_PORT, *period 1st byte (LSB), period 2nd byte, period 3rd byte, period 4th byte, timeout 4th byte (MSB), timeout 3rd byte, timeout 2nd byte, timeout 1st byte*

CODE_H08R6_STREAM_MEM, *period 1st byte (LSB), period 2nd byte, period 3rd byte, period 4th byte, timeout 4th byte (MSB), timeout 3rd byte, timeout 2nd byte, timeout 1st byte*

CODE_H08R6_STOP_RANGING

CODE_H08R6_SET_UNIT, *unit (0 for mm, 1 for cm, 2 for inch)*

CODE_H08R6_GET_UNIT, *unit (0 for mm, 1 for cm, 2 for inch)*

Continued next page →



Messages *continued*

```
CODE_H08R6_RESULT_MEASUREMENT, respond
measurement result (with 4 bytes) which was
requested by CODE_H08R6_SAMPLE or
CODE_H08R6_STREAM_PORT
```

Examples

```
// set measurement unit to CM
messageParams[0] = 0;

SendMessageToModule(2, CODE_H08R6_SET_UNIT,
1);

// transfer data
uint32_t period = 100;
uint32_t timeout = 5000;

memcpy(&messageParams[0], &period, 4);
memcpy(&messageParams[4], &timeout, 4);

SendMessageToModule(2, CODE_H08R6_STREAM_MEM,
8);
```

APIs *getting your hands dirty!*

```
outputAPI_function(inputs)
```

```
Float Sample_ToF(uint8_t port, uint8_t
module)
```

```
Float Stream_ToF_Port(uint32_t period,
uint32_t timeout, uint8_t port, uint8_t
module)
```

Notice: *port* equal "0", don't send value result to outside other modules.

```
Void Stream_ToF_Memory(uint32_t period,
uint32_t timeout, float* buffer)
```

```
Module_Status Stop_ToF(void)
```

```
Module_Status SetRangeUnit(uint8_t input)
```

Examples

```
uint32_t period = 100;
uint32_t timeout = 5000;
float buffer;

Stream_ToF_Memory(period, timeout, &buffer);
Stop_ToF();
```