SEN0366 Infrared Laser Distance Sensor Communication Protocol

9600 baud rate, 8 data bits, 1 start bit, 1 stop bit, no parity.

Function	Command Code	Return Code	Remarks
Read parameter	FA 06 01 FF	A 06 81 ADDR xx xx xx..... CS	Read constant, address, light returned, temperature
Read machine number	FA 06 04 FC	FA 06 84 "DAT1 DAT2..... DAT16" CS	DAT is in ASCII format
Set address	FA 04 01 ADDR CS	FA 04 81 81	Operation succeeded
		FA 84 81 02 FF	Write incorrect address, return
Revise distance	FA 04 06 symbol (positive or negative, negative is 0x2d, positive is 0x2b), 0xXX(revised value, one byte), CS	FA 04 8B 77	Operation succeeded
		FA 84 8B 01 F6	Operation failed
Set data return interval in continuous	FA 04 05 MeaInterver CS	FA 04 85 7D	Operation succeeded
		FA 84 85 01 FC	Write incorrect

measurement			interval
		FA 84 85 01 FA	Operation failed
Set distance starting and end point	FA 04 08 Position CS	FA 04 88 7A	Operation succeeded
		FA 84 88 01 F9	Operation failed
	Note: the starting point can be selected from the top or tail		
Set measuring range	FA 04 09 Range CS Range : 05,10,30,50,80m	FA 04 89 79	Operation succeeded
		FA 84 89 01 F8	Operation failed
Set frequency	FA 04 0A Freq CS Freq : 05 10 20	FA 04 8A 78	Operation succeeded
		FA 84 8A 01 F7	Operation failed
Set resolution	FA 04 0C Resolution CS Resolution : 1(1mm),2(0.1mm)	FA 04 8C 76	Operation succeeded
		FA 84 8C 01 F5	Operation failed
Set measurement starts when powered on	FA 04 0D Start CS Start : 0(disable),1(enable)	FA 04 8D 75	Operation succeeded
		FA 84 8D 01 F4	Operation failed
Single Measurement (Broadcast	FA 06 06 FA	No return code, the measured results will be stored in cache.	

command, store the returned results in module cache)			
Read cache	ADDR 06 07 CS	Same to single measurement	
Single measurement (1mm)	ADDR 06 02 CS	ADDR 06 82" 3X 3X 3X 2E 3X 3X 3X" CS	Correct return
		ADDR 06 82" ' E' ' R' ' R' ' -' ' -' ' 3X' ' 3X' " CS	Incorrect return
Single measurement(0.1mm)	ADDR 06 02 CS	ADDR 06 82" 3X 3X 3X 2E 3X 3X 3X 3X" CS	Correct return
		ADDR 06 82" ' E' ' R' ' R' ' -' ' -' '- '' 3X' ' 3X' " CS	Incorrect return
Continuous measurement (1mm)	ADDR 06 03 CS	ADDR 06 83" 3X 3X 3X 2E 3X 3X 3X" CS	Correct return
		ADDR 06 83" ' E' ' R' '	Incorrect return

		R’ ’ -’ ’ -’ ’ 3X’ ’ 3X’ ” CS	
Continuous measurement (0.1mm)	ADDR 06 03 CS	ADDR 06 83” 3X 3X 3X 2E 3X 3X 3X 3X” CS	Correct return
		ADDR 06 83” ’ E’ ’ R’ ’ R’ ’ -’ ’ -’ ‘- ‘’ 3X’ ’ 3X’ ” CS	Incorrect return
Control laser on/off	ADDR 06 05 LASER CS (LASER : 00 off，01 on)	ADDR 06 85 01 CS	Correct return
		ADDR 06 85 00 CS	Incorrect return
Shut down	ADDR 04 02 CS	ADDR 04 82 CS	

Note: the returned data of commands above is in hexadecimal format.

· ADDR is machine address.

· When the position is 1, it starts from the top, and if 0, from the tail. Default to the tail. (The sensor length is in the program, when it starts from the top, you can set it to the tail by adding this length.)

· CS is the check byte,which is the sum of all the previous bytes, reverse and add 1 when return.

In the return data of single measurement and continuous measurement, the contents in quotation mark are data, and the format is ASCII. For example: 123.456m will be displayed as 31 32 33 2E 34 35 36

ADDR default to 80(128)

The commands to read data is shown below when the sensor is factory set.

Single measurement: 80 06 02 78

Continuous measurement: 80 06 03 77

Shut down: 80 04 02 7A

Set address: FA 04 01 80 81

Revise distance: FA 04 06 2D 01 CE -1

FA 04 06 2B 01 D0 +1

Time interval(1S): FA 04 05 01 FC

Set starting point: FA 04 08 01 F9 top

FA 04 08 00 FA tail

Set measuring range: FA 04 09 05 F4 5m

FA 04 09 0A EF 10m

FA 04 09 1E DB 30m

FA 04 09 32 C7 50m

FA 04 09 50 A9 80m

Set frequency: FA 04 0A 00 F8

FA 04 0A 05 F3 5

FA 04 0A 0A EE 10

FA 04 0A 14 E4 20

Set resolution: FA 04 0C 01 F5 1mm

FA 04 0C 02 F4 0.1mm

Set measurement starts when powered on: FA 04 0D 00 F5 Disable

FA 04 0D 01 F4 Enable

Single Measurement(Broadcast) FA 06 06 FA

Read cache: 80 06 07 73

Control Laser: 80 06 05 01 74 On

80 06 05 00 75 Off