



LeiShen Intelligent System

LS LIDAR

Obstacle Detection Sensor / Anti-Collision LiDAR

MODEL: W050C SERIES



1.Introduction

LS Lidar W050C obstacle detection LiDAR is designed for the purpose of Collision-avoidance for AGV/RGV/Robot and Area Security.

W050C provides 15 areas for users writing and download detection area into laser scanner. users can choose one detection area as its working detection area through inputting 4 switching value signals.

W050C has 5m detection range within 270 degree scan limit which enables users to free-set the detection area according to actual environment.



Product Image

Features:

W050C adopts TOF principle which is spinning inside and realize 5m detection range within 270 degree. The Scan frequency is 3-11Hz, Scan Angular resolution is 1 degree.

Setting laser scanner detection area by connecting PC's software with USB, each area can set 3 kinds of shape output.

Detection area can be selected by inputting switch value signal (15 detection patterns can be stored at most)

The front of the W050C represents the 0 degree Angle

Application:

AGV Collision-avoidance.

Movable robot Collision-avoidance

Security- Area Protection.



Parameters

Power supply	24VDC (9-28VDC)
Supply current	<300mA
Light source	Laser (Class 1)
Detection range	Able to free set detection area within 5m range and 270° scan angle.
Area Settings output 1	Able to free set within 5m range and 270° scan angle.
Area Settings output 2, 3	Straight setting/Fan-shaped setting/Ratio setting
Output	NPN Open Collector; 1,2,3 : Low power level=Detected obstacle; output fault; High Power level= normal operating condition
Input (1-4)	OCI input, Can be used to switch monitoring area
Detection area Settings	Detection area shifting : Set detection area through inputting [1,2,3,4]
Output response time	<150ms(Scan speed 1rec/100ms)
Input response time	Period: 100ms
Indicator	The yellow light glittering indicates the system operating; The red light glittering indicates obstacles be found in the area
Cable length	1m
Service life time	50,000 hours

2.Electrical Connection

Interface

D-sub port connect to electrical cable,One end is a 15-pin d-sub socket,other end is 15 discrete wires.

Below table is the definition of these pin.

Color	Signal	Color	Signal
White	OUT1 (Outmost layer)	Green	IN1
Grey	OUT2 (Middle layer)	Yellow	IN2
Orange	OUT3 (innermost layer)	Pink	IN3
Purple	Fault output (motor and data failure)	Light Blue	IN4
Brown	VCC	Red	COM+
Blue	GND	Black	COM-



***during the test, if only VCC, GND, COM+ and COM- are connected, if there is no input for IN1,IN2,IN3 and IN4, the default setting field should be AREA 15.**

Setting field is set by inputting switching value of the corresponding field set.

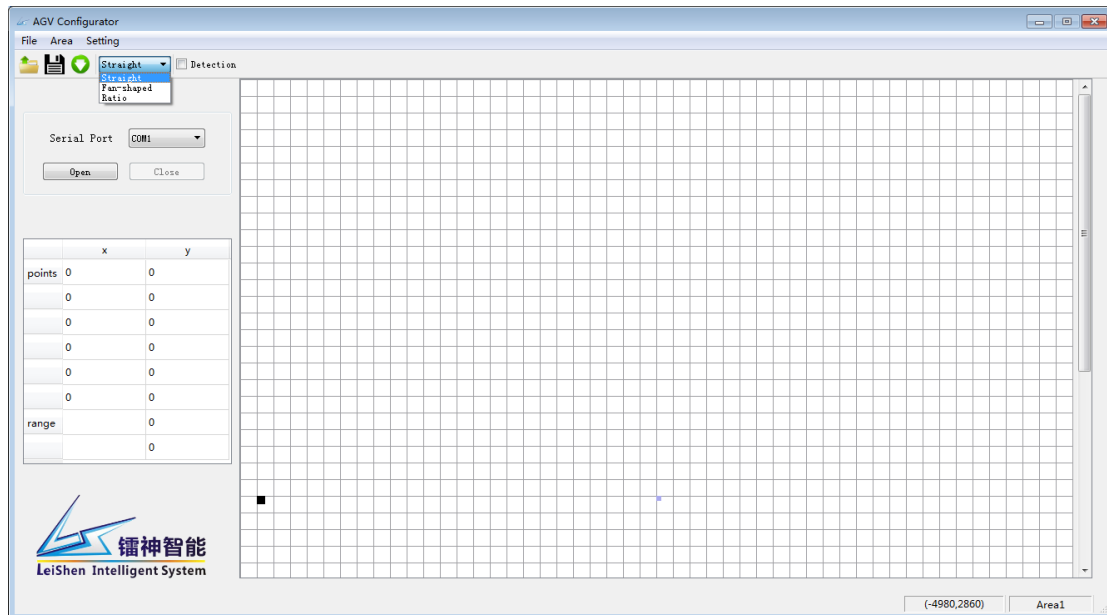
Field set	Input Signal			
	IN4	IN3	IN2	IN1
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1



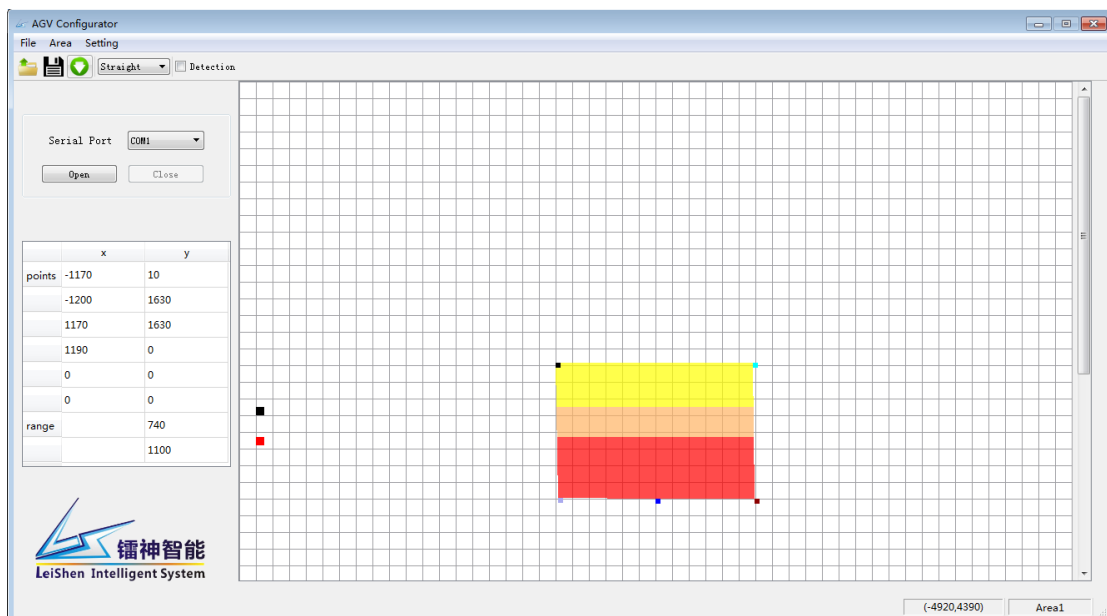
3. Software Quick Guide

1. For the same peripheral region, there are three types way of alarm area Settings.

- (1) Straight
- (2) Fan-shaped
- (3) Ratio

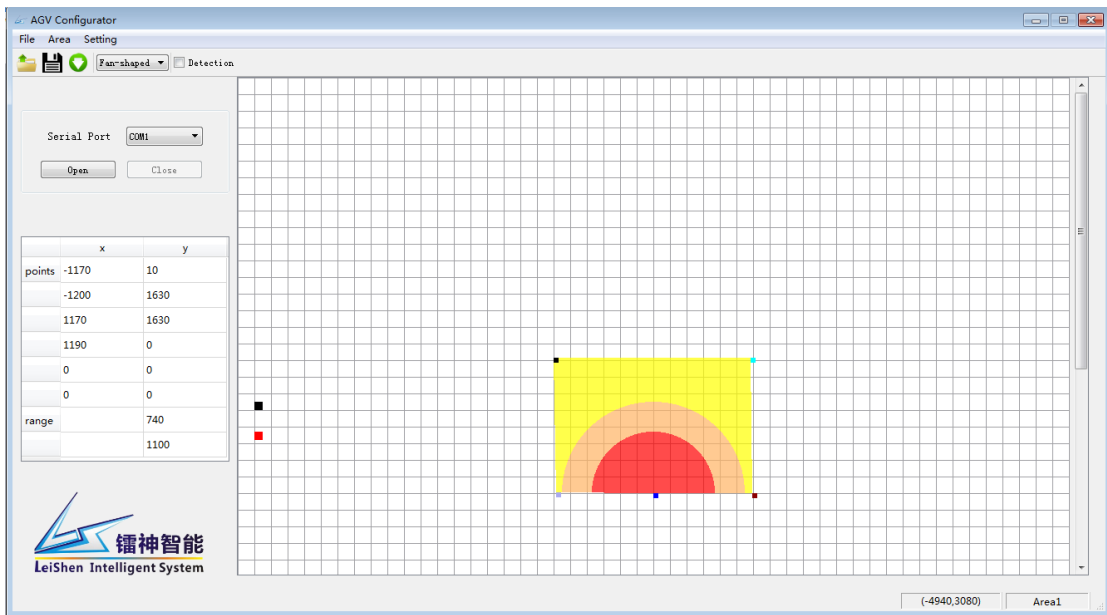


Picture 1 Selecting the shape

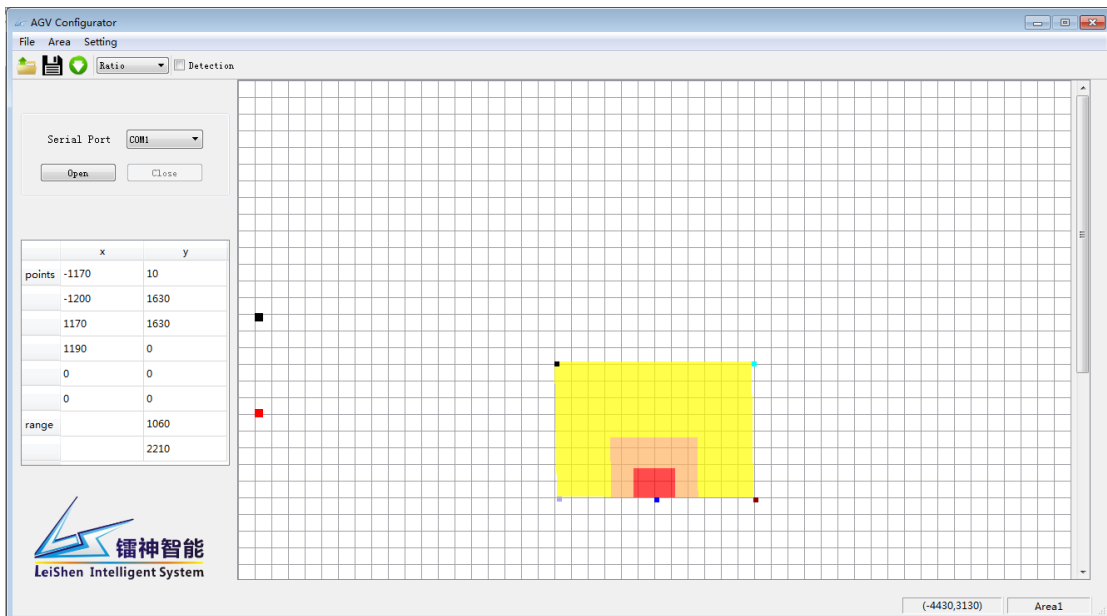


Picture 2 Straight shape setting





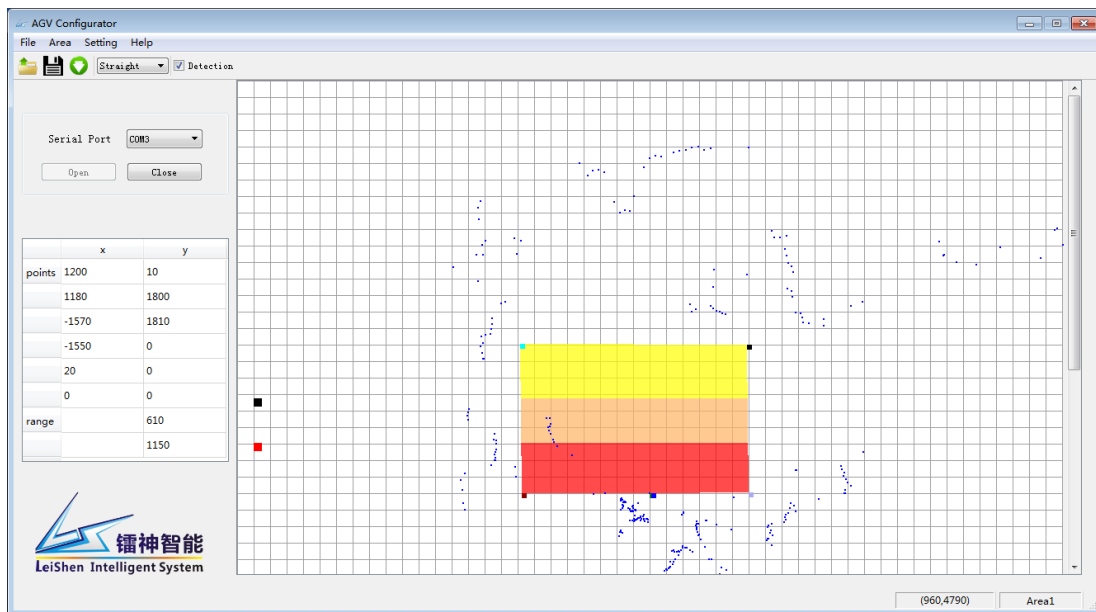
Picture 3 Fan-shape setting



Picture 4 Ratio shape setting



2. Click “open’ to turn on UART and click” ” beside “detection” then the real time points cloud information will display on the screen.



Picture 5 Connect to show real time detection

