ThermalTronix

TT-1025EX-MIL

Thermal Imaging System

User Manual

Intellisystem Technologies S.r.l.
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Content

Security informations

The security points below will ensure the explorer system against operational damagement.

1） please read the operation manual and the security information; please follow the operation manual to install the thermal imaging system.

2) Please keep the system in a optimized condition while it is not in use.

3) Please obey the security information; otherwise, the warranty will be invalided.

4) Please ensure the system is out of power when installing the imaging system.

5) Please keep the lens and the display clean, or the quality of displayed images will be decreased.

6) Please do not put the screen in water or humid environment. For other protection, please do not disassembly the external pretection shell.

7) Please use the indicated power supply connecting the system.

8) Please do not disassembly the thermal imaging system without authorized permit.

Using limits

The Explorer can be applied in the conditions below：

—the system is an additional optic imaging system for driving conditions, it can not be used instead of driver’s eye, this may cause trafic accident.

—the system can not detect the targets which have the same temperature as background, the system can not distinguish brake signal, turn light signal, or other trafic light signals.

— storm, fog or other severe environment may influence the image quality.

— The system is a two dimension image.

—The system can not be used under the temperature of lower than－40℃ or higher than +75℃, otherwise the system may be damaged.

Introduction

The thermal imaging system is a traffic used product developed by Intellisystem Technologies Company. The product uses uncooled bolometer FPA and real-time imaging circuit; it is suitable in low light or night environment application. The product can warn the driver with objects, which can not be seen by human eyes, it will not influenced by car lights.

Outlook

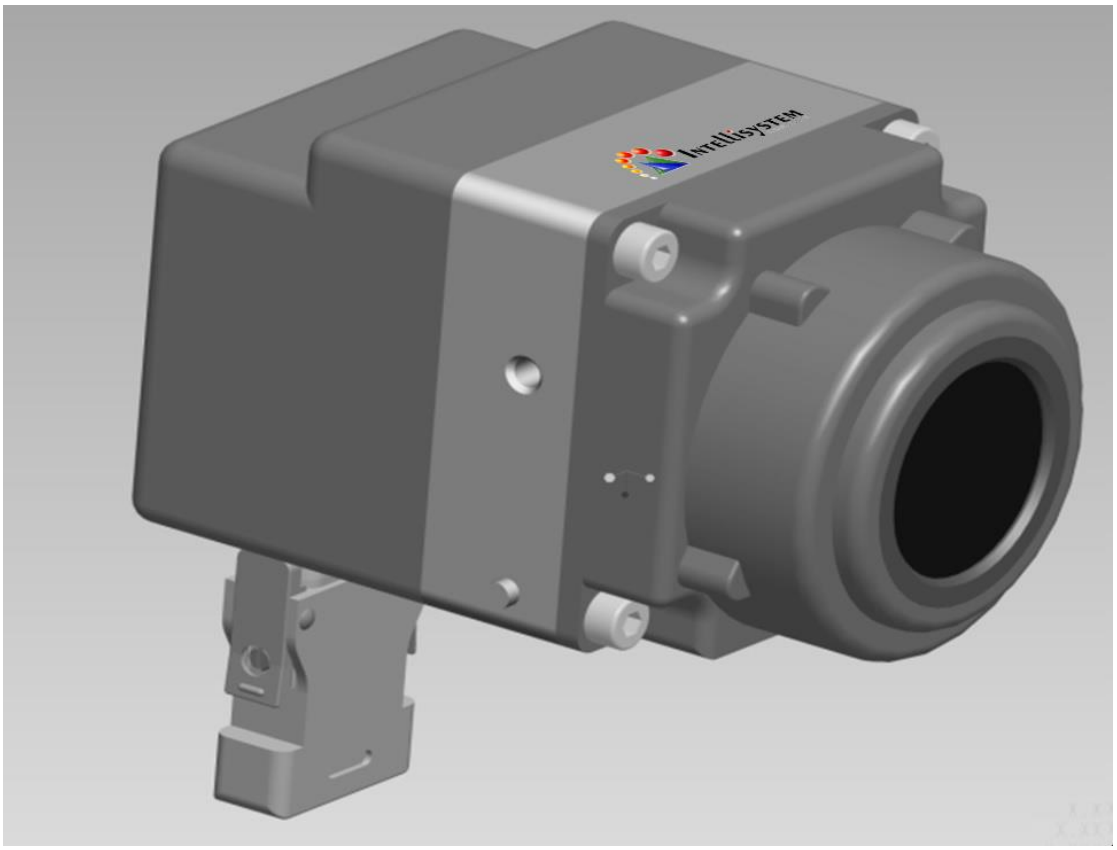

Figure 1 TT-1025EX-MIL thermal imager

Technical specifications

Items		*ThermalTronix* TT-1025EX-MIL
Detector	Detector	Uncooled bolometer
	spectrum	8～14μm
	Pixal arrays	384*288
	Resolution	35μm
	F.O.V	33°× 25°（35μm）
	I.F.O.V	1.84 mrad（35μm）
	NETD	≤100mk@30℃（35μm）
	Image frequency	25Hz
	focusing	Fixed focus（≥25m）
System	Starting up time	≤15
	Automatic heater	Turn on when the temperature ≤+4ºC
Working distance	Target	Environment：15℃，1atm， 10Km，60％RH
	Car (35μm; 2.3×2.3; 2)	Detect：620m, Recognise: 160m, disting: 98m
	Car (35μm; 1.8×0.5; 2.5)	Detect：210m, Recognise: 70m, disting: 30m
Image display	Image output	PAL
Power	Power supply	8～15VDC
	Consumption	<3.5W
Environment	Temperature	Operating：-40℃ ~ +60℃ Storage：-45℃ ~ +65℃
	Humidity	Relative humidity 81%
	Water resistance	IP67
	Defreezing	Condition:-30℃,wind speed:100Km/h, defreeze 2mm ice in 15 minutes
	Impact	30g/11ms,half sine wave, 5 times, 6 dimensions
	Vibration	Frequency：5～5.5Hz，25.4mm（p-p） Frequency：5.5～200Hz，1.5g 3 times at 3 dimensions
Weight		<600g
Size		<60×60×95mm
Electromagnetic compatibility		Compatible with embedded system
Color		Black
Software process		Anti-wobble imaging with stabilizing and balancing

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Accessories

The accessories includes:

Items	Quantity
Operation manual	1
Security case	1
Inner case	1
Thermal imaging system	1
Screen	1
Installing pack	1
Connecting cable	1

Interface

The imaging system includes screen interface, external power, and car power supply cable.

1. Power supply
   a) Car power supply

Figure 2 Car power supply cable

   b) Power supply：DC12V

2. Screen

Figure 3 Screen interface

   a) Display：CVBS
   b) Power：DC12V

3. Thermal imaging system output interface

Figure 4 thermal imaging system output

a) Display：CVBS
b) Power：DC12V

Installation and wiring

1. Hold the ears of the thermal imaging system interface of the connecting cable, insert the cable connecter to the 26 pin port. Make sure the connecting dimension is correct. Shown as below

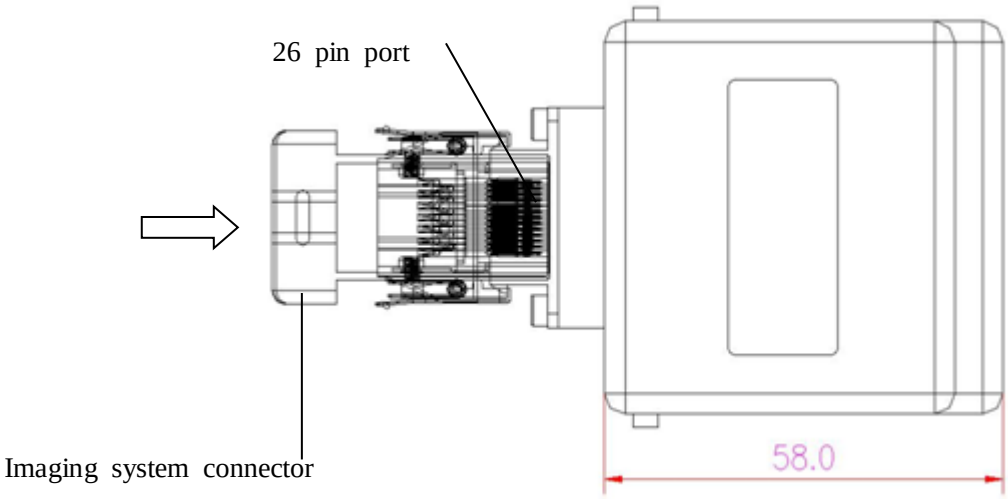

Figure 5 cable connecting

2、Use the supplied bolts to connect the installing frame and the thermal imaging system, while the frame is already fixed on the system on delivery. The size is as below

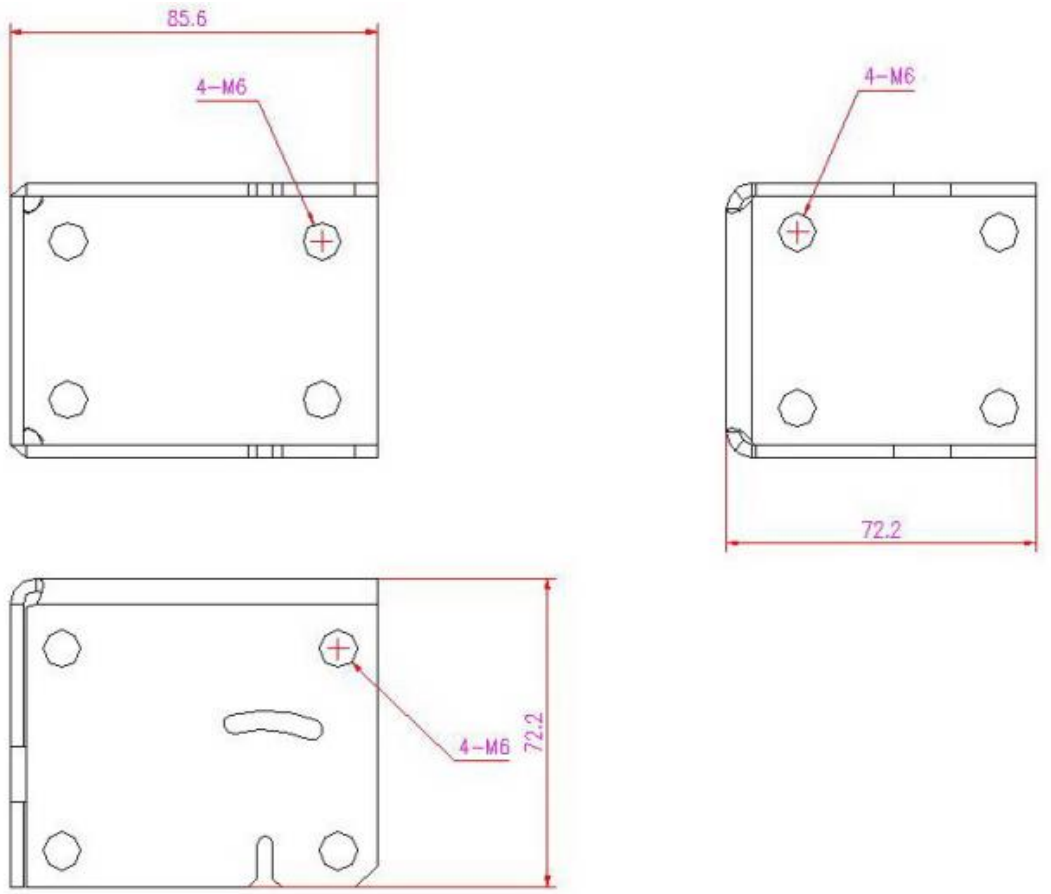

Figure 6 Frame Size

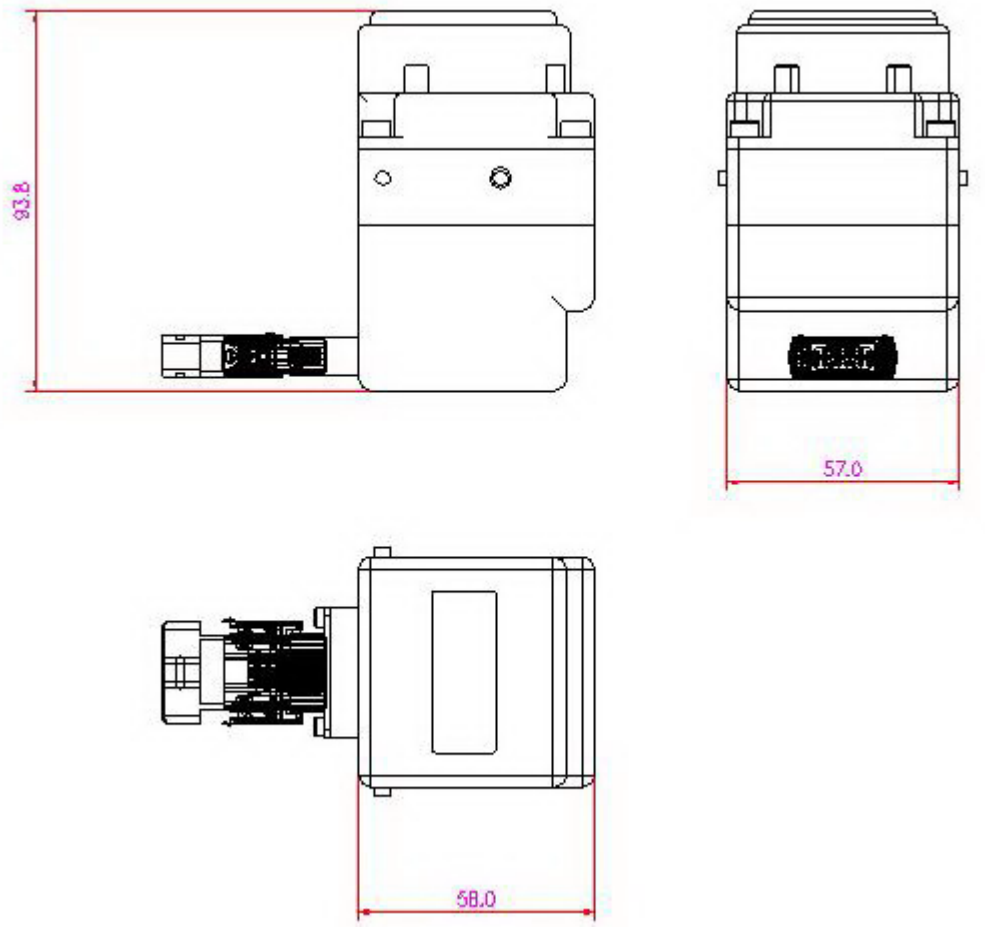

Figure 7 Thermal imaging system Size

3、Connect the cable with the video and power supply interface, the car power supply is shown as Figure 2. Turn on the power supply and wait for the screen display thermal images.

Operation steps:

1. Connecting all the interfaces with the system
2. Turn on the screen power and the car power supply; turn on the power switch on the wiring cable if needed.
3. Wait until the thermal images are displayed.

Trouble shooting

Trouble	Cause and solution
The system can not turn on	● System delay protection →wait for 5 seconds, turn on again ● Power supply not connected →check the power supply ● The screen not turn on →check the screen interface
Imaging system turn off automatically	● The power supply did not connect firmly →check the power supply
No thermal images or contrast is low	● Protection mode →take off the car power supply, wait for 15 seconds, insert again ● The lens is contaminated →clean the lens
No images after 2 minutes	→contact us
The window is broken	→contact us