



TR257 PIR Detector Module

Detector module including lens, sensor and electronics, with digital output.

Applications:

Industrial control, Lighting switches, People detection and Intruder Alarms

1. DIMENSIONS & DETECTION ZONES

See Fig. 1, 2

2. MODULE STRUCTURE

Passive infrared sensor, Fresnel lens and electronic components mounted on a PC board.

3. OUTPUT

NPN Transistor (Open Collector, active low)

4. GENERAL DESCRIPTION

This module can detect infrared rays emanating from a moving human body in a specific area.

5. ELECTRICAL CHARACTERISTICS

5-1 SENSITIVITY

This module is designed to detect a human body or similar heat sources under these conditions :

Item		Unit	Notes
Installation height of module	1	m	
Heat source temperature difference	3 to 5	deg C	from background
Moving speed of heat source	1.0	m / Sec.	
Direction of movement	90	degrees	at central detection zones

5-2 MAXIMUM RATINGS

Item	Symbol	Min.	Typ.	Max.	Unit
Breakdown voltage				15	V _{DC}
Operating Temp.	T _{OPR}	-20	-	50	deg C
Storage Temp.	T _{STG}	-30	-	70	deg C

5-3 ELECTRICAL CHARACTERISTICS

(at 25 deg C, V_{CC}=5.0V if not specified otherwise)

Items.	Symbols	Min.	Typ.	Max.	Unit
Operating Voltage	V _{CC}	4.75	5	10	V _{DC}
Supply Current	I _{CC}	-	1	2	mA
Stabilizing time of module	T _{ON}	-	15	30	Sec.

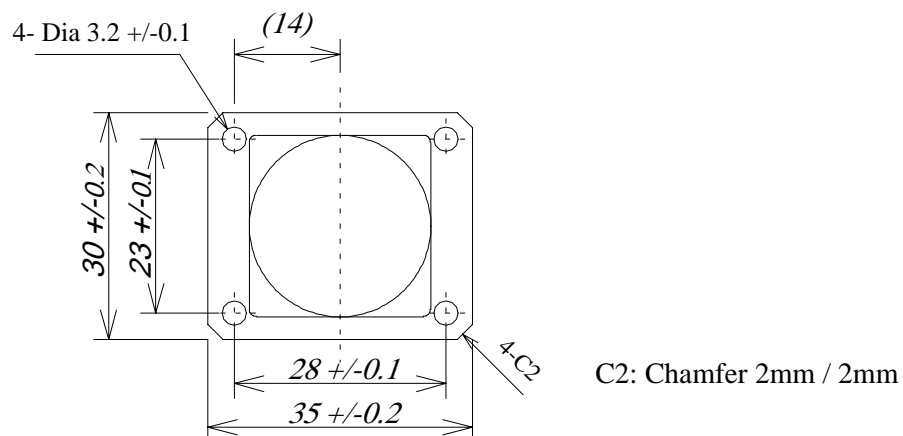
After power supply turn-on, the output is locked in the active state during T_{ON}.

6. CAUTIONS

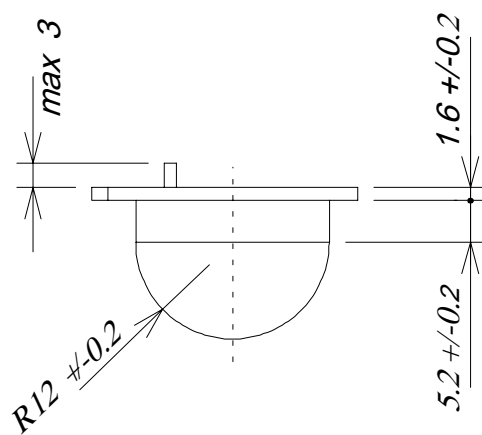
1. This module detects a change of infrared energy. This module does not only detect a moving human body but also other heat sources similar to human temperature.
2. This module cannot detect the presence of a human body if it does not move.
3. This module detects changes of infrared rays through the Fresnel lens.
Detection areas and range depend on its surface condition.
4. To prevent malfunctions, operational failure or any deterioration of its characteristics, do not use this module in the following, or similar, conditions :
 - rapid ambient temperature changes
 - strong shock or vibration
 - high humidity and temperature

Unit troubles resulting from misuse, inappropriate handling or storage are not the manufacturer's responsibility.

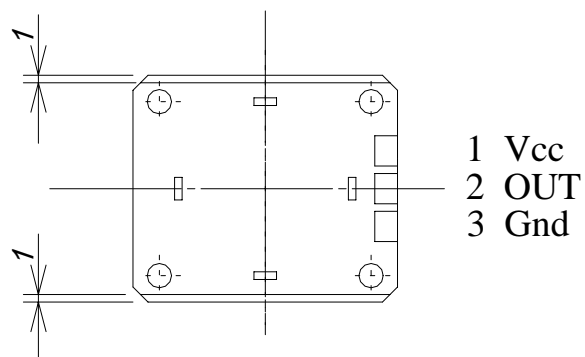
TOP VIEW



SIDE VIEW



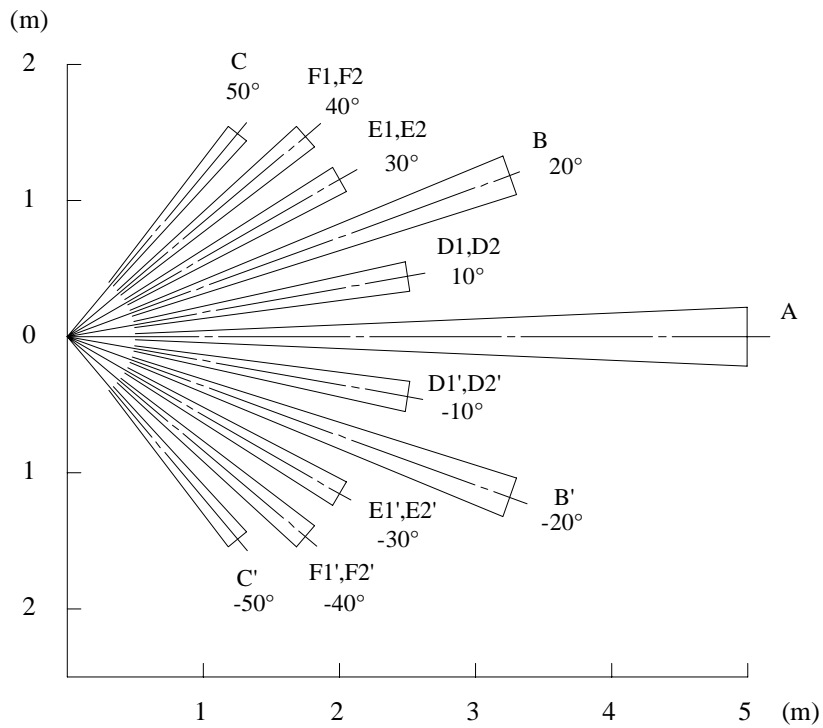
BOTTOM VIEW



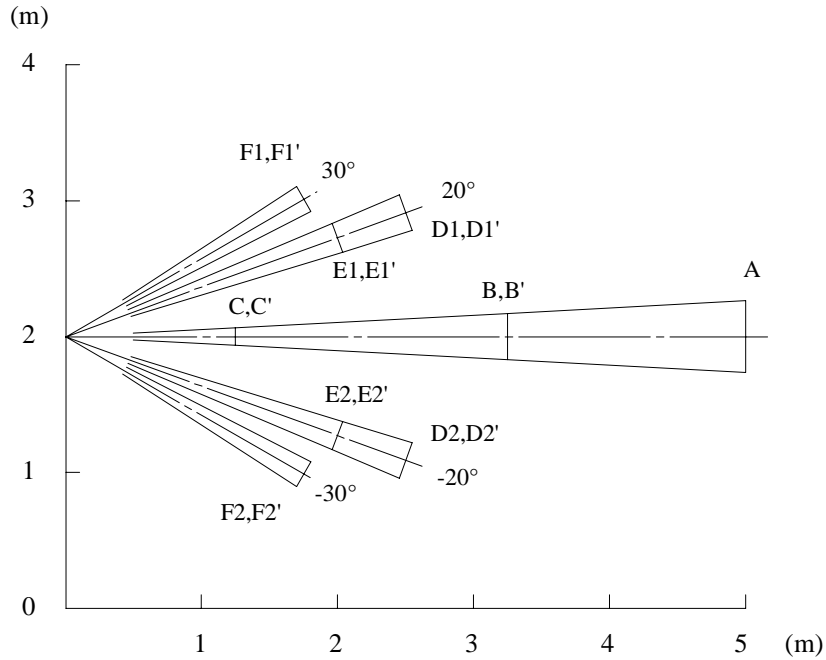
unit [mm]

Fig.1

DETECTION AREA



Horizontal



Vertical

Fig.2