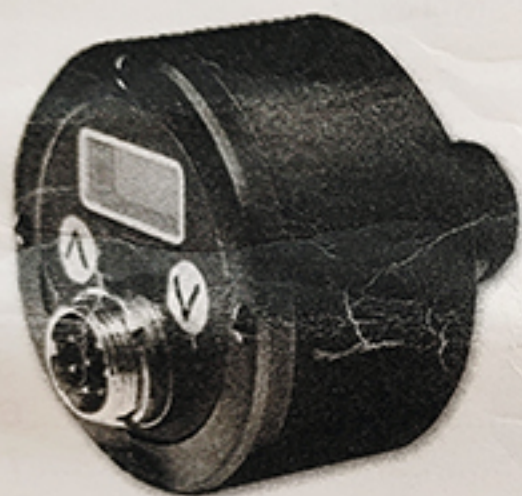


*4-20 mA output infrared temp.*

# IR TEMP TRANSMITTER



Your purchase of this IR TEMP. TRANSMITTER marks a step forward for you into the field of precision measurement. Although this meter a complex and delicate instrument, its durable structure will allow many years of use if proper operating techniques are developed. Please read the following instructions carefully and always keep this manual within easy reach.

**OPERATION MANUAL**

### 3. FRONT PANEL DESCRIPTION

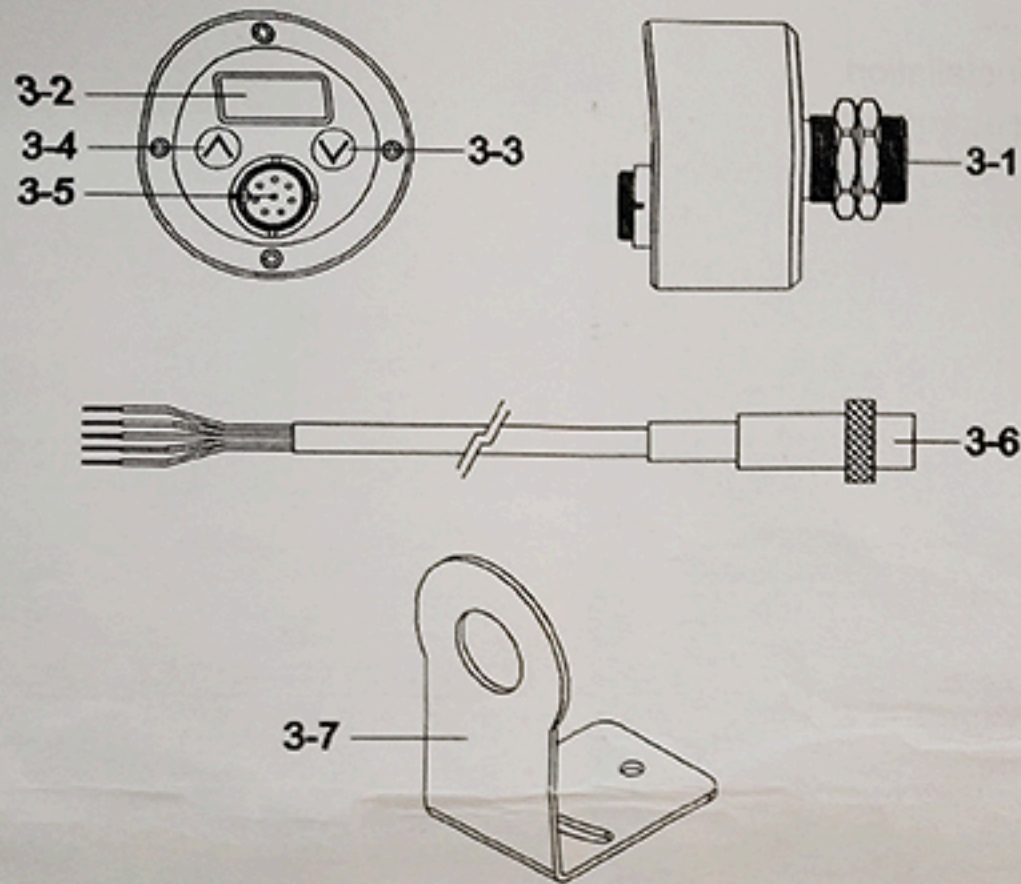


Fig. 1

- 3-1 IR Sensing Head
- 3-2 LCD Display
- 3-3 down (V) key button
- 3-4 up (^) key button
- 3-5 Cable connector
- 3-6 Output Cable
- 3-7 metal fixed plate(MTL-01)

### 4. CURRENT LOOP AND TARGET TEMP.

The following table shows the relationship for the Current Loop Output with the Target Temperature. The different Current Loop Output is corresponding to the relevant target temperature.

Table 1: Current Loop Output & Target Temperature

Code	Current Loop Output mA	Target Temp ( °C / °F )
1	4.00	0°C/ 32°F
2	6.66	100°C/ 212°F
3	9.33	200°C/ 392°F
4	12.00	300°C/ 572°F
5	20.00	600°C/ 1112°F

### 5. MEASURING PROCEDURE OF IR TRANSMITTER

#### 5-1 IR Transmitter Wire connection

The following diagram and table show the proper wiring connections. Each wire is numbered with the number and the relative color. Please follow the function guide when you connect the wire.

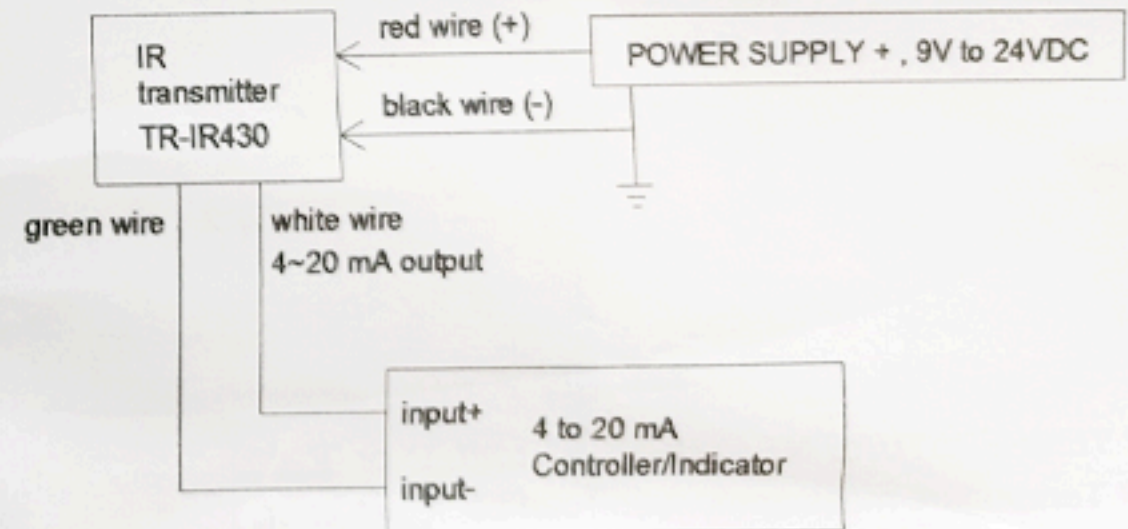


Table 2 : Wire Color & Connection Indication

Wire No.	Wire Color	Label	Function
1	Red	CLP	24VDC Power plus(V+)
2	Black	CLM	24VDC Power minus(V-)
3	White	OUT	DC Current 4~20mA signal(+)
4	green	OUT	DC Current 4~20mA signal(-)
5	bare		Shield Ground

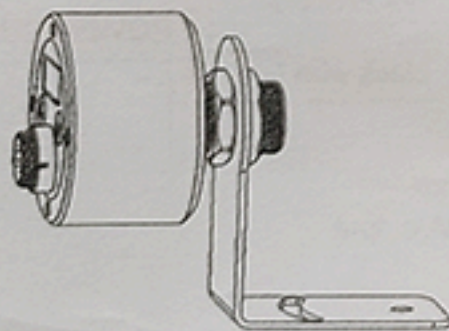
**Warning :**

**Please pay the special attention to the wire connection for the Red (V+) and Black (V-). Please take care that white wire can not be linked with any Power line (Red (V+), Black (V-)), and the White wire is current output connecting to controller input, The controller wire please connection to power line Black .**

**5-2 IR TEMPERATURE MEASUREMENT**

The IR transmitter sensing head"(Fig1 3-1)" alignment temperature source to do the temperature measurement ,at the same time the measure value will show in the pannel meter,s.

When the IR transmitter measuring, if need to be fixed, please combined the "(Fig1 3-7)" and "(Fig1 3-1)" as Fig, 2 .



Fig, 2

**5-3 IR TEMPERATURE MEASUREMENT unit °C or °F**

The IR Temperature measurement unit can be select °C or °F How to select the measurement unit, please ref. p6

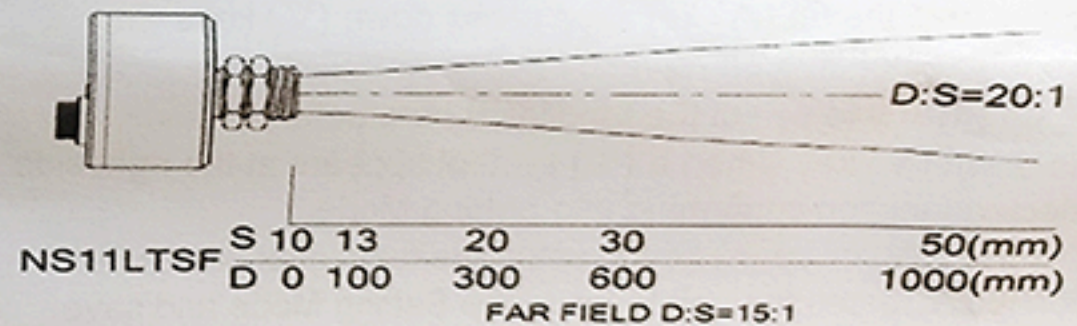
**6. MEASURING CONSIDERATION OF IR TRANSMITTER**

**6-1 EMISSIVITY SET**

The IR Transmitter sensing energy and calculates the temperture based on the amount of IR energy it receives . The IR Transmittersenses can be adjustment emissivity value 0.100 ~ 1.000, adjustmet ref. p6 The default emissivity of this instrument is set 0.95 at the factory which will cover 90% of the typical applications.

**6-2 Measurement Field distance / Spot ( d/s ) value**

The optical diagrams indicate the target spot diameter at any given distance between the target object and the sensing head. The spot size will change in longer distance corresponding to the following drawing. In order to prevent measuring errors the object must be as least as big as the spot size.



**6-3 Disturbance**

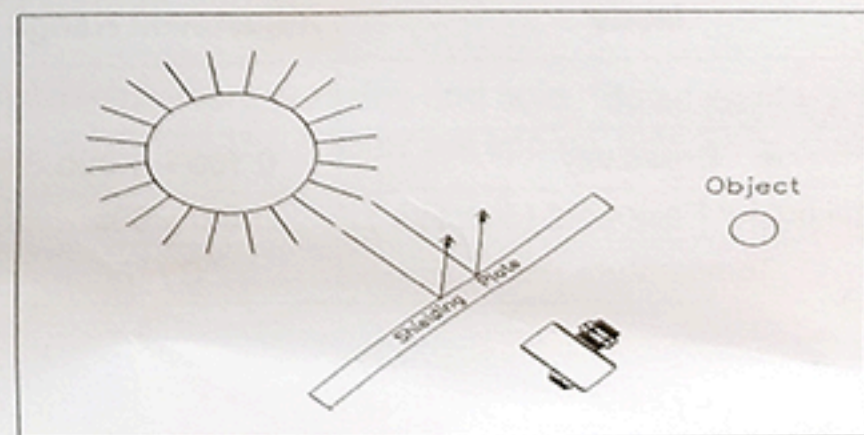


Fig. 2.

Under certain measurement case, if the object is adversely effected by powerful infrared energy radiated jorm nearby objects having high *emissivity or high temperature*. For example, when such objects are measured in aunlight, erratic measurements can result due to powerful radiated energy from the sun reflecting on the surface of the objectand entering the sensor, then in order to get the exact measuring temperature value, it should install a shielding plate as above Fig. 2.

#### 6-4 Special Surfaces

- \* If the surface to be measured is covered by frost or other material , clear it to expose the surface.
- \* If the surface to be measured is highly reflective, please adjustment emissivity to match your test substance.

#### 6-5 Special Setup

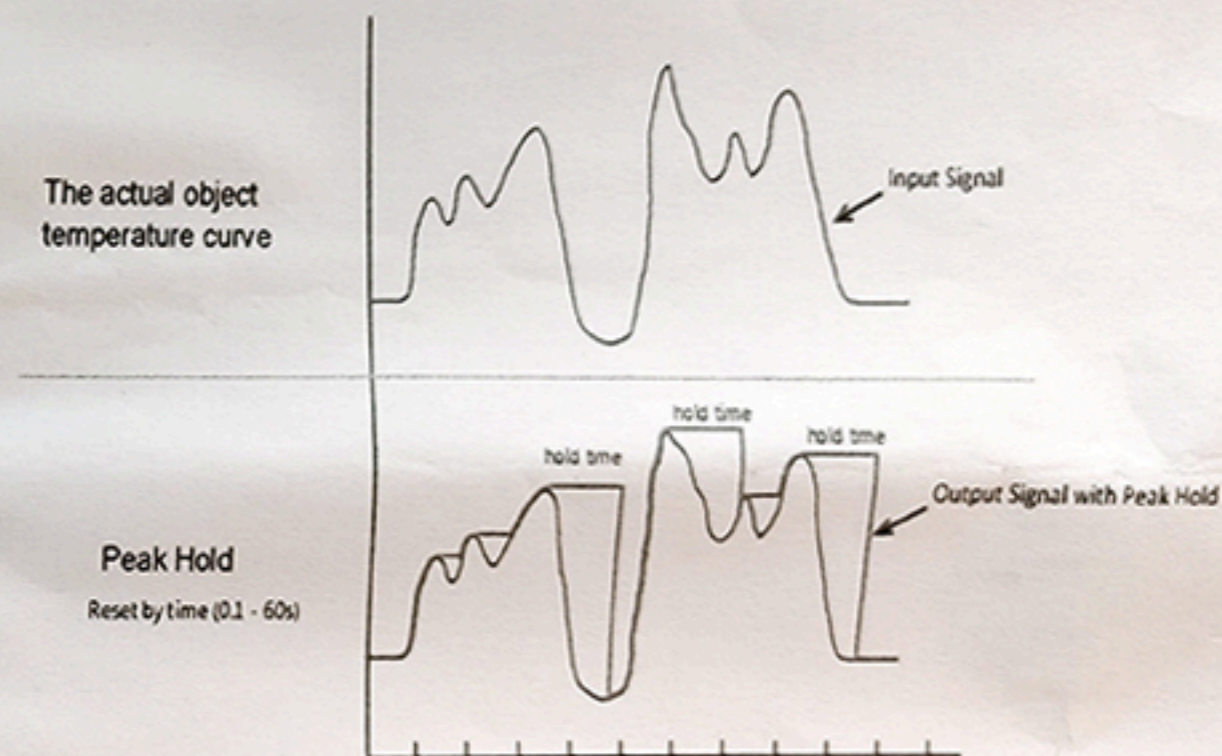
1. Pressing and hold the up ( $\wedge$ ) key then press down ( $\vee$ ) keys will enter setup function then release key.
2. Press the up ( $\wedge$ ) key to select the functional parameter.
3. Press the down ( $\vee$ ) key, when a ( - ) symbol appears at the right side of the selected function confirming into Setting Mode.
4. Press the down ( $\vee$ ) or up ( $\wedge$ ) key to setup the functional parameter.
5. No action for 7s forces the unit to leave the Setting Mode and save the parameter

Display	Mode	Adjustment Range
E 0.950	Emissivity	0.100 ~ 1.000
P 0.0	Signal output Peak hold ( inactive )	0.0 ~ 60s
Unit C	Temperature unit	$^{\circ}\text{C} / ^{\circ}\text{F}$

#### 6-6 Peak Hold

The mode allows the sensor to continue outputting the highest temperature for a particular time interval until it is exceeded by next higher peak. The signal output will hold the maximum value for the specified hold time (0.1-600s). Once the hold time is exceeded, it will reset and resume tracking the object temperature until a new peak is reached and the algorithm will start over again.

**Remark:** The function can be applied to Stability application



#### 6-7 Factory Default Setting :

Durring the measurement pressing and hold "down key ( $\vee$ )" then press the "up key( $\wedge$ )" The display will appear INIT for confirmation then release key.