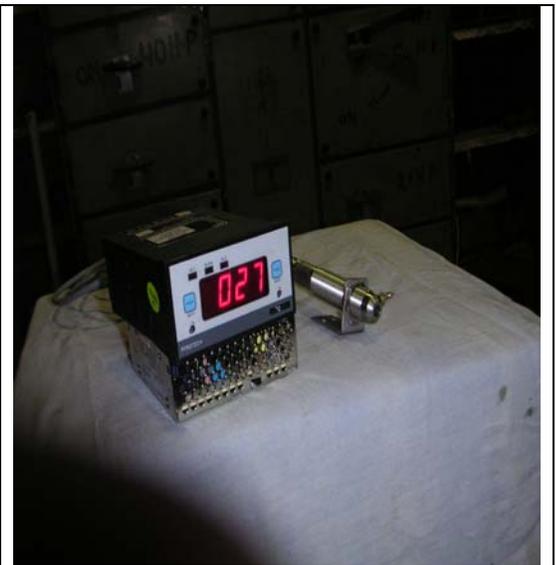


IRNC System :

- The Non Contact on line Temperature Monitor with Display and Relay output for Fluid Couplings and other machines.
- Continuous temperature monitoring with two set point (alarm & trip) is of great value for safety of fluid couplings and other machines.

Besides fluid couplings the IRNC can be used for continuous temperature monitoring of wide range of industrial machines and equipments like gear boxes, motors etc.



Specific advantage in monitoring temperature of fluid couplings.

- Good protection co-ordination with three step protection of IRNC and fusible plug.
- The main drive can be tripped or annunciation provided as soon as oil temperature rises above preset value. This ensures safety of fluid coupling.
- The fusible plug is not blown off and therefore expensive oil spillage of large quantity of oil is avoided. The hot oil spray can be an expensive fire hazard and accident hazard due to slippery floors and injury to workmen. Thus IRNC system is of great value saving cost of oil and providing valuable safety and environment protection.
- If the coupling continues to run after fusible plug blow off for few minutes, then the bearings of fluid coupling can fail and cause major damage to fluid coupling. IRNC system does not allow fusible plug blow off and thus saves the fluid coupling from damages.
- The coupling heats up due to various reasons including overload / jamming of driven machine. The IRNC detects such overloading indirectly by temperature rise of fluid coupling. Such overloading can cause very expensive damages to the driven machine or transmission line equipments like gear boxes. IRNC system can give pre-waning thus avoiding above expensive damages due to overloads.

The IRNC system comprises of stationary infrared Non-contact pyrometer and a precision temperature controller. The Pyrometer detects the emitted heat energy from the on body whose temperature is to be monitored and such body can be a rotating body like a fluid coupling or a stationary body like motor or gear box or any other machines. For fluid couplings the IR sensor can be kept at a distance between 200mm to 1000mm.

For other machines besides fluid couplings the infrared sensor can be mounted at any distance varying from 50mm to 1000mm and the corresponding spot size will be 2.5mm to 50mm.

Where the environment is dusty the infrared sensor is recommended to be used with integrated air purge.

The air purge is required as follows:

Pressure: 0.5 Bar
Volume: 1M³/Hour (16.7lit/min)

The IR Pyrometer sense the temperature of the body and gives voltage output (10mV/Deg.C). A solid state base unit processor gives a relay output on reaching preset value of temperature. Two set points of temperature are available which can be used for alarm and trip.

Pyrometer works on 24 V DC . A DC source input of output 24V DC is supplied alongwith the system.

The IRNC system is available in two set point temperatures which can be used for alarm and trip. These temperatures can be pre-set on the base unit having a 3 ½ digit digital display which continuously indicates the temperature of fluid coupling or the body under monitoring.

Technical Specifications:

Sensor	
Temperature range	0-300° C
Response time	300ms
Repeatability	1% of measured value
Accuracy	Within 2.5° C
Ambient temperature	(-) 30° to 65° C
Protection	IP 65
Housing	Stainless steel
Mounting	Bracket mounting
Temperature controller With DC Source	
Input Voltage to DC Source	90 to 250AC single phase 48-63Hz
Output Voltage of DC Source	24V ± 25%
Speed Range of body monitored	Stationary to any speed (independent of speed)



The system can be used for monitoring temperature of any material of non-metallic surface, liquid, painted/coated or anodized metals. However temperature of shiny metal surfaces cannot be measured with this instrument.

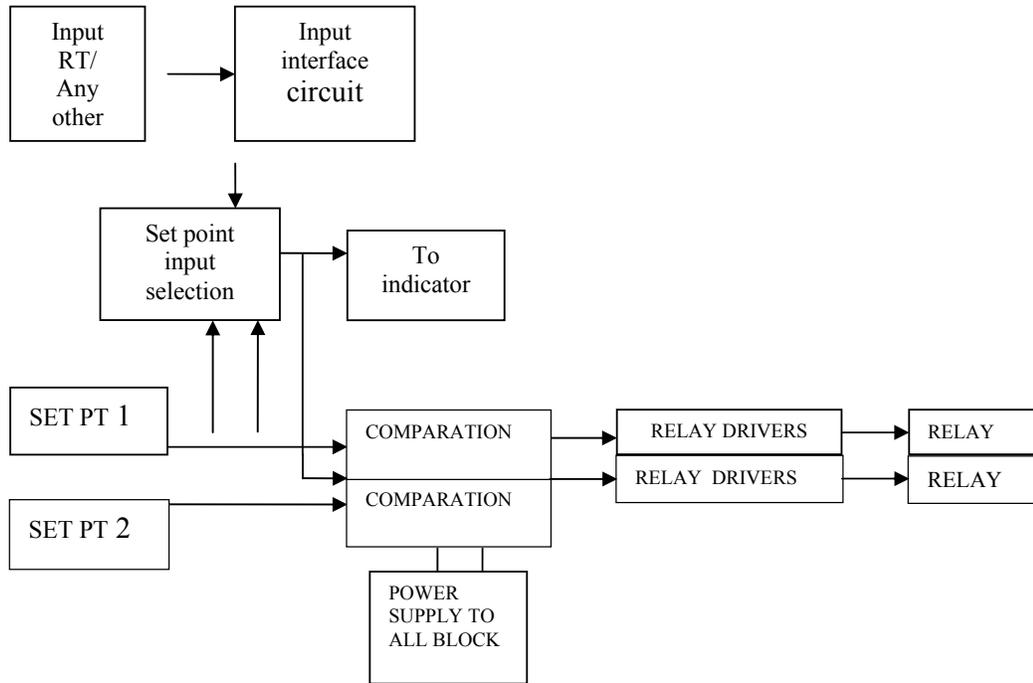
The infrared radiation Source & Sensor of IRNC system are easy to use stationary instruments for non contact surface temperature measurement in the temperature range between 0°C and 500°C. They are integrated in a rugged stainless steel case with outside thread and fully suitable for industrial use.

For connecting the device see the table below. Especially pay attention to the correct color assignment of the wires. The wires of **24V dc power supply** are protected against being connected wrong way round and additionally marked with a **red isolation**. Screen is usually connected at the device end only and is left unconnected at the user's end of the cable. It is possible to operate several devices at the same supply voltage unit. In this case the signal outputs must not have galvanic connection to each other or to the supply voltage.

On large changes of ambient temperature the device needs about 10 min to compensate.

Connection	Colour/Type mV
Signal /output +	Yellow
Signal/Output -	Green
Power +	White
Power -	brown
Screen	black

Block diagram.



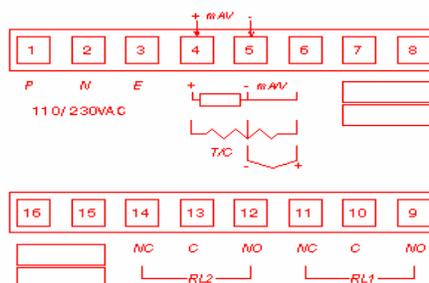
For decimal point (Display PCB)

Switch	Decimal Point
1 ON	Tens Place
2 ON	Hundred Place
3 ON	Thousands Place

Supply	L1	L2	L3
230 VAC	Shot	Open	Open
110VAC	Open	Short	Short

Feather Touch Controller (48x96)

FEATHER TOUCH CONTROLLER (48x96) ABS.





INSTALLATION & COMMISSIONING:

1. Connect the AC supply to terminals 1, 2 with 3 as earth as shown in the connection diagram.
2. Connect the input as shown in connection diagram take care that the connections are with proper polarity.
3. Switch on the AC power supply.
4. The C/O output can be taken as shown in the connection diagram.

OPERATION /CALIBRATION OF TEMPERATURE CONTROLLER

1.	After connecting supply and input press SET 1 push button continuously to adjust 1 st Set point by pot set. 1. The indication at the time displays 1 st set point (Alarm, High Low Relay
2.	1. Release push button SET1 and press push button SET2 continuously to adjust 2 nd set point by pot set. 2. The indication displays 2 nd set point (Trip, Very High, Very Low, Relay
3.	On releasing both push buttons input is displayed.
4.	Relay for alarm and trip are in fail safe mode (i.e they are On in normal condition). In abnormal condition relays goes OFF & LED's come ON.
5.	On open sensor the center (Burn) Led Shall come ON and relay corresponding to alarm shall go OFF.
6.	Chattering is totally avoided by electronic delay circuits inside.
7.	In case of fault, the instruments are front openable.