	Service Information Letter		SIL # 019
Equipment:	All Raytek IT probes	Date Issued: Revised:	4-26-2004 6-21-04
Additional Reference:	Raytec TX operation and service manual.	Revision #:	2
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PURPOSE:

The purpose of this letter is to provide a parts list and instructions for replacing the obsolete Raytek IT series infrared probe with the new Raytek TX probe. It will also include set up instructions for the TX probe.

PARTS REQUIRED:

Quantity	Astec Part #	Description		
1	068172	Probe, infrared		
1	068173	Lens, protective		
1	064005	Collar		
1	062968	Power Supply, 24 Vdc, 1 amp		
1	063777	Rain cover		
FOR CABLES:				
For stationary or "hard wired"				
systems				
As required	001966	Belden cable 8760, (two conductor)		
For portability (plug in cable)				
As required	008781	Belden cable 9418, (four conductor)		
1	039882	Plug, 17201MO3		
1	039886	Receptacle, 17204MO3		
1	039897	Cap, plug, 17043MO3		
1	039900	Cap, Receptacle 17043MO3		
1	042609	Backshell Flange 17043MO3		
1	039890	Backshell Cable 17043MO3		
When used with a Honeywell				
controller, models 3000, 330 or 3300				
1	044432	250 ohm, 1watt, resister		

WIRING:

Turn off all power.

The new probe requires no external card, it is self contained. It operates on a 4-20 mA current loop. It does require an external power supply. The unit will work with any temperature indicator that will accept this input.

To wire in the new probe using 2 conductor shielded cable (belding) make the following connections:

Positive (+) output on the power supply goes to positive (+) on the probe (Infrared Sensor). Negative (-) on the power supply goes to negative (-) on the temperature indicator. Positive (+) on the temperature indicator goes to negative (-) on the probe.

Figure number 1, shows an example with the proper connects made.

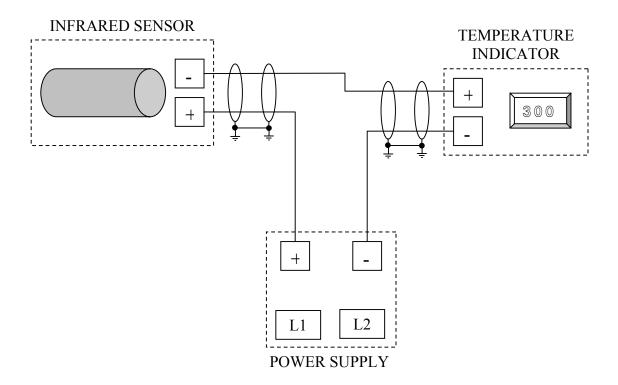


Figure #1, Proper connections.

On portable plants when the probe connection to the control house is made through a plug and receptacle, the following pin-out is standard for the aggregate temperature. Please refer to **Table** #1.

WIRE	Shield	TC1+	T6A	Spare	Spare
PIN NUMBER	1	2	3	4	5

Table 1, Wire numbers and pin connections.

GENERAL NOTES:

Under the cap on the back of the new probe are two rotary switches. These are used to set the emissivity. For most all applications a setting of 95 is desired. Lowering this number will cause the temperature reading to be higher. Raising the number will do the opposite. It is common to have to lower the emissivity when using the protective lens, and it is recommended to use the protective lens.

If using a Honeywell temperature indicator, bias may be used to fine tune the temperature reading if needed. Also, in the Honeywell units, "filter" may be used to smooth out the reading. Note; too much filtering will cause the display to become sluggish.

The new probe is high resolution. It sees a 1.8 inch target at 60 inches. The same rule of thumb applies with this probe as the old ... if you see material, it will see material.

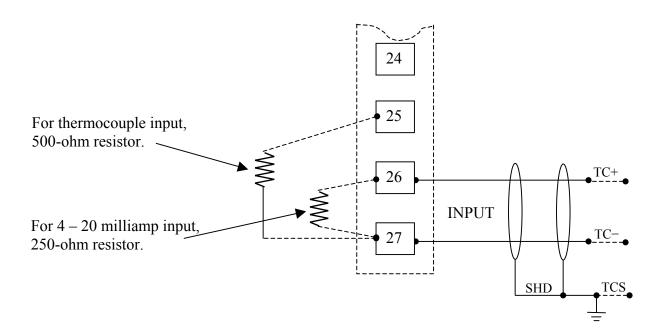
The lens on the new probe is glass, and also has a protective glass lens that screws into the end of the probe. A spare protective lens comes with the probe. If it becomes necessary to clean the lens, clean it with distilled water and a cotton swab. Try not to scratch the lens.

Run 60 lbs of air pressure on the air purge at all times. If the existing probe does not have an air purge then it will be necessary to add it. Contact the Astec Service Department, (423)–867–3754, for instructions pertaining to your particular application.

WHEN USING WITH A HONEYWELL CONTROLLER:

If replacing an old probe that is connected to a Honeywell controller:

• The existing 500-ohm resister between terminals 25 and 27, of the Honeywell, must be removed. A 250-ohm resister must be installed between terminals 26 and 27.



• The Honeywell temperature units will have to be reconfigured to accept the 4-20 ma input.

Please refer to SIL # 008 for a complete list of parameters and their values for a Honeywell UDC3300. These same values can be used in the UDC3000, DC300, and the DC330 models.