

SPECIFICATIONS

- ELECTRICAL** - 24VDC +/- 10%, 300mA with 1 S550 VH.
- ENVIRONMENTAL**
- Viewing Heads NEMA TYPE 4
 - Ambient Temperature - S550, S552, S556 VH. 0°C to +80°C
 - Case Temperature - S550, S552, S556 VH. 0°C to +60°C
 - S580 VH. -54°C to +300°C
- OPTICAL**
- IR 1.0°
 - UV 3.0°
- CABLE** (Between Viewing Head and Signal Processor)
- 4 conductor, #16AWG or #18AWG.
 - one wire shielded with braided shield for flame signal.

IR FLICKER IR HIGH PASS FILTERS

| S511 & S512 | | S550 | |
|-------------|--------|------|--------|
| LL | 36 Hz | 1 | 16 Hz |
| L | 71 Hz | 2 | 24 Hz |
| M | 105 Hz | 3 | 33 Hz |
| H | 186 Hz | 4 | 52 Hz |
| | | 5 | 75 Hz |
| | | 6 | 100 Hz |
| | | 7 | 155 Hz |
| | | 8 | 215 Hz |

IR GAIN

| | |
|---------|---------|
| IR Gain | 0 - 699 |
|---------|---------|

UV GAIN

| | |
|---------|--------|
| UV Gain | 0 - 99 |
|---------|--------|

SPECTRAL RESPONSE

| | |
|----|-----------|
| UV | 190-215nm |
|----|-----------|

| Model # | Type | Gas (Hydrogen, Propane, NG) | Gas Low NOx Burners | Oil (Heavy Oil - air & steam atom) | Low NOx Pulverized Coal |
|---------|-------|---------------------------------|-----------------------|------------------------------------|---------------------------------|
| S550 | UV/Ge | Disc Excellent | Disc Good | Disc Excellent | Disc Excellent Sig Very Good |
| S552 | Ge | Disc good Sig Good | Disc None Sig Fair | Disc Very Good Sig Good | Disc Good Sig Good |
| S556 | UV | Disc Excellent Sig Very Good | Disc Good Sig Good | Disc Excellent Sig Poor | Disc Excellent Sig Very Poor |

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IRIS



FLAME MONITORING SYSTEM

S550, S552, S556 VIEWING HEADS



WORLD LEADER IN FLAME MONITORING

S550 GENERAL DESCRIPTION

The IRIS Model S550 is a state-of-the-art flame monitor viewing head utilizing two types of detectors, an IR (infrared) solid state and UV (ultraviolet) tube.

The S550 works with the latest version of the P520/P522 signal processors. Like other viewing heads in the S500 family of viewing heads, the S550 produces output pulse rates proportional to the flame signal strength; the pulse rates are displayed at the front panel of the signal processors. But, unlike the other members of the S500 family of viewing heads, certain parameters in the S550 viewing head can be selected or adjusted remotely from the front panel of the P520/P522 signal processors. The parameters are:

- a) UV gain 0-99
- b) IR gain 0-699
- c) Filter Selection 1-8

Once adjusted, the new parameters are stored in EEPROM in the signal processor. If power is removed from the signal processor, which powers the viewing head, and re-applied, the signal processor then automatically re-sends the stored parameters out to the S550 viewing head. In addition, at the front panel of the signal processors the operator may also select "CAL", a semiautomatic mode which will help to speed up the S550 setup. Thus, the S550 is a dual-sensor viewing head where the gain and filter selections are adjusted and stored remotely by the P520/P522 signal processors.

S552 GENERAL DESCRIPTION

The S552 is for IR sensing only. It is basically an S550 without a UV capability. The P520 or P522 will be aware of which viewing head of the S550 family is connected to it so that only those adjustments which are appropriate to the S552 will be made available to the operator. These adjustments apply to the S552:

- a) Filter Selection 1-8
- b) IR gain 0-699

When it comes to features like "CAL", the operator is only given those choices which are appropriate. For example, he does not have to choose between calibrating with the UV sensor or the IR sensor; in "CAL" he is only offered the choice of calibrating with the IR sensor or not.

S556 GENERAL DESCRIPTION

The S556 is for UV sensing only. It is basically an S550 without an IR capability. The P520 or P522 will be aware of which viewing head of the S550 family is connected to it so that only the adjustment which is appropriate to the S556 will be made available to the operator:

- a) UV gain 0-99

When it comes to features like "CAL", the operator is only given those choices which are appropriate. For example, he does not have to choose between calibrating with the UV sensor or the IR sensor; in "CAL" he is only offered the choice of calibrating with the UV sensor or not.

COMPARISON WITH OTHER MODEL 500 SERIES VIEWING HEADS

The S550 uses a Germanium sensor for IR detection, like an S511 and uses a high-voltage vacuum tube sensor for UV detection, like the S506, but both sensors are in the same housing in the S550. The pulses from the UV and IR sensors are summed internally into a single pulse stream out to the signal processor.

A dual-LED indicator is used to indicate the pulse rate out of the S550. It is visible at the rear of the viewing head housing. For every 128 pulses from the UV sensor it emits one green pulse; for every 128 pulses from the IR sensor it emits one red pulse. With a count rate of 1200 displayed at the signal processor the LED will flash 9 or 10 times per second. This is very useful for aiming and sighting the viewing head. One can readily distinguish differences in pulse rates at the LED and use this indicator to adjust the sighting to obtain a maximum pulse rate at the LED and therefore a maximum reading at the signal processor.

Another difference from other models is that the gain for each sensor and the selection of the filter for IR may be set remotely through the front panel of the P520/P522 signal processors.

Another difference from earlier S500 family members and the S550 is that earlier family members had only 4 high pass filters to choose from; the S550 has 8 (See table on back).



- IRIS Dual UV/IR Viewing head in single housing
- IRIS Auto/Manual Calibration
- IRIS Setting stored in EEPROM
- IRIS UV Spectral response 190 - 210nm
- IRIS IR Flicker - 8 High pass filters, 16 - 215 Hz
- IRIS Select IR, UV or both simultaneously
- IRIS NEMA 4 housing, Quick disconnect plug
- IRIS SELF-CHECK once a second, viewing head and signal processor

S550 Combination UV/IR Viewing Head Attributes

- IRIS FM, CSA & NRTL/C Approved
- IRIS LED indicates flame signal strength for optimal sighting, also indicates UV/IR
- IRIS NEMA 7 or Eexd housing available
- IRIS Compatible with all IRIS series 500 signal processor
- IRIS FlameTool NT/95 compatible



S552 IR Only Viewing Head
Adjustable IR Gain & Filter
Red LED Indicator
See above listing



S556 UV Only Viewing Head
Adjustable UV Gain
Green LED Indicator
See above listing