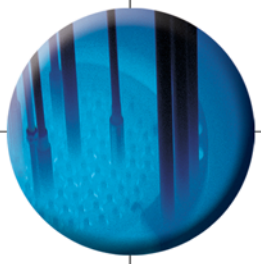

BEDBUG® *II*
SMELT BED IMAGING SYSTEMS

QUADTEK *M702*

Viewing Pyrometer

Pyrometers are great at measuring how hot your process is, but you never know exactly where they are pointing. The Quadtek **M702** Viewing Pyrometer takes the guesswork out of it by showing you on the monitor. The pyrometer temperature data is multiplexed with the video signal and sent to the M702 unit. It separates them and displays the video on a monitor with a locator square on the screen which marks the specific area that the pyrometer is measuring.

Under ideal conditions a camera system gives operators an excellent view of the combustion process, but most industrial processes are prone to conditions that make it hard to see clearly. The M702 gives operators an added advantage by overcoming these difficult imaging problems by colorizing the image and providing contrast expansion and custom shading control.

Features / Benefits

Camera and Pyrometer All-in-One

The pyrometer shares the same optical path as the camera video signal and provides an accuracy of +/- 1%. You see exactly where the temperature is being measured on a small locator square displayed on the control room monitor. The temperature value is on the M702 front panel LCD and can be exported as an analog 4-20mA signal.

Colorization

The M702 colorizes the incoming infrared black and white video signal. Hot items appear as yellow or white while cooler items appear as darker reds.

Contrast Expansion

Independent operator control of the black and white levels allow the maximum contrast range to be achieved. Increased contrast expansion provides a better picture.

Shading Correction

A finer degree of control is possible using the four shading controls. This allows contrast to be adjusted over a portion of the screen. Extremely useful when difficult imaging conditions only affect part of the image.

Specifications and Performance

Figure A shows a typical video signal. The distance between the white level (at the top) and the black level (at the bottom) is the total range of contrast available.

Figure B shows that by dropping the black level, the distance between the white and black levels gets bigger, increasing the contrast range. By lowering the black level, the darker objects get darker without changing the white ones. Likewise is true when the white level is raised, the white objects get whiter without changing the dark ones.

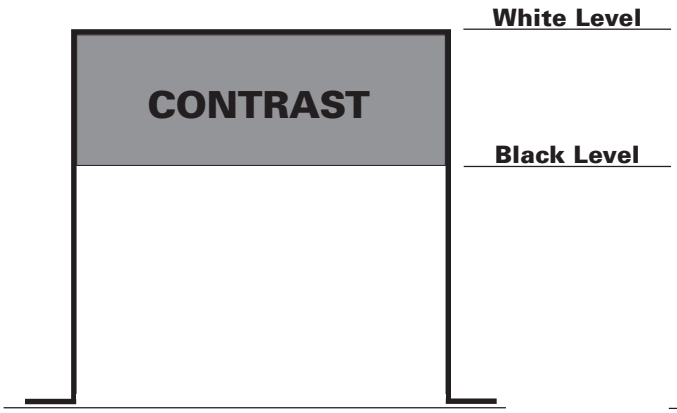

Figure A

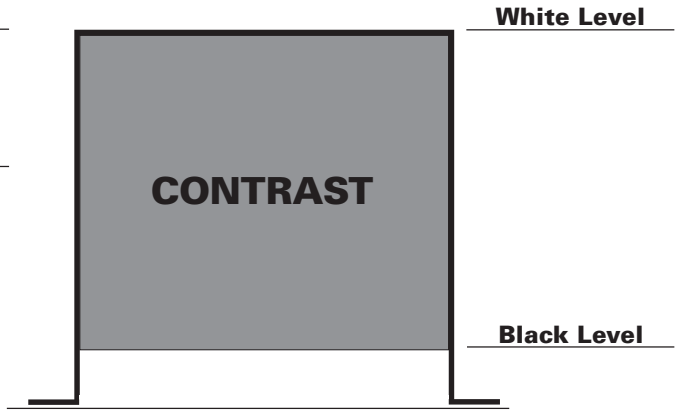

Figure B

Shading correction is accomplished by applying sawtooth and parabolic correction signals to the video signal.

For example, when the video signal is combined with the horizontal sawtooth signal, one side or the other of the picture gets lighter while the other side darkens. The horizontal parabolic signal lightens or darkens only the edges of the picture. The vertical controls do the same thing as the horizontal, only from top to bottom.

Receiver/Display Controller

Power Requirements	100/115/230 VAC, 50/60 Hz
Physical Dimensions	3.63" H x 7.50" W x 9.50" D (92mm x 191mm x 241mm)
Operating Temperature Range	32 to 104° F (0 to 40° C)
Relative Humidity	95%
Video Input	Combined Pyrometer/Video from camera on BNC connector
Video Output	Composite on BNC connector
Color Video Output	Analog RGB on 9-pin D-type
Weight	4.75 lbs. (2.15 kg)

Pyrometer Sensor/Transmitter

Measuring Range	1165 to 2700° F (629 to 1482° C)
Accuracy	+1% full scale
Operating Temperature Range	0° to 140° F (-18° to 60° C)
Relative Humidity	0 to 95%
Signal Output	Multiplexed with video signal

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