

OPERATORS MANUAL

FOR



Boone

KF-100

PORTABLE-TYPE GRAIN TEMPERATURE MONITORING SYSTEM

SPECIAL NOTE

**READ THIS ENTIRE BOOKLET
BEFORE PROCEEDING WITH
THE INSTALLATION**

**BOONE CABLE WORKS & ELECTRONICS, INC.
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OPERATING PROCEDURES KF-100 PORTABLE

TEMPERATURE READING PROCEDURE:

1. Place the ON/OFF switch in the ON position.
2. Place the jackhandle into the desired cable outlet, located individually or in your CRB Reading Box. Turn the rotary TC switch to the number "1" position. The temperature of TC number "1" will now be displayed on the display.
3. Turn the TC switch to the number "2" position and read the temperature of TC number "2".
4. Repeat this procedure until all TC's have been read on the cable.
5. If more than one cable is to be read place the jackhandle in the next cable outlet and repeat the procedure.
6. When you have finished reading the cables place the ON/OFF switch in the OFF position. This will extend the battery life.

NOTE: When there is no TC connected or a faulty TC the temperature display will decrease in temperature and eventually stop at a negative 300 to 400 degrees.

BATTERY CHECK AND REPLACEMENT:

If the battery is low, a "BAT" will be displayed in the upper left corner of the display. Replace batteries by removing the screws on each side of the instrument. The low battery indication, "BAT" should now be gone.

NOTE: 1.) If this is a new cable installation all thermocouples on each cable should be checked. This can be done by simply plugging in your KF-100 portable instrument into the plugs and reading each TC (thermocouple sensor) on each cable. IF a faulty or open TC is found check the corresponding splice behind the plug to make sure there is a good connection. Remember, an open TC (open circuit) will show a declining temperature on the display eventually stopping at a negative 300 to 400 degrees.

- 2.) When not in use please store your KF-100 portable instrument in an area that is heated (office or house). This will extend the operating life of your unit. It is normal for the display function to slow down noticeably during extreme cold weather operation.

TEMPERATURE DETECTION

Temperature Detection Equipment is very useful in the management of stored grain. It is a proven procedure that has been successfully used since its development in the early 1900's. Its operation is dependent on the increase in temperature caused by the micro-organisms associated with the growth of various molds, insect activity, or the growth of the individual seed due to the presence of moisture and the proper temperature within a specific portion of the stored grain.

Moisture migration due to seasonal temperature changes, mold activity, and insect infestation will threaten the condition of stored grain. Once grain is cooled to temperatures of 35° or below, the immediate danger is delayed until warmer weather will again cause gradual warming, and with it the potential for the above mentioned problems.

When grain goes out of condition there is almost always a rise in the temperature in the critical area, commonly known as a hot spot. With the proper use and understanding of your temperature system the chances of damage are minimized. It is necessary for the operator to interpret the information given by the system, evaluate it, and take necessary precautions such as aerating, turning, or fumigating.

Temperature readings must be taken on a regular basis. The frequency of reading will depend on the type of grain being stored, its condition, as well as the geographical location and the time of year. The temperature should be logged and kept as a permanent record to be reviewed as necessary to check for temperature trends.



CABLE WORKS & ELECTRONICS, INC.
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 Remarks _____
 Number One (1) Thermocouple 1.5 foot Bottom of Cable

Cable	TC Space	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
16	7'	4-13	47	47	47	47	47	48	47	48	48	47	48	48						
16	7'	4-20	46	47	48	47	47	47	47	48	50	48	48	48						
16	7'	4-27	47	47	48	48	47	48	48	48	52	49	48	48						
16	7'	5-4	47	47	48	48	48	48	48	49	54	50	49	49						
17	6'	4-13	49	49	50	49	49	49	50	49	49	49	50							
17	6'	4-20	48	49	49	48	49	51	50	49	50	50	50							
17	6'	4-27	48	48	49	49	49	54	51	50	50	49	50							
17	6'	5-4	49	49	49	49	50	56	52	50	50	50	51							

Log Pad #121560

- Note on cable #16 that the temperature is trending higher on TC #9.
- Note on cable #17 that the temperature is trending higher on TC #6 and causing the beginning of a rising trend on TC #7.

Rule of thumb warning signals:

- A 3 degree rise is a warning signal in 40 degree grain.
- A 4 degree rise is a warning signal in 50 degree grain.
- A 5 degree rise is a warning signal in 60 degree grain.
- A 8 degree rise is a warning signal in 70 degree grain.
- A 10 degree rise is a warning signal in 80 degree grain.
- A 12 degree rise is a warning signal in 90 degree grain.
- A 14 degree rise is a warning signal in 100 degree grain.

REMEMBER

Take the time to read temperatures regularly and frequently.

Take time to look for trends.