

Kodai Flow Research User Manual:

General Safety Summary

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Introduction

Read the following safety precautions to avoid personal injury or damages to the CRE1 Ultrasonic Flow Transmitter and other KFR products. As well as all equipment installed and connected to KFR products. To avoid any potential hazards, please use all instrumentation and equipment as specified. Consult local codes, obtain required permits, and follow site Standard Operating Procedures. Wear appropriate Personal Protective Equipment (PPE) for the installation area. Follow required Lock-Out, Tag-Out procedures before beginning any work.

Power Line

Only use the proper power line with the CRE1 Ultrasonic Flow Transmitter and other KFR products. It is only allowed by law to use the power line for which is approved by the local authority.

Grounding Instrumentation

The CRE1 Ultrasonic Flow Transmitter must be connected to Protective Earth (ground) before use. This instrument needs to be grounded through one of the protective earth terminals, or the thermal plane mount. The Flow Transmitter must be connected to the Protective Earth (ground) to avoid electric shock. Make sure the CRE1 Ultrasonic Flow Transmitter is grounded correctly before connecting other wiring.

Signal Wire

Remember to connect the signal wiring for the CRE1 Ultrasonic Flow Transmitter as instructed. The potential of the signal wire is surge protected to Protective Earth (ground), so do not connect to a high voltage.

Observe all Terminal Ratings

It is the operator's responsibility to observe all ratings and signal instructions on equipment installed and/or connected to KFR product and the KFR product itself. This helps to avoid all potential injury via fire and/or electric shock. Before connecting the CRE1 Ultrasonic Flow Transmitter, read the manual carefully to gain more information on the ratings.

Suspicion of Damages and/or Failures

Do not operate any instrument, KFR product or other, with suspected damages and/or failures. If the KFR product is suspected of damages and/or failures, contact Kodai Flow Research's service personnel to inspect it. Any repair and adjustment to the product or replacing a component should be done by qualified KFR personnel only.

Instrument Covering and Wiring

Do not remove the CRE1 Ultrasonic Flow Transmitter's aluminum cover. Do not run the instruments installed and connected to KFR products without its protective covers and/or panels removed. Also remember to check for exposed wiring before powering all instrumentation.

Over-Voltage Protection

Use proper over-voltage protection to prevent electrical surges, caused by lightning and/or power, from reaching the instrument. Otherwise the operator may suffer electrical shock. Also, if the instrumentation installed and/or connected to KFR products requires any fuses, only use the specified fuse or fuses.

Anti-Static Protection

Static electricity can and will cause damages to the CRE1 Ultrasonic Flow Transmitter. It is important to test the KFR instrument in anti-static areas as much as possible. Always ground its inner and outer conductors to release the static electricity temporary before connecting any cables to this instrument.

Ventilation

Keep the CRE1 Ultrasonic Flow Transmitter properly ventilated. Improper ventilation will cause the rise of the KFR instrument's temperature. Regularly check the instrument when it is in use.

Key Factors

When using the CRE1 Ultrasonic Flow Transmitter, remember the following:

- Keep the surface of the KFR instrument clean and dry.
- Do not operate in wet or damp or condensing conditions.
- Do not operate in flammable or explosive environments.
- The disturbance test of the CRE1 Ultrasonic Flow Transmitters meets the limit values of A in the standard of EN 61326-1:2013.

Terms in the Manual

The terms that may appear in the manual:

WARNING: Warning statements indicate the conditions and behaviors that could result in injury or loss of life.

CAUTION: Caution statements indicate the conditions and behaviors that could result in damage to this product or other properties.

Terms Used on the Instrument

The terms that may appear on the instrument:

DANGER indicate an injury or hazard that may immediately happen.

WARNING indicate an injury or hazard that may not immediately happen.

CAUTION indicates that a potential damage to the instrument or other property might occur.

Symbols Used on the Instrument

The symbols that may appear on the instrument:



**Hazardous
Voltage**



**Protective
Earth
Ground**