

Cintel Solutions

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Digi-Read Users manual

Document Control

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Digi-Read Users manual

Table of Contents

| | |
|--|---|
| Document Control..... | 2 |
| Revised history | 2 |
| Table of Contents | 3 |
| Digi-Read: | 4 |
| Overview | 4 |
| Environment..... | 4 |
| Configuration | 4 |
| Meter Connectivity | 5 |
| System Components: | 5 |
| Digi-Read | 5 |
| Digi-Reader..... | 5 |
| Field Configuration Device | 5 |
| Digi-Read installation: | 5 |
| Meter Connection:..... | 6 |
| Switch Configurations: | 6 |
| Configuration Menu:..... | 7 |
| Using the Field Configuration Device (FCD) | 7 |
| Configuration Options..... | 7 |
| Mode | 7 |
| Display..... | 7 |
| Switch Type | 8 |
| Tamper Detection | 8 |
| Leak Detection | 8 |
| Dials..... | 8 |
| Multiplier | 8 |
| Using Digi-Read: | 8 |
| Specifications: | 9 |
| Safety Notes:..... | 9 |

Digi-Read Users manual

Digi-Read:

Overview

Digi-Read is the latest in remote reading technology, featuring a rugged design, ease of use operation and a fully integrated configuration setup menu. Utilizing Digi-Read's built-in configuration utility a user may define Digi-Read's functionality by enabling or disabling system options to include; Remote Read or Totalize Mode, Display Options, Tamper Detection, Leak Detection, Meter Configuration, as well as setting an initial reading.

Environment

Digi-Read is designed to operate in an indoor or outdoor environment. The electronics and battery are fully potted, making the unit moisture resistant. The display is also sealed to protect the reading visibility.

Please note: *Digi-Read is not designed to be submerged in water or any other liquid material.*

Please Note: *Upon special order request, Digi-Read is available with a replaceable battery option. The battery compartment is not sealed – therefore to ensure reliable service it is recommended that the unit must be used in an indoor environment.*

Please Note: *Refer to the Safety Notes section of this manual regarding battery precautions.*

Digi-Read is activated (read) utilizing the 'Digi-Reader' handheld device. There is no external mechanical or physical contact required from the user; the user simply places the 'Digi-Reader' in close proximity to the "R" on the front panel.

The no-contact reading makes Digi-Read ideal to service geographic areas where water, gas and electric meters are located in structures to protect from the environment, such as residential basements or a physical location where accessing the utility meter is difficult. Digi-Read may be installed against an inside window of a room or building and activated / read through the glass, plastic, PVC, and most other non-metallic structures.

Configuration

Utilizing Digi-Read's built-in configuration utility a user may define Digi-Read's functionality by enabling or disabling system options to include; Remote Read or Totalize Mode, Tamper Detection, Leak Detection, Meter Configuration as well as setting an initial reading.

If the Leak Detection option is enabled, the user is also given the ability to define the criteria in which Digi-Read will detect a leak. If a leak is detected an internal flag is set. When Digi-Read is activated, a message is displayed notifying the meter reader that a leak condition exists.

The Leak detection function may be utilized with both water and gas metered systems.

Digi-Read Users manual

Meter Connectivity

Digi-Read is designed to interface to most popular pulse-type water, gas and electric meter units. By default, Digi-Read is shipped to support a single channel digital or analog switch register (pulse). If desired, the user may also select the dual switch configuration.

System Components:

Digi-Read

Digi-Read is an electronic device which is designed to count pulses from a pulse-type utility meter and display the meter reading when activated. Digi-Read may be configured as a Remote Read or Totalizer device.

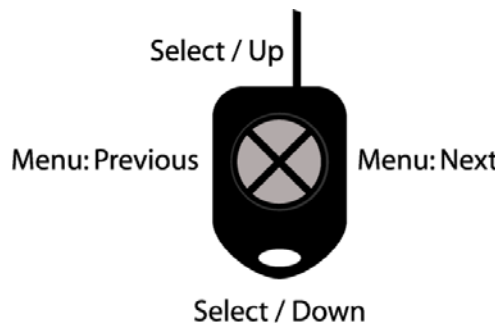
When configured as a Totalizer, the user may reset the reading to zero by holding the Digi-Reader near the "R" for the duration of the display period, which by default is set to 5 seconds.

Digi-Reader

The Digi-Reader is a handheld device used to activate / read Digi-Read.

Field Configuration Device

The Field Configuration Device is used to access the built-in configuration menu, as well as to set the initial meter reading after installation.

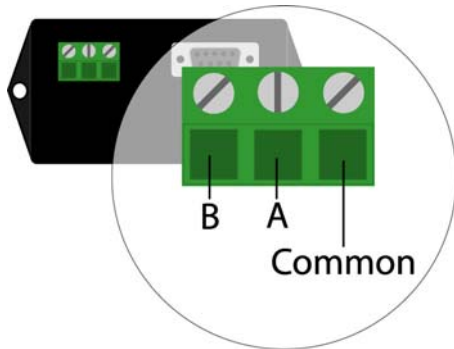


Digi-Read installation:

Digi-Read is designed to be mounted to a vertical structure, such as to the side of a building. It is recommended that the installer utilize the mounting flanges that are part of Digi-Reads housing. The mounting flanges each have a hole so that the installer may use a screw to secure Digi-Read to a structure.

Meter Connection:

Digi-Read is designed to interface to most popular pulse-type water, gas, and electric meter interface units (meter switch). To simplify setup, Digi-Read is equipped with a built in menu-driven configuration utility. Utilizing the configuration utility a user may pair Digi-Read to the attached meter/switch by setting the number of dials, multiplier, and initial read.



Switch Configurations:

Digital Switch:

| | |
|--------------|------------------|
| Wire 'Red' | <u>Digi-Read</u> |
| Wire 'Black' | Common |

Single Reed Switch:

| | |
|----------|--------------|
| Wire '1' | A – position |
| Wire '2' | Common |

Dual Reed Switch:

| | <u>Digi-Read</u> | <u>Note</u> |
|----------|------------------|--------------------------|
| Wire '1' | A – position | Reed switch A |
| Wire '2' | B – position | Reed switch B |
| Wire '3' | Common | Reed switch A & B common |

Configuration Menu:

Digi-Read is equipped with a built in configuration menu for user convenience.

To Access Digi-Read's built in configuration menu the user must simply connect the Field Configuration Device (FCD) to the Data Port. The Data Port is a D-Sub connector and will only connect one way.

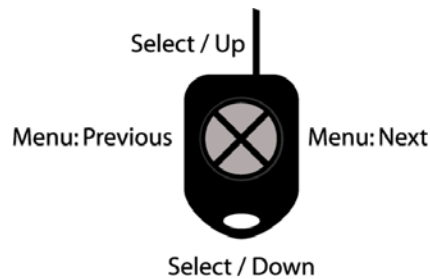
Digi-Read automatically will detect that the FCD is connected and will run the setup utility.

The settings are saved automatically as the selections are made.

When configuration is completed, simply disconnect the FCD and Digi-Read will resume it's normal operating mode.

Using the Field Configuration Device (FCD)

Use the FCD to scroll through the configuration menu and set the options as desired.



Configuration Options

Mode

1. Remote Read
 - a. Digi-Read will function as a remote meter, displaying the corresponding mechanical dial read on the digital display.
2. Counter (Totalizer)
 - a. Digi-Read will function as a remote meter, displaying the corresponding mechanical dial read on the digital display.
 - b. In Counter Mode, the user can reset the reading to zero by holding the Digi-Reader next to the 'R' the entire time the display on, which is 5 seconds. Digi-Read will display "Reset....." when resetting the reading.

Display

1. "Gal" (Gallons)
2. "Ft3" (cubic feet)

Digi-Read Users manual

Switch Type

1. Single
 - a. Configures Digi-Read to detect pulses on channel 'A' only.
 - b. Used for single channel reed or digital switches.
2. Dual
 - a. Configures Digi-Read to detect pulses on both channels 'A' and 'B'.
 - b. In this mode, channel 'A' must *qualify* first, and then channel 'B' must pulse.

Tamper Detection

1. Enable
 - a. Enables the tamper detection algorithm, which is built in Digi-Read. If a Tamper is detected Digi-Read will display "Tamper "when the unit is read.
2. Disable
 - a. Disables Tamper detection.

Leak Detection

1. Enable
 - a. Enables the leak detection algorithm, which is built in Digi-Read. If a leak is detected Digi-Read will display "Leak "when the unit is read.
 - b. If leak detection is enabled, the user may also define the profile that Digi-Read will follow to detect a leak. This setting is the leak hours.
2. Disable
 - a. Disables leak detection.

Dials

1. 4 – 8
 - a. This is the number of total dials on the meter; including fixed digits.

Multiplier

1. 1 – 10, 100 and 1000
 - a. The Multiplier is used to instruct Digi-Read on how to interpret pulses it receives from the meter.

Using Digi-Read:

To read Digi-Read, place the Digi-Reader handheld device near the 'R' on the front panel. The reading will be displayed for a period of 5 seconds, and then will turn off automatically.

To configure Digi-Read, or pair to a meter / switch, please refer to the *Configuration Menu* instructions.

Specifications:

- Meter interface
 - A) Single Reed Switch
 - B) Dual Reed Switch
 - C) Digital Pulse
 - D) Digital Solid-State Switch
- Max pulse frequency: 4 Hz
- Operating temperature range: 0C to +70C
- Moisture resistant: electronics are fully potted
- Hi-capacity Lithium battery, excellent battery life
- 16x2 alpha-numeric display
- No contact activation / reading
- Terminal block meter connection
 - *(no wire splicing required)
- Physical dimensions: 4"x 2"x 2"
- Mounts directly to a vertical structure

Safety Notes:

1. Digi-Read's is not designed to be sub-merged in water or any other liquid; permanent damage may result.
2. Battery manufactures of the Lithium type batteries, used in the product, warn not to expose the battery to extreme heat (greater than 100' C), serious damage may result, including leakage, rupture or fire.
3. Battery manufactures of the Lithium type batteries, used in the product, warn not to expose the battery to water. The batteries may corrode and cause the formation of combustible gas, which may result in serious damage, to include leakage, rupture or fire.
4. If handling the battery contained in this device, do not short the positive and negative leads, serious damage may result including excessive heating, rupture or fire.
5. If disposing the battery contained in this device, please contact your distributor for proper disposal procedures.