

*Which is the better option for your course?
Make sure you have all the facts.*

Decoder systems have been used to irrigate golf courses throughout Northern Europe for decades. There is an increased interest in decoder systems in the rest of the world due to lower costs, aesthetic appeal and ease of expansion. Satellite systems are specified by many of the world's best designers because of their distributed intelligence, ease of maintenance and system back-up redundancies.

The Toro Company provides the most advanced golf irrigation equipment available, including both decoder and satellite systems. When making the decision of which type of system to install, make sure you get all the facts and make the right choice for your course.

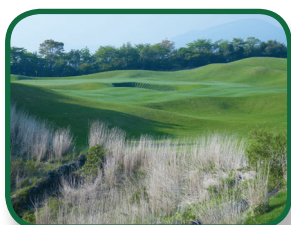


The decision whether to use decoders or satellites to irrigate your golf course depends on a variety of factors which are detailed in this document. You should take all of these into account when choosing how to best irrigate your course. Both systems have seen successful use on all sizes and types of applications, mainly determined by the user's preference of features and benefits vs. the project's budget considerations.

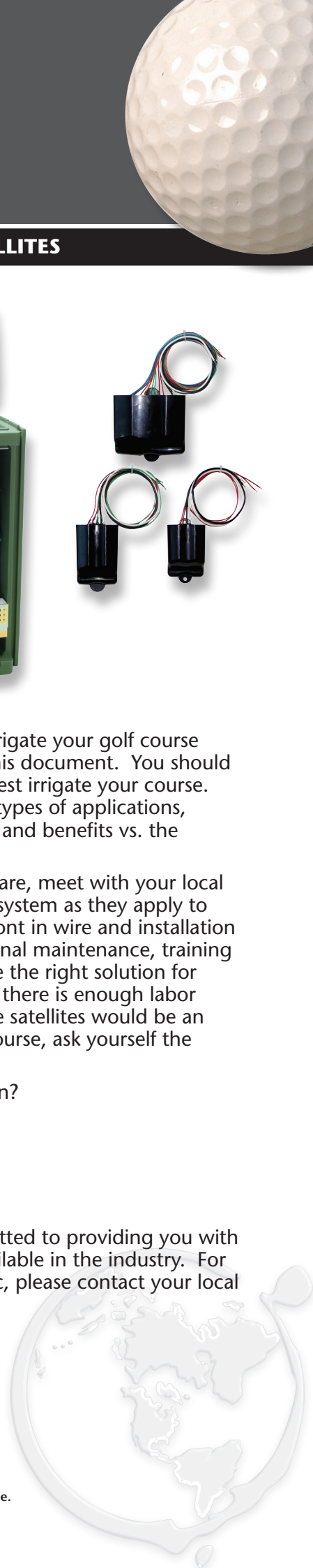


When considering a change in irrigation system hardware, meet with your local Toro professional to discuss the pros and cons of each system as they apply to your course. Decoder systems save more money up front in wire and installation cost, but may have higher costs later on due to additional maintenance, training and downtime. Other times, a decoder system may be the right solution for a course where only supplemental watering is needed, there is enough labor to quickly diagnose and fix an irrigation issue, or where satellites would be an eyesore. To select the proper field hardware for your course, ask yourself the following questions:

- Will my turfgrass survive without automatic irrigation?
- Is my course located in a high lightning area?
- Is the course subject to flooding or vandalism?
- How much is installation cost a consideration?
- How much is maintenance cost a consideration?



Regardless of which system you choose, Toro is committed to providing you with the best irrigation materials, expertise and support available in the industry. For information about this or any other golf irrigation topic, please contact your local Toro representative.

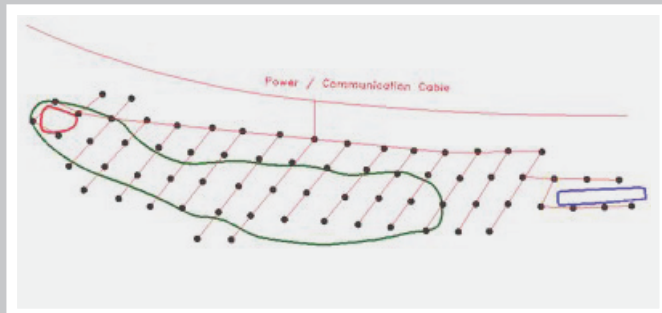


Decoders or Satellites?

Two options for golf irrigation. Which is best for your course?

DECODERS

Decoders use a single two-wire cable to transmit power and data simultaneously. System "intelligence" comes from the central control computer and uses less expensive hardware and fewer cable runs resulting in a lower system cost at installation.



Advantages

Lower overall initial purchase cost
Equipment and labor costs are lower than satellite systems.

No visible components on the course
All parts are buried underground, decreasing the risk of potential damage from vandalism, flooding or equipment collisions.

Installs and expands quickly
With lower power requirements and direct burial, crews can easily splice and install additional stations for added coverage.

Uses low voltage
Decoders need less power to operate, eliminating the need for high voltage cables on the course and specialized electricians for installation or repair.

Uses less wire
Two-wire communication protocol can save up to 40% of wiring costs.

Disadvantages

Longer maintenance time
Decoder system issues may take longer to diagnose and, depending on the type and location of the damage, may affect a larger area of the course.

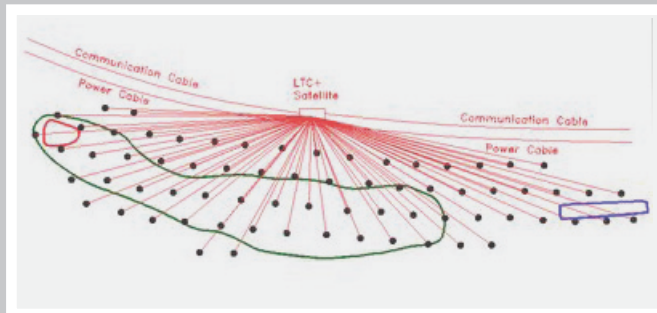
No distributed intelligence
Decoders do not have redundant back-up systems to ensure that irrigation continues as programmed in the event of computer or communication failure.

More difficult to provide surge resistance
Decoder units are spread throughout the course, placing ground points farther from system components than with a satellite system. This makes it more difficult to achieve equivalent grounding protection.

Require specialized installation
More splices and underground burial demand flawless installation to ensure proper operation. This requires a well trained contractor and maintenance crew.

SATELLITES

Satellite systems use controllers placed on each hole to operate a number of stations. These pedestals are coordinated to work together with a central computer or programmed independently using a control pad.



Advantages

Easier to troubleshoot and maintain
Because the main components and wire connections are above ground, satellites can be diagnosed quickly and fixed easily.

Watering back up in case of PC or communication failure
If the signal to the central computer is lost, satellites will continue to operate with 100% of their flow managed watering capability.

More efficient surge protection
All stations operate from a satellite, allowing ground rods/plates to be located at a single point near every controller for best protection.

Ideal for construction and grow-in
Pedestals can operate without a computer connection, allowing for immediate irrigation upon installation.

No need for special equipment to water
Maintenance crews can easily irrigate the course from the pedestal faceplate or switches without the need to use specialized devices or software.

Disadvantages

Subject to external damage
Above-ground installation makes satellites more susceptible to vandalism, flood or other environmental factors.

Higher wire costs
Satellites use a more centralized operations system which requires more wire to connect to each station.

Visible hardware components
Depending on design style and owner preferences, visible pedestal controllers may not be aesthetically pleasing.

Limited station counts
Expansion of irrigation system may be limited to the number of stations on a satellite.