

**TORO**

Count on it.

# Turf Guard™ Rental Program

## Wireless Soil Monitoring System

NSN® SERVICE

Toro's Turf Guard Wireless Soil Monitoring System is now available through a monthly rental program that makes it easier to acquire and use this revolutionary technology.

- Single monthly payment simplifies the budgeting process
- Once installed, all costs are included – no need to budget for battery replacement, phone support, user fees, or special warranties
- Additional equipment is easily added to your monthly payment as your system expands

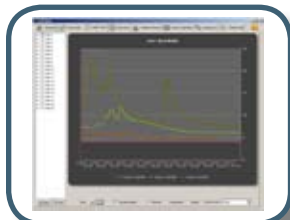


### Water Management Highlight

Know what's happening in your soil, so that you can make better decisions on how to irrigate and conduct other turf management activities. Don't guess at how much water to apply for flushing an area, let Turf Guard tell you when enough water has been applied to push the salts out of the root zone. Don't wonder if you need to irrigate an area tonight, let Turf Guard tell you if the area is in an acceptable moisture level range.



### Features & Benefits



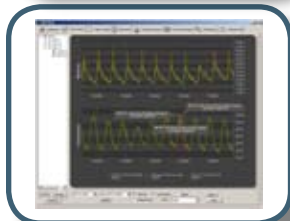
#### MONITOR MOISTURE LEVELS AND ADJUST IRRIGATION

Reduce water usage and improve playability without risking turf quality. Promote root growth by avoiding over watering. Detect dry areas before they impact the turf's health.



#### TRACK SALT BUILD-UP AND SCHEDULE FLUSHING

Take the guesswork out of monitoring and managing salinity levels. Get positive confirmation that your flushing reduced soil salts. Know when and how much water to apply.



#### MONITOR DAILY SOIL TEMPERATURES

Predict peak soil temperatures early in the day to start remediation activities before an emergency. Schedule fungicide applications and pesticides for optimal effectiveness. Understand evaporation rates and syringing needs.

See Your Local  
Toro Distributor  
For Sign Up  
Information

## Sensor



- Measures soil moisture, temperature, and salinity.
- Two distinct depths in the soil profile—critical root zone level and a second 4.5 inches lower.
- Independent measurements from each depth.

## Pedestal Repeater



- Mounts in most Toro irrigation satellite pedestals.
- External mount available for other models including non-Toro pedestals.

## Base Station



Connects to Internet in the office.

As low as **\$30** per. mo.

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## TURF GUARD RENTAL PROGRAM

- Administered by Toro NSN®
- Available in the following states:
  - AZ, CA, CO, FL, HI, IL, IN, IA, MA, MI, MN, MS, NE, NV, NJ, ND, OH, OR, PA, SD, TN, TX, WA, WI, WY
- Order through your local Toro distributor
- Monthly cost:
  - Price based on quantity of each individual item ordered (sensor, repeater, base station) and \$5 monthly for power supply (if required)\*
  - Minimum of one year rental commitment
- Rented Turf Guard equipment comes with full NSN support
  - 24/7/365 phone support
  - Rapid replacement of failed components
- Equipment delivered to your site by an approved installer

### \* Pricing is as follows:

- \$40 per unit/per month for 20 units or less
- \$36 per unit/per month for 21-40 units
- \$30 per unit/per month for 41 units or more

## How it works:

- Three to five sensors buried in each green at critical root zone level
- Additional sensors buried in fairways, tee boxes and planters
- Above-ground relays installed on or in existing irrigation pedestals
- Wireless MESH networking links all sensors to central control system.
- Moisture, Temperature and Salinity readings displayed in your office or anywhere with an internet connection

## Electrical Specifications

- Input Power:
  - Repeater: <.02A @ 6 VDC
  - Base Station: <.1A @ 120 VAC, 50/60 Hz
- Dimensions:
  - Body: 2 in. x 3 5/8 in. x 6 1/8 in. (5 X 9,22 x 15,56 cm)
  - Spikes: 1 3/4 in. x 3/16 in. (4,45 x ,48 cm)
  - Installation Hole Diameter: 4.25 in. (10,8 cm)
- Temperature:
  - Operating: 0°C to 60°C (32°F to 140°F)
  - Storage: -30°C to 82°C (-22°F to 180°F)
- Sensing:
  - 0.1°F Temperature resolution
  - 0.1 % Volumetric soil moisture content resolution
  - 0.1 dS/m Soil conductivity resolution (Salinity)
- Communication:
  - Repeater Range: 5,000' (1524m) line-of-sight
  - Buried Sensor Range: 500' (152m) line-of-sight
  - 900 MHz ISM Band FHSS Communication
  - Additional licensing not required

## Operational Features

- Immediately ready for play after installation
- Even remote canyon courses have complete coverage due to advanced MESH routing technology
- Repeater mounts in most Toro irrigation satellite pedestals
- External repeater available for other models including non Toro pedestals
- Supports up to 500 sensors per course
- Expected sensor battery life of 3 years, field replaceable
- Sensor reading sent every 5 minutes
- Measures two distinct depths in the soil profile
- Automatic network configuration and failure recovery
- Graphical course overview displays sensor data at-a-glance
- Plots trends and compares historical and current readings
- Move quickly from course-wide averages to individual sensor readings

## Warranty

- Comes with 1 year of NSN support (extended support plans available)

Model No.	Description
TG-S2-R	Turf Guard Sensor With Replaceable Battery
TG-R-INT	Repeater – Internal Mount
TG-R-EXT	Repeater – External Mount
TG-B	Base Station
TG-PS	Power Supply

