TouchNet for OSMAC and E-Series OSMAC

Features:

- Manages up to 35 OSMAC RDR or E-Series OSMAC satellites
  - up to 48 stations per satellite
  - up to 1,680 total stations
- Up to 12 irrigation programs
- Uses fail-safe digital wireless paging technology for absolute security of transmitted data
- Paging terminal has alarm inputs, allowing automated response to external events
- Paging terminal also serves as a voice/radio base station
- Manual control of OSMAC RDR and E-Series OSMAC satellites from TouchNet central or directly from paging terminal

TouchNet for Network LTC Plus

Features:

- Manages up to 35 Network LTC Plus satellites
  - 16-64 stations per satellite in 8-station increments
  - up to 2,240 total stations
- Up to 8 irrigation programs
- Up to 12 start sequences
- Provides true two-way communication for monitoring and feedback of satellite conditions
- Extensive alarm capabilities
  - protects against user errors
  - alerts user to system communication errors
- Optional Network Hand-Held radio capability
- UL listed

Electrical Specifications

- Input power, TouchNet Central for OSMAC and E-Series OSMAC
  - 12 VDC, 800 mA (plug-in transformer)
- Input power, OSMAC paging terminal
  - 8 VDC, 3.5 A (external power supply)
- Input power, TouchNet Central for Network LTC Plus
  - 12 VDC, 1.5 A (universal transformer)

Mechanical Specifications

- Dimensions
  - Wall Mount:
    13½" H x 10" W x 4¾" D
    (343mm H x 254mm W x 120mm D)
  - Desk Mount, Flat:
    4¾" H x 10" W x 13½" D
    (120mm H x 254mm W x 343mm D)
  - Desk Mount, Upright:
    7¾" H x 10" W x 13½" D
    (197mm H x 254mm W x 343mm D)

Specifying Information— TouchNet for OSMAC and E-Series OSMAC

Model No.	Description
TNO-90-06 *	TouchNet Central for OSMAC and E-Series OSMAC
OSM-PF-06 *	OSMAC People Finder
NB-BS-01**	Narrow-Band Base Station
WB-BS-01**	Wide-Band Base Station
NB-TNO-CBL**	Cable for TouchNet Central to Base Station
NSN-TN-01	1-Year NSN Full-Service Plan
NSN-TN-05	5-Year NSN Full-Service Plan

For Example:
When ordering a TouchNet Central for E-Series OSMAC with a People Finder and one-year NSN full-service plan, you would order:

TNO-90-06 and OSM-PF-06 and NSN-TN-01

* One-Year NSN Plan included. Additional plans are available. ** Available Spring 2000.

Specifying Information—TouchNet for Network LTC Plus

TNL [X] [X]

Power Supply	Language	
1—115 V a.c. (UL/CSA), 50/60 Hz	1—English	4—Italian
2—220 V a.c. (CEmark), 50/60 Hz	2—Spanish	5—German
3—240 V a.c. (Australia), 50/60 Hz	3—French	6—Chinese

For Example:
When specifying a TouchNet Central for Network LTC Plus with 115 V a.c. 50/60 Hz power, in English, you would specify:

TNL-1-1

A Tradition of Dependability

TORO

ISO 9000

TouchNet™
Central Control System

TouchNet Central Control System
Simple, yet smart.

TouchNet lets you do far more than just launch the watering cycle. It lets you control how, when and how much water to apply.

Its power gives you precise control over station run times, manages your hydraulic system and drastically simplifies irrigation scheduling. Adjustments to your program are as simple as pressing your finger to the TouchNet screen.

All the system management control you need today — fully upgradeable tomorrow. And you get the system complete. No interface drivers or virus detection required.

TouchNet. Intelligent enough to manage complex problems. Simple enough not to become one itself. Simple, yet smart.

Productivity is built-in.

When the concept of central control was introduced to golf irrigation in the 1980s, it was a revolution. Gone were the days of managing 18 holes by traveling to each hole individually to adjust the controller. Gone were the days of figuring out complicated calculations to ensure the proper application of water. Finally, huge savings in water, time and dollars were yours — if you were a computer whiz, that is.

But the next revolution in central control takes care of that. TouchNet is the most powerful central irrigation control system that doesn't need a computer. All the benefits of central control are yours in a familiar, easy-to-use touch-screen interface. Now you can adjust your system by station according to turf type and weather conditions because TouchNet figures it all out for you. And a diagnostic log shows you what communication has occurred

between the central and the satellite, so troubleshooting is a snap.

While TouchNet takes care of the routine tasks of irrigating your golf course, you can get on with the long list of other things you have to do today. Now that's productivity.
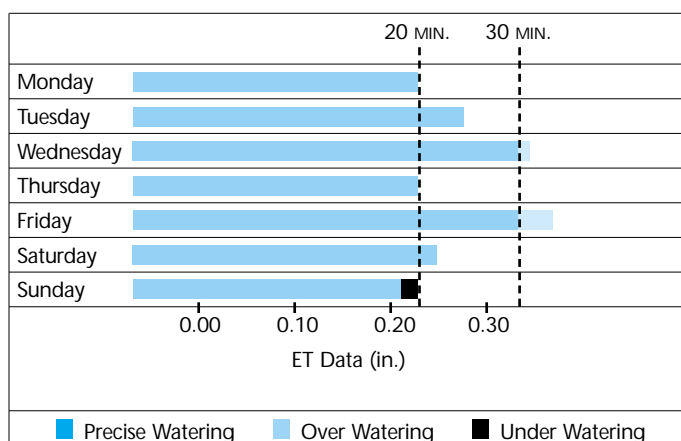
Fast, easy programming gets you on your way.

You don't have to sacrifice speed and simplicity to get all of this power. We've built it right into this compact, touch-screen unit. With our Touch & Copy™ feature, you can enter programming information once and then copy it to as many programs as you need. Making adjustments is just as easy. Best of all, continual re-adjustments aren't necessary — unlike stand-alone systems.

We watch your budget the way you do.

With so many people watching the way you spend every dollar, isn't it nice to know that TouchNet can help? The HydroGuard™ hydraulic management system optimizes flow to avoid surges, water hammer and pressure loss. This means that the life of your system is prolonged because the hydraulic and electrical systems are balanced. That's a greater return on your investment.

Let's face it, nobody can really predict the weather. So, setting one standard run time just doesn't cut it. Not only will you sometimes waste water, but at other times you won't water enough — resulting in damage to your course. With manpower

resources already stretched thin, you just don't have enough people to go from satellite to satellite to make daily adjustments. But by adjusting your system remotely at the central, you can make one simple adjustment in a fraction of the time.

Central control also means run-time precision. Repeatable, consistent irrigation translates to healthier turf and better play. Healthier turf means you don't have to spend needless dollars in replacement, or unnecessary soil amendments and maintenance.

And if all of that isn't enough, TouchNet can be upgraded to computerized control if your irrigation needs change. There's nothing worse than feeling trapped by an equipment investment. Rest assured, if you need the increased sophistication, power and control you get from a computerized system, your initial investment in TouchNet won't go to waste.

Chart: ET Data (in.) by day of week

Day	20 MIN.	30 MIN.
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

X-axis: 0.00 0.10 0.20 0.30 — ET Data (in.)

Legend: ■ Precise Watering ■ Over Watering ■ Under Watering

Note: Being able to adjust to changing conditions saves 20% or more in water and power usage.

OSMAC satellites provide an elegant irrigation control solution. With one-way digital paging, communication is simple and reliable. Wireless communication means that OSMAC satellites are great for retrofit projects, too — adding wires or altering hardware is unnecessary.

OSMAC increases your productivity and gives you greater versatility. With its timesaving features, it provides all of the essential irrigation functions you need.

E-Series satellites — the next generation of OSMAC. E-Series utilizes all the features of OSMAC, including digital wireless paging, making it ideal for retrofits and renovations. Just like OSMAC, there aren't any wires, hardware changes or major site disruptions to worry about.

And E-Series offers even more. Added *Parallink* parallel communication output modules, an expanded station count and increased surge protection are just a few of its enhancements. With the new additions, E-Series reduces installation and servicing costs, offers improved performance and productivity, and it allows for upgrades easily, as needs change. Best of all, E-Series has the same dependability and reliability that you've come to expect with OSMAC.

Network LTC Plus

satellites give you extraordinary power and modular flexibility with a wide range of control options. From multiple communication modes to stand-alone capability to optional surge protection, this system packs in a lot of value. And if you're running Network LTC Plus satellites as a stand-alone system today (while your course expands), you can easily upgrade to central control with TouchNet. When your site and budget are ready, so is TouchNet for Network LTC Plus.

Another benefit of the Network LTC Plus satellite is that if you lose power at the central, you won't lose your flow-managed programs. That means your irrigation goes on as scheduled.

Two types of field hardware — the choice is yours.

	OSMAC RDR and E-Series OSMAC	Network LTC Plus
Communication Mode	One-Way, Digital Wireless Paging	2-Way Wireline 2-Way Wireless 2-Way Telephone
Number of Satellites Per TouchNet Central	35	35
Number of Stations Per Satellite	8 to 48 in 8-Station Increments	16 to 64 in 8-Station Increments
Number of Irrigation Programs	12	8
Number of Start Times Per Program	12	12
Optional Surge Protection Packages	Yes	Yes
Current Detection	No	Yes
Hand-Held Radio Capability	Yes	Yes

Customize your control.

Just choose the field hardware that best meets your needs and the simple, powerful and economical control of TouchNet is yours.

Network LTC Plus Communication Options

- Two-way wireline is the most reliable method because it's placed in the ground, physically transmitting your commands from the central to the satellite and back again.
- With two-way wireless radio communication, you can put your satellites anywhere. And there's less start-up time than with other methods. With fewer disruptions, it's instant control.
- Two-way telephone is the best way to control remote sites where wireline and radio are not practical or feasible.
- Hand-held radio communication lets you send commands remotely.
- Or take a hybrid approach using a combination of all of the above. It's your site. It's your choice.

Toro TouchNet™ Central Control System

TouchNet for OSMAC, E-Series OSMAC and Network LTC Plus

Features:
- Toro's AcuTouch™ interface is as easy to use as an ATM; fast, straightforward programming eliminates potential errors
- No computer skills are required to operate
- Exclusive Touch & Copy™ quick-programming feature simplifies startup
- Default run times and station flows for quick programming
- Simplified program management with sequence starts
- Programs and start sequences are user-definable and prioritized in any order
- Custom programming with 7-day calendar, 1- to 30-day interval or odd/even interval days allows irrigation scheduling to reduce water waste and improve turf quality
- User-specifiable day-change time
- Adjustment factors simplify program refinement
  - 10-250%
  - system adjust for all stations
  - program adjust for select stations
- HydroGuard™ hydraulic management system optimizes flow to avoid surges, water hammer and pressure loss
  - up to 20 flow zones
  - protects hydraulic and electrical systems
- Hand-held radio capability for in-field control and flexibility
- Durable, sealed touch screen keeps dirt out for fewer service calls and lower maintenance costs
- Alarms and reports speed up troubleshooting to fix field problems
- Uses common hardware to cost-effectively upgrade to a more-advanced system
- Made in the USA