



Smart Irrigation
From the Ground Up

(800) 272-7472
www.tucor.com

THE TWC-NV IS THE WORTHY SUCCESSOR to Tucor's powerful and flexible TWC Flowmaster line, still based on Tucor's proven 2-wire technology. The NV continues all of the irrigation control concepts and features of the TWC, and adds a number of enhancements; it takes advantage of significant improvements in modern electronics technology; and it is encased in a robust NEMA housing. It is directly compatible with all TWC components.

The TWC-NV requires only 2-wires to control up to 200 valves, up to 7 miles away. This remarkable feat is accomplished by connecting a uniquely-addressed decoder to the 2-wire path; the decoder

is also connected to the valve. Turning on the decoder then turns on the valve: up to ten at the same time!

Feedback, flow control, alarm functions, and Excel-based reporting features are unsurpassed. Options such as a phone modem, Ethernet connection, and radio remote control add functionality and convenience. Included "RMS" Windows-based software makes controller remote operations and programming changes a breeze.

The NV is available in four sizes, for 50, 100, 150, and 200 decoders. Upgrades are easily performed at the controller via software keycodes.

SPECIFICATIONS

HARDWARE (TWC):

SYSTEM CAPACITY:

50 / 100 / 150 / 200 decoders

VALVES OPERATING SIMULTANEOUSLY:

10*

ELECTRICAL INPUT:

120 VAC, 60 Hz. 50 VA

ELECTRICAL OUTPUT:

34 V Peak to Peak square wave

SIGNAL CABLE (2-WIRE):

12-22 AWG

BATTERY BACKUP:

Clock, decoder data, schedule data, monitoring data

ENVIRONMENTAL:

Locking metal cabinet with internal transformer

SOFTWARE (RMS):

MICROSOFT WINDOWS BASED, 98 - XP

IRRIGATION SCHEDULES:

10 + test schedule

START TIMES:

Each schedule – 6 start times / day

START METHODS:

Day & time start, linked schedule start

TIMING:

0-999 minutes, in one minute steps

PROGRAM CYCLE:

14 or 15 days

OPERATION:

100 Steps per Schedule

DRY RUN:

Total run time is displayed



TWC-NV

MONITORING (DISPLAY):

Remaining time, system flow, 2-wire voltage and current

PUMP CONTROL:

Full automatic control, main (1, assigned to all valves) and booster pumps (up to 9, 1 assigned per valve)

SENSOR FEEDBACK:

Rain and pump alarm, line conditions monitored and displayed as alarm, up to 10 flows

TROUBLE-SHOOTING:

Built-in test programs

FIELD TRANSMITTER:

Supports field access units (direct 2-wire or radio-based)

REMOTE OPERATIONS:

PC via serial cable, modem, cellular connection, LAN/WAN, or Internet

LOCAL OPERATIONS:

Panel, PC (desktop or laptop)

TWC-NV Controller

SOFTWARE

- RMS Remote Monitoring Software
- remote access and management of multiple sites
 - initialization and editing of installation data and irrigation schedules
 - data collection from and transfer to individual controllers
 - edit installation data and irrigation schedules on-line
 - monitor flow on-line
 - extract and view logged data via Logviewer™ and Microsoft Excel®
 - global Auto On/Off (call all sites and take out of Auto, call all sites and restore to Auto)
 - automatic Monitoring data retrieval on a daily basis

CONTROLLER

Input Voltage	120 volts, 50/60Hz, 50VA
Output Voltage	34 VAC Peak to Peak
Max Number of Decoders	50 / 100 / 150 / 200
Max Number of Sensor Decoders	10
Max Simultaneous Valves	10*
Max Schedules	10 + 1 test schedule
Max Simultaneous Schedules	10
Irrigation Methods	
Steps	1–10 decoders per Step; 1 - 999 minutes per Step; 100 Steps per Schedule
Days	14 or 15
Start Times	6 per Schedule
Start Methods	Day and time start, linked schedule start
Run Time	0 to 999 minutes / Step
Water Budget	0 to 250%
Pump Control	10 pumps (1 master + 9 booster)
Manual Operation	Individual decoders Schedules
Sensors	Rain check Alarm (general) ET
Monitoring	Active decoder shown with remaining time
Schedule Pause	Pause/edit and manual Start/resume both at the controller and via PC communications
Alarms (Flow)	High flow on system total High flow on valve basis Low flow on valve basis Unscheduled flow No flow (pump safety)
Dimensions	12" x 12" x 5.2" (approx.)
Weight	12 lbs.
Ingress protection	IP65 / NEMA 4
Ambient temperature	32° F – 132° F
Mounting	Wall (pedestal optional)
Display language	English

REMOTE OPERATION

- PC Windows software, (included): Direct serial cable (RS-232)
Dial-up via phone modem
LAN/WAN
GPRS † (subscription)
- Palm Treo software (optional): With Treo service and
controller's phone modem
- Local (field access) Direct 2-wire plug in (FA-100)
Radio handheld (RFA)

ALARM & REPORTING CAPABILITIES

- Alarm to Call-Out via Pager, Cell, SMS †, Email †
- Short Circuit
 - Rain Detection
 - Auxiliary Device Alarm

Alarm and Reaction

- Unscheduled flow (leak detection)
- System maximum flow
- Valve % over/under flow
- Identification of failed valves (on percent flow deviation)
- Pump protection, minimum flow required (auto shut down)
- Rain shutdown
- Capable of storing 3200 events
- Microsoft Excel-based reporting

OPTIONS

FA-100	Field Access Unit
RFA-100-F	Radio Field Access (450 MHz)
RFA-100-P	Portable Field Access Unit
WIN-xxx	Module for GPRS service, internal and external versions
LAN-100	Interface and PC software for local/wide area network connection, CAT-5
LAN-100-W	Wireless LAN connection
WMN-100	Wireless Mesh network radio
PDA-200	Palm Treo PDA software (requires third party dial-up access)
PD-100	Integrated pump decoder
CAM-25	Controller Adaptor Module – adapts conventional systems to Tucor controllers
SC-25/50	System Conversion terminal – converts existing wiring to a two-wire system
FS 100 – 400	Flow Sensors, T-type: 1" – 4"
FS-IN	Flow sensor, brass insert (saddle)
PED-xxx	Pedestal and Cabinet mounts

ORDERING CONFIGURATIONS

TWC-NV-xxx-y

Where

xxx = **50 / 100 / 150 / 200** (# of decoder addresses)

y = empty, or **C** for an internal analog modem

* Using default valve power and typical valve distribution on the 2-wire.

† With Tucor's WIN-xxx and GPRS service

