

The TDC (Turf Decoder Controller) system provides a durable, cost-effective alternative to traditionally wired irrigation control systems. Using a 2-wire path to communicate to buried decoders, the TDC is vandal-resistant, easy-to-install and easy to expand.

Feature and Benefit Highlights

- Specifying and subsequent installation of the TDC Series is simple due to the nature of its low power operating requirements. Use 2.5mm² Toro Decoder Cable and rest assured that the system will achieve the maximum specifications without having to do any voltage drop calculations.
- TDC's simple, intuitive and easy-to-use user interface makes it a breeze to control up to 200 stations. Operate up to 20 simultaneous stations, including remote pumps and master valves, up to 4.5km from the controller.
- Save installation costs on wire when compared to traditional large control systems by using two wire cable(s) from the controller. When it comes time to add stations, there is no need to run wire back to the controller. Simply just splice into the two wire path and add a decoder and valve(s).

Features

Stand-alone Controllers

- Modular controller up to 200 stations
- Large LCD display and simple, intuitive programming interface
- 20 KV surge protection at the controller with proper grounding of 10 Ohms or less at the controller.
- 10 independent irrigation programs
- 6 start times per program
- Day of week programming and 1-31 day interval watering schedule
- Odd/Even day watering
- Day Exclusions (remove a day from standard program)
- Programmable master valve and pump start, by station
- Manual start of each station or entire program
- Water Budget by controller, by program and by station (Season Adjust) 0 to 250% in 1% increments
- Non-volatile memory retains programming in the event of power outage
- Self-diagnostics circuit breaker skips shorted/open stations and continues watering
- Two-way confirmation of decoder activation

- Activate up to 20 solenoids at up to 4.5 km away from the controller
- Programmable rain delay up to 31 days
- Dual pump/master valve outputs programmable by station
- 12-/24-hour real time clock
- Lockable, weather-resistant wall-mount cabinet.
- Water window calculator
- 10-digit alpha-numeric zone identification
- TMR-1 Remote Ready and Rain Sensor™ compatible
- Up to 8 independently fused two wire paths to field decoders
- Upgradable to Sentinel Central Control

Decoders

- 1-, 2- station decoders with built-in surge protection, up to 20KV
- 1 or 2 solenoids per station
- Utilises D.C. latching solenoids for valve control

Solenoid Capacity:

2 Toro DCLS-P Solenoids per output within spec wire runs, up to 40 max simultaneous (includes dual P/MV out-puts)
UL/cUL, TUV, CE, SAA and C-Tick approved

Specifications

Electrical Input power:

- 240 V AC, (50 Hz)

Station output power:

- Up to 38 V AC maximum
- 3 amps maximum output

Wiring-two wire path:

Jacketed, white/black pair 2.5mm² to 4.5km

Wiring-decoder to solenoid:

Standard pair 1mm² to 100m, 1.5 mm² to 150m

Cabinet dimensions:

35½ W x 33½ H x 15cm D

Operating temperature: 0-60°C





Decoder Control

Choose from 1 or 2 station decoders. Each decoder has the ability to drive 2 DCLS-P Latching Solenoids.

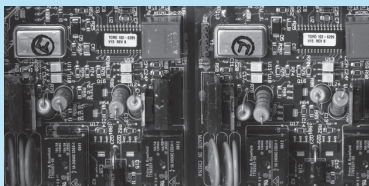


Low Power Operating Costs

The TDC Decoders operate DC Latching Solenoids which utilise significantly less power than AC solenoids.

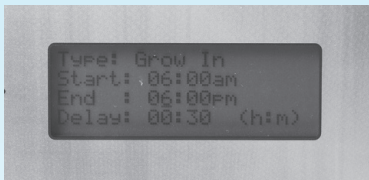
Modular Design

The TDC has a base of 100 stations and can be upgraded to 200 stations without purchasing a new controller.



Advanced Diagnostics

The TDC provides true two way communication with each decoder in the field, thus providing communication verification to decoders in the field, as well as shorted or open solenoid conditions, making troubleshooting a breeze.

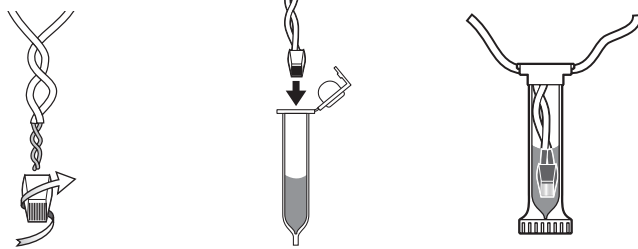


Accessories

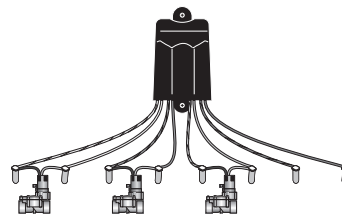
Wired or wireless rain or rain/freeze sensors are available to shutdown irrigation if user defined conditions occur in the field.

Important Installation Practices

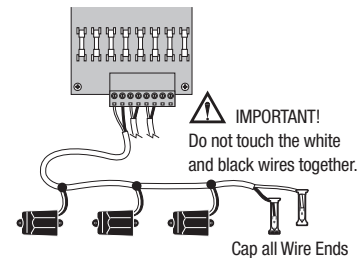
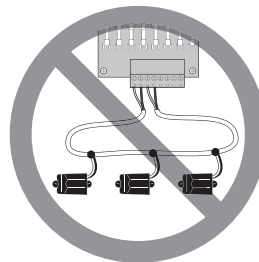
Waterproof all communication cable splices using DBY-6 and DBR-6 by 3m®. If using other waterproofing method, verify that it is rated at 40 VDC minimum.



All decoder to solenoid wires must be connected with the correct polarity to properly operate the solenoid. The decoder's SOLID output wire is connected to the RED solenoid wire. The decoder's output wire with BLACK STRIPE is connected to the BLACK solenoid wire.

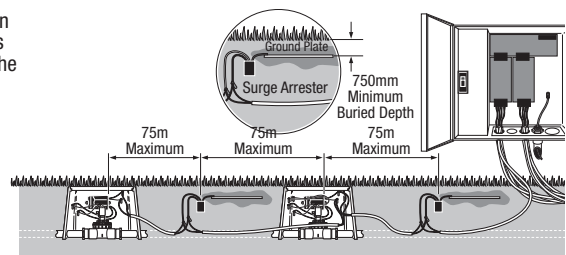


Do not loop or connect the decoder cable back to the controller board circuit. All wire path from the daughter board will end at a decoder. Communication cables not being used must be capped and water proofed.



Two Wire Decoder Systems must be properly grounded in order to protect against lightning surges. The communication cable must be grounded no further than 150m from any decoder. In high lightning areas, Toro recommends that a decoder be no more than 75m from a surge device/ground plate, or total of 150m between ground plates. The surge device must be a Toro DEC-SG-LINE and must be grounded to a copper plate that is at least 10.16cm x 91.4cm x 1.6mm. The minimum distance between the surge arrester and the ground plate should be 1 metre. Toro recommends a split bolt connection to be used to connect the surge device to the ground with wire with a DBM waterproof connector.

Note: A best practice on installation to avoid surge/lightning damage is to locate the decoder as close to the valve(s) as possible.



High Lightning Area Example

ORDERING INFORMATION

| CODE | DESCRIPTION |
|---------------|--|
| CDEC-SA-100 | 100 Station TDC Stand-alone Decoder controller |
| CDEC-SA-200 | 200 Station TDC Stand-alone Decoder controller |
| CDEC-ISP-1 | 1 Station Decoder |
| CDEC-ISP-2 | 2 Station Decoder |
| DEC-SG-LINE | Communication line surge protector |
| DEC-SG-OUTPUT | Decoder output surge protector |
| MC0225500-D | TDC/GDC 2 x 2.5mm ² Communication cable x 500m |
| MC0415500-D | 4 x 1.5mm ² decoder to solenoid cable x 500m (1-2 zone decoder) |
| MC0815500-D | 8 x 1.5mm ² decoder to solenoid cable x 500m (4 zone decoder) |