- Maximum stations per standard system: 6400

- Maximum stations per Smart Hub system: 9000

- Maximum stations per output board: 800

- Maximum physical wire paths per output board: 4

- Maximum modules per wire path: 250

- Maximum modules per output board: 500

- Maximum modules per gateway or Smart Hub: 1000

- Maximum modules per standard system: 4000

- Maximum modules per Smart Hub system: 9000

- Maximum simultaneous stations per wire path: 100

- Maximum wire path distance with modules evenly spaced along its length (central controller to module): 4.2Km (13,622 ft)

Maximum allowable voltage drop per physical wire path: 6 volts

- Maximum wire path distance (module to solenoid): 122m (400) feet

Minimum module electrical surge rating: 20 KV

- Communication cable wire size: 2.1 mm² (14 AWG)

Communication Interface. The communication interface can control up to 250 modules or 800 stations per wire path. Each interface will support up to 4 wire paths. Each wire path can support 100 stations (200 solenoids) operating simultaneously. The interface will support an input voltage of 100-240 VAC, 50/60Hz, 75VA. The interface output voltage is 40 VAC. The standard interface will be connected to the PC via fiber-optic modems and fiber-optic cable. The maximum distance from the PC to the interface with the standard fiber-optic interface is 500m (1640 ft). Smart Hub interfaces can be connected to the central FIU via shielded twisted-pair communication cable up to 50,000 feet or via UHF radio up to two miles. The interface enclosure is rated IPx3 (outdoor use). The interface will be grounded, earth ground resistance to be 10 ohms or less.

Modules. Supply and install Toro modules, model number DEC-ISP-1, DEC-ISP-2 or DEC-ISP-4. Modules will be epoxy potted for direct burial. The module address will be pre-programmed and permanently marked on the module case. The modules will operate 1 or 2 Toro GDC latching solenoids simultaneously per output. All stations on a module can operate simultaneously. The module to solenoid wiring should be sized for a maximum resistance of 2 ohms.

|  |  |  |
| --- | --- | --- |
| Wire Size | Meters | Feet |
| 14 AWG | 122 | 400 |

Each module station output has a pair of color-coded output wires. These output wires must be attached to the Toro GDC latching solenoid with the correct color code. Any module to solenoid wiring must also be color coded in order to facilitate correct in-ground connections. Use Paige P7351D.

|  |  |
| --- | --- |
| Module Ouput | Wire Colors |
| 1 | Red, Red/Black |
| 2 | Green, Green/Black |
| 3 | Orange, Orange/Black |
| 4 | Blue, Blue/Black |

The module input shall be fused. Supply and install DEC-SG-LINE surge arrestor on the communication cable at 300m (1000 ft) intervals or as specified. Connect the ground wire from the DEC-SG-LINE to a copper clad ground rod or plate as specified, earth ground resistance to be 10 ohms or less.

Communication Cable. Supply and install two-conductor direct burial twisted cable utilizing type UF or PE conductors with an HDPE outer jacket. Conductors will be solid annealed bare copper conforming to ASTM B-8. Conductor insulation to be PVC or PE conforming to ULType UF or Type PE, 60ºC, 600 Volts. The two conductors will be color coded, one WHITE and the other BLACK. Outer jacket will be HDPE and conform to UL specifications for direct burial and sunlight resistance. Use Paige P7350D or P7389D

Central Controller

The Lynx GDC Irrigation Control System components can be operated by the Lynx or SitePro PC based controllers or the GDC-200 stand alone controller.

The field controller(s) shall be developed, manufactured, qualified and released in the USA by an ISO 9001-certified facility. The field controller(s), model number(s) \_\_\_\_\_\_\_\_\_\_\_, shall be manufactured by The Toro Company, Irrigation Division.