

TDI

Two Wire Decoder Interface

DESCRIPTION

TDI - Interface

The **SiteOne Green Tech** TDI Interface System is comprised of the TDI Interface and GTD-050 Programmable Decoders. The TDI Interface is a standalone Interface capable of operating up to forty eight (48) 24VAC solenoid valves along a two-wire path in conjunction with any conventional controller. The TDI has the same footprint as the Green Tech Terminal Board.

The TDI comes complete with an LCD display capable of showing the “real-time” operating status of the system. Active stations and master valve shall be displayed. The Interface has the option to monitor and display the electrical conditions of the two-wire path including current [in milliamps], flow [in gpm] and voltage. In addition, the TDI interface has built in diagnostics that will test for individual station operation, decoder pass/fail and electrical shorts in the two-wire path.



TDI - Line Decoders

GTD-050 decoders are field programmable as station numbers one through forty eight (“ST1” through “ST48”), master valve (“MV”), booster pump #1 (“BO1”). Decoders have the ability to be reprogrammed to other station addresses. The Interface includes a decoder test function that will give a decoder pass/fail test result. Each decoder is epoxy sealed and completely waterproof. Each decoder is manufactured with “built-in” surge protection as an integral part of the basic decoder.

FEATURES & BENEFITS

▪ Maximum stations	48	Per module.
▪ Maximum Distance TDI to Dec.	17,800'	Using #14/2awg direct burial wire.
▪ Maximum Distance Dec. to RCV	150'	Using #14awg direct burial wire
▪ Pump/Master valve	1	Per module with programmable manual override with a range of 1-12 hours
▪ Aux/Booster *	1	Per module
▪ LCD Screen	1	[16 x 2] Characters
▪ Decoders	100	Per system, including expansion module
▪ HCP-100		Output programmable at the controller
▪ Maximum Active Stations	10	Hand held decoder programmer
▪ Display		Simultaneous Stations
▪ FloGuard		Monitors active stations, alarms, flow and line conditions
▪ Station Power	4	System alarm and react to high flow, unscheduled flow and minimum flow
		Preset levels from Normal to Highest power for stations and M/V independently

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FEATURES & BENEFITS (Continued)

Alarms

▪ System Alarms	SHT	2-wire short
	HFI	High flow
	UFI	Unscheduled flow
	MPF	Master pump failure
	MST	Maximum active stations reached
	CF	Current fault
	VF	Voltage fault
	▪ Alarm Relay	N.O. / N.C
▪ Relay Action	Disabled:	Relay action is disabled
	Auto:	Relay activates on alarm and deactivates when the alarm condition goes away
	Latching:	Relay activates on alarm, but stays on until acknowledged by operator
▪ Programmable Master Valve Timer		Turn on MV from an external switch

SPECIFICATIONS

Input

▪ Electrical:	24 volts +15% / -20%, 50/60 Hz, 50 VA from controller transformer.		
▪ Controller:	Maximum stations	48	
	Remote control	2	DB37 connectors
	PC Connection	1	USB for flash firmware upgrade, set up and diagnostics
	Expansion *	1	48 station expansion module; for connection of a second controller to the 2-wire path

Output

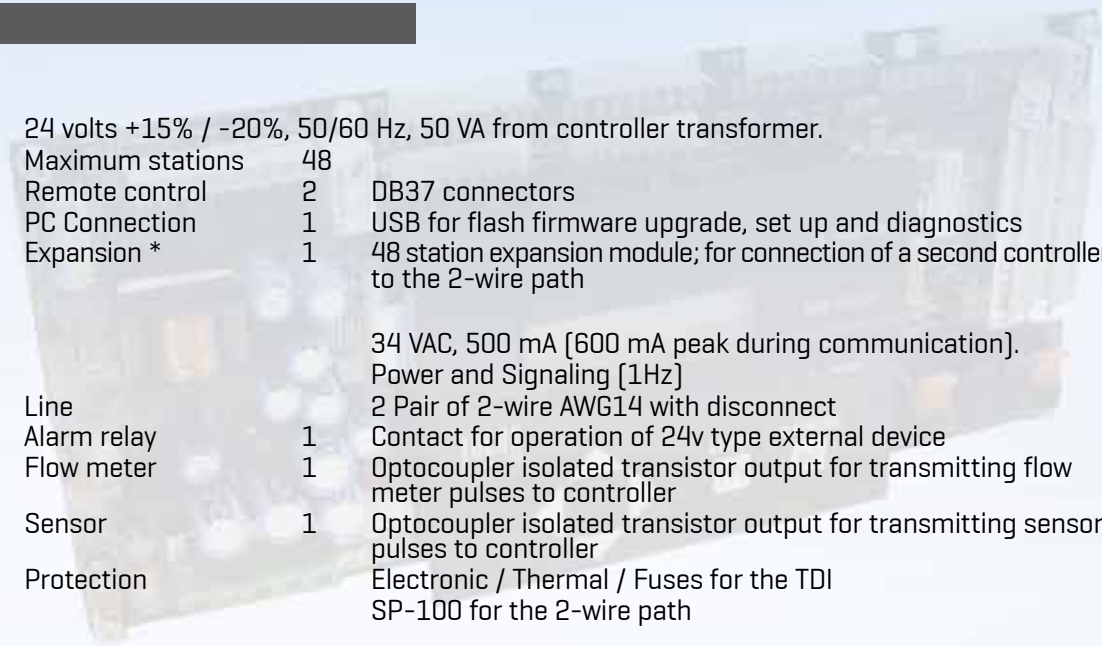
▪ Line:	34 VAC, 500 mA [600 mA peak during communication]. Power and Signaling [1Hz]		
▪ Terminals:	Line	2 Pair of 2-wire AWG14 with disconnect	
	Alarm relay	1	Contact for operation of 24v type external device
	Flow meter	1	Optocoupler isolated transistor output for transmitting flow meter pulses to controller
	Sensor	1	Optocoupler isolated transistor output for transmitting sensor pulses to controller
	Protection	Electronic / Thermal / Fuses for the TDI SP-100 for the 2-wire path	

TWO-WIRE Path

Typical wire used for communication between the TDI Interface and the GTD-050 decoders is double-jacketed, two [2] conductor cable, suitable for direct burial, or for installation in ducts or conduits.

NUMBER OF SIMULTANEOUS OPEN VALVES	Valves evenly distributed along 2-wire (ft.)			Worse case: all valves at end of 2-wire (ft.)		
	AWG 18	AWG 16	AWG 14	AWG 18	AWG 16	AWG 14
1	7,000	11,000	17,800	3,900	6,200	9,900
2	6,400	10,200	16,300	3,500	5,600	9,000
3	5,500	8,800	14,100	3,100	4,900	7,800
4	4,900	7,800	12,500	2,700	4,300	6,900
5	4,400	7,000	11,200	2,400	3,900	6,200
6	4,000	6,300	10,100	2,200	3,500	5,600
7	3,600	5,800	9,200	2,000	3,200	5,100
8	3,300	5,300	8,500	1,800	2,900	4,700
9	3,100	4,900	7,800	1,700	2,700	4,300
10	2,800	4,600	7,300	1,600	2,500	4,000
10 + 1 manual	2,700	4,300	6,800	1,500	2,300	3,800
10 + 2 manual	2,500	4,000	6,400	1,400	2,200	3,500

Note: Distances given using default valve power settings; if higher power used, distances are shorter.



All splices and connections in this wiring are made using the waterproof splice connectors provided with the **GTD-050 decoder**. 3M DBY wire connector kits may also be used. Any other type of wire connector will NOT be accepted. **IT IS ESSENTIAL THAT ALL CONNECTIONS BE ABSOLUTELY WATERTIGHT WITH NO LEAKAGE TO GROUND NOR SHORTING BETWEEN CONDUCTORS.**

How to Specify [example]:
SA6-RM4-48/HWB/TDI



800-427-0779

www.greentech.siteone.com