RAIN PRO
Intelligent Irrigation Solutions™

LogicPLUS S

TWO - WIRE TECHNOLOGY

The Only Logical Choice.

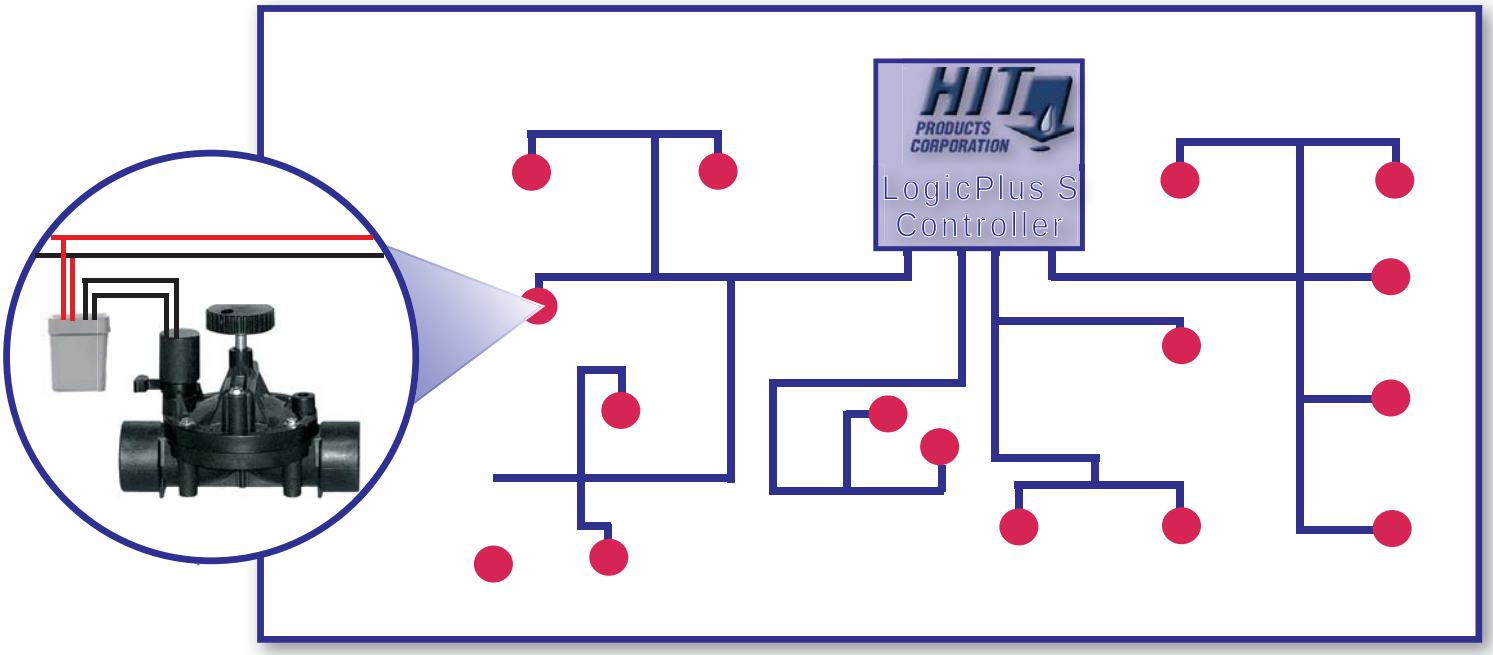
LogicPLUS S 42 Station • LogicPLUS S 128 Station • Universal 2 PLUS

The Most Installer/User - Friendly and Best Value On the Market

LOGIC PLUS

4 TWO-WIRE PATHS AVAILABLE, EACH UP TO 12,000 FEET FROM CONTROLLER

LogicPLUS S



ADVANCED TECHNOLOGY

LogicPLUS S is the next important advancement in irrigation technology. This evolution represents a significant step forward in providing an easy to install, easy to use and remarkably easy to maintain Two-Wire Control System. We've painstakingly incorporated dozens of commonly reported needs and desires that have been expressed by professionals in the field. They've asked for a new generation of controllers and we're delivering them. They are the new LogicPLUS System S, 42 and 128 Controllers.

LogicPLUS S is designed to be the economical answer to the outdated technology that requires a dedicated hot wire and ground wire for every valve in the system.

The LogicPLUS S two-wire technology has been developed, engineered, and is manufactured by irrigation professionals at HIT Products in California. Many other two-wire systems are manufactured by third parties and then imported to the USA for distribution.

Developed by Irrigation professionals, who understand real-world irrigation challenges faced in the field daily, LogicPLUS S provides a host of advantages--

- Utilizes standard off-the-shelf 14-gauge irrigation wire for wire runs up to 12,000 feet.
- Allows you to program the in-field receivers at the controller (or with a hand-held device from #1 to #128, which directly corresponds to the station number on the controller.
- Provides ability to incorporate unlimited tees, ells, and crosses in the field two-wire path.
- Waterproof wire connectors are included with each receiver for the two-wire path connection.
- Incredible controller programming simplicity.
- 100-240 VAC 50/60 Hz input.
- Solar Power Capable.
- Up to 8 valves can be operated simultaneously.
- Multiple of P.S. / M.V.'s uniquely programmable by program.
- P.S. / M.V. utilizes Two-Wire path with Standard Receiver.
- Valve test function = Programmable Sequence.
- "Power Boost" programmable by valve for long wire runs.

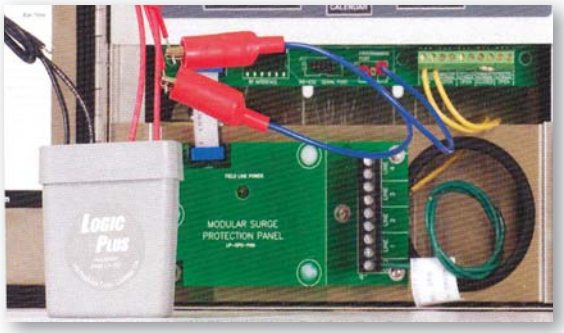
Engineered and manufactured in the U.S.A.

Why This System Benefits Your Bottom Line

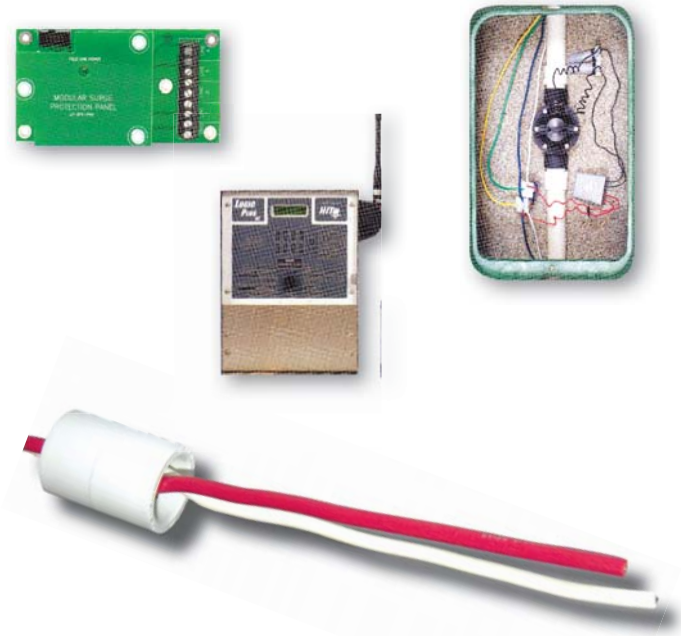
With LogicPLUS S two-wire technology you gain significant flexibility in design and an improved practical ability to achieve a bigger footprint for each controller. Planned or unplanned expansion is a snap. Our LogicPLUS S technology offers substantial economies in all phases of the project including lower installation costs, cost savings in system modification and budget protection in long-term reliability.

The LogicPLUS S principles of two-wire operation are straightforward. Instead of running a dedicated hot wire and a common wire to every valve in the system, with LogicPLUS S two-wire technology you share the same two-wire path to all the valves in the system. The system communicates with each valve individually through a receiver.

Each receiver has a unique address. So when you want to open one valve - the controller communicates this to all of the same number or different numbered receivers. It's even easier with LogicPLUS S technology; the receiver addresses are identical to the station number on the controller.



The Advantages of LogicPLUS S Two-Wire Technology



- Reduces copper wire required up to 80%, or more.
- Saves 80% or more wire installation labor.
- Maintenance costs are slashed through the simple reduction of the quantity of wire in the field.
- Wire breaks are self-diagnostic--simply target the two-wire path between the last working valve and first non-working valve.
- Easily add a valve to the system by locating the closest field two-wire path, tee off the 2 wire path to the desired location and program an off-the-shelf receiver to your desired valve number.
- Add valves without purchasing a new controller to increase station number capacity and without trenching new wires from the controller out to the new valve location.
- Long-term system reliability is enhanced significantly as a result of the 80% or more reduction in the amount of wire buried which directly equates to the proportionate reduction of maintenance, re-splicing and associated repairs. This all results in very tangible short and long term savings.

Features

- Available in two models--42 stations with 8 independent programs and 8 Start Times per program OR 128 stations with 16 independent programs and 16 Start Times per program.
- Run times available in seconds and minutes, or minutes and hours depending on program.
- 4 independent two-wire outputs provided, each capable of running up to 12,000 linear feet on standard 14 gauge wire and operating from 1 to 80 valves with LogicPLUS S 42 and up to 128 valves with LogicPLUS S 128.
- Each valve has its own LogicPLUS receiver. Each receiver can be programmed at the controller or in the field with an optional hand-held remote programmer (part # LP-HHRP) from valve #1 to #128. Each receiver can be re-programmed an infinite number of times to different valve numbers as desired.
- Each independent program can operate on any calendar schedule from 1-28 days including specific days of the week or an odd/even day watering schedule.
- Operate up to 8 valves simultaneously of the same number or different numbers plus 3 Master Valve/Pump start relays and one Fertigation Valve/Pump relay.
- When the LogicPLUS S controller is OFF, or when no activity is scheduled to occur, power output to the field is terminated. Most other two-wire controllers maintain constant line voltage output to the field, so all receivers receive power continuously. A big liability exists with the continuous power state. If a receiver is shorted by lightning, or a problem develops within the receiver, it potentially may keep a valve activated indefinitely, causing the likelihood of flood damage. The LogicPLUS technology eliminates this liability.
- LogicPLUS S is compatible with all standard 24 VAC solenoids found on standard irrigation valves. Diode bridge and latching type solenoids are excluded.
- Additional operational features include; Water Budget, a “Looping” option on program 6, Manual and Semi-automatic Operation, Programmable Test Cycle, Programmable “Rain Delay,” Total Accumulated Run Time display per program. Programmable Fertigation Cycling and Fertigation Pump Relay, “Start” Sensor input on program 6, Whole controller “Off/Rain” Sensor input, Programmable Pump Start/Master Valve by program, “Clear program” or “Clear all” function.
- Notable Mechanical Features include; a Modular power surge package, a relative Amperage Draw Display during all operations, an available “security” lockout code, a Radio Remote Ready interface with the HIT Model TRC Commander or Sidekick units, wire tracing compatibility with the Tempo 521 Locator Low Voltage Tracer, and a Stainless Steel housing with an optional Stainless Steel pedestal.

Special LogicPLUS S Features

PROGRAMMING RECEIVER

The LogicPLUS Control System, with its own unique technology utilizes actual station numbers when addressing the field Receivers. This significantly minimizes installation time and confusion, both on initial installation and any future maintenance or system expansion. Every LogicPLUS receiver may be programmed and re-programmed an infinite number of times to any Station Number from #1 to #128. Programming the receiver can be done in less than 20 seconds, either at the controller or remotely with the use of the LogicPLUS hand-held remote programmer in the field.

With most other two-wire controllers, they require a significant amount of decoder data to be input into the Controller. The LogicPLUS technology requires no Controller input of receiver data. A Controller replacement with the LogicPLUS controller is no big deal. Competitor's controllers can take hours or even days to input the necessary receiver data into the controller!

VALVE RUN TIMES

Hours / Min or Minutes / Seconds - LogicPLUS provides the option of irrigating in increments of Hours and Minutes or Minutes and Seconds depending on the program(s) used.

FERTIGATION

The LogicPLUS comes standard with a Fertigation feature that allows you to program in a "Pre-Wet" time period followed by a programmable Fertigation time period and then followed by a "Soak-In" period for the remaining balance of your total programmed irrigation run time for that station. The Fertigation Cycle is programmable by station, by program for maximum flexibility. It may be most desirable to use a separate program(s) for Fertigation. Schedule your Fertigation applications utilizing only that program for most desirable and effective use of your Fertigation resources.

LOOPING PROGRAM

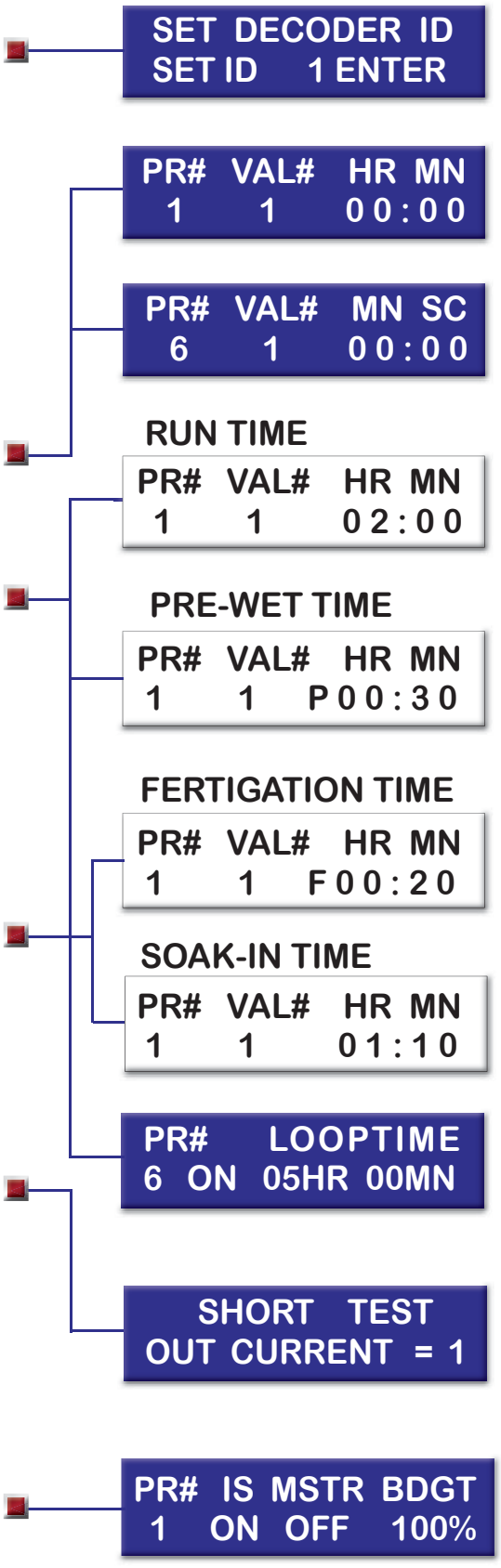
The Looping program is designed for continuously repeating a desired program, usually for a short period, commonly used in propagation or Nursey-type applications. For "Looping" applications, a start time is entered and all the desired individual station Run Times are programmed for their own unique time requirements. The Looping cycle starts on the start time and then continues repeating the individual Run Times in sequence for the length of the "Looptime": value entered. Sensor capability for the Looping program is available for operating with Temperature Sensors.

FIELD WIRE TEST

Amperage Draw Display -- A diagnostic tool for knowing and monitoring each individual station's relative amperage draw during each valve's activation. This display is a great help in trouble shooting a short in the field wiring or shorted valve solenoids. By identifying the valve(s) with the extreme amperage draw, you can isolate where your trouble is in the field wiring or a valve solenoid short may be located.

WATER BUDGET, PROGRAM ON/OFF, PUMP OR MASTER VALVE ON/OFF BY PROGRAM

On this one display, you may turn "On" or "Off" an entire program that may be used for seasonal or supplemental irrigating. All aspects of the program may be left intact, including individual Run Times, Start Times, Calendar, etc. Plus, you can program your Master valve or Pump to be "On" for each independent program and you can adjust your "Water Budget", which is a user-friendly feature that increases or decreases all the station Run Times in a particular program, in 5% increments. This is typically done during the four seasons of the year or during severe weather swings of hot, cold, wet and dry conditions. The Water Budget has a normal baseline of 100% and may be decreased down to 5% or increased up to 250% from the 100% baseline.



System Components and Accessories

LogicPlus Receiver

Gray in color, exclusively for use with any LogicPLUS or LogicPLUS S Controller.

Part# LP-RP

Hand-Held Programmer

For programming or checking receiver address in the field independent of the LogicPLUS or LogicPLUS S Controller.

Part# LP-HHRP

DBC-BR

The only approved waterproof splice for the receiver connection to the field two-wire path. Ships standard with every LP-RP Receiver.

Part# DBC-BR

Radio Remote Ready

LogicPLUS Controller is standard with a terminal jack and software to accept the interface of either the TRC Sidekick or Commander Radio Remote units.

Part# LP-RAD-SK or LP - RAD - COM

Wire Tracing Compatible

For tracing LogicPLUS field wires.

Tempo Part# 521 Locator

Wire Bundles.... Two-Wire Technology.....

"Your Choice!"

Universal 2 PLUS

THE BIGGER THE JOB, THE MORE YOU NEED TWO-WIRE.

The Universal 2 PLUS converts the output of any standard controller to two-wire output. With the Universal 2 PLUS you can now have the best of both scenarios. Take advantage of the features of your chosen standalone Controller or Central Satellite System and now with the Universal 2 PLUS you can have the added feature of utilizing a two-wire system for all your irrigation valve field wiring.

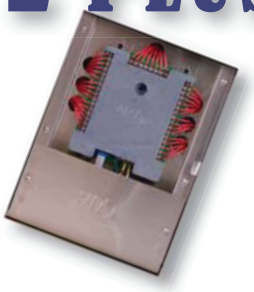
All standard irrigation 24 VAC output controllers are compatible with the Universal 2 PLUS two-wire converter. To utilize this incredible device simply use 18 gauge wire to connect the controller terminal strip for each valve to each corresponding station number on the Universal 2 PLUS. Whenever the controller activates any station (1-40), the 24 VAC output of the controller activates the specific LogicPLUS code corresponding to that specific station numbered receiver. The code is then sent throughout the two-wire path to the field utilizing the same technology and communication as the LogicPLUS controller. The opened valve is activated for the same duration that the controller activates the Universal 2 PLUS. Any valve can be activated for any duration in any sequence.

The Universal 2 PLUS is a standalone unit that accepts output from the controller of your choice and responds accordingly. It does not affect the “program” or operation of the controller. All communication with the Universal 2 PLUS is one way: into the proven technology of the LogicPLUS two-wire system. The controller is insulated from any Universal 2 PLUS feedback due to the use of infrared communication technology. The controller retains its full autonomy and remains radio remote compatible.

The Universal 2 PLUS may also be used for any irrigation system “re-modeling,” where the field wiring of the system is failing or completely inoperative. You can convert any part of an existing system--or the entire system--to a new and reliable control system if you have two functional wires with continuity from your existing controller to the area(s) of valves that need assistance. These two-wires will become your primary two-wire path of which you can then expand on from there. Existing or additional valves may easily be added to the two-wire system utilizing the Universal 2 PLUS in conjunction with your new or exiting controller. Typically, the operational part of your system will be left as-is. The area requiring new control capability utilizes the two “good” wires and only the valves connected to this part of the system utilizes the Universal 2 PLUS two-wire technology. The scope to which these 2 existing wires can be used for your two-wire path is dependent on the wire integrity and size.

The Universal 2 PLUS is the answer for any system where you want to blend the features and capabilities of your favorite controller with two-wire output. It provides remarkably enhanced versatility and flexibility for new and existing systems. This incredible technology can save you miles of wire and thousands of dollars in installation expenses and future maintenance.

Features and Benefits of the Universal 2 PLUS



- LP-RP Receivers are interchangeable with the Universal 2 PLUS and the LogicPLUS two-wire controllers. The Universal 2 PLUS utilizes the same technology and communication as the LogicPLUS Controller.
- Two independent field two-wire paths are available.
- An unlimited number of tees, ells, and crosses can be incorporated in the two-wire path.
- Utilizes standard 14-gauge wire. Wire runs can be up to 12,000 linear feet.
- Capable of operating up to 4 valves simultaneously, including different or same numbered valves.
- Will operate 1-40 stations per unit.
- Standard housing is Stainless Steel.
- Has a resettable short circuit detection feature to protect against field wire shorts.
- See the LogicPLUS Controller Specifications for more details.

Ordering Information

PLACING AN ORDER FOR LogicPLUS S EQUIPMENT IS EASY.

Choose from two Controllers:
42 Stations • 128 Stations • Universal 2 PLUS

PART#	DESCRIPTION
LP-42S-C	1-42 Stations, 8 Programs, 8 Starts per program, 4 path, two-wire output controller in stainless steel locking enclosure. Requires on "LP-RP" programmable receiver per valve.
LP-128S-C	1-128 stations, 16 Programs, 16 Starts per program, 4 path, two-wire output controller in stainless steel locking enclosure. Requires on "LP-RP" programmable receiver per valve.
LP-RP	Programmable Receiver for LogicPLUS Controllers and LP-Universal 2 PLUS. Programming of receiver requires a LP-42, LP-128 Controller or LP-HHRP. The LP-Universal 2 PLUS utilizes the LP-RP receiver. Each case of 16 LP-RP contains one each #1 - #128 receiver identification tag kits. Each LP-RP also includes a pair of DBC-BR brass, waterproof wire connectors for splice to two-wire path.
LP-SPD-F	Surge Protection Device for field wiring of two-wire path. To be installed approximately every 300' - 500' along 2 wire path as desired. Install with ground rod. (not included)
LP-UNI-2	Universal 2 Plus, 1 to 40 Stations 2 Wire System Converter with dual two-wire path output in stainless steel enclosure. (requires on receiver per valve-sold separately part # LP-RP.

LP -128S-C

L-PED

LP-RP

PART#	LOGIC OPTIONS
L-PED	Stainless steel pedestal for use with LP42 and LP128 Controllers.
LP-HHRP	Hand-held battery operated device for programming LogicPLUS receivers in the field. For use with Gray LP-RP Receivers ONLY. Includes 110 VAC to 9 VDC plug-in transformer.
L-RP-ID	Extra Programmable Receiver Identification Kit. Consists of one each identification tag for #1- #128.
DBC-BR	Surge Protection Device for field wiring of two-wire path. To be installed approximately every 300' - 500' along 2 wire path as desired. Install with ground rod. (not included)

LP-UNI-2

LogicPLUS S System Specifications

LOGIC CONTROL SYSTEM

- Control System shall use a minimum of 14 gauge direct burial wire with a maximum length of 12,000 feet per run.
- Controller shall be mounted 15 feet from all electrical equipment and pump.
- Control System shall have Surge Protection Device installed every 300 to 500 feet with ground rod. (user supplied)
- Control System shall allow for field two-wire path to have unlimited Tees, Crosses and “Wagon Wheel” design.
- System can simultaneously operate up to 8 zone valves plus up to three Master Valves or Pump Start Relays and one Fertigation Pump Relay.

CONTROLLER

- Controller shall have No Power on field wires except when running a program.
- Controller shall apply power to field wires 15 seconds before a program(s) is scheduled to operate.
- Controller shall have Lockout Security Code option for changing programming.
- Controller shall have “bounce back technology” in case of power outage. Controller will resume program in “Real Time” when power resumes.
- Controller shall be able to set Date and Time of Day.
- Controller shall have 42 stations (LogicPLUS S 42) or 128 stations (LogicPLUS S 128).
- Controller shall have 8 programs and 8 Start Times per program (LogicPLUS S 42) or 16 programs and 16 Start Times per program (LogicPLUS S 128).
- Controller shall have 6 programs with station Run Times from 1 minute to 10 hours and 59 minutes in one minute increments and 2 programs with station Run Times from 1 second to 59 minutes 59 seconds in second increments (LogicPLUS S 42) or 14 programs with station Run Times from 1 minute to 10 hours and 59 minutes in one minute increments and 2 programs with station Run Times from 1 second to 59 minutes 59 seconds in second increments (LogicPLUS S 128).
- Controller shall have Fertigation capability per independent station.
- Controller shall have PreWet Fertigation per independent station.

- Controller shall be able to set PreWet time function and Fertigation time function per station in hours and minutes for all programs except two, which will be minutes and seconds.
- Controller shall have a Pause option between stations sequencing in a program and Master Valve/Pump On/Off option during Pause option.
- Controller shall be able to show total Run Times per program, automatically adjusted if water budget is adjusted.
- Controller shall have a minimum of a one day calendar and a maximum of a 28 day calendar.
- Controller shall be able to operate Odd or Even calendar days.
- Controller shall operate 7 day calendar by names of days of the week.
- Controller shall have the ability to set watering days by calendar day.
- Controller shall have a looping feature from one minute to 23 hours and 59 minutes. Looping feature shall be able to be activated by a remote sensor.
- Controller shall be able to turn off/on individual programs in their entirety with input
- Controller shall be able to control Master Valve/Pump Start by individual program.
- Controller shall be able to Water Budget from 5% to 250% in 5% increments.
- Controller shall have a test cycle to run each station from 3 seconds to 10 minutes and 59 seconds sequentially.
- Controller shall be able to clear individual programs or all programs automatically.

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LogicPLUS S System Specifications

-Continued-

- Controller shall be able to run a program manually. (semi-auto mode)
- Controller shall be able to operate up to 4 independent stations manually. (manual mode)
- Controller shall be able to have up to 31 days of Rain Delay function.
- Controller shall be able to be turned On or Off without loosing Current Date or time.
- Controller shall display Auto (On) or Off, day of the week, current time and Days of Rain Delay.
- Controller shall display program number operating, valve number operating and valve run time remaining.
- Controller shall be able to program LogicPLUS Receivers from the controller.
- Controller shall operate up to eight valves simultaneously of the same or different numbers.
- Controller shall be Radio Remote ready.
- Controller shall be able to “field test for shorts”.
- Controller shall have LED lights to confirm Master On and/or Fertigation On.
- Controller shall provide four independent two-wire field outputs.
- Controller shall have Surge Protection modular removable circuit board.
- Controller shall be able to operate with 100 VAC-240 VAC, 50 or 60 Hz or 12 VDC Solar or Battery Power.
- Controller shall be able to operate with Normally Closed Rain Sensor.
- Controller shall be able to operate by program up to 3 seperate Master Valves or Pump Start Relays up to
- 350 Ma. each.
- Controller shall be able to operate a Fertigation Relay
- up to 350 Ma.
- Controller shall have a “Diamond” software function to control Calendar, Run Times, Water Budget and Start
- Times from overlapping.
- Controller shall be housed in a Stainless Steel cabinet with key lock, suitable for wall mount or optional

RECEIVER

- Receiver shall have two red wires to connect to the Control System two-wire path and two black wires to connect to any standard 24 VAC solenoid. (no diode bridge solenoids or special solenoids)
- Receiver shall have a LED light to confirm power is on when receiver is activated.
- Receiver shall be gray in color.
- Receiver shall be able to be fitted with valve number Identification Tags provided.
- Receivers shall be shipped 16 per carton with Identification Tags #1 through #128 included and DBC - BR wire connectors.

LogicPLUS HAND-HELD PROGRAMMER

- LogicPLUS Hand-Held Programmer shall be able to program receivers independent of the controller.
- LogicPLUS Hand-Held Programmer shall be powered by 110 VAC plug in transformer of one 9V DC battery.
- LogicPLUS Hand-Held Programmer shall have two blue wire leads for programming LogicPLUS Receivers.
- LogicPLUS Hand-Held Programmer shall be able to program receivers from #1 through #128.
- LogicPLUS Hand-Held Programmer shall be able to test receivers from #1 through #128

PART NUMBERS

LP-42S-C	LogicPLUS S 42 Station Controller
LP-128S-C	LogicPLUS S 128 Station Controller
L-PED	Optional Stainless Steel Pedestal
LP-RP	LogicPLUS Receiver
LP-HHRP	LogicPLUS Hand-Held Programmer
L-RP-ID	LogicPLUS Receiver Identification Tag set #1 through #128
LP-SPD-F	LogicPLUS Surge Protection Line Device
DBC-BR	LogicPLUS approved splice Kit (2-Splice Kits)
LP-RAD-SK	Sidekick Radio Remote Control-

Universal 2 PLUS System Specifications

UNIVERSAL 2 PLUS CONTROL SYSTEM

- Universal 2 Control System shall use a minimum of 14 gauge direct burial wire with a maximum length of 12,000 feet per run.
- Universal 2 Control System shall be mounted 15 feet from all high voltage electrical equipment and pumps.
- Universal 2 Control System shall have Surge Protection Device installed every 300 to 500 feet with ground rod. (user supplied)
- Universal 2 Control System shall allow for field two-wire path to have unlimited Tee's, Crosses and "Wagon Wheel" design.

CONTROLLER

- Converter shall have No Power on field wires except when running a program.
- Converter shall have 40 stations.
- Converter shall operate up to 8 valves simultaneously of the same or different numbers.
- Converter shall provide two independent two-wire field outputs.
- Converter shall be able to operate at 120 VAC 60 Hz pr 230 VAC 50 Hz.
- Converter shall be equipped with a 24 VAC transformer.
- Converter shall be able to operate a Master Valve or Pump Start Relay up to 350 Ma.
- Converter shall be housed in a Stainless Steel cabinet with key lock, suitable for wall mount or optional pedestal mount.
- Converter shall be compatible with all standalone and satellite controllers with standard 24 VAC output.
- Converter shall utilize Logic PLUS two-wire technology to turn standard 24 VAC solenoid valves on and off as per the controller.
- Converter shall utilize a two-wire path and a receiver at each valve to operate up to 40 different numbered valves.
- Converter shall utilize infrared switching technology to isolate Converter and Controller from any feed back.
- Converter shall provide a resettable overload switch to protect against damage due to shorts in field wiring or valve solenoids.
- Converter shall require an 18 gauge wire to be connected from each Controller terminal to each same numbered terminal connection on the Universal Plus 2 converter.

RECEIVER

- Receiver shall have two Red wires to connect to control System two-wire path and two black wires to connect to any standard 24 VAC solenoid. (no diode bridge solenoids or special solenoids).
- Receiver shall have LED light to confirm power on to receiver.
- Receiver shall be Gray in color.
- Receiver shall be able to be fitted with number identification tags on wire.
- Receiver shall be shipped with two approved DBC-BR wire connectors.
- Receivers shall be shipped 16 per carton with identification Tags #1 through #40.

LogicPLUS HAND-HELD PROGRAMMER

- LogicPLUS Hand-Held Programmer shall be able to program receivers to desired valve number.
- LogicPLUS Hand-Held Programmer shall be powered by 110 VAC plug in transformer or one 9V DC battery.
- LogicPLUS Hand-Held Programmer shall have two blue wire leads for programming LogicPLUS Receivers.
- LogicPLUS Hand-Held Programmer shall be able to program receivers from #1 through #40.
- LogicPLUS Hand-Held Programmer shall be able to test receivers from #1 through #40.

Installation Specifications for LogicPLUS S

- Primary power input shall be 120 VAC 60 Hz or 240 VAC 50/60 Hz.
- When controller is not operating no power shall be delivered to field receiver. A 15 second “power up” delay shall occur
- When the controller initiates any activity to supply power to field receivers.
- Use only LogicPLUS Receivers (Gray color). Part number LP-RP
- Maximum total wire length from controller to any Receiver at end of the wire length is 12,000 feet. Minimum wire size is 14 gauge irrigation solid core copper direct burial wire. It is recommended to use two colors for field wire from the controller to valves. It is recommended to change colors at each Tee, Cross or Wagon Wheel connection. This will help with future trouble shooting.
- Wire layout allows for Tees, Crosses and Wagon Wheel layouts. Do not loop any wire layouts. Install all wire splices in valve boxes.
- Use only HIT/LogicPLUS DBC-BR splice kits, supplied with
- Receiver, to make all field wire connections from 2 wire path to Red wires on Receiver.
- Use only HIT/LogicPLUS DBC-BR or Use only HIT/LogicPLUS DBC-R/Y splice kits to make receiver to solenoid connections. (use Black wires on receiver).
- Use only standard 24 VAC solenoid, do not use low power or diode bridge solenoids.
- In multiple controller installations, each controller shall have it’s own dedicated ground rod (customer to supply) and grounding system. Do not connect multiple controller installations together in any way or share ground system.
- For lightning protection, install HIT/Logic PLUS Field Surge Protection, part number LP-SPD-F, every 300-500 feet along two wire path, and attach to ground rod (customer supplied). Install Field Surge Protection in valve box.
- Install LogicPLUS S controllers at least 15 feet from all power source or high voltage power meters, magnetic starters, pumps, variable speed controllers, etc., to eliminate any possible electrical magnetic interference, This is a computer.

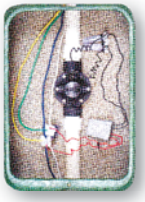
INSTALLATION

DO'S AND DON'TS

1. Use only LP-RP Receivers (Gray Molded Box) with the LogicPLUS S Controllers (LP-42 S, LP-128 S and Universal 2 PLUS). DO NOT use the L-RP (Black Molded Box) Receivers with the LogicPLUS S Controller or the LP-RP (Gray Box) Receiver with the Logic 1, Logic 2, Logic 3 or Universal-2 Controller.

2. Branching and Teeing is permitted. Plan well and take care to use only waterproof DBC-BR splice kits. All wire connections and splices are to be made in a valve box. DO NOT bury a connection or splice.

3. LogicPLUS receivers must be directly attached to the two-wire path; red wires to field wires, black wires to solenoid.



4. WIRE CONNECTIONS

   a. All field wiring connections between the LogicPLUS Receiver Red Wires and field wires must use the enclosed DBC-BR splice kits provided with each LP-RP Receiver. There is one red wire for each field wire. Connect one each of the LP-RP red wires to one each of the wires of the field two wire path. DO NOT USE PRE-FILLED GEL TYPE WIRE NUTS.

   b. All receiver to valve solenoid connections must be waterproof, using "dry type" wire connectors (Hit Products DBC series or 3M™ DBY/DBR series™). They also may be soldered and then installed in water proof housings.

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INSTALLATION

DO'S AND DON'TS

-Continued-

DO NOT USE RE-FILLED GEL TYPE WIRE NUTS.

5. DO NOT install the LogicPLUS S Controller, its receivers, or any LogicPLUS Field Wire within 15 feet or any high-voltage device; electrical panels, meters, pumps, equipment or controls.
6. Use with standard 24 VAC solenoids only. DO NOT use any with low power/diode bridge type solenoids.
7. Use different colored wires for each wire in each two-wire path.
8. LogicPLUS provides four separate field outputs. Line 1, Line 2, Line 3, and Line 4 DO NOT mix the wiring.
9. On multiple controller installations DO NOT connect any field wires of one controller to those of another controller. Each controller must have a separate ground rod and power supply.
10. DO NOT "loop" field wiring. Terminate line at last valve for each wire run.
11. Install and ground a LP-SPD-F (Surge Protection Device for the Field wiring) every 300 to

PLEASE REMEMBER

THIS IS A COMPUTER

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(800) 468-0071, ext. 115 for help.

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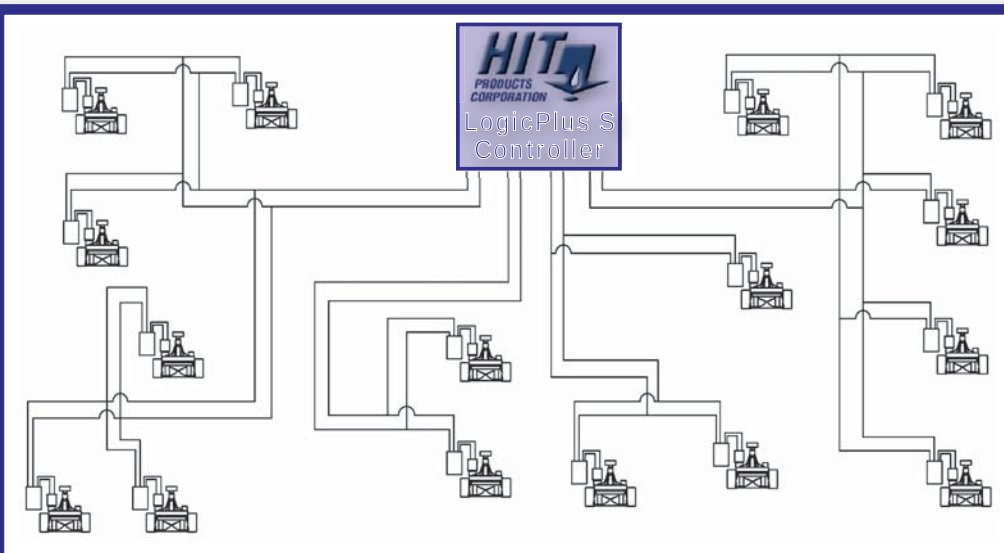

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