Hydro-X System / HCS-1

Hydro-X Environmental Control System

The Hydro-X / HCS-1 system is a complete, professional-grade environmental system, designed to automatically control indoor and greenhouse environments. It is designed to be modular and fully customizable, optimized to control all devices within a single growing zone.

HCS-1 for Hydro-X Control System

The HCS-1 comes standard with a multipurpose 3-in-1 Temperature / Humidity / Photocell sensor, the MBS-TH. The MBS-TH sensor, a CO2 sensor, smoke and water detectors can be daisy chained to the HCS-1 SENSOR port. Up to 5 smoke detectors and 5 water leak sensors can be connected.
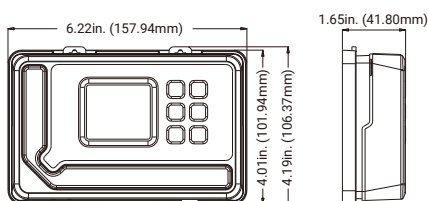
There are 2 lighting control channels that control an unlimited number of lights on 2 separate channels. The system can operate two different lighting systems at the same time. The LCD display on the HCS-1 provides you with current conditions and access to all settings. Entering settings is easy to do by using the 6 buttons on the front of the HCS-1, or you can change settings remotely by using the FREE TrolMaster APP.

Specifications

HYDRO-X (HCS-1)

Product Capacity

3-in-1 (Temp & Humidity & DayNight) Sensor	Max. 1pc per HCS-1
CO2 & Par Sensor	Max. 1pc each per HCS-1
Smoke & Water Detectors	Max. 5pcs each per HCS-1
Temp Device Stations	Max. 4pcs per HCS-1
Humidity & CO2 Device Stations	Max. 2pcs each per HCS-1
Program Device Stations	Max. 9pcs per HCS-1
Light Channel(s)	2 per HCS-1
Number of Lights	*Unlimited With the correct adapters

Operating Requirements

Temperature	32 °F to 120 °F (0 °C to 49 °C)
Humidity	5% to 90% RH, non-condensing

Power Supply

Supply Voltage	100-240VAC, 50/60Hz, 0.5A

Dimensions & G.W.

Dimensions	275*164*62mm 0.5A
Approx. G.W. Display & Control	1.08 kg

Display & Control

Size	Backlit 128x128 LCD Display
Control	Button Control
Language	English (International)
micro-SD	Save/Copy/Import/ Export data

Environment Setting

Temperature	40-100 °F
Humidity	20-99%
CO2	400-2500PPM
Light Intensity	10-2000 PPFD

*current setting range

6.22in. (157.94mm)
1.65in. (41.80mm)
4.01in. (101.94mm)
4.19in. (106.37mm)

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Intertek
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RoHS

Connection

Daisy Chain Connection with RJ12 Splitter Hubs

The sensors and control modules (device stations) are connected to the HCS-1 with a standard RJ12 cable and RJ12 Y-splitters, making installation as simple as plug-and-play. The modules are "daisy-chained" together using the RJ12 cables allowing for flexible installation, and future expansion. To make installation even easier, you can also use the SPH-1 8-port hub instead of using the Y-splitters.

Remote Control

Mobile App

The LCD interface and buttons on the HCS-1 can be used to change settings and view data, PLUS the HCS-1 can be controlled with a free smartphone App which offers remote monitoring, remote settings and receiving push alert notifications anytime, anywhere. Complete control of your grow room can be achieved remotely.

Steps To Connect To The App

To connect the HCS-1 to your App, first connect it to the Internet. Use a CAT 5/6 cable to connect the HCS-1 to your router directly for the most reliable connection. When the controller is connected to the internet, the internet symbol will be displayed on the lower right corner of the LCD display. To link the HCS-1 to the App, simply open the TM app and scan the QR code on the front LCD screen of the controller. (Go to System – QR Code.)

Lighting Control

With Hydro-X System

Light Control

When used with one of Trolmaster's LMA series of lighting adapters, the Hydro-X can control almost all horticultural lighting systems, LED or HID. The HCS-1 has 2 separate lighting control channels that will allow users to control two different lighting systems at the same time with separate setpoints.

MBS-PAR

This sensor can be connected to the Hydro-X system to provide "passive" measurement of "PAR" (Photosynthetically Active Radiation). Or after entering the value of the desired amount of PPFD (ulmol) to HCS-1, the PAR sensor will "actively" increase or decrease the output level of the supplemental lighting systems to continuously maintain the exact lighting level (in terms of PPFD) selected.

3-in-1 Sensor (Temp / Humidity / Photocell) (MBS-TH)

Temp / Humidity / Photocell

The MBS-TH sensor can detect air temperature, humidity, and has a photocell to determine Day and Night. The sensor will detect the environmental parameters then send the collected data back to the Hydro-X. By using different modules connected to the Hydro-X system, the controller will then send signals to the modules and control those devices based on the environmental readings provided by the 3-in-1 sensor.

*Photocell sensor detects only the presence of light, not light intensity.

Temperature

Temperature can be regulated with the modules by controlling the temperature control devices.

For example, the ARS-1 can control mini-split AC, TS-2 can control HVAC system etc.

Other temperature controlling modules include: DST-1, DST-2, TS-1, TSH-1.

Humidity

Humidity can be regulated with the modules by controlling the humidity control devices.

For example, the HS-1 can control dehumidifiers, TSH-1 can control EC fans etc.

Other humidity controlling modules include: DSH-1, DSH-2.

Other Controls & Sensors

For Different Circumstances

CO2

CO2 Sensor (MBS-S8) can be added to detect CO2
CO2 level can be regulated with the modules by controlling the CO2 control devices. For example, the DSC-1 can control CO2 tank regulators and CO2 generators etc. The MBS-S8 CO2 sensor is required if you will be operating supplemental CO2.
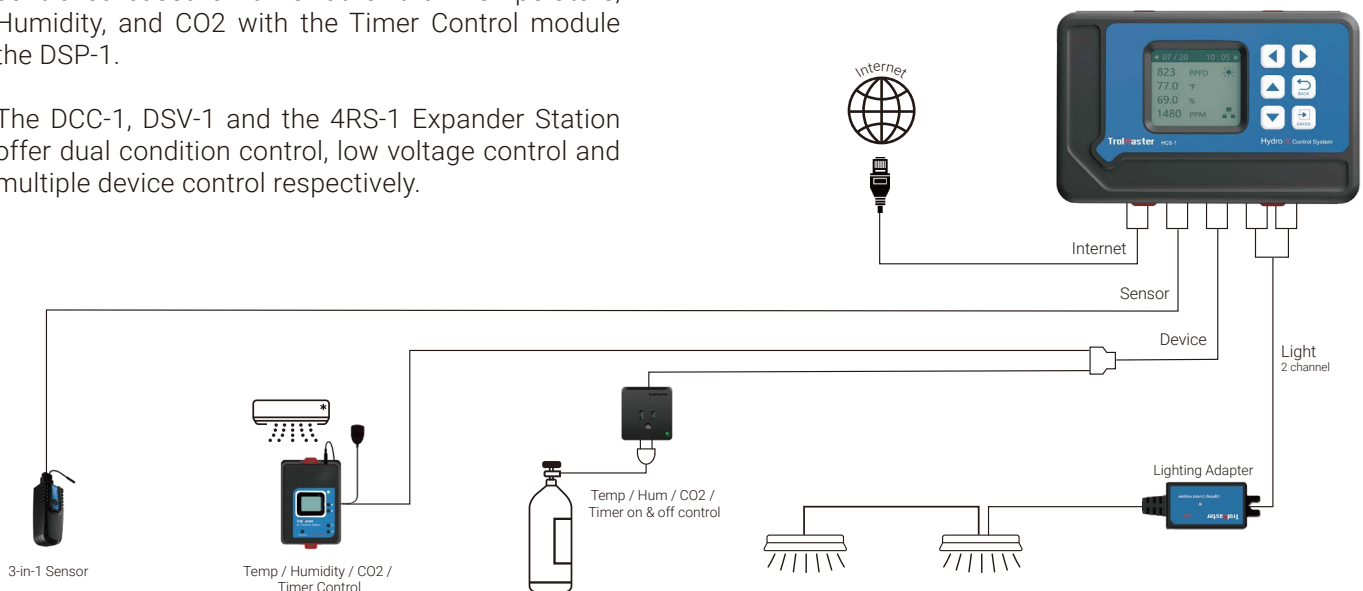
Other Control

There are other modules that can be used to control devices in different circumstances in accordance with user's need.

For instance, devices like fans or pumps can be controlled based on time rather than Temperature, Humidity, and CO2 with the Timer Control module the DSP-1.

The DCC-1, DSV-1 and the 4RS-1 Expander Station offer dual condition control, low voltage control and multiple device control respectively.
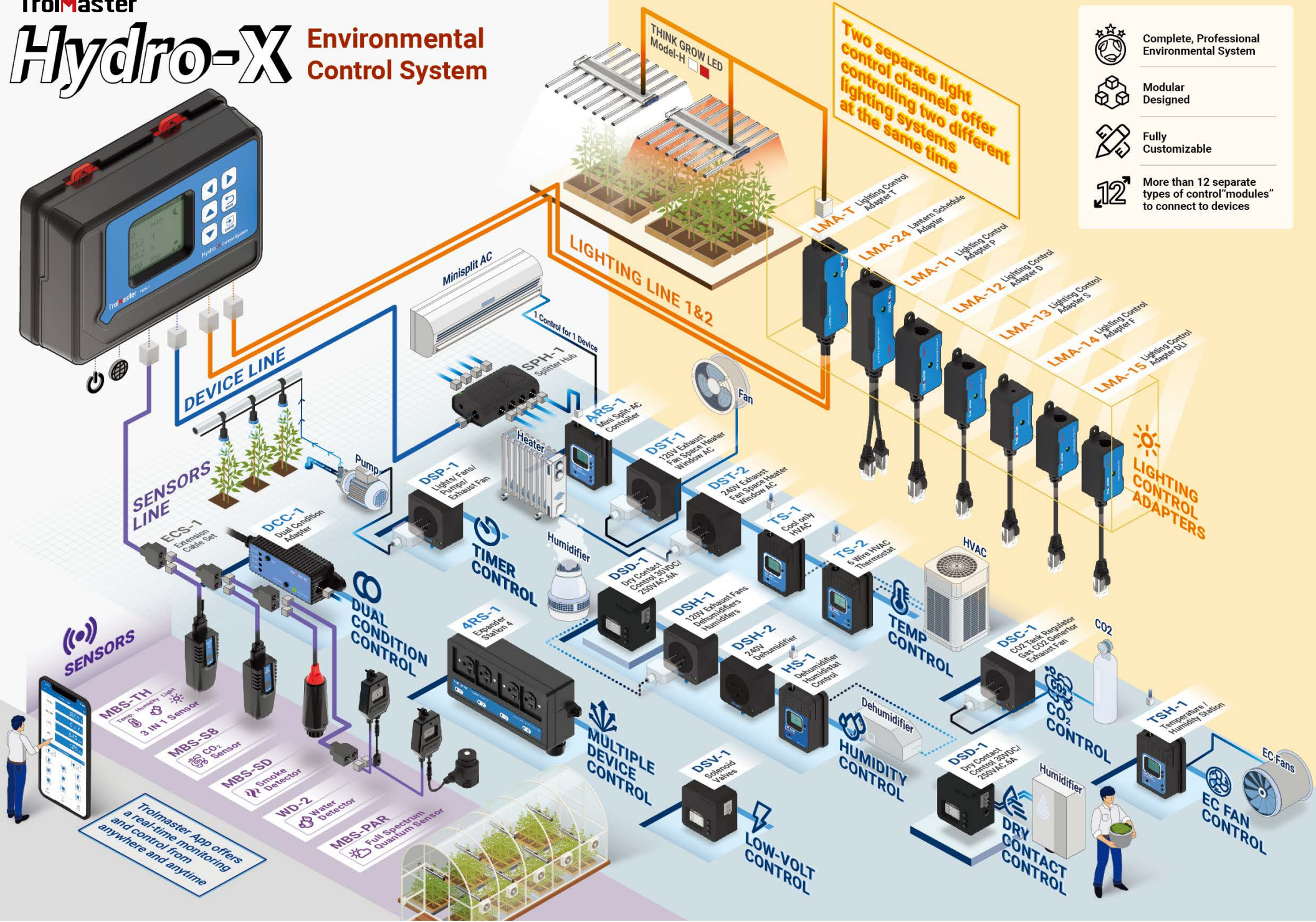
Other Sensor Alert

These 2 sensors: MBS-SD, WD-2, are used to detect smoke and water leakage. Warning alerts will be sent to users on TrolMaster's App when abnormal conditions are detected to alert them about potential problems before things get out of hand.

Internet

Internet

Sensor

Device

Light
2 channel

Lighting Adapter

Temp / Hum / CO2 /
Timer on & off control

3-in-1 Sensor

Temp / Humidity / CO2 /
Timer Control

TrolMaster

Hydro-X Environmental Control System

THINK GROW LED Model-H

Two separate light control channels offer controlling two different lighting systems at the same time

Complete, Professional Environmental System

Modular Designed

Fully Customizable

More than 12 separate types of control"modules" to connect to devices

LIGHTING LINE 1&2

LMA-T Lighting Control Adapter 1
LMA-24 Lantern Schedule Adapter
LMA-11 Lighting Control Adapter P
LMA-12 Lighting Control Adapter D
LMA-13 Lighting Control Adapter S
LMA-14 Lighting Control Adapter F
LMA-15 Lighting Control Adapter DLI

LIGHTING CONTROL ADAPTERS

Minisplit AC

1 Control for 1 Device

DEVICE LINE

SPH-1 Splitter Hub

ARS-1 Mini Split-AC Controller

DST-1 120V Exhaust Fan Space Heater Window AC

DST-2 240V Exhaust Fan Space Heater Window AC

Fan

Heater

Humidifier

SENSORS LINE

Pump

DSP-1 Lights/ Fans/ Pumps/ Exhaust Fan

TS-1 Cool only HVAC

TS-2 6 Wire HVAC Thermostat

HVAC

DSC-1 CO2 Tank Regulator Gas CO2 Generator Exhaust Fan

CO2

ECS-1 Extension cable Set

DCC-1 Dual Condition Adapter

TIMER CONTROL

DSD-1 Dry Contact Control 30VDC/ 250VAC.6A

DSH-1 120V Exhaust Fans Dehumidifiers Humidifiers

DSH-2 240V Dehumidifier

TEMP CONTROL

CO_2 CONTROL

SENSORS

DUAL CONDITION CONTROL

4RS-1 Expander Station 4

HS-1 Dehumidifier Humidistat Control

Dehumidifier

TSH-1 Temperature / Humidity Station

EC Fans

MBS-TH Temp. Humidity Light 3 IN 1 Sensor

MBS-S8 CO2 Sensor

MBS-SD Smoke Detector

WD-2 Water Detector

MBS-PAR Full Spectrum Quantum Sensor

MULTIPLE DEVICE CONTROL

DSV-1 Solenoid Valves

LOW-VOLT CONTROL

HUMIDITY CONTROL

DSD-1 Dry Contact Control 30VDC/ 250VAC.6A

Humidifier

DRY CONTACT CONTROL

EC FAN CONTROL

Trolmaster App offers a real-time monitoring and control from anywhere and anytime