

# Programmable Benchtop DC Power Supplies



## Accurate

The programmable benchtop DC power supplies operate single-supply or intricate multi-power applications such as remote sensing calibration systems. Light measurement system upgrades and sensor calibration systems are easily implemented through a wide variety of interchangeable light source assemblies, lamp standards, and complimentary power supplies.

The power supplies are designed to accurately provide DC current to Labsphere's internal and external reference lamps and other light sources. The current output is selected and set in the LPS configuration software included with the power supply. On/Off control is done through the front panel or external trigger.

## Value

- Programmable regulated DC current
- Programmable regulated DC voltage
- Controlled current ramp up
- Lamp operation timer
- Easy on/off operation
- Front panel or remote control
- Current, voltage readback

## Front panel features

- On/Off button to turn the lamp on and off
- Info button to change the information displayed (status, run time, set up configuration, display brightness)
- LED indicators for:
  - Power
  - Error
  - Remote mode
  - Output on

## Reader panel features

- Lamp power and sense
- External remote trigger input
- Remote sense
- USB for remote programming

## Includes

- Programmable DC power supply
- LPS configuration software
- Operators manual
- Power cord

## Sold separately

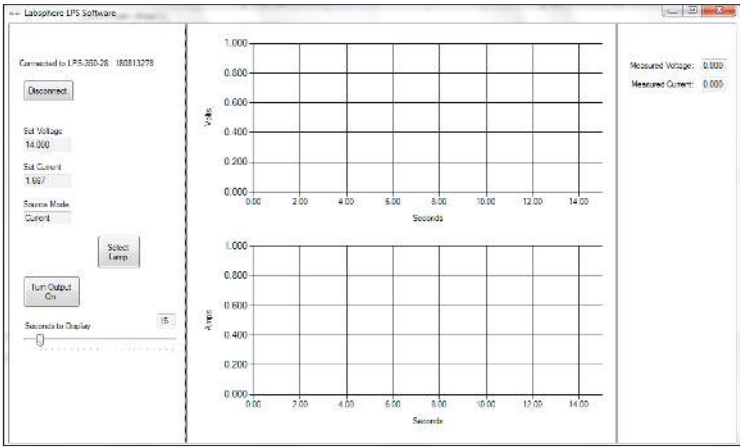
- Lamps
- Lamp cables

# General Specifications

|                        |                             |
|------------------------|-----------------------------|
| Display Type:          | 2 x 20 VFD                  |
| Output Connector:      | 7-Pin CPC                   |
| Remote Input:          | Yes                         |
| External Fan Supply:   | 12V DC, 0.5A Max            |
| Computer Interface:    | USB 2.0 Full Speed (Type B) |
| Power:                 | 100 - 240 VAC, 50/60 Hz     |
| Size: (inches)         | 1.75 H x 8.5 W x 13 W       |
| Weight:                | 5.0 lbs (2.3 kg)            |
| Operating Temperature: | +10°C to +40°C              |
| Storage Temperature:   | -20°C to +60°C              |

LPS is a 1U half-rack unit with optional rack-mount ears available.

## LPS Software Main Screen



## OUTPUT

The 7-pin CPC connector provides the electrical connections to the lamp (except interlock).

| Pin | Description  | Pin | Description |
|-----|--------------|-----|-------------|
| 1   | Sense+       | 5   | Power-      |
| 2   | Sense-       | 6   | Fan+        |
| 3   | Power+       | 7   | Fan-        |
| 4   | Earth Ground |     |             |

# LPS-175-27 Specifications

|                      |                   |
|----------------------|-------------------|
| <b>Model Number:</b> | <b>LPS-175-27</b> |
| Order Number:        | AS-03158-175      |

## SUMMARY

|                          |                             |
|--------------------------|-----------------------------|
| Maximum Current: (Amps)  | 8.33                        |
| Maximum Voltage: (Volts) | 27                          |
| Maximum Power: (Watts)   | 175                         |
| Operating Range:         | See chart on following page |

## SETPOINT

### Current

|                                                               |                 |
|---------------------------------------------------------------|-----------------|
| Range: (Amps)                                                 | 0 - 8.33        |
| Resolution: (Amps)                                            | 0.001           |
| Accuracy, Operating Points: ( $\pm$ [% set + A]) <sup>1</sup> | 0.025% + 0.0021 |
| Accuracy, Full Range: ( $\pm$ [% set + A]) <sup>2</sup>       | 0.05% + 0.0042  |
| Stability: (ppm, time)                                        | < 50, 1 hour    |
| Temperature Coeff: (ppm/°C)                                   | < 50            |
| Noise/Ripple: (mA rms)                                        | < 0.5           |
| Transients: (mA)                                              | < 0.6           |
| Compliance Voltage: (V)                                       | 27              |

### Voltage

|                                |               |
|--------------------------------|---------------|
| Range: (V)                     | 0 - 27        |
| Resolution: (V)                | 0.01          |
| Accuracy: ( $\pm$ [% set + V]) | 0.05% + 0.014 |
| Stability: (ppm, time)         | < 50, 1 hour  |
| Temperature Coeff: (ppm/°C)    | < 100         |

## MEASUREMENT

### Current

|                                     |                 |
|-------------------------------------|-----------------|
| Resolution: (mA)                    | 0.001           |
| Accuracy: ( $\pm$ [% reading + mA]) | 0.025% + 0.0021 |

### Voltage

|                                    |                |
|------------------------------------|----------------|
| Resolution: (V)                    | 0.01           |
| Accuracy: ( $\pm$ [% reading + V]) | 0.025% + 0.007 |

## LIMITS

### Current

|                      |      |
|----------------------|------|
| Resolution: (A)      | 0.01 |
| Accuracy: ( $\pm$ A) | 0.1  |

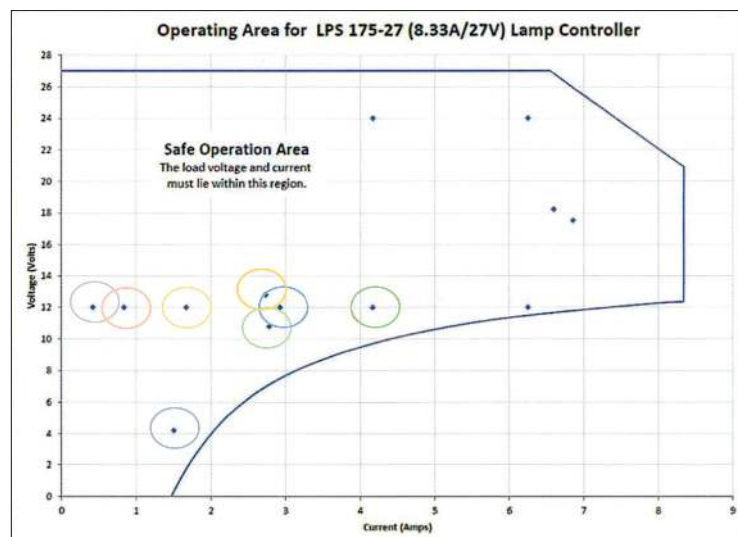
### Voltage

|                      |     |
|----------------------|-----|
| Resolution: (V)      | 0.1 |
| Accuracy: ( $\pm$ V) | 0.2 |

<sup>1</sup> Accuracy specified at up to 12 pre-defined operating points.

<sup>2</sup> Accuracy across entire operating range.

# LPS-175-27 Operating Envelope



Can be programmed to operate any DC lamp in this power envelope.

## Labsphere Lamps Operable with LPS-175-27

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 5                  | 12                  | 0.417 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| IHLS-100-005*      | AS-02631-005        |       |
| ITHS-050-5*        | ITHS-050-5          |       |
| ITHS-100-5*        | ITHS-100-5          |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 5                  | 4.2                 | 1.050 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| 2PI-1-INT-050 Lamp | AS-80006-000        |       |
| AUX-050            | AS-02986-050        |       |
| SCL-050            | AS-02528-001        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 10                 | 12                  | 0.833 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| AUX-10*            | AS-02631-010        |       |
| ETHS-10*           | ETHS-10             |       |
| HIS-010            | AS-03015-010        |       |
| ITHS-100-10*       | ITHS-100-10         |       |

\* Legacy

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 20                 | 12                  | 1.667 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| ETHS-20*           | ETHS-20             |       |
| HIS-020            | AS-03015-020        |       |
| ITHS-100-20*       | ITHS-100-20         |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 30                 | 10.8                | 2.778 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| IHLS-100-30*       | AS-02576-030        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 30                 | 12                  | 2.500 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| HIS-030            | AS-03015-030        |       |
| ITHS-100-30*       | ITHS-100-30         |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 35                 | 12                  | 2.917 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| EHLS-100-35R*      | AS-02630-035        |       |
| HIS-035*           | AS-03015-035        |       |
| AUX-35*            | AS-02639-000        |       |

| Watts               | Volts               | Amps  |
|---------------------|---------------------|-------|
| 35                  | 12                  | 2.600 |
| <b>Illuminator</b>  | <b>Order Number</b> |       |
| 2PI-1-INT-600* Lamp | AS-80003-000        |       |
| ICS-600*            | AS-02910-000        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 35                 | 12                  | 2.955 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| AUX-650            | AS-02986-650        |       |
| SCL-650            | AS-01335-100        |       |
| 2PI-1-INT-650 Lamp | AS-80003-100        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 50                 | 12                  | 4.167 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| AUX-50*            | AS-81060-002        |       |
| ETHS-50*           | ETHS-50             |       |
| FFS-100-400        | AS-02768-100        |       |
| HIS-050            | AS-03015-050        |       |
| IHLS-100-50*       | AS-02576-050        |       |
| ITHS-100-50*       | ITHS-100-50         |       |

# LPS-350-28 Specifications

**Model Number:** LPS-350-28  
**Order Number:** AS-03158-350

## SUMMARY

Maximum Current: (Amps) 13  
Maximum Voltage: (Volts) 28  
Maximum Power: (Watts) 350  
Operating Range: See chart

## SETPOINT

### Current

Range: (Amps) 0 - 13  
Resolution: (Amps) 0.001  
Accuracy, Operating Points:  $0.025\% + 0.0033$   
( $\pm[\% \text{ set} + A]$ )<sup>1</sup>  
Accuracy, Full Range:  $0.05\% + 0.0065$   
( $\pm[\% \text{ set} + A]$ )<sup>2</sup>  
Stability: (ppm, time) <50, 1 hour  
Temperature Coeff: (ppm/°C) <50  
Noise/Ripple: (mA rms) <1  
Transients: (mA) <1  
Compliance Voltage: (V) 28

### Voltage

Range: (V) 0 - 28  
Resolution: (V) 0.01  
Accuracy: ( $\pm[\% \text{ set} + V]$ )  $0.05\% + 0.014$   
Stability: (ppm, time) <50, 1 hour  
Temperature Coeff: (ppm/°C) <100

## MEASUREMENT

### Current

Resolution: (mA) 0.001  
Accuracy: ( $\pm[\% \text{ reading} + \text{mA}]$ )  $0.025\% + 0.0033$

### Voltage

Resolution: (V) 0.01  
Accuracy: ( $\pm[\% \text{ reading} + V]$ )  $0.025\% + 0.007$

## LIMITS

### Current

Resolution: (A) 0.01  
Accuracy: ( $\pm A$ ) 0.1

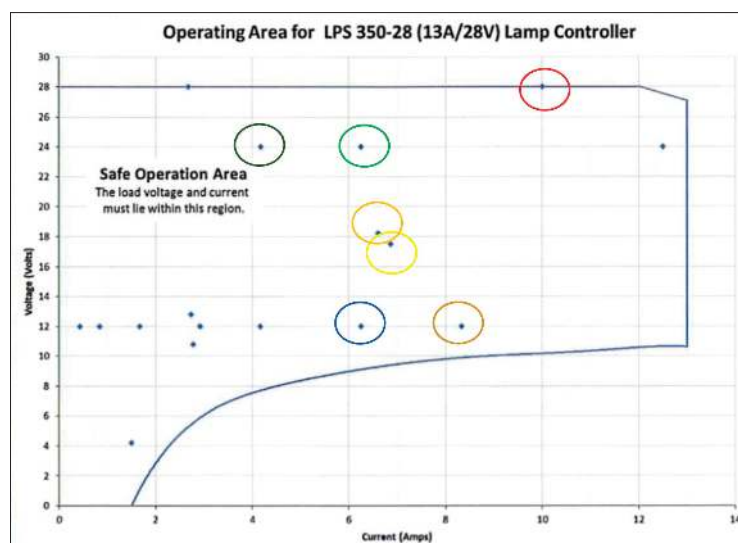
### Voltage

Resolution: (V) 0.1  
Accuracy: ( $\pm V$ ) 0.2

<sup>1</sup> Accuracy specified at up to 12 pre-defined operating points.

<sup>2</sup> Accuracy across entire operating range.

# LPS-350-28 Operating Envelope



Can be programmed to operate any DC lamp in this power envelope.

## Labsphere Lamps Operable with LPS-350-28

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 75                 | 12                  | 6.250 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| AUX-75*            | AS-02631-075        |       |
| HIS-075            | AS-03015-075        |       |
| IHLS-100-75*       | AS-02576-075        |       |
| ITHS-100-75*       | ITHS-100-75         |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 100                | 12                  | 8.333 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| FFS-100-1000       | AS-02768-200        |       |
| IHLS-100-100*, 12V | AS-02576-100        |       |
| EHLS-100-100R*     | AS-02630-100        |       |
| AUX-100*           | AS-02737-000        |       |
| HES-100            | AS-03014-100        |       |
| HIS-100            | AS-03015-100        |       |
| IHLS-100-100*      | AS-02631-100        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 100                | 24                  | 4.167 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| ETHS-100*          | ETHS-100            |       |
| ITHS-100-100*      | ITHS-100-100        |       |

\* Legacy

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 120                | 17.5                | 6.860 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| EHLS-100-120D*     | AS-02640-120        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 120                | 18.2                | 6.600 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| KI-120             | AS-02509-100        |       |

| Watts              | Volts               | Amps  |
|--------------------|---------------------|-------|
| 150                | 24                  | 6.250 |
| <b>Illuminator</b> | <b>Order Number</b> |       |
| ETHS-150*          | ETHS-150            |       |
| HES-150            | AS-03014-150        |       |
| HIS-150            | AS-03015-150        |       |
| IHLS-100-150*      | AS-02576-150        |       |



Advancing the Technology of Light: Measure. Create. Reflect.

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PB-14090-000 Rev 04

# LPS-525-42 Specifications

**Model Number:** LPS-525-42  
**Order Number:** AS-03158-525

## SUMMARY

Maximum Current: (Amps) 13  
Maximum Voltage: (Volts) 42  
Maximum Power: (Watts) 525  
Operating Range: See chart

## SETPOINT

### Current

Range: (Amps) 0 - 13  
Resolution: (Amps) 0.001  
Accuracy, Operating Points:  $0.025\% + 0.0033$   
( $\pm[\% \text{ set} + A]$ )<sup>1</sup>  
Accuracy, Full Range:  $0.05\% + 0.0065$   
( $\pm[\% \text{ set} + A]$ )<sup>2</sup>  
Stability: (ppm, time) <50, 1 hour  
Temperature Coeff: (ppm/°C) <50  
Noise/Ripple: (mA rms) <1  
Transients: (mA) <1  
Compliance Voltage: (V) 42

### Voltage

Range: (V) 0 - 42  
Resolution: (V) 0.01  
Accuracy: ( $\pm[\% \text{ set} + V]$ )  $0.05\% + 0.021$   
Stability: (ppm, time) <50, 1 hour  
Temperature Coeff: (ppm/°C) <100

## MEASUREMENT

### Current

Resolution: (mA) 0.001  
Accuracy: ( $\pm[\% \text{ reading} + \text{mA}]$ )  $0.025\% + 0.0033$

### Voltage

Resolution: (V) 0.01  
Accuracy: ( $\pm[\% \text{ reading} + V]$ )  $0.025\% + 0.011$

## LIMITS

### Current

Resolution: (A) 0.01  
Accuracy: ( $\pm A$ ) 0.1

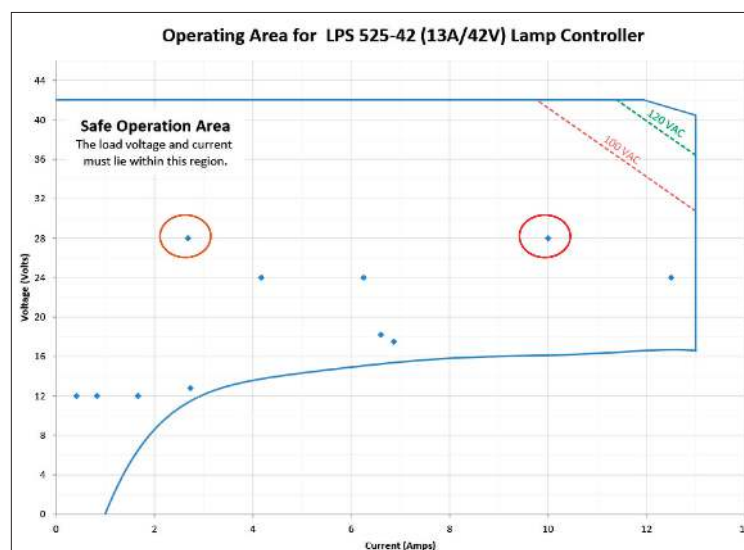
### Voltage

Resolution: (V) 0.1  
Accuracy: ( $\pm V$ ) 0.4

<sup>1</sup> Accuracy specified at up to 12 pre-defined operating points.

<sup>2</sup> Accuracy across entire operating range.

# LPS-525-42 Operating Envelope



Can be programmed to operate any DC lamp in this power envelope.

## Labsphere Lamps Operable with LPS-525-42

| Watts               | Volts | Amps                |
|---------------------|-------|---------------------|
| 75                  | 28    | 2.679               |
| <b>Illuminator</b>  |       | <b>Order Number</b> |
| 2PI-1-INT-1400 Lamp |       | AS-80004-000        |
| AUX-1400            |       | AS-02986-140        |
| ISC-1400            |       | AS-02910-001        |
| SCL-1400            |       | AS-01342-000        |