

## BASICS TO LIGHTING TECHNOLOGY

The Lighting Panel compares characteristics like power consumption, illumination, light flux, light efficiency, light intensity, light quantity and phase angle for various light types under different conditions.

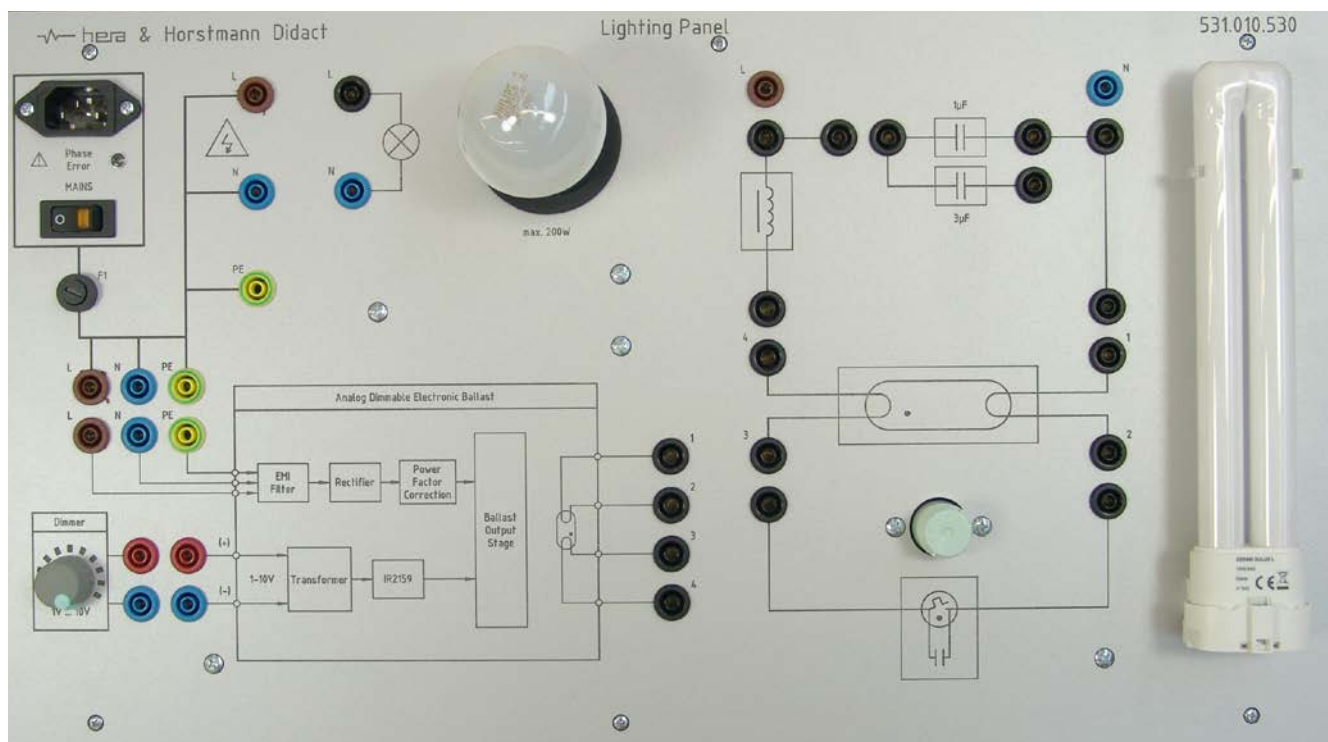
### Technical Details:

- Filament Lamp
- Halogen Lamp
- Mixed Light Lamp
- Fluorescent Lamp
- Energy Saving Lamp
- Electric Starter and Choke
- Dimmer

### Learning Content:

- Characteristics of filament lamps
- Characteristics of halogen bulbs
- Characteristics of a mixed light lamp
- Characteristics of a compact fluorescent lamp
- Characteristics of a fluorescent lamp
- Characteristics of a fluorescent lamp

>> Operating voltage: 220V... 240V, 50/60Hz >>  
 Dimensions: 532 x 297mm (WxH)



Lighting Panel 531.010.530

Your local Partner

## EL ESLEK

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### Basics to Lighting Technology

531.010.530	Lighting Panel	531.018.001	Manual with CD
531.011.000	Set of Accessory; Starter and Lamps Set	590.010.001	Lux Meter, digital
531.012.000	Set of Cables and Connectors		

## COMPONENT PANELS AND BOXES TO **LIGHTING TECHNOLOGY**



Lamp Socket E27 531.310.510



Special Lamp Panel 531.030.520

### Component Panels

531.310.510	Lamp Socket E27	531.540.520	Low-Pressure Sodium Vapor Lamp
531.320.510	Fluorescent Lampe 18W		incl. Ballast and Starter
531.330.510	Starter and Low-Loss Ballast 18W	531.030.520	High-Pressure Lamps (Halogen, Sodium, Mercury)
531.345.510	Capacitor 4,5µF		incl. Ballast and Starter
		531.032.520	Set of Cables and Connectors



### Training Boxes

302.106.100	Lamp Socket E27	302.113.300	Electronic Potentiometer for Electric Ballast
302.107.100	Lamp Socket E14	302.121.700	Electric Ballast, dimmable
302.121.400	Low-Loss Ballast 18W	302.120.600	Compact Fluorescent Lamp, dimmable
302.121.500	Low-Loss Ballast 36W	302.122.100	Capacitor 3,4µF for Double-Circuit
302.121.300	Electric Ballast 18W	302.122.200	Capacitor 4,5µF for Suppression
302.121.600	Electric Ballast 36W	302.126.100	Socket for Na-High-Pressure Lamp E40 and Bulb
302.113.200	Dimmer for Electronic Transformers	302.126.200	Ballast for Na-High-Pressure Lamp
302.120.100	Fluorescent Socket, no Starter (left side)	302.124.100	Conventional Transformer 230V/ 11,5V 60W
302.120.200	Fluorescent Socket, with Starter (right side) and 18W Tube	302.124.200	Electronic Transformer 20 – 70W
302.120.300	Fluorescent Socket, with Starter (right side) and 36W Tube	302.125.100	Halogen Lamp Socket with Bulb
302.120.500	Socket for Compact Fluorescent Lamp and 18W Bulb	302.126.100	Socket for Na-High-Pressure Lamp with 150W Bulb and Starter

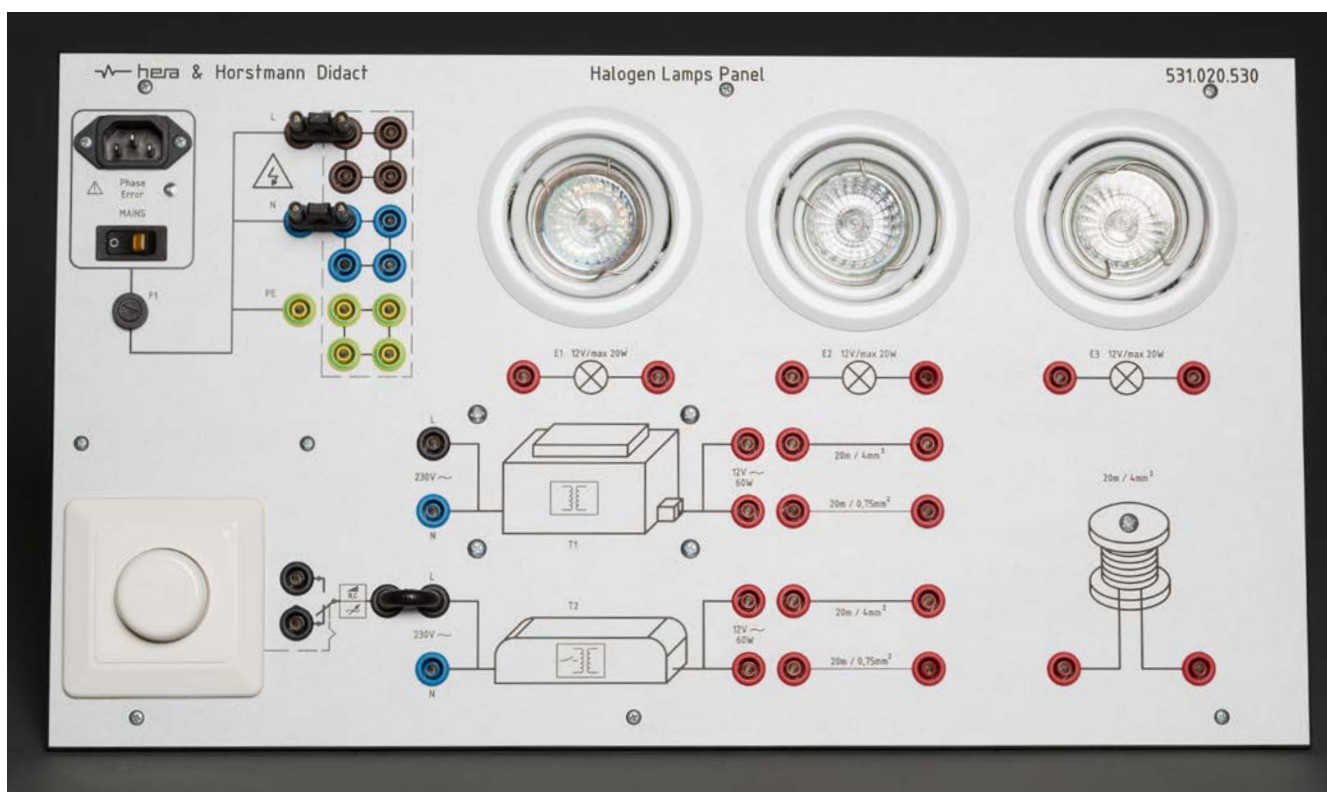
## BASICS TO HALOGEN LAMPS

The Halogen Lamps Panel is a perfect addition to the Lighting Panel, it intensifies the knowledge to halogen low-voltage lamps. The panel is equipped with 1x halogen low-voltage lamp with increased efficiency and 2x standard halogen low-voltage lamps, one transformer and a dimmer with phase angle control.

### Learning Content:

- Power loss of transformers
- Dimming halogen low-voltage lamps
- Characteristics of halogen low-voltage lamps and the influence of cable diameter and cable length

>> Operating voltage: 220V... 240V, 50/60Hz >>  
 Dimensions: 532 x 297mm (WxH)



Halogen Lamps Panel 531.020.530

Basics to Halogen Lamps			
531.020.530	Halogen Lamps Panel	590.010.001	Digital Lux Meter
531.022.000	Set of Cables and Connectors		
531.018.001	Manual with CD, Lighting Technology		

## BASICS TO LED TECHNOLOGY

The LED Lamp Panel compares the characteristics of light emitting diodes and power diodes with energy-saving lamps and halogen lamps by means of energy consumption, brightness, light diffusion, costs and operating hours. A digital thermometer with selector switch indicates the waste heat of each lamp. The panel is equipped with manual RGB controller for an individual adjustment of each color and the color changes can be observed.

For examination of the PWM signals the BNC outputs can be connected to an oscilloscope.

### Learning Content:

- Diodes and breakdown voltage
- Basics and characteristics of RGB diodes and power diodes
- Basics and characteristics of energy-saving lamps and halogen lamps
- Dimming with pulse width modulation (PWM)

>> Operating voltage: 220V... 240V, 50/60Hz >>  
 Dimensions: 532 x 297mm (WxH)



LED Lamp Panel 531.030.530



Basics to LED Lamps			
531.030.530	LED Lamp Panel	531.028.001	Manual with CD, LED Lamp Panel
531.032.000	Set of Cables and Connectors	590.010.001	Digital Lux Meter