

FireEdge™ FE410

Product Specifications



SLM™, TargetCure™, WhisperCure™ Technologies

Phoseon's patented technologies encapsulate LEDs, arrays, optics and cooling to maximize UV LED curing performance. The FireEdge™ FE410 UV LED light source provides high output power in an extremely compact mechanical package for high-speed pinning and full cure applications. The FE410 UV LED source is CE, UL, RoHS, and REACH compliant.



Performance

	365nm					385, 395, 405nm				
Peak Irradiance*	6W/cm ²					10W/cm ²				
Emitting Window (mm)	80x10	120x10	160x10	180x10	240x10	80x10	120x10	160x10	180x10	240x10
48Vdc Power In (Maximum)	143W 3.0A	227W 4.7A	269W 5.6A	322W 6.7A	432W 9.0A	201W 4.2A	280W 5.8A	385W 8.0A	401W 8.4A	502W 10.5A

*Peak Irradiance is expected to drop by 10% after replaceable cover glass is mounted.

Light Source Setup

Data & DC Power Connector on Light Source:
High Density DB-15, Male (See Pinout information on back)
Mating Connector on Cable:
High Density DB-15, Female
(Must accept 22AWG wire)

FE410s scale side-by-side to create longer curing lengths. A hub is available for controlling up to six FE410s. Phoseon PN: 33644

Operating Environment:
Indoor use only
Temperature: 10 to 45°C
Humidity: < 80% non-condensing for temperatures up to 30°C
Altitude: up to 3,000 m
Storage Temperature: -20 to 85°C

Optional Replaceable Cover Glass

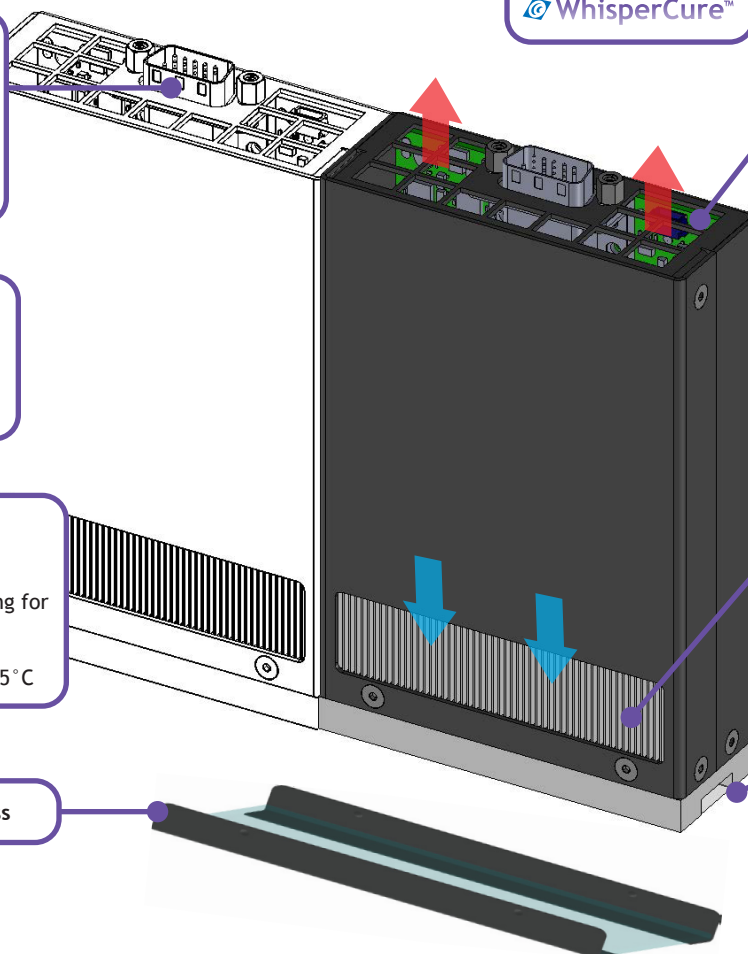
TargetCure™
WhisperCure™

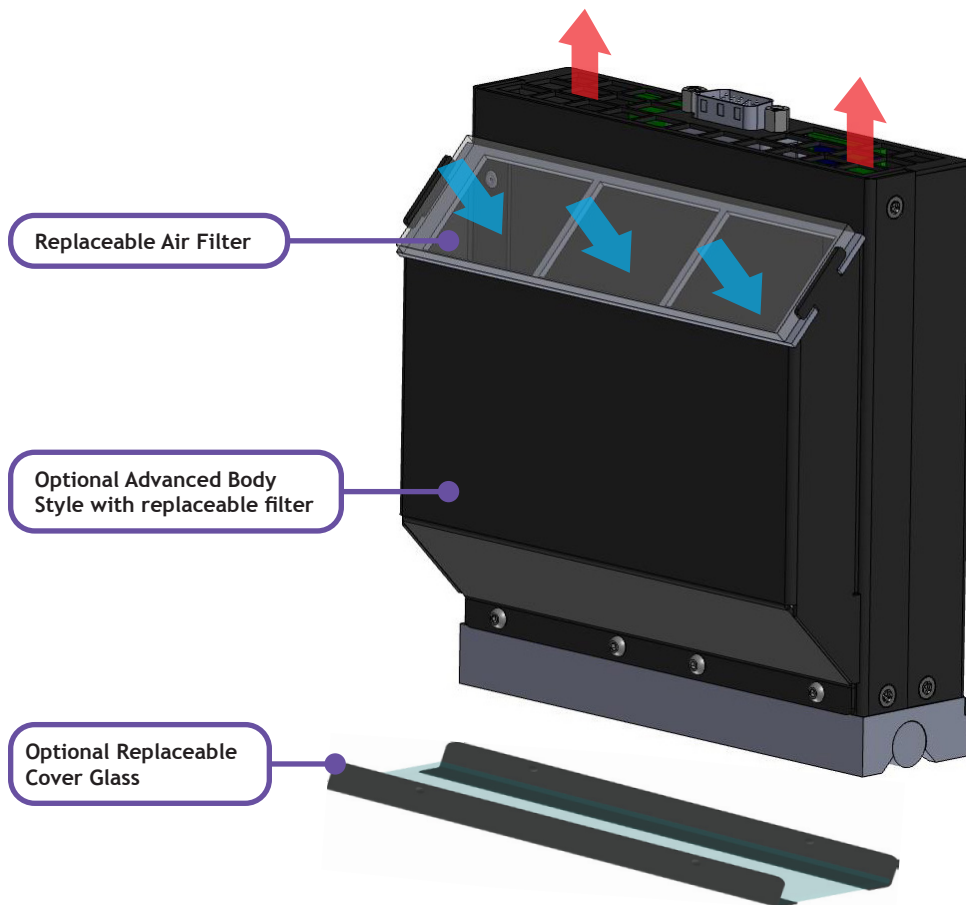
Air Exhaust
Allow 50mm minimum clearance in front of exhaust

Max fan capacity:
80x10: 10.5 CFM
120x10: 14.0 CFM
160x10: 21.0 CFM
180x10: 24.5 CFM
240x10: 28.0 CFM

Air Inlet
Ambient Air: <45°C
Allow 21mm minimum clearance in front of inlet

Optics (Window glass)
Directs the UV light to meet application requirements. See next page for options.





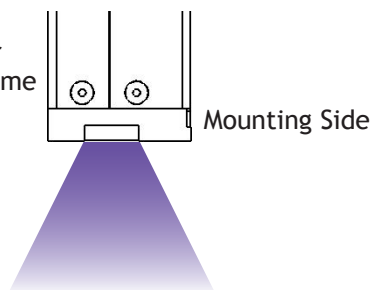
Emitting Length	Air Filter	Cover Glass
80x10mm	33538	34505
120x10mm	33539	34506
160x10mm	33540	34507
180x10mm	33543	34508
240x10mm	33541	34509

All air filters come in kits of 10.
All cover glasses come in kits of 5.

Available Optics

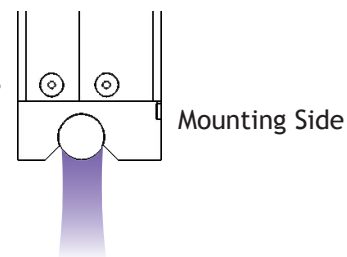
Flat Glass

Wide footprint for maximum dwell time



Rod Lens

Minimum light spread reduces stray light effects

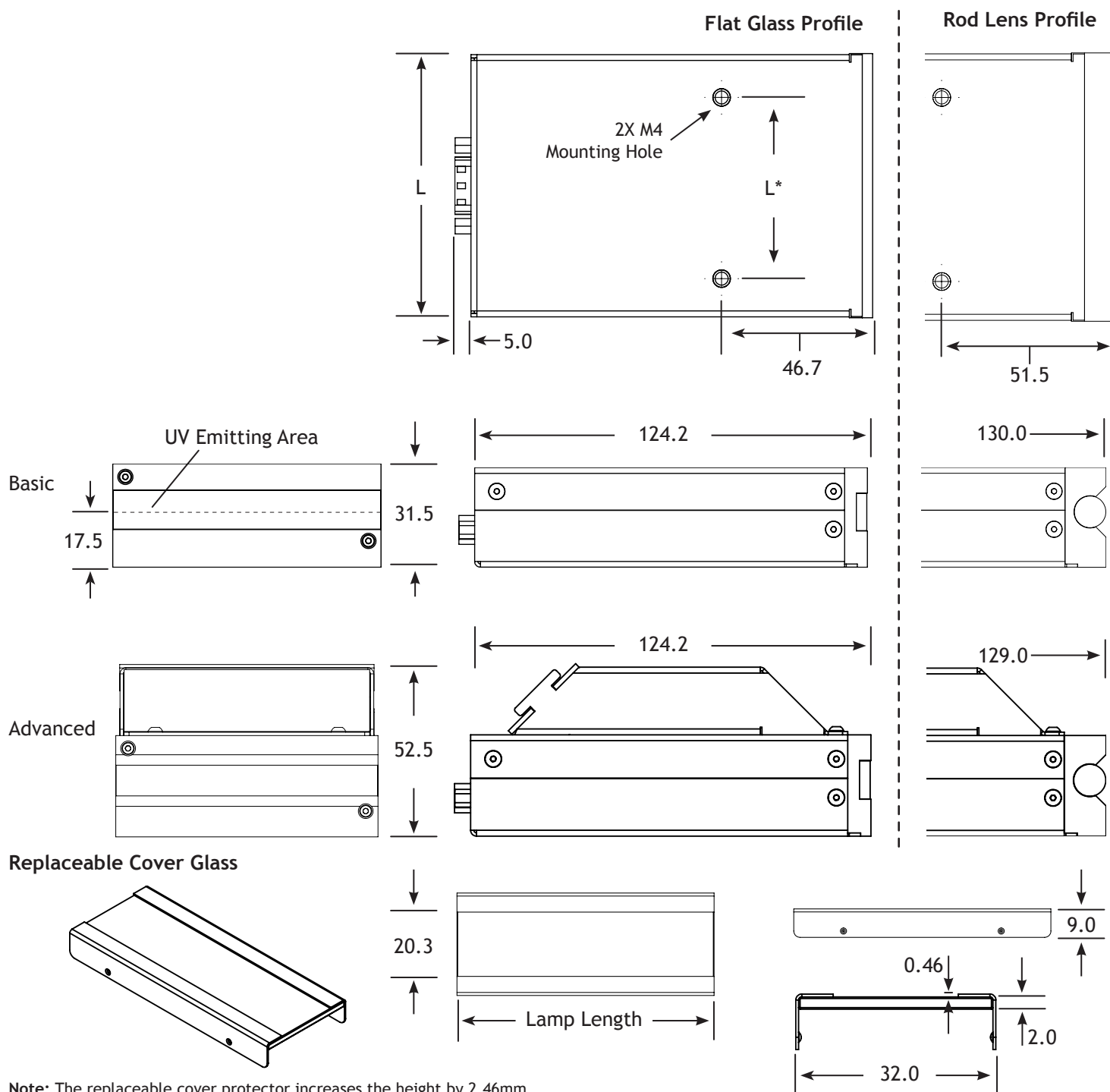


Dimensions

Units of measurement: mm

FireEdge FE410										
UV Emitting Window (mm)	80x10		120x10		160x10		180x10		240x10	
Body Style	Basic	Advanced	Basic	Advanced	Basic	Advanced	Basic	Advanced	Basic	Advanced
L	81.6		121.6		161.6		181.6		241.6	
L*	56.0				116.0					
Weight (kg)										
Flat Glass	0.28	0.31	0.36	0.40	0.49	0.54	0.55	0.61	0.69	0.77
Rod Lens	0.31	0.34	0.42	0.46	0.57	0.62	0.63	0.69	0.79	0.87

L* is the distance between mounting screw holes.



Note: The replaceable cover protector increases the height by 2.46mm.

PLC Interface

2 Intensity Control: (Voltage Input)

0.5V = 5% of full power, 10V = 100% of full power

The internal resistive load on this Pin is 11kΩ

3 Enable High: (24V PLC Input)

0 to 4V (ground/open input) = OFF or 16 to 24V = ON

Refer to pin equivalent circuit for internal resistive load.

4 Low Intensity Mode (24V PLC Input)

0 to 4V (ground/open input) = OFF (Default Mode)

or 16 to 24V = ON (Low Intensity Mode)

In Low Intensity Mode the Peak Irradiance is reduced by a factor of 10

The internal resistive load on this Pin is 200kΩ.

	Pin 2 Intensity Control	
	0.5V (5%)	10V (100%)
Default Mode	500mW/cm ²	10.0W/cm ²
Low Intensity Mode	50mW/cm ²	1.0W/cm ²

5 Lamp Ready:

0 to 4V = Not Ready or 16 to 24V = Lamp Ready

The external resistive load on this Pin must be >3kΩ

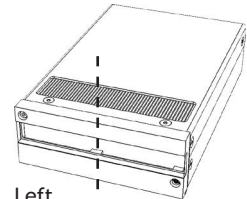
The NOT Ready state is triggered by:

Insufficient DC Input voltage

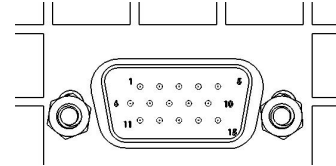
Excessive internal temperature



HD-DB-15
Connector



Left
SLM
Right
SLM



7 Disable Left SLM™ (24V PLC Input)

0 to 4V (ground/open input) = OFF (Default Mode)

or 16 to 24V = ON (SLM Disabled)

Refer to pin equivalent circuit for internal resistive load.

13 Disable Right SLM™ (24V PLC Input)

0 to 4V (ground/open input) = OFF (Default Mode)

or 16 to 24V = ON (SLM Disabled)

Refer to pin equivalent circuit for internal resistive load.

1, 6, 11, 12 +48Vdc Input

8, 9, 10, 14, 15 Ground (+48Vdc Return)

Note: Low Intensity, Disable Left SLM, and Disable Right SLM are light source configuration switches. Phoseon does not recommend dynamic switching of these lines. Allow at least 250ms for the mode to enable or disable.

For Disabling/Enabling half the light source: 80mm, 120mm, 160mm, and 240mm lamps have the capability to Disable/Enable exactly half the length of the light source; 180mm lamp has a 60/120 split.

The equivalent circuits inside the FE410 UV light source are shown below:

