

# COMPACT EVO AC

## Industrial High Power Diode Laser

The Compact Evo AC is an air-cooled diode laser subsystem with up to 500 W continuous-wave output power. It is designed for continuous operation in industrial environments and is delivered as a 19-inch rack-mountable unit. The fiber is permanently attached to the laser unit and ends in an RQB connector, which is compatible with QBH interfaces.

This system uses single-emitter diode laser technology and offers an electrical efficiency above 45%. The air-cooling design removes the need for an external chiller or additional fiber cooling, simplifying installation and maintenance. It delivers a near top-hat beam profile with more than 90% homogeneity. Additional features include fiber plug-in and break monitoring, an integrated red pilot laser, and a DLC controller with logging functions and remote service support.

The Compact Evo AC shares the same user interface as other models in the Compact Evolution Series, allowing for straightforward integration into existing systems. Several process optics and fieldbus communication options are available. It also fulfills Performance Level “e” according to EN ISO 13849-1 safety standards.



### FEATURES

- Easy-to-integrate fiber-coupled system
- 19" rack-mountable unit (5HU)
- High beam homogeneity of tbd mm mrad
- Diode laser control unit (DLC)

### APPLICATIONS

- Plastic welding
- Selective Soldering and Brazing
- Heat Treatment

<b>Optical Parameters</b>	
Optical Output Power (W)	500
Stability Over 24-hour (Room $\Delta T = \pm 0.5$ K) (%)	<2
Wavelength (nm)	980
Wavelength Tolerance (nm)	$\pm 10$
<b>Pilot Laser</b>	
Wavelength(nm)	640
Output Power (Laserkategorie)	3R
<b>Fiber Parameters</b>	
Fiber Connector Type <sup>1</sup>	RQB (QBH Compatible)
Numerical Aperture (NA)	0.22
Fiber Core Diameter ( $\mu\text{m}$ )	300
<b>Electrical Parameters</b>	
Operating Voltage (V)	110-240
Frequency (Hz)	50/60
Power Consumption (kVA)	1.2
Overall Efficiency (Without Cooling Unit) (%)	> 45
Max. Repetition Rate (Hz)	1000
Modulation Pulse Width (Min. Value) ( $\mu\text{s}$ )	> 500
Modulation Rise/Fall Time (Min. Value) ( $\mu\text{s}$ )	< 200
<b>Thermal Parameters</b>	
Ambient Temperature in Operation (100% DC) ( $^{\circ}\text{C}$ )	15 to 40 (<90% humidity)
Storage Temperature ( $^{\circ}\text{C}$ )	0 to 50
<b>Interfaces</b>	
Standard Configurations – Analog/Digital	0-10 V Analog Power Setting
Interface (V)	24 V Digital Signals
Options	EtherCAT, CANopen, RS232
<b>Mechanical Parameter</b>	
Dimension [w x h x d] (Inch x mm x mm)	19 inch x 221.5 x 497 19 inch x 221.5 x 997 (Incl. Bending Radius of Fiber)
Weight (Including Water/Air-Chiller) (kg)	<35
Protection Class	IP52

## MECHANICAL SPECIFICATIONS

### Compact Evolution AC

