

LIGHT BEAM
- spot -



Automatisierungstechnik
Niemeier GmbH

Soldering system ***with IR-light***



Light source with process control and power unit

- *contactless heat transfer to workpiece*
- *selective reflow soldering*
- *integrated control of all soldering functions*
- *low operating costs*
- *easy maintenance*

Single point soldering with IR-light

Soldering with focused, infrared light is a high precision technology applicable to single joints in the production, final assembly, or repair of 3D MID components.

The light source is a special halogen lamp with an integrated reflector and lens, which focuses the emitted light at the soldering joint at the exact point where heat is needed. The soldering

temperature is achieved by the absorption of the ray at the focal point. The heat distribution is precise enough to leave the periphery of the heated area unaffected.

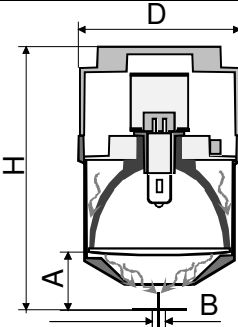
The method is suitable for both reflow-soldering with soldering paste and for soldering wire.

The advantages of soldering with infrared light without any periph-

eral contact are indisputable:

- no contact between tools and components
- low operating costs
- precise control of energy
- easy integration into automated applications
- easy maintenance
- easy handling

Technical data

| | | |
|-----------------------------|----------------|---|
| Light source | S250 |  |
| Power-input | 250 W, 24 V | |
| Power output (focal point) | 10 –15 W | |
| Dimensions (DxH) | 80 mm x 131 mm | |
| Diameter of reflector | 64 mm | |
| Distance (A) | 30 – 50 mm | |
| Diameter of focal point (B) | 2.5 – 3.0 mm | |
| Wave length | 500 – 1500 nm | |
| Durability | 50 – 100 h | |

| | | |
|----------------------------|--------------------------------------|---|
| Control unit | LBS-400 | Options <ul style="list-style-type: none"> • Rotary valve for dispensing solder paste • Laser pointer for teaching soldering positions • Serial interface (RS-232) for process parameter transfer |
| Output power | 400 W max. | |
| Sets of process parameters | 8 | |
| Interfaces | 24 V signals RS-232 interface | |
| Dimensions (19"-case) | 440 x 132 x 223 mm (3 HE x 84 TE) | |

Technical description of *LightBeam-spot*

The LightBeam spot is a light soldering system designed for integration into automatic production systems. It consists of a light source, control and power unit.

The light source is a 250 W halogen lamp, which emits light with wavelengths of 500-1500 nm. The lamp is surrounded by an ellipsoid reflector, which focuses the emitted light at the soldering point precisely where the heat is needed.

The soldering point has a spot-diameter of 2.5-3.5 mm with a focal length of 40 mm from the optical system. At this distance, the unit is positioned. With a

starting power of 250 W (or optionally 150 W), the ray reaches a soldering power of 10-15 W at the focal-point.

With the standby mode, which switches on automatically, the life time of the light source is maximised.

The integrated microcontroller permits the process control of all functions with only one input signal. The parameters can be modified by a menu-driven LC-display or by using the RS-232 interface.

Optionally, the system can be expanded to include temperature regulation by means of a pyrom-

eter and a respective input module.

