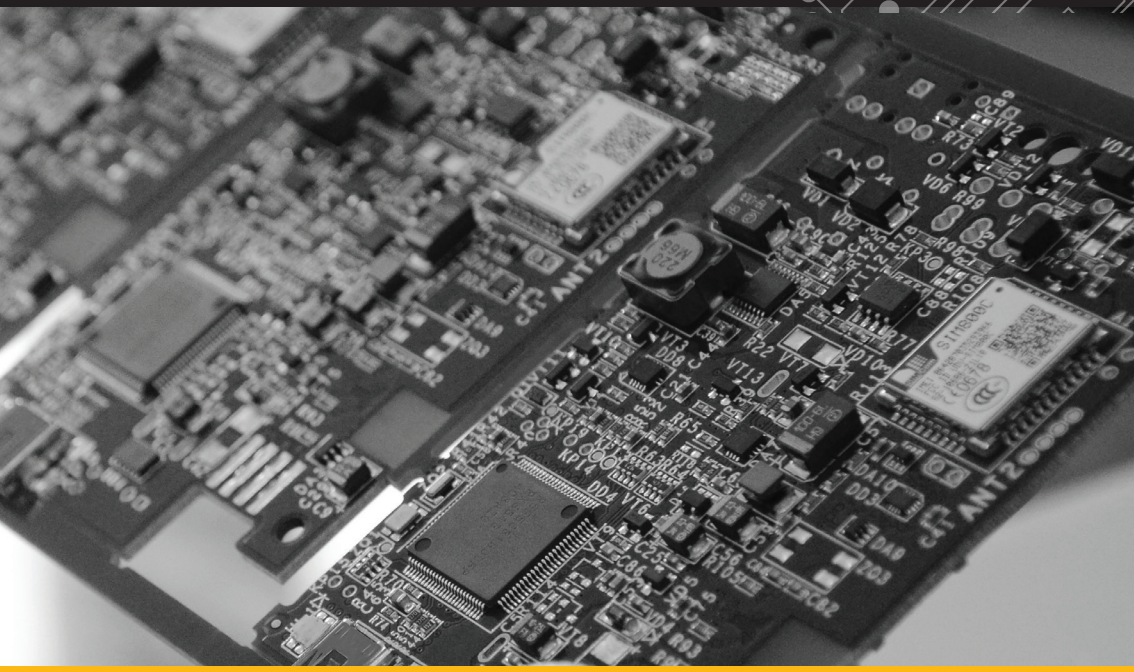
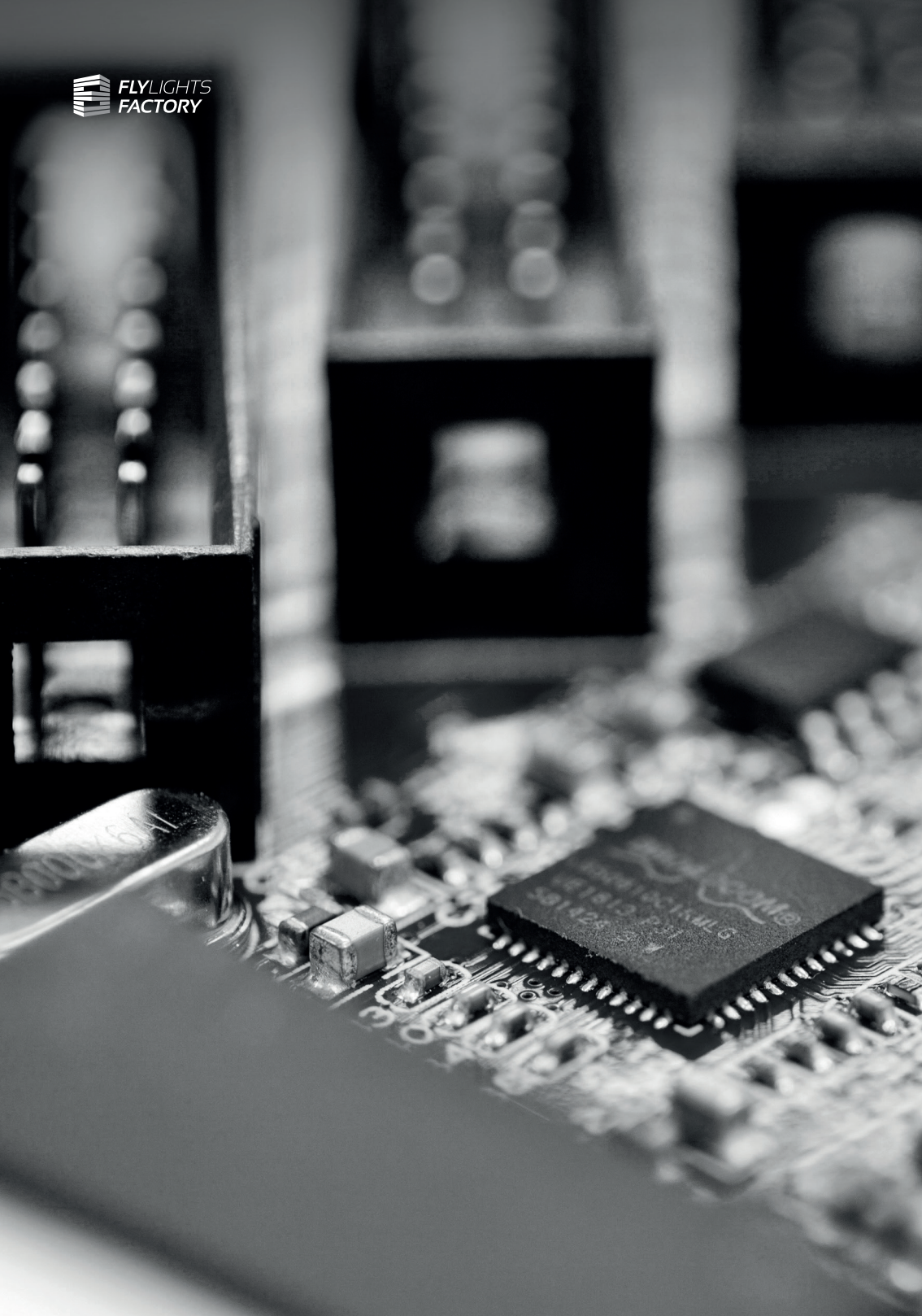
FLYLIGHTS FACTORY

FLY-FACTORY.COM

UKRAINIAN MANUFACTURER OF ELECTRONICS

«BRIGHT OPPORTUNITIES OF HIGH TECHNOLOGIES»




FLYLIGHTS
FACTORY

Yurii SKRYPNYK,

Director of
FLYLIGHTS FACTORY

ABOUT US

Flylight Factory is a company offering contract manufacture of electronic products as well as LED modules. The factory has modern equipment from the best producers which makes it possible to manufacture products of the highest quality which meets world standards.

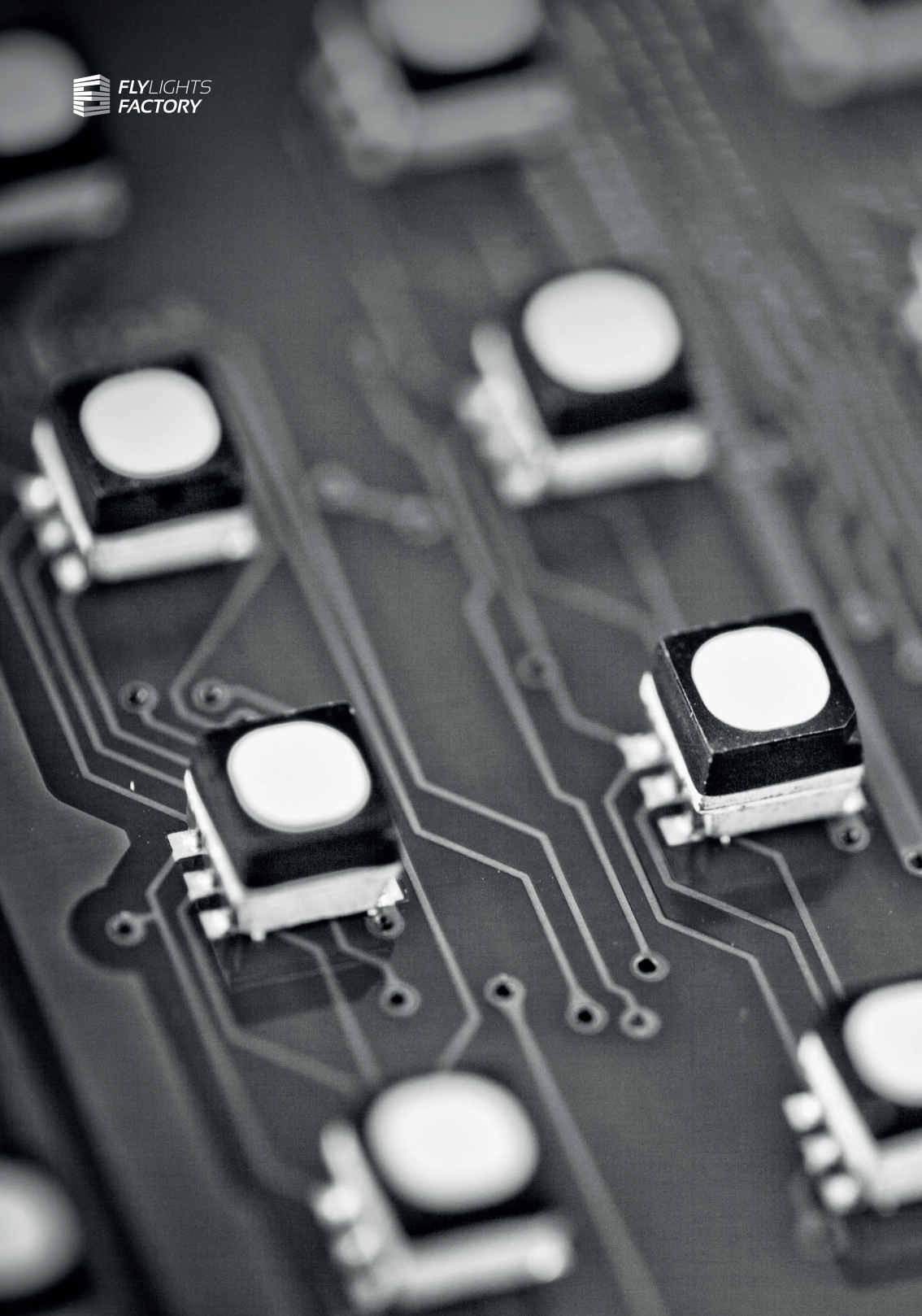
OUR HISTORY

Flylights Factory was based on the Flylights company, which has been on Ukrainian market since 2008 and is specializing in complex solutions in assembly, installation, technical service of LED products of various level of complexity.

Over the years of successful work, the company experts have implemented over 7 000 projects developing technical documentation, design, content and installing objects created with LED products. That is why we made a decision to create a factory that would be able to produce SMD LED modules for LED displays and provide services of contract manufacture.

In 2017 we opened Flylights Factory. Nowadays the company offers the complete range of services from receiving and developing technical documentation to shipment or turnkey installation of the finished product.

We work to make the world brighter!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OUR VALUES

WE OFFER our clients a wide range of innovative high-quality products.

WE AIM to manufacture products using only modern advanced technologies and implement them in our production process.

WE ARE COMMITTED to provide high-quality service and comfort to our clients.

WE VALUE each client, since their success is our achievement and the good name of our company.

WE ARE PROUD to be leaders of Ukrainian market of LED displays.

WE WORK to improve and reach new achievements.

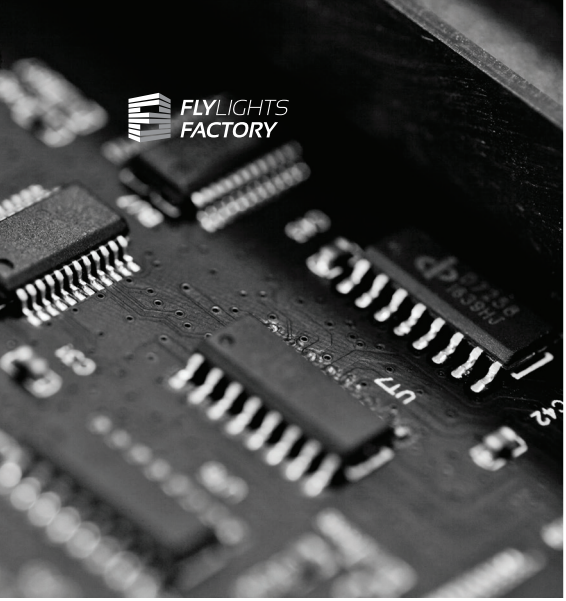
CONTRACT MANUFACTURING

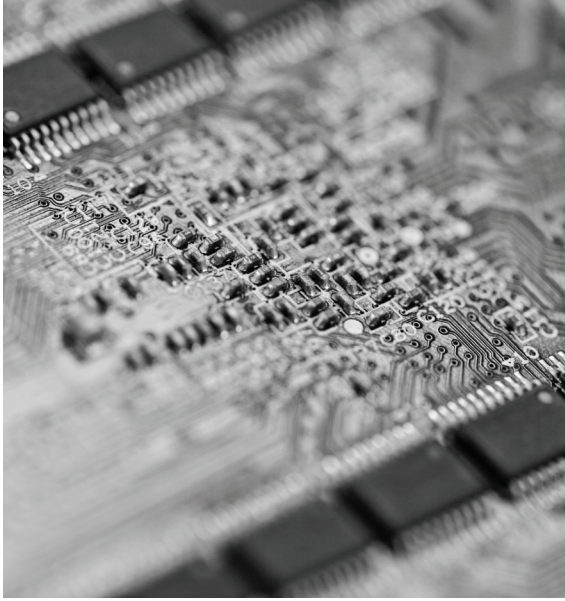
Flylights Factory offers the companies of electronic industry its services of contract manufacturing of printed circuit boards of any level of complexity*. Solving the tasks set by our customers, we provide the following complex services:

- supply of printed circuit boards, stencils for application of solder paste;
- automated SMT installation of components from chip resistors – 0402 to BGA packages;
- installation of non-standard elements;
- housing assembly;
- manual installation of DIP components.

Factory is equipped with a modern SMD assembly equipment and is also export-oriented.

The production uses the assembly line consisting of a PCB Board Stencil Printer, two pick and place machine with a total production capacity of up to 60 000 SMD components per hour, a ten-zone convection oven and a PCB unloader. The washing of the printed units is carried out in an ultrasonic bath.

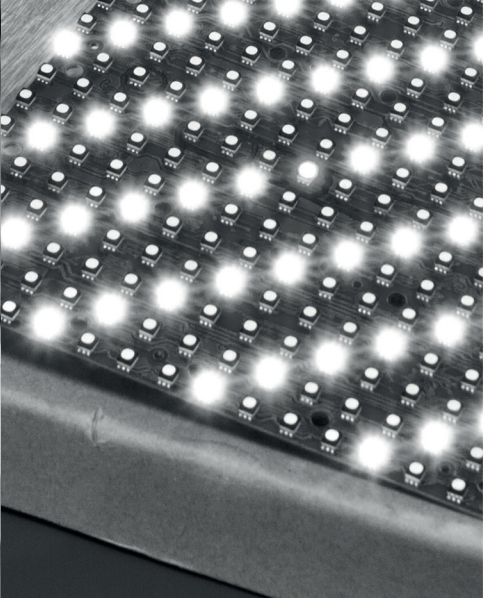




The components pick and place machine is equipped with a single portal with ten and six installation heads of the latest design. The centering cameras are located on the installation module in a way that ensures instant component recognition, that is, during the process of moving them to the board, excluding the unnecessary movement of the installation module itself. This allows to achieve maximum performance.

The high accuracy of automatic machines and availability of centering cameras allows to recognize and install components in increments of up to 0.2 mm.

* orders for contract manufacturing are processed individually

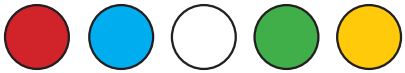


PRODUCTION OF SMD LED MODULES

Flylights Factory produces main types of LED products, such as:

- Full color module outdoor, with pixel pitch: 10, 8, 6, 5 and 4 mm;
- Full color module indoor, with pixel pitch: 10, 7.62, 6, 5, 4, 3.91, 3, 2.5, 2 and 1.667 mm;
- Monochrome module, with pixel pitch: 10 mm.

Possible colors:

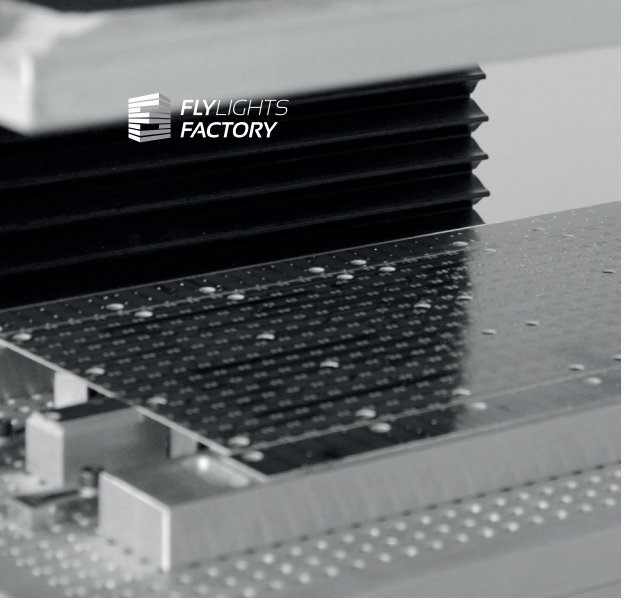


SMD LED MODULE MONOCHROME

Parameters			
Module	Resolution, pixels	Size, mm	Configuration
P10 red	32x16	320x160	1R
P10 white	32x16	320x160	1W
P10 blue	32x16	320x160	1B
P10 green	32x16	320x160	1G
P10 yellow	32x16	320x160	1Y

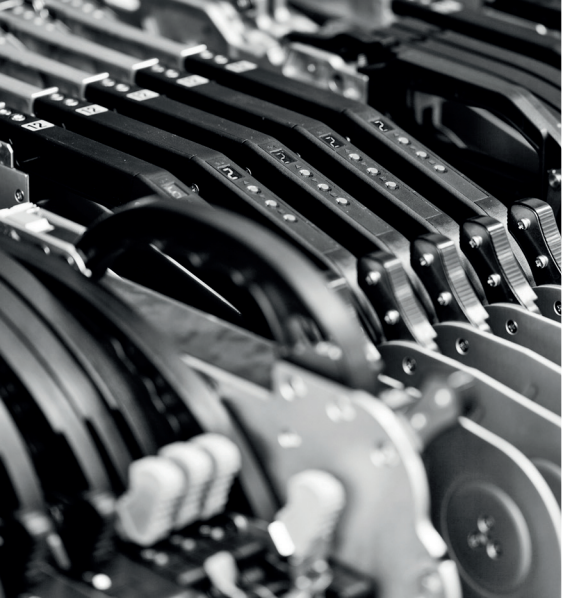
SMD LED MODULE FULL COLOR, INDOOR

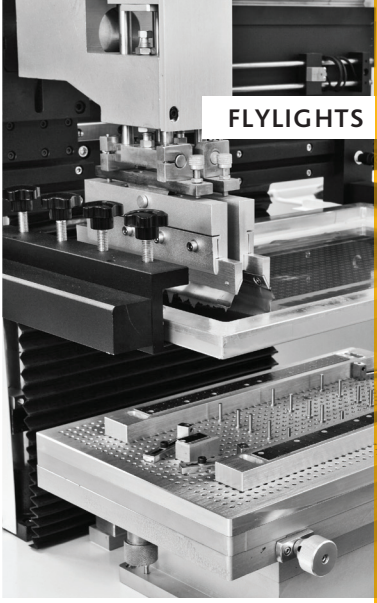
Parameters			
Module	Resolution, pixels	Size, mm	Configuration
P1.667	120x90	200x150	1R1G1B
P2	64x64	128x128	1R1G1B
P2.5	64x64	160x160	1R1G1B
P3	64x64	192x192	1R1G1B
P3.91	64x64	250x250	1R1G1B
P4	64x32	256x128	1R1G1B
P5	64x32	320x160	1R1G1B
P6	64x32	384x192	1R1G1B
P7.6	32x32	244x244	1R1G1B
P10	32x16	320x160	1R1G1B



SMD LED MODULE FULL COLOR, OUTDOOR

Parameters			
Module	Resolution, pixels	Size, mm	Configuration
P4	64x32	256x128	1R1G1B
P5	64x32	320x160	1R1G1B
P6	32x32	192x192	1R1G1B
P8	32x16	256x128	1R1G1B
P10	32x16	320x160	1R1G1B



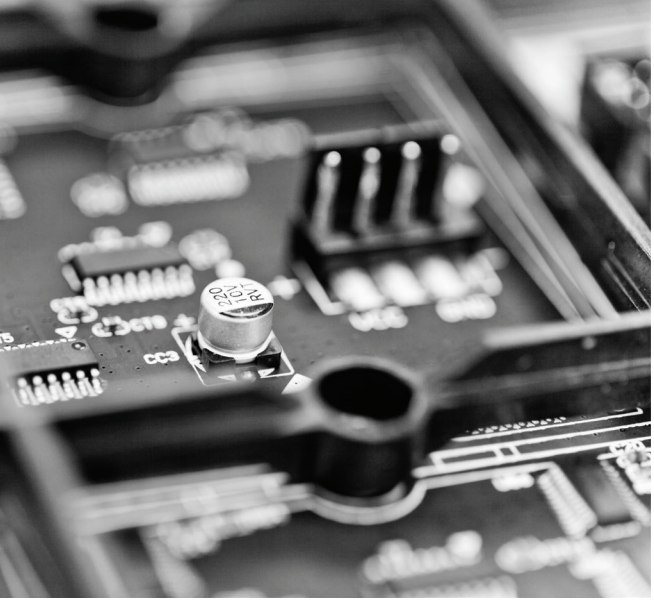


OUR EQUIPMENT

- PCB Board Stencil Printer
- SMD component installation machine (SM481 and SM421, Samsung)
- Board varnishing machine
- Compound application machine
- Machine for tightening screws
- Ten-zone convection oven
- Soldering stations
- SMD component drying chamber
- Cabinet for dry storage of SMD components
- Ultrasonic bath

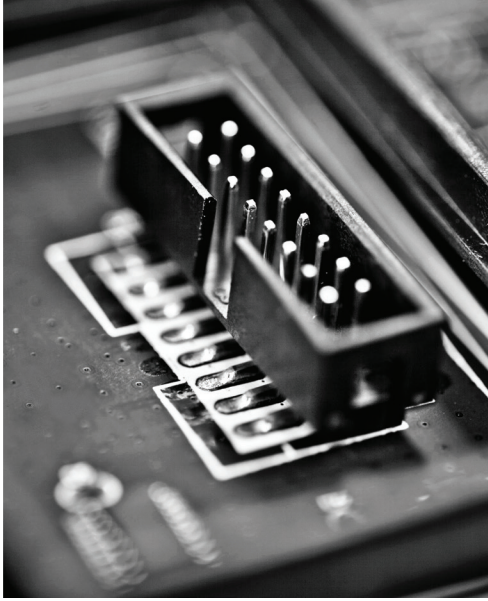
MAIN CHARACTERISTICS OF SMD COMPONENT PICK AND PLACE MACHINE SM481

Characteristics			Description
Centering			instantaneous component recognition + fixed camera
Number of installation heads			10 heads
Installation speed			up to 40 000 components per hour
Installation precision		Chip/QFP	± 50 µm @ µ + 3σ for chips ± 30 µm @ µ + 3σ for QFP (based on standard chips)
Installed components	Recognition "on the go"	field of vision 24 mm	from 0402 to 16 mm IC with a step up to 0.4 mm BGA, CSP in increments up to 0.4 mm
	Fixed camera	field of vision 45 mm	up to 42 mm (IC in increments up to 0.5 mm, BGA, CSP in increments up to 0.1 mm)
	Maximum height		10 mm
Sizes	Minimum (length x width)		50x40 mm
	Maximum (length x width)		510x400 mm
	Thickness		0.38 – 4.2
Number of places for feeders from the ribbon (8 mm)			120 pcs



MAIN CHARACTERISTICS OF SMD COMPONENT PICK AND PLACE MACHINE SM421

Characteristics			Description
Centering			instantaneous component recognition + fixed camera
Number of installation heads			6 heads
Installation speed			up to 20 000 components per hour
Installation precision		Chip/QFP	± 50 µm @ µ + 3σ for chips ± 30 µm @ µ + 3σ for QFP (based on standard chips)
Installed components	Recognition "on the go"	field of vision 24 mm	from 0402 to 16 mm IC with a step up to 0.4 mm BGA, CSP in increments up to 0.4 mm
	Fixed camera	field of vision 45 mm	up to 42 mm (IC in increments up to 0.5 mm, BGA, CSP in increments up to 0.1 mm)
	Maximum height		10 mm
Sizes	Minimum (length x width)		50x40 mm
	Maximum (length x width)		510x400 mm
	Thickness		0.38 – 4.2
Number of places for feeders from the ribbon (8 mm)			60 pcs

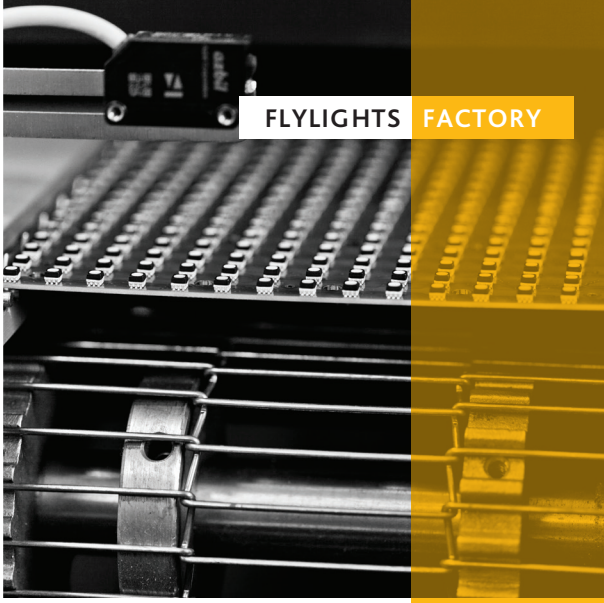


PRODUCTION PROCESS

Flylights Factory carries out the whole production cycle – from receiving and developing documentation to shipment and turnkey installation of the final product.

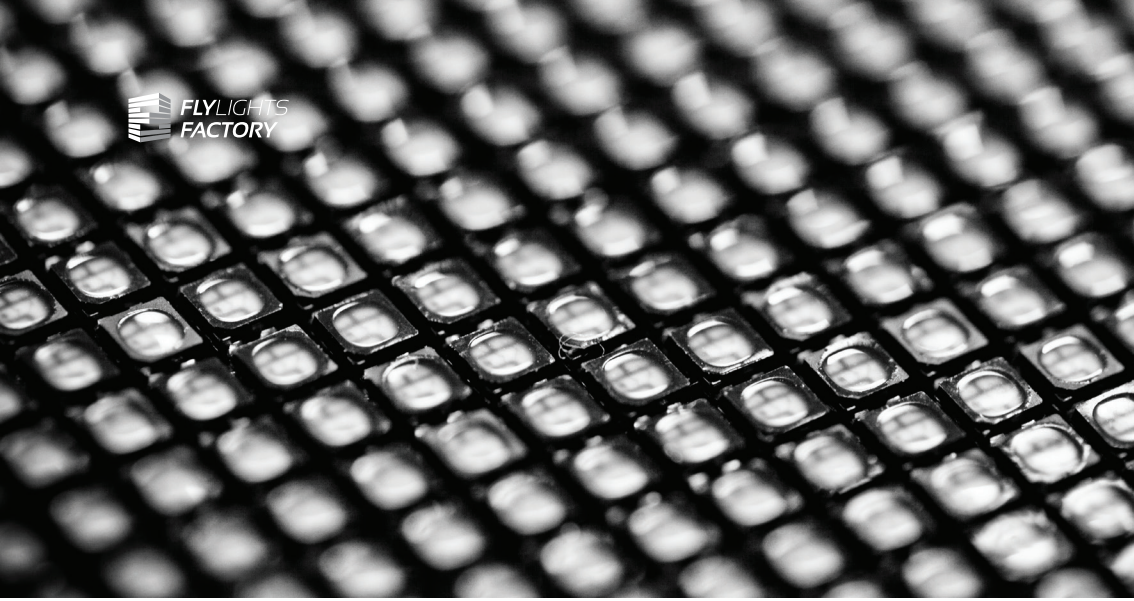
Main stages of production of SMT products

- Reception of documentation and components
- Software development
- Equipment setup
- Application of solder paste on boards
- Installation of electronic components
- Soldering in the conveyor convection oven
- Automated optical inspection (AOI)
- Soldering through hole components
- Application of waterproof layer
- Packaging the final production



Main stages of production of LED modules

- Inspection of all components supplied to the enterprise
- Equipment setup
- Application of solder paste on the board
- Installation of electronic components of the board
- Soldering in the conveyor convection oven
- Electrical control
- Varnishing
- Mounting modules on a plastic frame
- Application of a compound on the LED side, drying
- Installation of a grid on the module
- Quality control of the final product
- Packaging the final product



QUALITY CONTROL

Quality control of the manufactured product is one of our main priorities. Quality control at the factory is performed to check compliance of the electronic products and provided services with world standards and technical requirements.

Quality control includes a set of control operations performed at all stages of production process – from quality control of supplied components to production of the final product.

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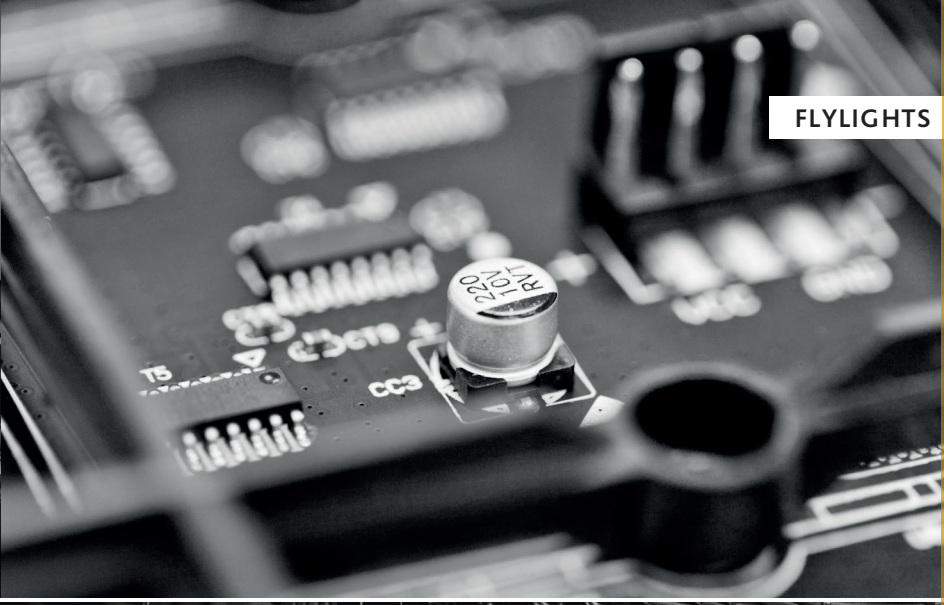

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