

PHOTOMATIQ Photonics Packaging Equipment

DATASHEET ISP21D093FP00045 - V0.2



Flexible Precise and Productive Automation Platform

PHOTOMATIQ is a customizable assembly platform which aim at fully- and semiautomated ultra-precise micro assembly based on high-precision alignment. The platform especially suits the requirements of demanding photonics systems

1 – Field of Application

From product development to mass manufacturing



Our Flexible Automation Platforms support high-mix production of optical systems in a fully automated way. Flexibility is achieved through automatic tool changer as well as a modular software architecture. PHOTOMATIQ is also well suited for product development. The flexibility and openness of our platforms enable the customer to carry out prototyping in an efficient and cost-effective way.

2 – Accuracy: 2 High precision robots working simultaneously



3 – Active and passive alignment capabilities



The combination of embedded cameras together with a 3D vision station ensures automatic picking and placement of optical components following a passive alignment algorithm.

Once the passive alignment has been processed, the active alignment is performed by the machine according to the analysers feedback. Whatever you need colimation, power measurement, polarization, cavity alignement, or beam profile characterisation, the machine can be customized with the required measurements devices and analysers.

New analysers can easily be set up to meet the need of a large range of current and futures applications.

ISP SYSTEM - PHOTOMATIQ

Photonics Packaging Equipment

4 – Process control with PHOTONSMART

The open control PhotonSmart software allows non-automation experts to operate the machine, edit new recipes, and supervise the production.

PhotonSmart	Attente_Init Portes Ouvertes Air Vide	ASSEMBLA					≤ se convector – ∉ × Custom Logo
		+ Créer une séquen			erter Décharger		Custom E090
Accueil	LaserDPSS 🛣	🛛 🗘 Peltier					Bibliothèques
Recette Manuel	v 1: Peltier v 1: ■ Init et Prise 1: ■ Init Vision + Alt 2: ↓ Translation Ratelier 3: � Rotation Ratelier	Description :	D			22	Commandes Unitaires Commandes unitaires definient par PhotonSmart ⁴⁴ , permettant d'exploiter pleinement les capacités de la machine.
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Paramètres	7: Rotation 8: X Translation Y 9: X Translation Vision	Code Article :		-00615-C	The second se		
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		Numeric	ZfOff_2DA	0		×	Peltier : 29 variable(s) Numeric Center Thickness
		Numeric	RVIOH_2DA	0		×	Numeric Height Numeric Length
		Numeric	RXf0ff_3D R2f0ff_3D	0		×	Numeric x0
		Numeric	YIOH_3D	0		×	Numeric z0 Numeric y0
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ISP		Numeric	YmOff_Alt	0		×	Numeric Zf
SYSTEM		Numeric	YfOff_Alt	0		×	Numeric Xpc Numeric Ypc
		Numeric	 Nouveau Paramètre 			Las	Numeric Zpc w erDPSS D 0 modifications Composants : 6 Commandes Unitaires : 216

The software offers a library of unit commands customized to the application from which it is possible to create automatic assembly sequences.

These sequences can be sequential or conditional and integrate commands such as translations, rotations, automatic tool pick-up or removal, dispensing of glue, initialization, calibration, measurements, etc.



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5 – Gluing with in situ UV curing

The time pressure dispenser is able to dispense different kind of glue patterns. UV curing during the active alignment process limit the shrinkage effect to achieve an even more precise component positioning.



6 – Proof of concept testing session on the demo machine

The PHOTOMATIQ demo machine is available in our headquarters (Hautes Pyrénées, France), where you're more than welcome for a full demo as well as a proof of concept testing session. Please feel free to contact us and we'll be happy to help you there: contact@isp-system.fr



6 axis robot Precision positioning

Working area

6 axis robot Precision dispensing

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