DTEC-PRO
Camera system for process optimization and quality assurance
Effective, safe and flexible

Visual process control for your production

A simple, modular system lets you focus on what matters – your production processes. DTEC-PRO is a camera system that provides effective assistance in manual product steps like composite layup as well as in quality assurance. DTEC-PRO consists of an industrial camera with infrared flash, and is the ideal add-on for CAD-PRO laser projection systems from LAP.

→ Save valuable time with the automatic calibration and intuitive operation of the DTEC-PRO camera system.

→ Improve your production quality with camera-based process monitoring and regular quality assurance.

90 % time savings

With DTEC-PRO manual calibration is unnecessary. Calibration time is reduced to a minimum. Depending on the configuration and workflow, you can achieve up to 90 % time savings.

Process reliability

DTEC-PRO continuously checks the position of your workpieces in real time. This prevents positioning errors and boosts process reliability.

Intuitive operation

The functions of DTEC-PRO are simple and intuitive to use with the PRO-SOFT software. The camera assistance eliminates manual work steps. This makes for productive work.
DTEC-PRO offers ideal process support, especially in highly variable production environments where many different workpieces of small to medium size are processed on mobile tables at the production stations. You get higher process reliability – without having to change your processes. Thanks to the modularity of the system, DTEC-PRO flexibly and fully adapts to the requirements of your production cell.

**Safe**

At a rate of five individual images per second, DTEC-PRO continuously checks the position of the workpiece and sends it to the PRO-SOFT software. Target constellations are reliably detected regardless of the number, size and shape of the workpieces.

**Intelligent**

If there is a position deviation, a calibration of the CAD-PRO laser projector is automatically initiated and the projection adjusted if necessary.

**Eye-friendly**

The infrared flash is invisible to the human eye, so that operators can work without disturbance or interruption at any time.

**Modular**

DTEC-PRO can be freely positioned independently of the CAD-PRO laser projector. The camera system can cover the work areas of multiple laser projectors.

**Multitasking**

With the PRO-SOFT MT multitasking software for simultaneous work processes, one camera system can cover up to eight different workpieces. That means that you can work on eight different work units at the same time, independently of each other.
Top flexibility

Combine DTEC-PRO cameras with CAD-PRO laser projectors to fit your needs. The modularity gives you maximum flexibility in laying out your system.

Easy upgrading

One or more DTEC-PRO camera systems can easily be added to new or existing CAD-PRO laser projection systems.

A software update is enough

DTEC-PRO is supported by all current PRO-SOFT 5.2 software variants and future versions. For existing installations with CAD-PRO laser projectors, a software update is enough.
Fast: ready in 6 seconds
Minimum calibration time, maximum productivity

Opening calibration files, assigning and calibrating – DTEC-PRO does it almost automatically in just a few seconds. As soon as a workpiece is placed in the camera's field of view, the system detects the target positions in real time.

1. Scan QR code
Once the operator places the workpiece, the calibration file can be activated very easily, for example by QR code. The camera captures the QR code on the order document. After confirmation by the operator, the software opens the calibration file assigned to the tool, and calibration starts automatically.

2. Calibration
With the “unit calibration” function one or more DTEC-PROs can be calibrated as a unit with one or more CAD-PRO laser projectors. Tools and their targets in the area of the unit are detected together. There is no longer a need for basic calibration for each individual tool by the administrator.

3. Start of production
Production can start immediately – even with workpieces the system doesn't “know” yet. This ensures fast tool change without loss of time. The time expenditure in the product process is reduced immensely.

If tools are used in parallel at multiple workstations, several times a day, the automatic calibration can mean a time savings of 90%.
**Target Marker**
The target marker simplifies the calibration routine. Applied to existing targets, the retroreflector enables detection of symmetrical target constellations by the DTEC-PRO system.

**DTEC-PRO**
DTEC-PRO automatically recognizes workpieces in the camera's field of view.

**CAD-PRO**
The laser projector automatically adjusts the projection to the right position.

**PRO-SOFT**
Open calibration files, control camera functions, manage projection steps – the PRO-SOFT software intuitively takes the user through the production process.
Everything in view

Realtime process control and camera-based quality assurance

PRO-SOFT software supports all camera functions, intuitively and user-friendly, from work preparation to visual process control, to storage of camera images for regular quality assurance.
**Camera live image**

The “Camera Live Image” function shows the PRO-SOFT user the field of view from the camera's perspective. At start of production, this ensures that the tool is properly positioned in the field of view and the targets are visible to the camera. The correct position can also be checked during production. You always have your processes in view.

**Virtual projection**

In addition, the system delivers a virtual image of the real projection contour in realtime. The projection contour currently displayed by the CAD-PRO laser projector is automatically shown in the picture as a colored contour line. This enables permanent control of each projection step.

**Saving images**

Save high-contrast camera images optionally with the virtual projection in the database for your quality assurance. Image capture happens automatically when the projection is switched (in layer change). Operators can also manually capture images, by mouseclick in the PRO-SOFT or by remote control.
LAP is one of the world’s leading suppliers of systems that increase quality and efficiency through laser projection, laser measurement, and other processes. Every year, LAP supplies 15,000 units to customers in industries as diverse as radiation therapy, steel production, and composite processing. LAP employs 300 people at locations in Europe, America and Asia.

Quality
We work to uniform standards and with certified processes. For us, “Made in Germany” means the highest precision in manufacture and quality inspection of each individual device. For our customers, this means planning and process certainty.

All locations around the world use a quality management system to EN ISO 13485 or EN ISO 9001. Our products have all the necessary approvals and registrations almost everywhere in the world.

Service
We ensure maximum availability of your equipment so you can concentrate on your core process. Wherever you need us, our certified service technicians are quickly on site in any time zone. We support you from installation and commissioning, through user training, up to maintenance, repair or unit replacement.

Our efficient logistics ensure fast availability of spare parts worldwide. For technical questions and support, our helpdesk is at your disposal by telephone, via e-mail or remote diagnosis.

About us
300 Employees
8 Locations
90+ Partners
Contact us!
info@lap-laser.com

Technical Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>2.5 kg</td>
</tr>
<tr>
<td>Dimensions [W x L x H]</td>
<td>140 mm x 167 mm x 200 mm</td>
</tr>
<tr>
<td>Input voltage</td>
<td>18–48 V DC</td>
</tr>
<tr>
<td>Max. input current</td>
<td>3 A</td>
</tr>
<tr>
<td>Communication</td>
<td>Gigabit Ethernet</td>
</tr>
<tr>
<td>International protection rating</td>
<td>IP 65</td>
</tr>
<tr>
<td>Lens focal length</td>
<td>6 mm</td>
</tr>
<tr>
<td>Vertical image angle</td>
<td>60.8°</td>
</tr>
<tr>
<td>Horizontal image angle</td>
<td>70.1°</td>
</tr>
</tbody>
</table>

Ambient conditions in operation

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity</td>
<td>35–80 %</td>
</tr>
<tr>
<td>Relative humidity, non-condensing</td>
<td></td>
</tr>
<tr>
<td>Air pressure</td>
<td>800–1100 hPa</td>
</tr>
<tr>
<td>Temperature</td>
<td>0–40 °C</td>
</tr>
</tbody>
</table>
About us

LAP is one of the world’s leading suppliers of systems that increase quality and efficiency through laser projection, laser measurement, and other processes. Every year, LAP supplies 15,000 units to customers in industries as diverse as radiation therapy, steel production, and composite processing. LAP employs 300 people at locations in Europe, America and Asia.

Quality

We work to uniform standards and with certified processes. For us, „Made in Germany“ means the highest precision in manufacture and quality inspection of each individual device. For our customers, this means planning and process certainty.

All locations around the world use a quality management system to EN ISO 13485 or EN ISO 9001. Our products have all the necessary approvals and registrations almost everywhere in the world.

Service

We ensure maximum availability of your equipment so you can concentrate on your core process. Wherever you need us, our certified service technicians are quickly on site in any time zone. We support you from installation and commissioning, through user training, up to maintenance, repair or unit replacement.

Our efficient logistics ensure fast availability of spare parts worldwide. For technical questions and support, our helpdesk is at your disposal by telephone, via e-mail or remote diagnosis.

Contact us!
info@lap-laser.com