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Power Control Device (PCD) - Patented innovation for tough cases

The Power Control Device, or PCD for short, is the latest result of innovative research to be launched onto the market by RAYLASE AG. This method was patented in 2002 and enables the laser output of CO₂ lasers to be controlled parallel to the speed of the deflection head. An opto-mechanical control outside the laser controls the laser beam intensity in the material being processed in conjunction with the speed of the deflection head. The laser output can hereby be controlled within a range of 0 to 100% with a response time of less than 1 msec. This eliminates the problems with power variations when switching the output of CO₂ lasers. The laser runs constantly in one mode and the required laser output can be controlled for each deflection head as required. This technology opens up new applications for CO₂ lasers that were formerly impossible on account of their fluctuations in output. Whereas the desired results for cutting and perforating applications with thin plastic, paper or composite materials have been achieved up to now by punching, the PCD technology offers the possibility of working faster with more flexibility with greater precision and quality. This shortens the batch-to-batch time and makes this transition easier. New cutting or perforating patterns are thus available at the press of a button and with now downtimes for set-up work, the storage of sensitive punching tools is a thing of the past. The PCD technology makes the overall system more flexible, longer machine running times are possible, thus making it more profitable compared to conventional cutting methods.

The RAYLASE innovation PCD also opens up a further field of application: in combination with a power head, the CO₂ laser output can be stabilised in the long term in a fluctuation range of less than 0.5%. The two variants of this PCD technology open up trend-setting fields of application for CO₂ lasers in the printing industry, electrical industry, automatic industry.

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RAYLASE AG is a world-wide, trend-setting enterprise that develops modular components and assemblies to deflect and modulate laser beams and sells these internationally. Since its foundation in April 1999, RAYLASE has been facing the challenges in this field and supplying the market with innovative solutions. A global network of experienced specialists, external advisers, research and development facilities guarantee customers a range of products and services to the highest international standards.