

Cost-efficient and customised: protecting work stations with the V300 safe camera sensor

Waldkirch, Innovation No.10, 2009 – Easy installation and commissioning, highly flexible mounting, and the possibility of installation in protected locations beyond the handling area of the machine (and thus maximum ergonomics for the machine operator), make the V300 safe camera system the ideal protective solution for work station openings on inspection machines, as well as assembly or handling robots.

The transmitter and receiver, signal evaluation, switching outputs and control-related Reset and Electronic Device Monitoring (EDM) functions are accommodated in the V300's compact, triangular sensor housing. The V300 is installed in or on the corner of the machine opening provided for operator interventions. A reflector strip is attached to the opposite side of the installation location – a rough estimation of position is sufficient here; there is no time-consuming alignment of the transmitter and receiver during initial installation, and no readjustment, because the camera system, with its angular view of 110°, automatically detects the entire length and breadth of the reflector area and aligns the monitored field (with a resolution of 20 mm) accordingly. The V300 responds within 20 ms when a person reaches into the machine during running operation, and stops the process immediately.

Ideal for constructors and ...

The possibility of using a single sensor for all openings with heights of up to 1 m, diagonals of up to 1.41 m, and a maximum side-ratio of 2:1, e.g. 400 mm high and 800 mm wide, makes the safe camera system particularly interesting for designers in machine construction. Moreover, two V300 units can be used simultaneously: in the case of larger monitoring fields, two identical devices can be installed “back-to-back” – doubling the maximum window size. It is also possible to achieve barrier-free corner solutions without the machine operator being hindered by a central strut – the part to be inserted or removed can instead be passed through the protective field. The synchronisation input necessary for the particular double-mounting variant is already integrated in the V300 WS.

... ideal for cost-cutters

The versatility of the V300 is not only ideal for technicians, but also for purchasing departments and stock-keeping: only one device requires ordering and only one material number needs administration. There are no individual height and resolution device versions – minimising the costs of equipment, warehouse and service logistics. It is also impossible to make mistakes selecting the type for initial installations or retro-fitting. A uniform standard connection cable is sufficient because the transmitter and receiver are accommodated in the same housing. Finally, the V300 is a tailor-made solution because the system allows protection to Safety Category 3 or Performance Level (PL) “d” according to ISO 13849-1 or SIL 2 in compliance with IEC 61508 whereas, up to now,

more expensive light curtains in the next-higher safety levels (Cat. 4, PL “e”, SIL 3) have had to be used for such applications because of the lack of alternatives.



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