



Steinbeis
Qualitätssicherung und
Bildverarbeitung GmbH

ViScan

Video-optical sensor -complements tactile coordinate measuring machines through optical image processing

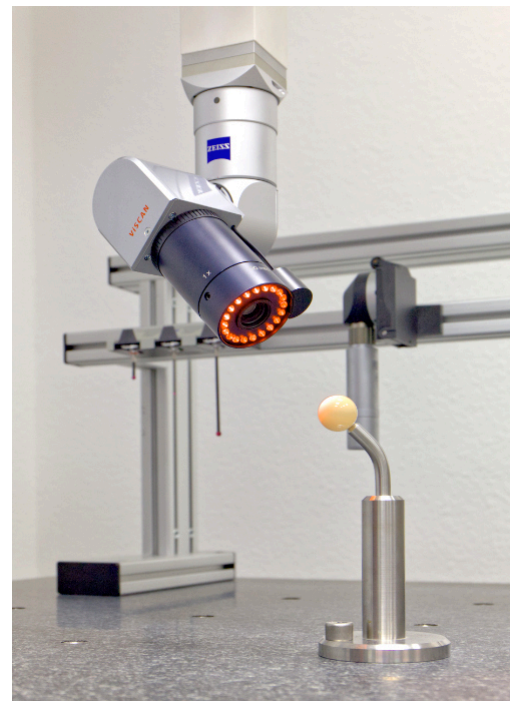
The ViSCAN video-optical sensor is used for optical probing on Zeiss coordinate measuring machines. With the ViSCAN optical probe, optical measuring tasks can be carried out on a coordinate measuring machine in addition to tactile ones.

ViScan has a high-precision mechanical adapter on a freely movable measuring arm.

The camera can assume almost any position in relation to the object to be measured via the latching rotary swivel joint (RDS). This feature enables in particular the complete metrological recording of complexly shaped workpieces.

Due to the possibility of fast and flexible electronic control of the illumination, the ViSCAN system opens up the possibility of fully automatic setting of the parameters of image acquisition. All control parameters can be stored in the measuring programme.

This mechanical-optical concept is complemented by the QuickImage image processing library from Steinbeis Qualitätssicherung und Bildverarbeitung GmbH Ilmenau, which was created to solve metrological tasks. QuickImage provides metrologically tested methods for edge detection in the image. Not only ideal edges with favourable contrast but also structures in low-contrast or disturbed images can be measured precisely.



Video-optical sensor ViSCAN
Multi-sensor coordinate measuring machine SPECTRUM from Carl Zeiss Oberkochen



Steinbeis
Qualitätssicherung und
Bildverarbeitung GmbH

Werner-von-Siemens-Straße 9
98693 Ilmenau / Germany

Phone +49 (0) 36 77 · 46 90 59 0
 Telefax +49 (0) 36 77 · 46 90 59 11

E-Mail info@sqb-ilmenau.de
 Internet www.sqb-ilmenau.de

Contact

Dipl.-Ing. Steffen Lübbecke
 Phone +49 (0) 36 77 · 46 90 59 12
 E-Mail steffen.luebbecke@sqb-ilmenau.de

M. Sc. Norbert Jahn
 Phone +49 (0) 36 77 · 46 90 59 15
 E-Mail norbert.jahn@sqb-ilmenau.de

Prof. Dr. Gerhard Linß
 Phone +49 (0) 36 77 · 46 90 59 12
 E-Mail gerhard.linss@sqb-ilmenau.de

Technical data

Electronic

Sensor	1/3"CCD
Number of pixels	CCIR: 738 (H) x 574 (V)
Sensitivity	< 0,001 Lux (50 Ire) [TBF] F1.2 3200 K halogene Lichtquelle, Objektivtransmission 80 %, Szenenreflexion 75 %
Spectral sensitivity range	400 bis 1100 nm
Signal to noise ratio	> 55 dB (AGC off)
Gain control automatic	automatic 36 dB (default setting) or manueally via CAN-BUS
AGC-mode	medium gray value (Ddfault setting)
Gamma	0,45 (default setting), selectable via CAN-BUS
Automatic shutter control	(standard setting) or fixed shutter time selectable via CAN- BUS in 8 steps
Synchronisation	internal (X-tal)
Power consumption	approx. 5 watts

Mechanical

Lens mount	C-Mount
Image format	1/3"
Dimensions	82 mm x 65 mm x 85 mm (L x B x T) without lens

Interface	Video output 75 Ohm unbalanced 100 Ohm balanced
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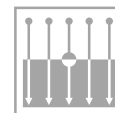
Illumination	4-segment-LED-ring light
Fixed lenses	0,3 x; 0,5 x; 1,0 x 2,0x; 4,0x; 6,0x

Enviromental conditions

Ambient temperature	Operation 0°C bis +55°C Storage -25°C bis +70°C
Humidity	Operation 20 bis 93 % rel. F. Storage bis 98 % rel. F.



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