



CORREVIT® ID-150 Sensor

1-axis Optical Sensor

for

Non-Contact and Slip-Free Length and Speed Measurement of Moving Strip Material

- Speed range 0.2 ... 500 m/min
or 0.4 ... 2000 m/min alternatively
with high optical pulse resolution of 6000 / 3600 pulses/m
- Pulse output programmable from 1 ... 20000 p/m
- Speed-based linearity of target distance < $\pm 0.05\%$
- Measurement uncertainty of final value better than 0.1 %*
because of precise optical grating technology
- Direction detection
- Standstill detection
- Long-lasting, controllable illumination based on high-output infrared LEDs
- Compact, extreme robust sensor housing
- Several standardized digital interfaces for length-reports and analog interface for speed-reports, as well as calibratable pulse-output using the latest processor technology
- Easy handling, quick installation on production line by full industrial capability (IP 66, opt. IP 67) and direct hook up to any Process controller
- Can be used under extreme environmental conditions
- Low maintenance and service demands due to long-term stable technology

* with calibration on the test surface



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The newly developed CORREVIT® ID-150 Sensor means an important contribution to the demands of industrial measurement, data logging, and process control. Universal applications with textiles, carpets, paper, foil, steel, wood, cables, ropes, wires, tubes (approx. 1 mm diameter, smaller diameter possible, depending on what kind of surface) and much more. Wherever slip, shrink, expansion, extreme environmental conditions or the production process itself is affecting the correct contact measurement, the CORRSYS 3D industry sensors can be applied to take over measuring tasks that are directly assigned to the surface structure.

Because of their highly precise optical 4-flanks gratings, CORREVIT® ID-150 Sensors benefit from the grating-transmitted-light-technique, thus assuring the signal presentation without a time-lag. Intelligent DSP and FPGA based digital filter algorithms assure the highest operational standards in dependence of signal-analysis and establish the basis for any specific customer application.

Demanding measurement tasks in the production process, for example expansion and shrink degree, will be realized by coupled activity of 2 sensors with highest measurement accuracy.

Typical Technical Data

Working distance:	140 ±10 mm (alternatively ±15 mm)
Width of material to be measured:	1 mm minimum (depending on the micro surface-structure)
Speed range:	0.4 ... 2000 m/min (alternatively 0.2 ... 500 m/min)
Resolution:	3600 / 6000 pulses/m optical
Digital signal output:	freely programmable from 1 ... 20000 p/m
Speed linearity:	< ±0.05% (with calibration on the test surface)
Reproducibility:	< 0.025% (at a distance >10 m)
Acceleration:	max. 3 ... 5 m/s ²
Inputs / outputs:	
Length:	Length pulse and direction: differential (RS485, 5V) or Open Collector (5-24V; 10mA max.)
or:	2 length signals with ±90° phase-shifted pulses, duty-factor 1:1, differential (RS485; 5V) or Open Collector (5-24V; 10mA max.)
Speed:	Voltage analog (optional); 0 ... 10V, 12 bit
or:	Power analog (optional); 4 ... 20 mA, 12 bit
Communication interface:	RS232 and CAN (optional)
Supply voltage:	24 V _{DC} (22 ... 30V)
Power consumption:	40 Watt (with full illumination power)
Temperature:	Operation -40 ... 50 °C Storage -40 ... 85 °C
Rel. Humidity:	5 ... 80 % (non condensing)
Shock:	50 g half-sine, 6 ms
Vibration:	10 g, 10 ... 150 Hz
Dimensions sensor head:	176 x 146 x 45 (l x w x h)
Weight sensor head:	1.2 kg
Weight electronics:	1.8 kg (without cable)
System protection (housing):	IP 66, opt. IP67

- Standstill and signal quality indicator
- Light-power, temperature, and communication control
- Potential separation, inverse polarity protection

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WARNING

Highly intensive infrared radiation ($\lambda = 870 \text{ nm}$) is emitted from the sensor. To avoid any eye injury, do not stare into the sensor during operation.

In a continuous effort to improve our products, CORRSYS 3D Industry & Rail Sensors reserves the right to change specifications without prior notice