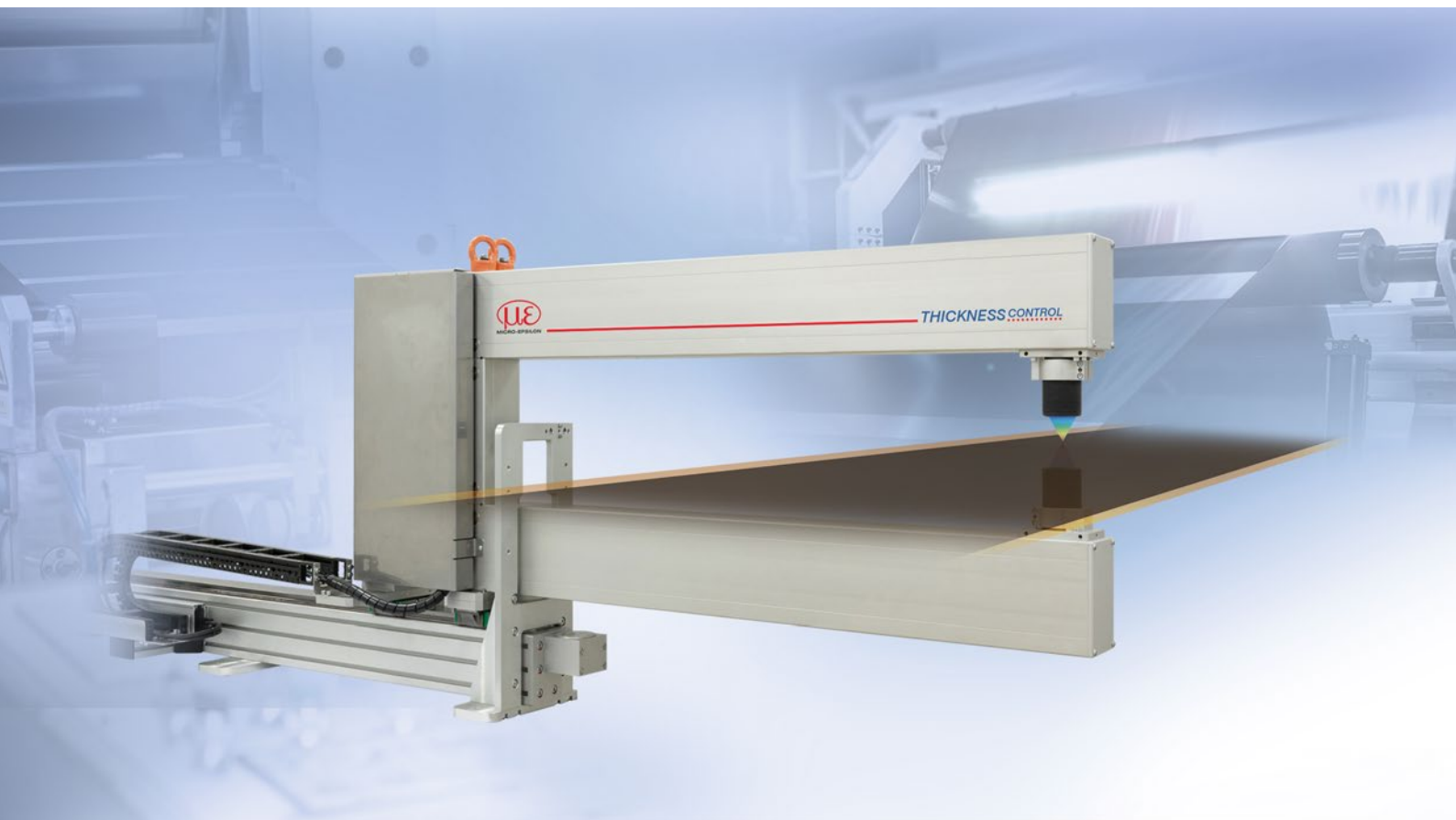




# More Precision

## **thicknessCONTROL BTG**

High precision inline thickness measurement of battery film



# Measuring systems for inline thickness measurement of battery film

## thicknessCONTROL BTG

Sensors used:  
Confocal chromatic displacement sensors

Measurement with white light,  
no safety precautions required

Measuring range (thickness): 3 or 7 mm

Accuracy: up to  $\pm 0.3 \mu\text{m}$

Measuring rate: up to 10 kHz

Precise thickness measurement on  
mirroring and shiny surfaces



### High-precision thickness measurement in battery film production

The latest generation of thicknessCONTROL measuring systems delivers maximum performance in demanding inline applications in battery film production. The system is specifically designed for the high-precision measurement of coated anode and cathode films and reliably handles even complex process conditions.

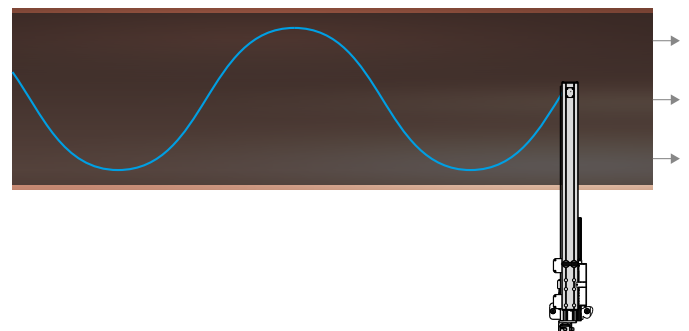
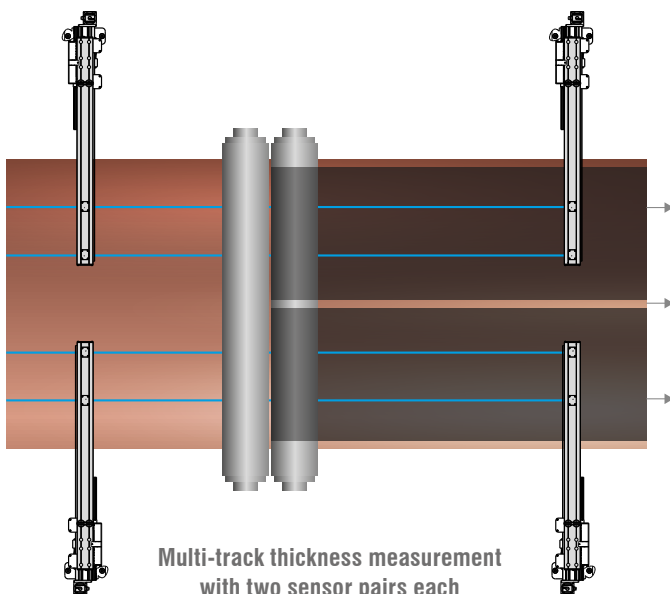
The robust measuring frames, equipped with one or more pairs of confocal sensors, enable fully automatic, operator-independent thickness measurement directly during the production process. This ensures continuous monitoring of product quality with high repeatability and consistent results.

### Multi-channel sensor technology for maximum process reliability and measurement quality

The thicknessCONTROL can be equipped with multiple pairs of confocal sensors per measuring frame to measure the film at multiple points simultaneously. This parallel measurement strategy ensures a particularly high measurement density and significantly increases process reliability. Variations in the material are reliably detected, enabling seamless quality control.

In addition, automatic calibration ensures stable compensation for temperature effects. As a result, the system delivers consistently reliable measurement results even under varying environmental conditions.

Using the optional Golden Sample, the capability of the measuring equipment can be tested and documented fully automatically. The Golden Sample is precisely mounted on the system, which allows the performance of the measuring system to be verified efficiently and regularly. This ensures consistent, reliable quality assurance that complies with industry standards.



Model	thicknessCONTROL BTG 7202 C.C	
Designation	-3/800	-7/800
Article number	4350127.664	4350127.665
Measuring width	800 mm	
Operating range (total)	59 mm	70 mm
Operating range (until pass line)	28 mm	33 mm
Measuring range	3 mm	7 mm
Travel path	1050 mm	
Resolution	63 nm	90 nm
System accuracy <sup>[1]</sup>	±0.3 μm	±0.5 μm
Repeatability <sup>[1]</sup>	±0.3 μm	±0.5 μm
Repeatability (ANOVA) <sup>[1]</sup>	±0.3 μm	±0.8 μm
Measuring rate	max. 10 kHz	
Calibration	Automatic	
Weight	Axis, motor and C-frame	120 kg
	Bus terminal box and panel IPC	15.9 kg
Supply voltage	24 V	
Humidity	5 % RH ... 95 % RH (non-condensing)	
Protection class (DIN EN 60529)	IP40 (bus terminal box IP54)	
Ambient temperature <sup>[2]</sup>	Storage	-20 ... +65 °C
	Operation	+5 ... +45 °C
Control and indicator elements	Panel-IPC with thicknessCONTROL software included in the scope of supply	
Special features	Compact bus terminal box measuring just 300 x 400 x 210 mm	

<sup>[1]</sup> 2 sigma; data valid for highly reflective, metallic measuring standard (DAkKS certified)

<sup>[2]</sup> The temperature range for bus terminal boxes is limited to +5 ... +40 °C

### Powerful analysis and control software

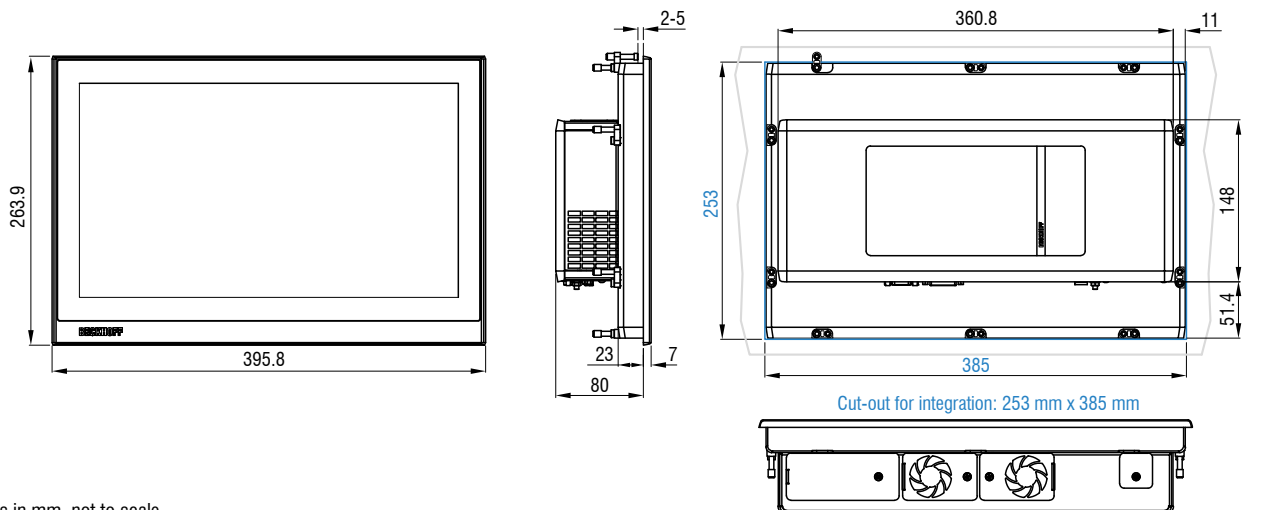
The systems include a multi-touch-capable industrial PC with a comprehensive software package. This allows production data to be displayed, monitored, analyzed and archived. The software provides different views and measurement modes.



### Software features:

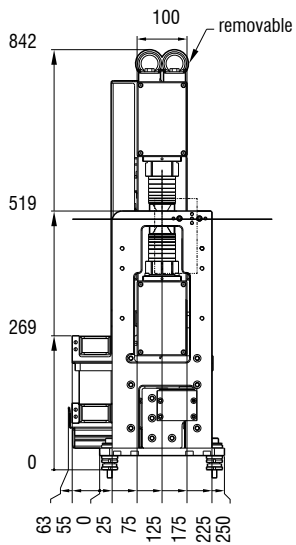
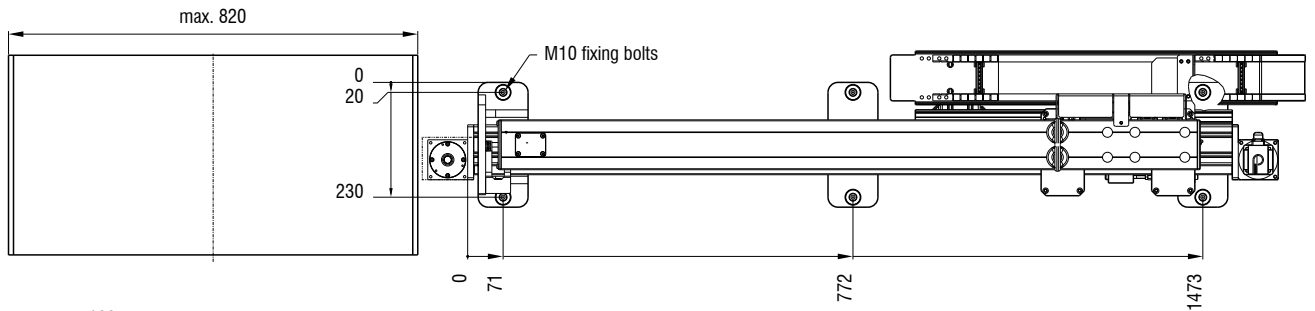
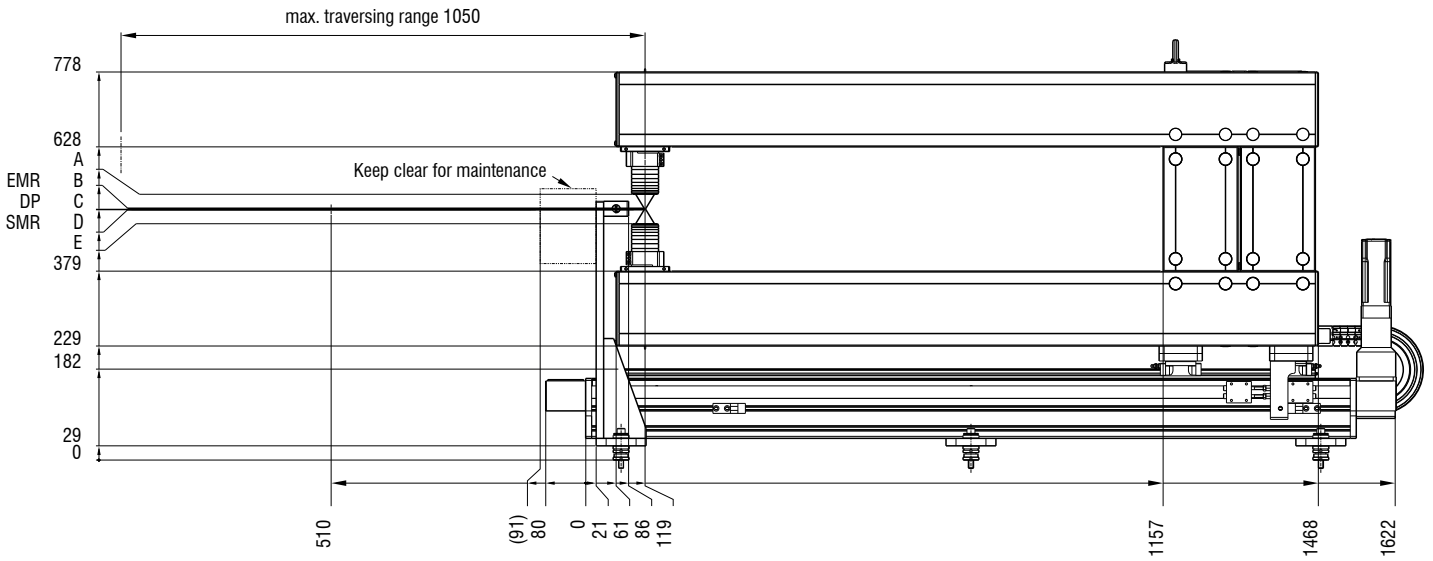
- Article database
- Production archive
- Statistical evaluations
- Limit value monitoring with feedback to production
- Fieldbus interfaces (optional)
- Verification of gauge/test equipment capability

### Size and installation dimensions of the industrial PC with touch-screen



Dimensions in mm, not to scale.

# Dimensions



Model	A	B	C	D	E
-3/800	533	504.5	502	501.5	474
-7/800	538	506	501	500	468

SMR = Start of measuring range  
 EMR = End of measuring range  
 SP = Standard Passlinie  
 Dimensions in mm, not to scale.