

CAPACITANCE 2000

Superior capacitance measurement with innovative multi-zone technology including FFT and SRL prediction



— CAPACITANCE 2000

Capacitance measuring devices with multi-zone electrode



Capacitance measuring devices with multi-zone electrode for ultra-high frequency and length resolution as well as bare patch detection

For all LAN, coaxial, telephone or RF cables, the transmission of high frequency, analog or digital signals at minimum loss for the signal amplitude is an essential quality feature. In this context, the measurement of the capacitance during the cable production is of crucial importance. The capacitance determines the impedance of the cable for the specified frequency range and thus, the quality of the cable significantly.

CAPACITANCE 2000 is a capacitance measuring device, which is installed in the cooling trough. It measures online precisely the capacitance of the wire insulation and reliably detects bare patches. Additionally, the system recognizes periodical capacitance changes and determines the Structural Return Loss (SRL).

Multi-zone electrode

The combination of one short and one long measuring electrode, integrated into one measuring tube (multi-zone technology), is unique. The short measuring electrode with a length of 10 mm identifies periodical capacitance variations with high spatial resolution by means of Fast Fourier Transformation (FFT). From the FFT data, the SRL is determined and gives information about the expected attenuation of the RF signal during data transmission. The long measuring electrode of 125 mm measures with high precision the average value of the capacitance.

Typical features

- Auto-adjusting stand-alone capacitance measuring system
- Unique multi-zone electrode
- Reliable capacitance measurement and bare patch detection
- Integrated FFT analysis and SRL prediction

CD-Control (Capacitance/Diameter-Control)

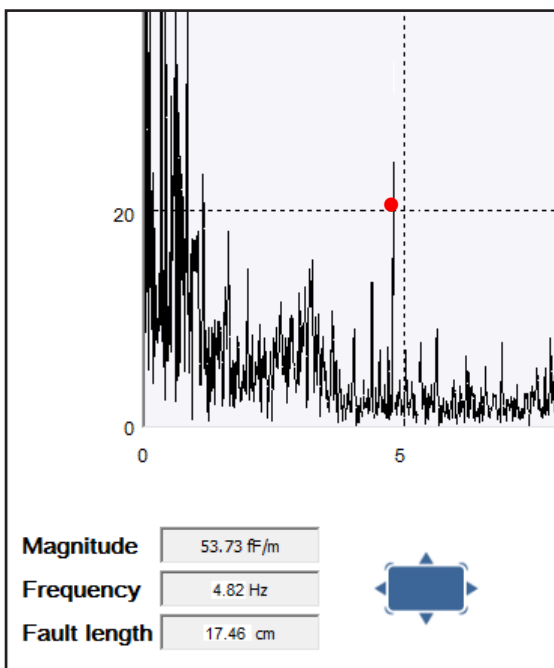
Precise measuring values for the capacitance and the diameter, as they are provided by the mentioned capacitance and diameter measuring devices of the LASER Series 2000/6000 respectively CENTERVIEW 8000, are the basis for a perfect CD-Control.

The CD-Control assures that the capacitance and the diameter comply with the requirements. This is achieved by an automatic adjustment of the cooling trough and by the control of the line speed. Both influenced quantities are controlled by the ECOCONTROL 6000.

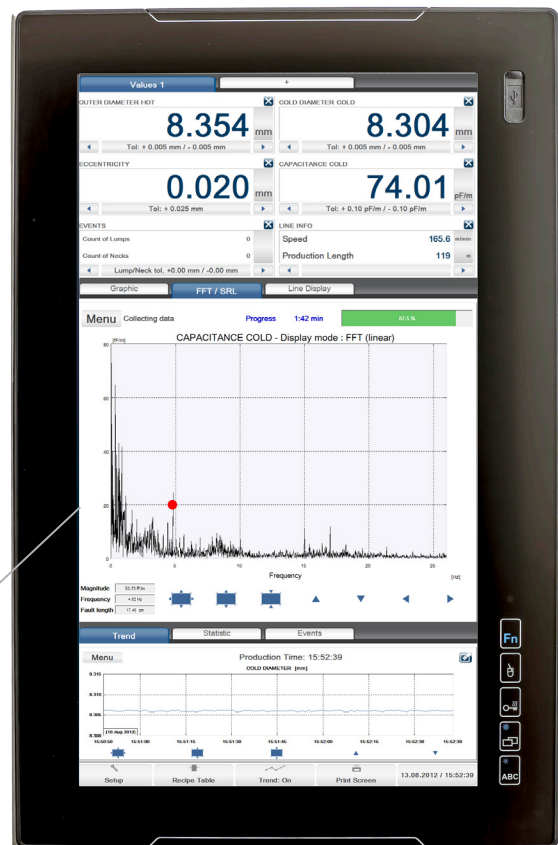
FFT analysis and SRL prediction

The detection of periodical capacitance variations and the prediction of the Structural Return Loss (FFT and SRL) are available as special features directly on the measuring tube via a diagnosis interface.

The processor system ECOCONTROL 6000 offers the display of the FFT/SRL relevant measuring values.



Zoom



FFT analysis and production data are clearly displayed at the vertical, 22" wide-screen monitor of the ECOCONTROL 6000

Benefits

- High resolution of the amplitude in the frequency spectrum
- High frequency resolution
- No electromagnetic interferences at the data transmission (FFT / SRL calculation is directly in the measuring head)

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Certified according to
DIN EN ISO 9001

Technical Data CAPACITANCE 2000

Product Name	CAPACITANCE 2010	CAPACITANCE 2025	CAPACITANCE 2060
Product Diameter	0.5 - 10 mm	1.0 - 25 mm	1.0 - 60 mm
Capacitance Range*	0 - 300 pF/m	0 - 300 pF/m	0 - 100 pF/m
Measuring Rate	1000 Hz	1000 Hz	1000 Hz
Accuracy	0.15% deviation	0.15% deviation	0.15% deviation
FFT-Resolution	14 Bit (10 fF/m at measuring range 100 pF/m, 30 fF/m at measuring range 300 pF/m)		
Active Length	125 mm (separated to two measuring zones with 125 and 10 mm)		
Interfaces			
RS485, RS232 diagnostic interface Optional: industrial fieldbus (e.g. Profinet IO, EtherNet/IP, Profibus-DP, CANopen, DeviceNet), two high speed analog outputs 0 to 10 V			
Power Supply			
115 or 230 V AC \pm 10 %, 50/60 Hz			

* Other capacitance ranges on demand

Technical data is subject to change

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