CONTROLE MESURE SYSTEMES
Non-Destructive Testing
contactcms@cmsndt.com
Eddy Current
www.cmsndt.com

Zet@Master

EDDY CURRENT INSTRUMENT

1 APPLICATION

Multi-Channel and multi-frequency, Zet@Master delivers unmatched reproducibility at high control speeds by integrating cutting-edge digital electronics with an advanced system architecture.

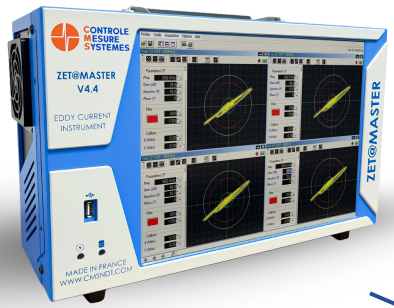
It allows to connect several Eddy Current systems on a single device.
Different versions are available to facilitate its integration on production lines.

2 USED FOR

- Defects detection on a wide range of products
- Designed for multiprobes applications

3 PRODUCT RANGE

- Standard version with touchscreen
- Rackable version

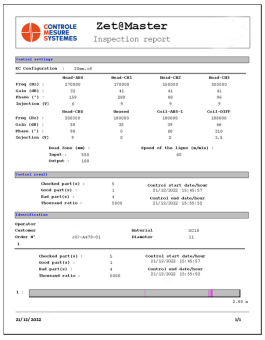


4 STANDARD SOFTWARE

- Zet@Setting configuration software
- Production software for inspection report creation

5 OTHER CONFIGURATIONS

- Automatic offset correction (GAP) for inspection by rotating head
- Customizable software to match your needs
- Network connection for remote assistance



6 ASSOCIATED SYSTEMS

- Compatible with every Eddy Current systems
- Compatible with all Eddy Current coils
- Remote assistance

7 MAIN ADVANTAGES

- Stand-alone instrument with high performance
- Compact, robust design for industrial applications
- Up to 32 real-time control channels
- Inspection at very high speed
- Compatible with all our software
- Real-time display of results
- Comprehensive inspection report for quality inspection
- In accordance with international standards such as ASTM, API, BS, AF, DIN, EN, SEP... and certified EN ISO 15548-1
- Possibility to manage different controls and sorting delays with encoder or timer
- I/O interface to communicate with different production lines
- Analog interface and encoders
- Runs on Windows

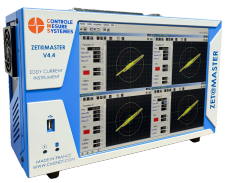
Products Range

Standard Version with Touchscreen

- 265 x 410 x 160 mm (HxWxD)
- IP 52
- 100-240 VAC/ 50-60 Hz
- 8 kg
- Permitted ambient temperature : 0-45° C
- 85% max of humidity - no condensation

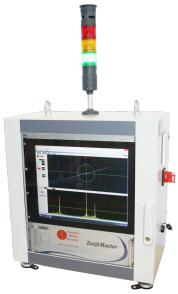
Rackable Version with Network

- 131 x 482 x 344 mm (HxWxD)
- IP 52
- 100-240 VAC / 50-60 Hz
- 5.5 kg
- Permitted ambient temperature : 0-45° C
- 85% max of humidity - no condensation



Stand Alone

Rackable



Mini Cabinet

Free Standing Cabinet

Operating Principle

The instrument is controlled by configuration software that defines the Eddy Current parameters for the application, including measurement settings and alarm thresholds for defect detection.

Signal analysis is fully managed by the instrument's electronics, providing a real-time display of inspection results. The device's opto-isolated inputs and outputs allow for quick and seamless integration with the production line.

Additional standards and/or specialized software can be integrated into the instrument to meet user requirements (e.g., production software with inspection reports or signal recording for post-processing).

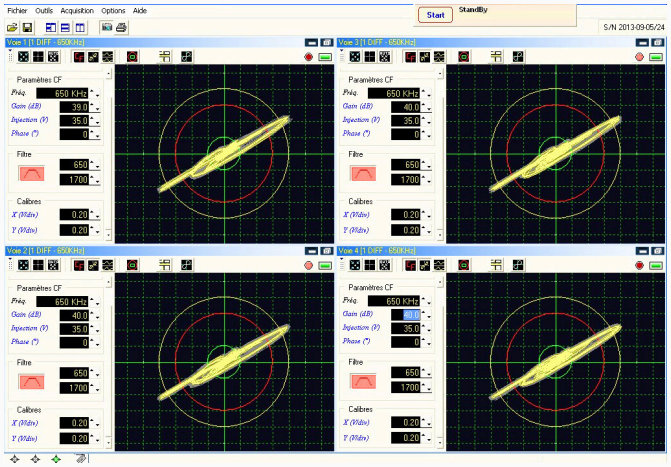
Customized software can also be developed specifically for your application.

TECHNICAL INFORMATION

OPERATING	
Standard Version	• Windows • SSD + Sata extension, 17" Touch screen
Connection to External PC	• 4 USB ports for peripheral devices • Monitoring and mouse drive through Ethernet TCP/IP network
FPGA based Signal Processing	• 300 KSps
Up to 32 channels	• Can be used for defects detection or sorting application
Adjustable Pre-Amplifier	• +0; +20; +26; +34; +40 dB

EVALUATION AND LINE	
Signal Evaluation	• Full circle evaluation and/or X/Y components
Defect Trigger Threshold	• Up to 8 circular, rectangular and/or annular alarms by channel
Tests Procedure	• Testing with control on/off and continuous testing
Line Speed / Sampling Frequency	• Static to 200 m/s, depend on the coil geometry, 140 KHz max
Line Signals	• Digital : 8 inputs, 12 outputs and 3 encoders 8 analog outputs
Marking	• 5 free outputs for marking, buzzer, cutter...
Sorting	• 7 sorting levels and outputs
I/O Functions	• Signal is given in less than 0.5ms • Programmable I/O on each channels with delays adjustable • OPC exchange can be done (OPTION)
Sorting Applications	• Harmonic analysis on 3rd; 5th and 7th harmonics
Defects Detection	• Defects detection with distance compensation

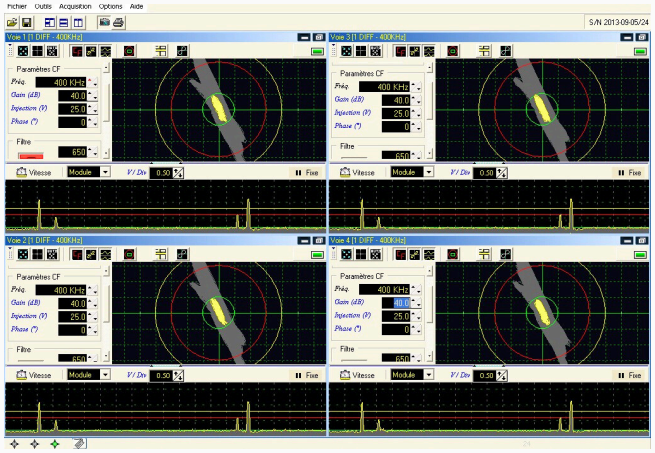
SENSOR CONNECTION	
Coil Monitoring	• Sensor auto-check wire breakage - Voltage and failure indicated in the screen
External Sensor Multiplexer	• Up to 64 sensors
Excitation Voltage	• 0.1 to 4,8V - 0.1 V tuning resolution
Test Frequency	• 10 Hz to 12 MHz - 1Hz tuning resolution
Filters	• Continuous filters High pass, low pass, band pass with adjustable severity and auto-filtering. 1 Hz tuning resolution
Gain	• Tuneable in step of 0.5 dB / 80dB dynamic
Phase	• 0 to 360° by step of 1 Hz



USER INTERFACE

OPERATING	
Operation protection	• 3 user levels, protected by password
Dialogue language	• French, English, Italian, Russian, Portuguese and more...
Status display	• Displayed in production software included in Zet@ Master
Message windows	• In real time in the screen
Tests setting display	• Unlimited
Setting	• Unlimited - configuration files saved on hard disk
Multi-line support	• Yes

SIGNAL DISPLAY	
Display	• Lissajou and/or time base • Signal is given in less than 0.5 ms
Hardware for Standard version	• Channels operation are displayed side to side
Displayed lenght	• Adjustable
Event display	• Position of defects are displayed for each channel • Screen shots utility



PRODUCTION SOFTWARE (OPTIONAL)

PRODUCTION SOFTWARE / REMOTE INTERFACE	
Identification	• Up to 10 fields customized
Setting	• Possibility to view and adjust setting from production software • Access to GAP control panel • Access to Input/Output test screen • Parameters access permissions fully settable with 3 user level, protected by password
Calibration	• Calibration screen • Load pre-define calibration files • Display and compare real signal with reference sample signal
Inspection	• Lissajou and/or Time base display • Real time display of inspected product with defect position • Historical of inspected parts with positioning of detected defect • Parameters access permissions fully settable with 3 user level, protected by password • Possibility to change operator's name and/or batch number
Reports	• Display of system parameters • Inspection reports files (PV) stored in hard disk • Display of EC settings and identification fields • Display of calibration signal • Display of inspection result : number of inspected parts, number of good/bad, list of all inspected part, list and position of detected defects (...) • ReportViewer application with possibility to recall, display and print stored PV files

OPTIONS	
Remote Assistance	• Worldwide support, over Internet or dedicated modem • Visualization of the instrument's screen from CMS company • Assistance to adjust or verify a setting • Assitance to upload and update software • Assistance to backup the system
Input	• 2 Analog inputs
Amplifier	• Output amplifier
Filter	• Automatic filter adjustment
Density Factor	• Calculating of defect density per unit length. Interesting to appreciate quality of the product and find small longitudinal defects

RECORD VIEWER SOFTWARE (OPTIONAL)

Acquisition :
- Record inspection measures for later printing
- Store of the measures on hard disk
- Storage and recall signals

Recordviewer :
- Signal processing
- Signal Analysis
- Possibility to adjust Eddy Current settings and see real-time changes in Eddy Current signals