

EDDYCHEK® 5 *compact*

Integration of eddy current testing
in process monitoring systems



- Integrates easily
- Is networkable
- For remote operation
- Saves costs

Cost-effective networked testing

Remote operation

- ▶ Data transmission and operation up to 1 km from EDDYCHEK® 5 compact unit
- ▶ Operation of unit at the location of your choice
- ▶ Real-time signal display on PC screen
- ▶ Networking via standard LAN (Ethernet, TCP/IP) or fiber optic transmission

Integration in central process monitoring system

- ▶ Display of eddy current testing on screen alongside other process monitoring systems
- ▶ Central archiving of test results
- ▶ Setting of test parameters in advance for specific testing conditions
- ▶ Saves on costs and space

Overview of several production lines

- ▶ Testing in several production lines can be operated from a single PC
- ▶ Centralized visualization of quality trends during production

Cost advantage

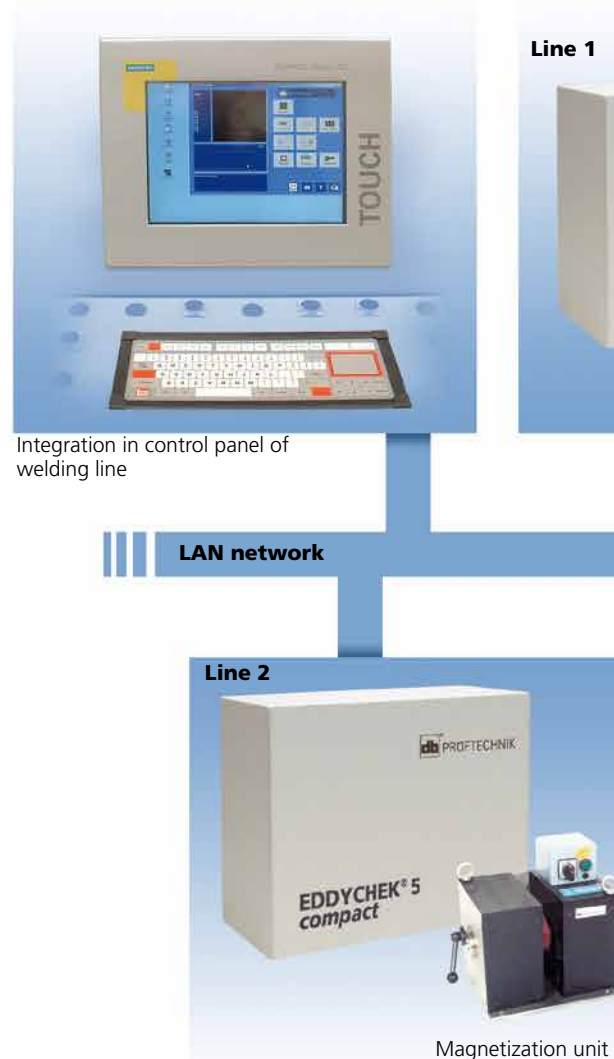
- ▶ Purchase limited to eddy current testing electronics and software
- ▶ Makes use of existing computer infrastructure

Wide range of applications

- ▶ Particularly well suited to monitoring several production lines with long transmission distances and central process integration
- ▶ Ideal for applications such as rolling mills, level winders, cold forming processes and spring-making machines
- ▶ Suitable for all standard applications

Compact & flexible

EDDYCHEK® 5compact was designed for customers who wish to operate their eddy current testing system on a Windows® PC. The EDDYCHEK® 5compact electronics provide exactly the same testing capabilities as the standard version. Neatly contained in a small enclosure, it may be mounted out of the way. The eddy current testing is operated from a remote PC or central operator panel where it is integrated in the process control system. This lets you operate several EDDYCHEK® 5compact units on a single screen together with other process control systems.



Windows® convenience

Click on the EDDYCHEK® 5 icon on your Windows® screen to open the user interface software. The signal display appears in real-time and the eddy current testing parameters can be adjusted in menus available in a large number of languages.



Testing status: number of parts, batches and shifts

Real-time display of signals



Segment coil & E probe



Industrial PC panel with touchscreen

Central operation

Now you can operate your eddy current testing system from a central monitor alongside your other process monitoring systems. With all of your monitoring systems at your finger tips, you will have a good overview of your entire production. In addition, eddy current testing can be easily integrated into existing control systems, making excellent use of existing resources.

Reporting & monitoring

To let you verify that your product has been fully tested, and to let you document and archive test results according to ISO standards, you can use several monitoring and reporting tools with EDDYCHEK® 5 compact.

► EDDYTREND software

Monitor several production lines at once using live test signals. Identify quality trends over the last four test pieces and play back previous testing runs.

► DATA LOGGER software

Play back and analyze test signals of previous test pieces. Adjust the testing parameters based on your analysis.

► Screen printout

Print out a color record of the signals together with the settings for the testing currently in progress.

► EDDYCHEK® Viewer

View defect locations on the test pieces and defect statistics for the whole batch.

Technical data

Applications

Field of application

- Manufacture of tubing, pipe, bar, wire, strip, sheathed cabling, extruded sections (roll-forming, tube and pipe mills, drawing machines, hot rolling)
- Quality assurance (e.g. testing of individual lengths and verification when changing test coils)
- Any metal section (ferrous or nonferrous)

Production lines and speeds

- Continuous production with cut-off (welding lines)
- Continuous production without cut-off (drawing lines)
- Offline testing of cut lengths
- Cold forming applications using stop-and-go testing
- 0.1–12 000 m/min (0.002–200 m/s; 0.3–40 000 fpm) depending on type of production and test coil
- Max. offline speed: 20 m/s (3900 fpm), max. 2 lengths/s

Signal resolution

- 10 mm (0.4") at speeds < 1200 m/min (20 m/s; 3900 fpm)
- 100 mm (4") at speeds ≥ 1200 m/min (20 m/s; 3900 fpm)

Testing procedure

- Multichannel, multifrequency testing (differential system)
- 1 or 2 channels: combinations of rotational, differential, absolute, FERROCHEK channels; optional signal vector evaluation

Parameters

Frequency and filtering

- Test frequencies : 2.0–1 000 kHz
- Each channel has its own oscillator
- Speed-coupled, automatically adjustable highpass filter (optional)

Phase rotation 0–359° in steps of 1°

Gain

- 0–48 dB in 0.2 dB steps for absolute channel
- 40–100 dB in 0.2 dB steps for diff./rotational channels

Coil monitoring

- Excitation and detection windings are monitored for breaks and short circuits

End signal suppression

- Control of end signals at start/finish of cut lengths

Data processing

Signal processing and defect evaluation

- Signal evaluation with masks and 3 alarm thresholds
 - Circular mask
 - Mirrored sector masks, 2 pair/channel (optional)
 - Mirrored sector masks with remainder (optional)
- For absolute channel and FERROCHEK: circular mask only
- Test length classification in up to 3 sorting categories according to flaw density and flaw category in combination with acceptable length

Test results

- Compilation on 3 levels: test piece (or section for continuous applications), batch, shift
- Max. number of test pieces (or sections) per batch: 50 000
- Max. total number of batches per shift: 99
- Max. total number of test pieces (stop-and-go): 9999999

Power supply

- 85–265 V; 47–63 Hz
- EDDYCHEK® 5 electronics power consump.: ≤ 150 VA

Software

User interface

- Menu-guided user interface
- Keyboard input, mouse operation, touchscreen
- Archiving
- Sample test mode: testing of individual lengths for quality control checks and parameter verification
- Software in Chinese, Czech, English, French, German, Italian, Japanese, Polish, Russian, Spanish, Swedish
- Online help for each menu, available in local language
- Password-protected supervisor level for adjusting basic test parameters and locking parameter access
- Operation of several EDDYCHEK® 5 compact from one PC

Reporting software

- DATA LOGGER software for recording and viewing signals and other data (optional)
- EDDYTREND software for recording, viewing and analyzing testing signals and identifying quality trends (optional)
- EDDYCHEK® 5 Viewer for graphic display of defect locations and defect statistics

Data transfer

- Standard LAN: Ethernet (TCP/IP), 80 m (262 ft)
- Fiber optic transmission (optional), 1000 m (3280 ft)

PC requirements

- Windows® XP, Windows® 7, Windows® 8.1

Hardware

Housing

- Environmental protection IP54: protected against dust and water spray
- Shielded housing and internal power supply filter to prevent interference according to VDE843 CE EN 50081-2 and IEC 801.1–4 EN 50082-2
- Dimensions (HxWxD): 355 x 440 x 266.2 mm (14" x 17.3" x 10.5"), 8 height units
- Weight: approx. 12 kg (26.4 lb)

Operating conditions

- Temperature range: 0–50° C (32–122° F)

Input and output terminals

- 4 inputs and 4 outputs (additional 4 inputs and 4 outputs optional), configurable as potential-free or 24 V
- Max. of 6 delayed or undelayed outputs; max. 3 sorting outputs; 1 system error output
- 1 line encoder input, 2-track
- Network: Ethernet (TCP/IP)

Recorder

- Analog output for 2 channel signal recorder