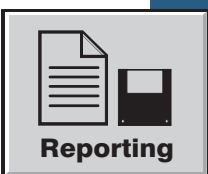
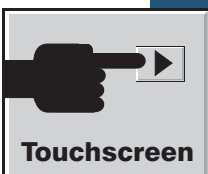
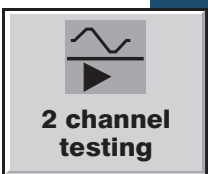


# EDDYCHEK® 5

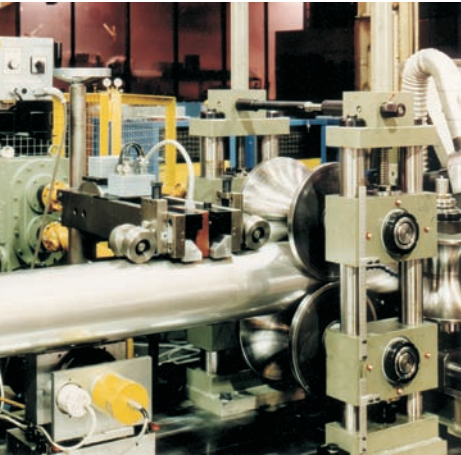
Innovative eddy current testing  
for quality and process control



# Eddy current testing: essential



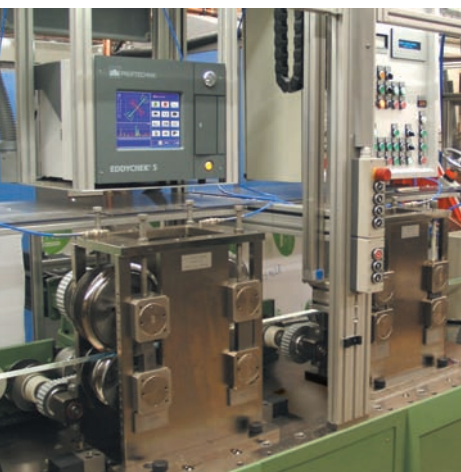
Full-body testing with multi-segment coils and weld seam inspection



Weld seam testing with longitudinal magnetizing unit and segment coil



Wire inspection in drawing line



Weld seam inspection of aluminum radiator tubing

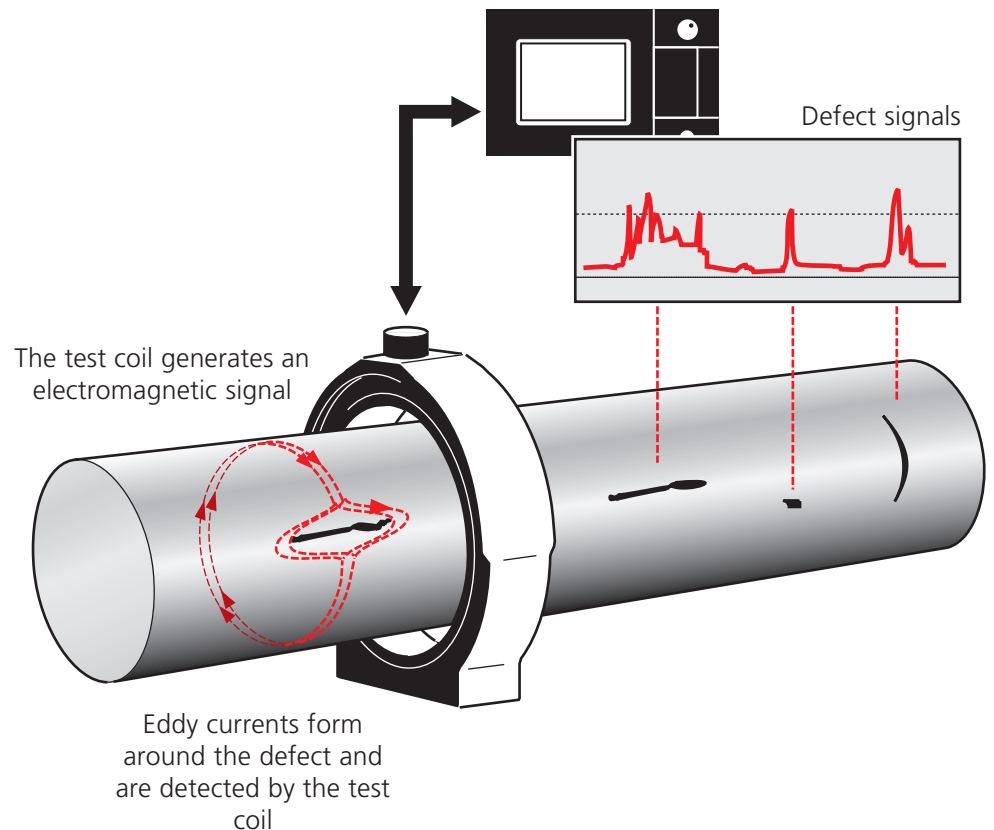
Users of tube, bar and wire are always asking for higher quality material to meet their own rising production requirements. The only way for producers of semi-finished products to meet this demand is to implement fully automatic, non-destructive testing methods that provide reliable test results to verify product excellence. In doing so, they are increasingly focusing on process improvement and the reduction of scrap and downtime.

Eddy current testing has become one of the most important testing methods used by industry today. It can be fully integrated in production lines, whether at low or high speeds or for cool or hot metals. It provides mill operators with immediate feedback on product integrity, allowing correction of process changes before scrap develops or serious overhauls are required. Eddy current testing is easy to install and operate and provides reliable test results day after day, year after year.

## Advantages of the EDDYCHEK® 5

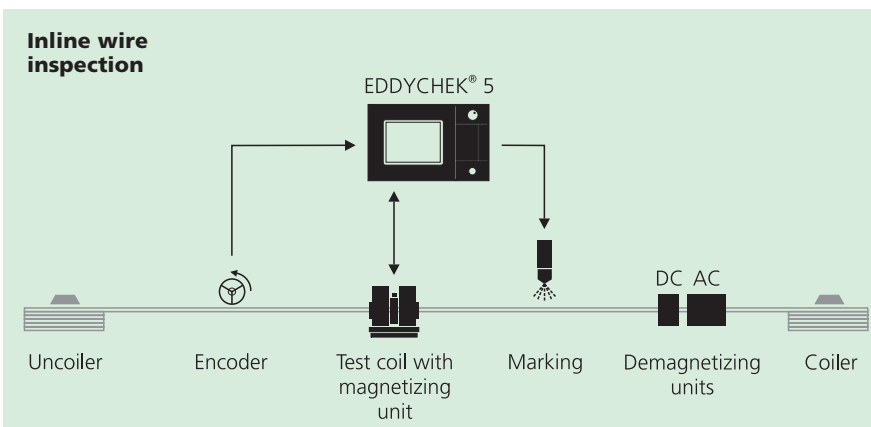
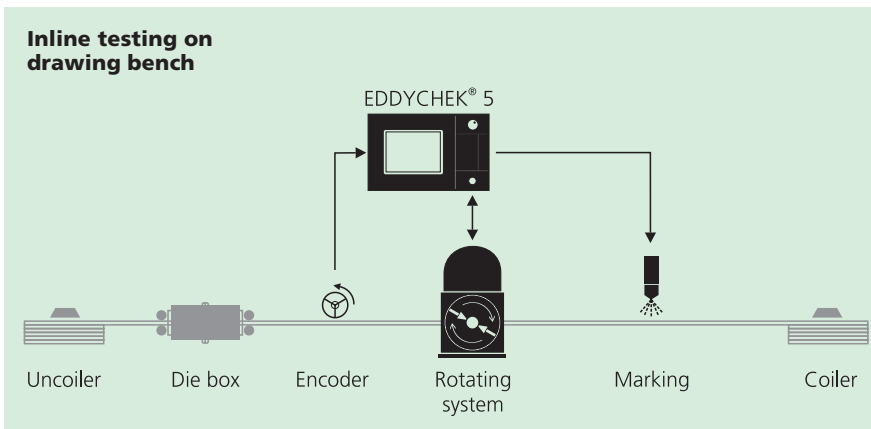
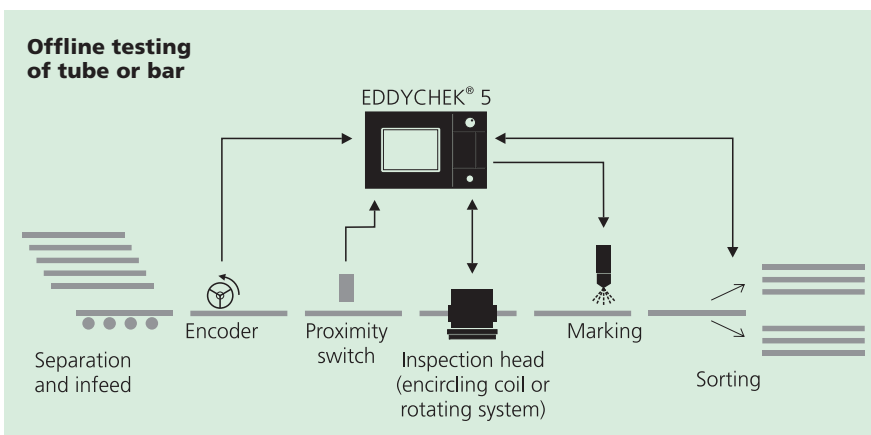
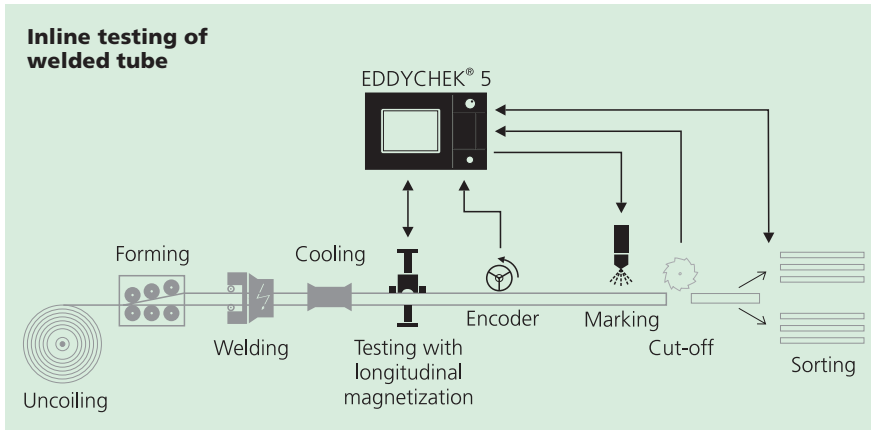
- Easy to install and operate
- Dependable and reproducible test results
- Automatic marking of defects
- Automatic sorting of inspected products in 3 categories
- Wide range of test reports available for certification of product quality
- Storage of parameters and test results
- Full integration in network for controlling testing from central host computer
- Meets the international standards ASTM, API, BS, JIS, ETTC, ENEL, DIN, and SEP 1925/1917/1914, etc.

EDDYCHEK® 5 eddy current tester



# quality assurance

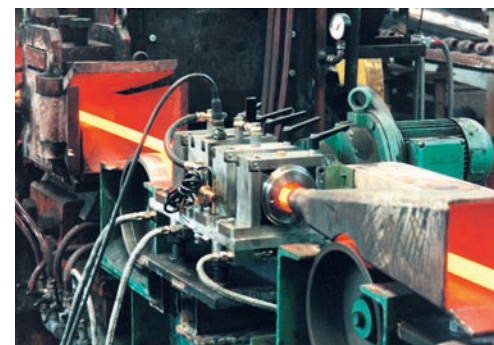
## Typical applications for the EDDYCHEK® 5



Offline testing of bright steel with RS 130 rotating system



Weld seam inspection of aluminum tubing



Testing of hot rolled material



Inline inspection of spring wire

# User-friendly design



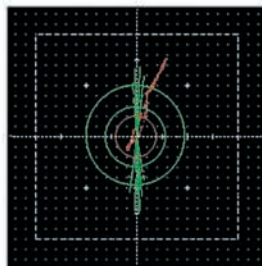
## Practical touchscreen

**Control knob**  
Set parameters by turning the control knob after selecting a parameter on the screen.

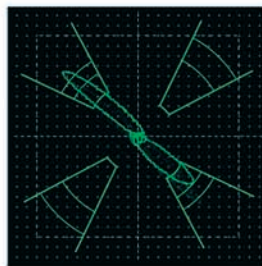
**Touchscreen**  
Just touch the screen to set up parameters and to control testing and printing.

## Informative signal display

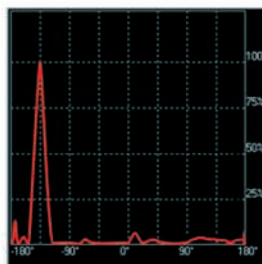
Real-time signals provide immediate feedback on the quality of the product. Signals are green and red to distinguish each channel.



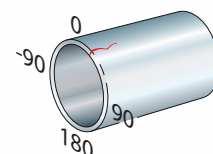
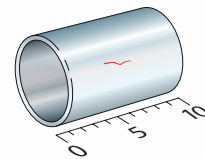
**XY display:** The signal amplitude can be evaluated with up to three circular masks (top image). If the angle of the signal is of importance (for example, to distinguish between different defect types), sector masks can be used to differentiate between signals of differing angles (center image).

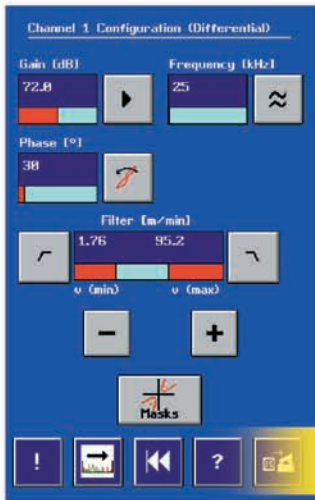


**Rotating display:** This display is used with a rotating system. It shows the position of the defect on the circumference of the test piece. The horizontal axis of the display shows the degrees on the test piece.



**Amplitude-time display**  
This display shows defect signals along the length of the tested material as the material moves down the line.





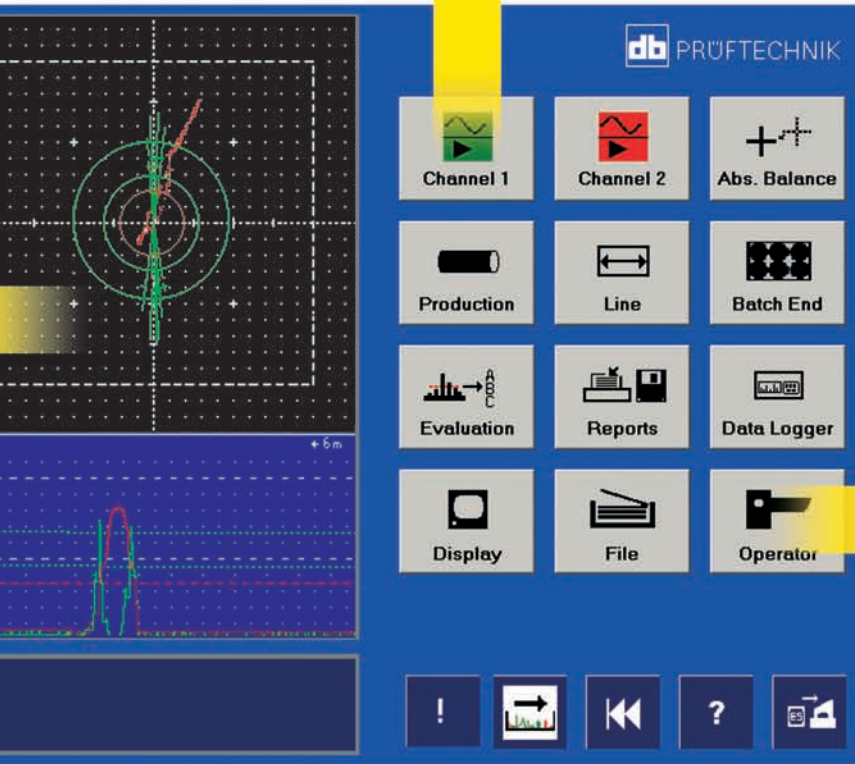
### Automatic filters

EDDYCHEK® 5 offers a greatly simplified method of filter setting. Once the high pass filter is set for a certain speed range, speed changes are automatically matched. This is an optional feature.

## Online HELP

Each menu is accompanied by a help page that explains functions in detail. Online HELP is available in your national language.

Touch button to open menu



EDDYCHEK® 5 帮助	
	返回前一屏幕
	EDDYCHEK® 5 HELP
	To return to the previous screen.
	To return to the top level screen.
	To print out a hardcopy of the screen.
	To call up the HELP function.
	To freeze and unfreeze the RT display



## Password protection

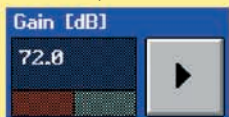
Basic settings that rarely need to be changed can only be accessed with a password. All parameters can be locked so that they remain readable but inaccessible.

## Language selection

The language used for the text on the screen and in the online help can be selected in this menu.



Unlocked parameter




Locked parameter




# EDDYCHEK® 5: A comprehensive inspection

### Inputs




Encoder

### Transducers



Encircling coils



Segment coils and probes

### Inspection



Rotating systems



Longitudinal magnetization units

## Networking for centralized control

### Convenience

Production managers can set up testing and view test results on the computer in the convenience of their office.

### Advance parameter setup

Parameters may be set up and stored for later use before they are actually required.

### Customized test results

You can customize the presentation of test results to your company requirements.

Production planning



Central server and data base

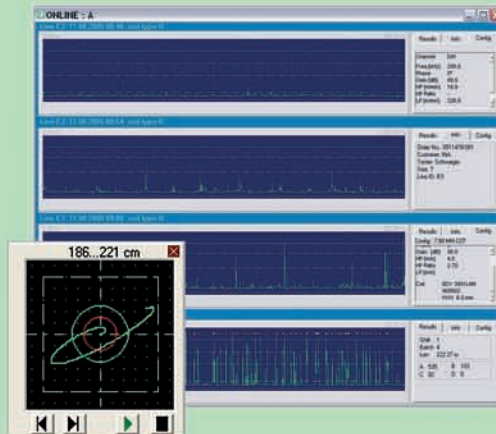


Control room

## EDDYTREND Software

With the EDDYTREND software, you can work with test results on a PC in your office or control room.

- Monitor production with live test signals
- Identify quality trends over the last four test pieces
- View several production lines at once
- Play back previous testing runs
- Analyze test results to improve parameter settings



## Outputs



Audible and visible alarms

# system

## head assemblies



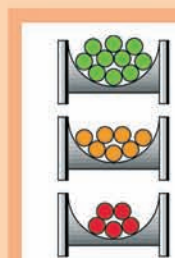
Encircling magnetization units



Water-cooled head assemblies

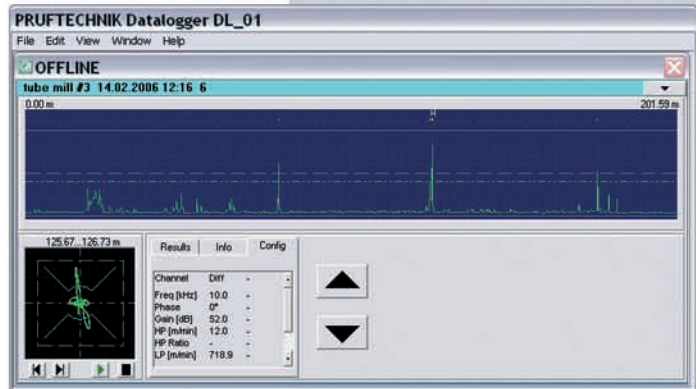


Marking systems



Sorting into three classes

## Documentation



### DATA LOGGER

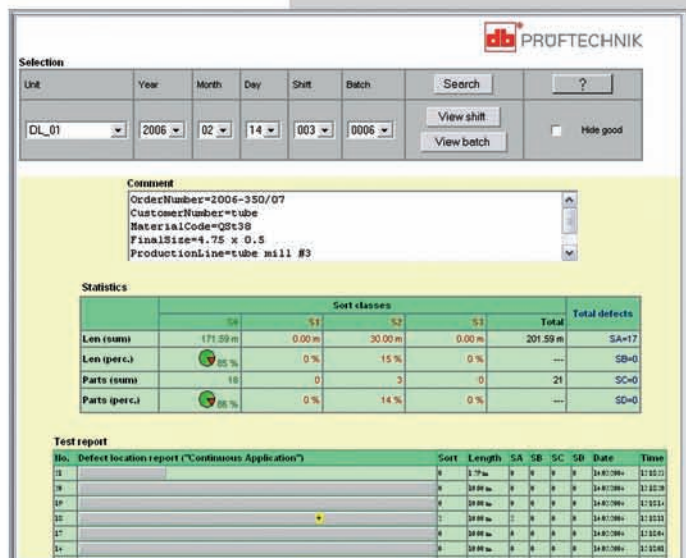
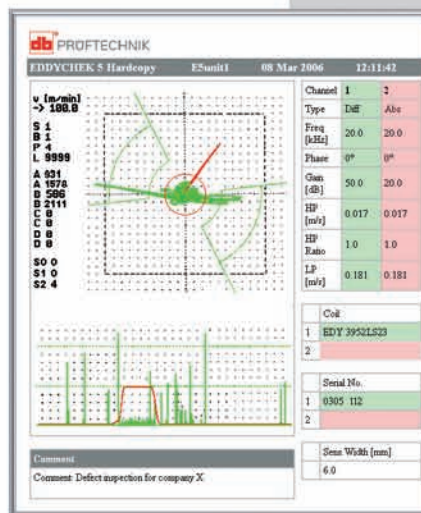
With the DATA LOGGER you can play back and analyze test signals of previous test pieces. This will give you the opportunity to adjust the testing parameters to ensure that EDDYCHEK® 5 will identify the defects you want to find.

### Screen printout

For a record of the testing currently in progress, you can print out a color copy of the signals on the screen together with the settings.

### Defect locations and statistics

The defect locations on the test pieces and defect statistics for the whole batch are displayed by the Viewer.



# Technical data

## Applications

### Field of application

- Manufacture of tubing, pipe, bar, wire, strip, cable sheathing, extruded sections (roll-forming, tube and pipe mills, drawing machines)
- 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 pieces per sec.

### 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 syst.)
- 1 or 2 channels: combin. of rotational, differential, absolute, FERROCHEK; optional signal vector evaluation

## Parameters

### Frequency and filtering

- Test frequencies : 2.0 – 1000 kHz
- Each channel has its own oscillator
- Speed-coupled, automat. adjustable high pass 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
- Automatic setting and recording of coil information when using Smart Sensors

### 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 (option)
  - Mirrored sector masks with remainder (option)
- 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 per batch: 50,000
- Max. total number of batches per shift: 100

## Power supply

- 85–263 V; 47/63 Hz
- EDDYCHEK® 5 electronics power consump.: ≤ 250 VA

## Software

### User interface

- Touchscreen operation using icons
- Multitasking real-time operating system
- Archiving of testing parameters for later retrieval
- Sample test mode: testing of individual lengths for quality control checks and parameter verification
- Software in Czech, English, French, German, Italian, Polish, Russian, Spanish, Swedish
- Online help for each menu, available in local language
- Password-protected supervisor level for adjusting basic testing parameters and locking parameter access in main level

### 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)

## EDDYCHEK® 5 Hardware

### Screen and housing

- 12.1" (30.7 cm) diagonal color display
- Environmental protection IP 54: 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 606 mm (14" x 17.3" x 23.9"), 8 height units
- Weight: approx. 34 kg (74.8 lb)

### Operating conditions

- Temperature range: 0...40 °C (32...113 °F)
- Internal cooling unit

### Input

 Touchscreen and control knob (keyboard possible)

## Input and output terminals

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

Distributor:



Printed in Germany LAB 5391G.04.06

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