

Surface defects reliably detected:

eddydecor[®]



Crack and pore testing with eddydecor[®]:
Up to 8 independent channels in one instrument

- Automatic selection of best test set-up
- Easy analysis by bargraph display for each channel
- Easy integration in automatic test systems
- Easy to operate, even by semi-skilled staff
- Steep 8th order HP/LP filters for best signal-to-noise ratio
- integrated damaged probe alert

The crack detection instrument **eddydetector**[®] is designed for testing magnetic or electric conductive components for surface defects or near-surface defects such as cracks or pores.

The **eddydetector**[®]'s principle of operation is based on the environmentally clean eddy current test method and is especially suitable for testing components in a production environment. The instrument is capable of detecting cracks as small as 0.05 mm in depth on components with predominantly flat or round finished surfaces. The signal amplitude varies according to crack depth, however, the effects of alloying and surface conditions will determine crack detectability.

The fully-equipped system consists of a high-frequency shielded case with power supply, microprocessor plug-in unit with LCD display and operational keys, and the actual channels. It can be equipped with up to 8 test channels and thus test with 8 probes at a time. Even for more complicated applications, the complete test electronics can be installed in a very confined space.

Each test channel is an independent, separately adjustable eddy current instrument and has its own bargraph display for probe signals. An extremely rapid inhibit signal allows reliable crack detection very close to the bored holes (where such cracks would normally be concealed by the borehole signal).

Separate adjustable filters and low-noise amplifiers guarantee a high signal to noise ratio, thereby ensuring that even very small signals are detected.

A probe-failure supervision feature always guarantees that damaged probes or cables are instantly detected. The built-in overload-sensor, moreover, prevents incorrect setting of the system.

The microprocessor displays all set-up information of the selected channel on a large, easy legible LCD screen.

Set-up parameters for individual applications are stored in a microprocessor memory together with the supervisory functions required during automatic testing.

Despite the versatile possibilities the **eddydetector**[®] is exceptionally easy to operate and adjustments are easily and quickly carried out. Up to 20 test set-ups can be stored for future access.

Opto-isolated interface makes the **eddydetector**[®] easy to integrate in automatic test systems.

Test Routine:

The test result is either „OK“ or „NOK“. It is shown by green or red luminous diodes in the bargraph display and available at an optoelectronic interface. Additionally, the output signals of each channel are transferred in analog form (X and Y) to an oscilloscope or a printer.

Interfaces:

Standard opto-interface to PLC permits transfer to **eddydetector**[®] of external controls and transfer from **eddydetector**[®] of test results. (Examples: test initiation, test inhibit signal, test result to a sorting gate or marking system, optical and/or acoustic alarm signals).

An integrated RS232/V24 interface permits communication with separate main-frame computers to perform statistical analysis (SPC) of accumulated data.

Probes:

A wide selection of probes is available to solve even applications which seem to be very problematic and difficult. Moreover, special probes can be made to customer's specification. Additionally a wide range of rotating heads including all accessory equipment is available.

Technical Data:

Number of channels:	1 to 8 independent channels
Range of carrier frequency:	40 kHz to 2,5 MHz
Carrier frequency steps:	25 % (Δ 10 frequencies/decade)
Gain:	42 dB to 110 dB in 1 dB steps
Phase rotation:	360° in 2° steps
Filter:	steep 8 th order HP/LP, Bessel-characteristic for optimum pulse delay
Range of filter frequency:	6,3 Hz to 6,3 kHz for high and low-pass filter
Filter frequency steps:	12,2 % (Δ 20 frequencies/decade)
Range of filter band pass:	20 times high-pass frequencies
Interfaces:	opto-interface for system integration (PLC) analog output for X and Y-signal RS232/V24 computer-interface (optional)
Power supply voltage:	110/220 V AC, 50/60 Hz
Power requirement:	100 VA
Dimensions:	W 483 mm x H 190 mm x D 370 mm
Weight:	8 kg

(Technical data are subject to change without prior notice)

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