



Eddy Current
Technology



eddyguard[®] digital S

Equipo digital de Corrientes inducidas de un canal para ensayo no destructivo de componentes metálicos, incluidas piezas de producción masiva y productos semi terminados utilizando la tecnología preventiva multi frecuencia (PMFT).

Pruebas para propiedades de material como dureza, profundidad de capa, estructura, resistencia a tracción, tratamiento térmico o aleación.



Designed for the switching cabinet: eddyguard S in built-in situation.

The eddyguard S distinguishes itself with compact design and concentration on one channel structure applications with one coil at one location combining that with the well-known ibg test reliability and ease of operation. Configuration is effected by means of a PC or a laptop supplied by customer via the USB-port. The ergonomic interface of the PC-software facilitates intuitive and simple operation. After configuration is finished the eddyguard may be disconnected from the PC/laptop. The eddyguard continues testing self-sufficiently.

The eddyguard is based on the ibg system concept proven for decades. All coils and probes of the ibg system family can be used. The eddyguard is therefore recommended not only for the solution of new tasks but also as an upgrade for existing installations to be equipped with state-of-the-art eddy current technology.

Digital processing of the measuring signal with special processors immediately after the pre-amplifier guarantees highly stable test results.

Calibration with ibg's unique "good-part-only-concept" enables setup within a few minutes true to the motto: "Do you still calibrate or are you already testing?" An adequate number of good parts is recorded as reference parts with connected PC/laptop. From the eddy current signals tolerance zones are automatically generated encompassing the metallurgical magnetic fingerprint of the group of good parts for all PMFT test frequencies of the fundamental wave and two harmonics. After recording of good parts, testing can be immediately started. Faster starting yet more reliable eddy current testing is not possible.

Product features

- **Tolerance zones**

When recording material data with a PC/laptop the eddyguard automatically generates elliptical tolerance zones for a reliable test. A tolerance zone editor is integrated for special applications enabling the skilled user to freely define the zones in rectangular or elliptical form.

- **iSHA Harmonic Analysis**

In addition to the eight fundamental test frequencies, two harmonics (2nd to 9th harmonic selectable) for each test frequency can be turned on and simultaneously evaluated without increasing the test time thanks to the iSHA-technology (ibg's Simultaneous Harmonic Analysis).

- **Display of results**

(with connected PC/laptop only)

Test results are shown as bargraph, single ellipse or multiple ellipses, selectable.

- **Coils**

A multitude of encircling coils up to a diameter of 500 mm as well as structure test probes are available for standard applications. Customised coils (i.e. ID coils and rectangular coils) for special applications are designed and manufactured in-house. Test coils may be connected either as ibg recommended compensating pair of coils or as self-compensating single coil. Monitoring of coil and cable failure as well as a 50/60 Hz noise suppression can be activated. Ibg offers also a range of durable highspeed sorting devices for test parts up to 60 mm diameter.

- **Activating test**

Start of test can be manually on the PC/laptop via PLC or optional start button. There is an autostart function that detects the part in the test coil and activates testing immediately or after an adjustable delay time.

- **Test speed**

High speed testing within milliseconds. Using eight test frequencies, a cycle rate up to seven parts per second with encircling coils and 25 parts with probes can be realised with standard settings.

- **Part type**

Maximum 20 part types with all settings and reference data can be stored in the device memory and switched over manually via PC/laptop or via PLC for automated processes.

- **Data storage & transfer**

Part types and instrument settings are stored on the PC/laptop and may additionally be saved e.g. onto a USB-stick.

- **Automation without PLC**

Direct control of sorting devices, paint marking systems or indicating lamps is possible with merely an external voltage source 24 Vdc, providing a low-cost solution for small automated systems without an additional PLC, too.

- **Operation / Configuration**

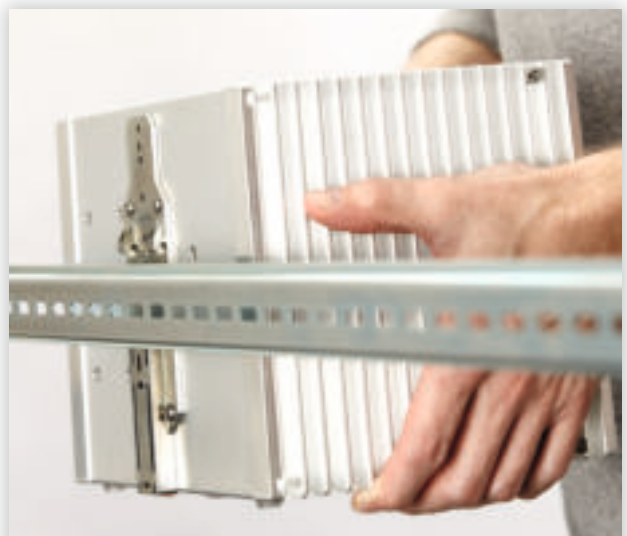
by means of the delivered ibg operating software to be installed on a PC/laptop supplied by customer. System requirements: USB 2.0 and operating system MS Windows 7 (32 or 64 bit) or Windows XP (32 bit).

- **Help function**

The software for the PC/laptop has a context sensitive help function which often renders a look into the manual unnecessary.

- **Languages**

The software for the PC/laptop may be set to German, English, French, Spanish, Italian, Polish, Portuguese, Czech, Hungary, Chinese, Japanese, Korean and Russian. Other languages as option.



Installation on top hat rail

Connections

- **IO-Ports**
optically insulated interface for PLC connection with 32 inputs and 32 outputs
- **USB 2.0**
for connection of a PC/laptop supplied by customer

Housing

- completely sealed and thus can be used in a dusty production environment
- for installation on top hat rail TH35 as per DIN EN 60715.

Technical Data

Mains: 100 – 240 V, 50/60 Hz

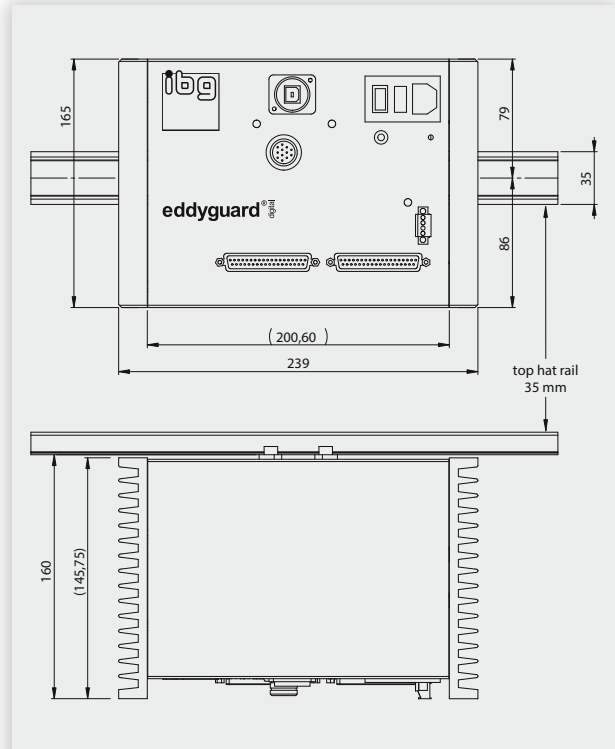
Protection class: IP 41

Ambient temperature: 0 – 45°C

Relative humidity: max. 85 %, non condensing

Dimensions (w x h x d): 239 x 165 x 169 mm

Weight: 4 kg



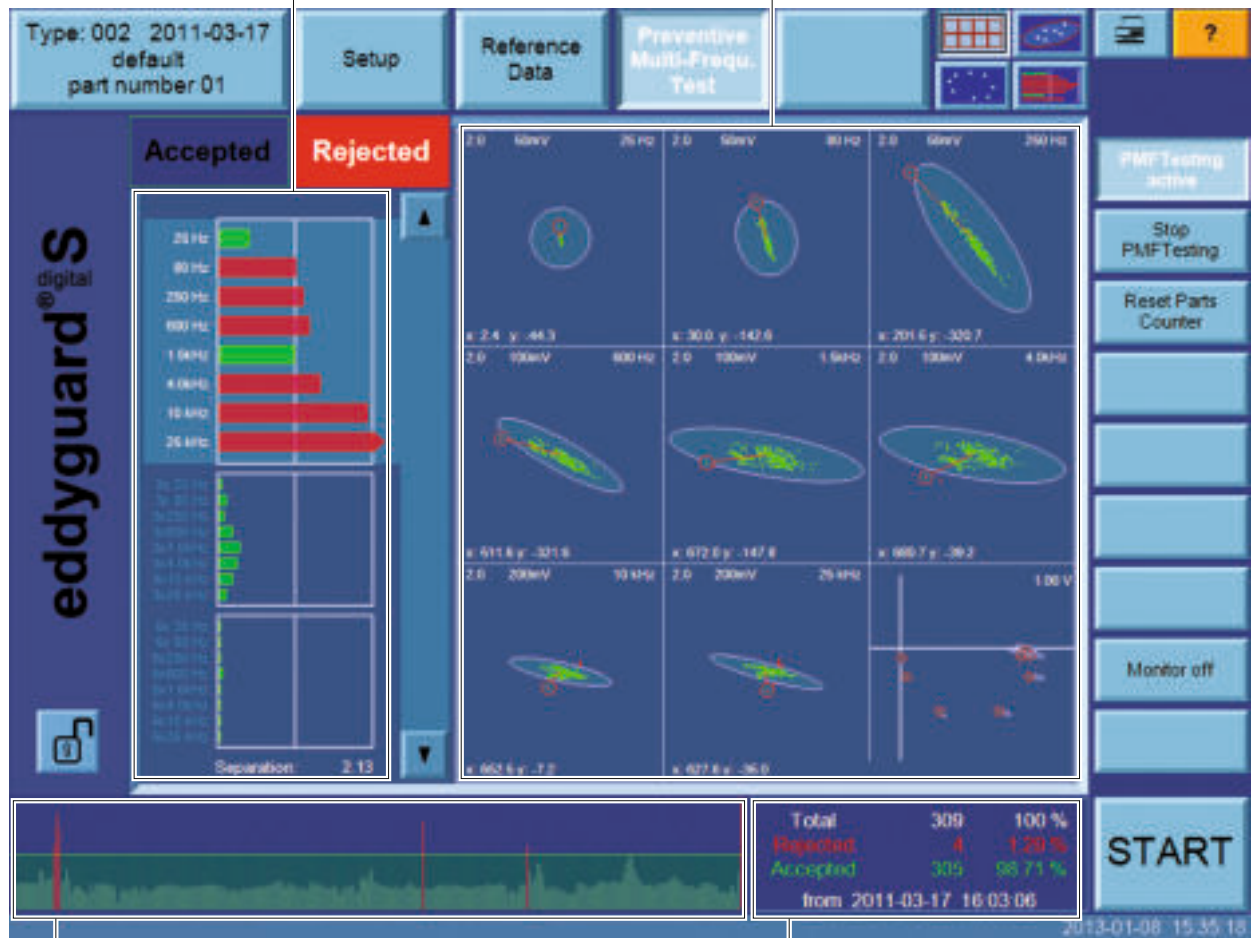
Dimensional drawing of the instrument



High testing accuracy, sensitivity and temperature stability – a broad range of coils and probes provides excellent results in structure testing.

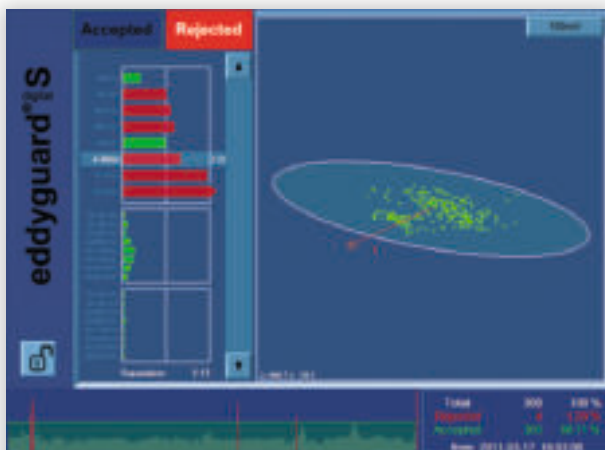
Bargraph display of the latest test result of the eight fundamental wave frequencies (large) and the third and fifth harmonic (small).

Survey of all test results of the eight fundamental wave frequencies in the relating tolerance zone.



Test result history

Parts counter



Single ellipse display of all test results at one fundamental wave frequency



Bargraph display of the test result



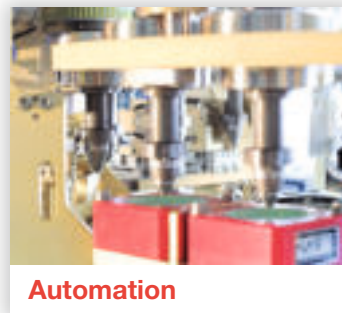
● ibg
■ ibg partners



Instruments



Coils and Probes



Automation

Durante más de 30 años, el grupo ibg ha sido líder del mercado de fabricación de equipos de corrientes inducida, ajustando los estándares de la tecnología. Ya sea por la inspección de estructura multi frecuencia, o por la generación automática de zona de tolerancia o la detección multi canal de grietas y quemaduras de rectificado – las innovaciones e invenciones de los desarrolladores de ibg dan forma al mercado y proporcionan soluciones de inspección avanzadas.

La sede se encuentra en Ebermannstadt, Alemania, y junto con las filiales en los EE.UU., Suiza y la República Checa así como una red de socios en todo mundo, damos servicio a nuestros clientes de la industria.



■ Made in
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