

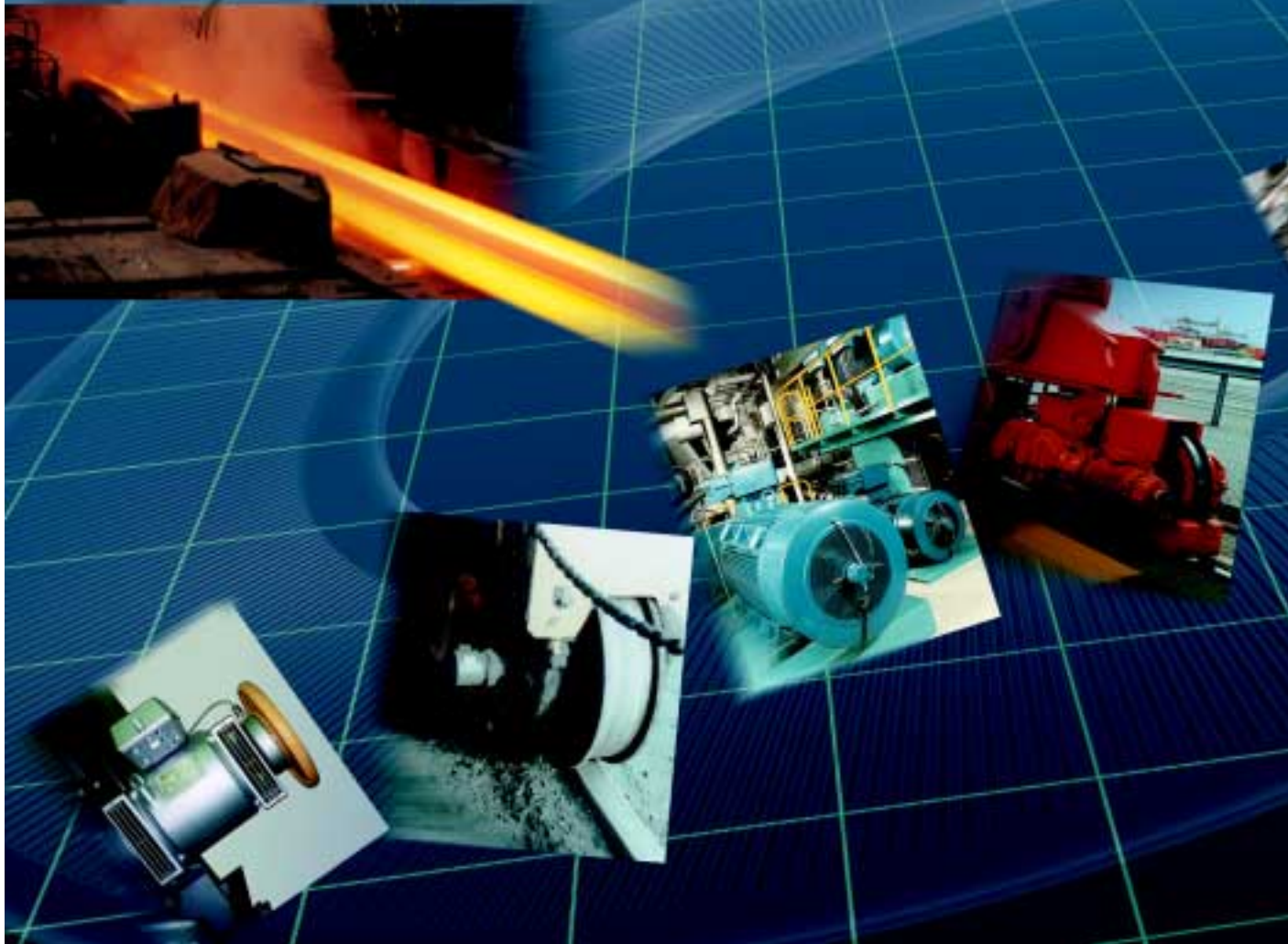
Digital-Tachos (Incremental Encoders)
Sinus-Tachos (Sinewave Encoders)

Information for the User

- Criteria for Selection
- Combinations
- Optimum Signal Transmission
- Application Examples
- Technical Data



Precision counts - HÜBNER Technology

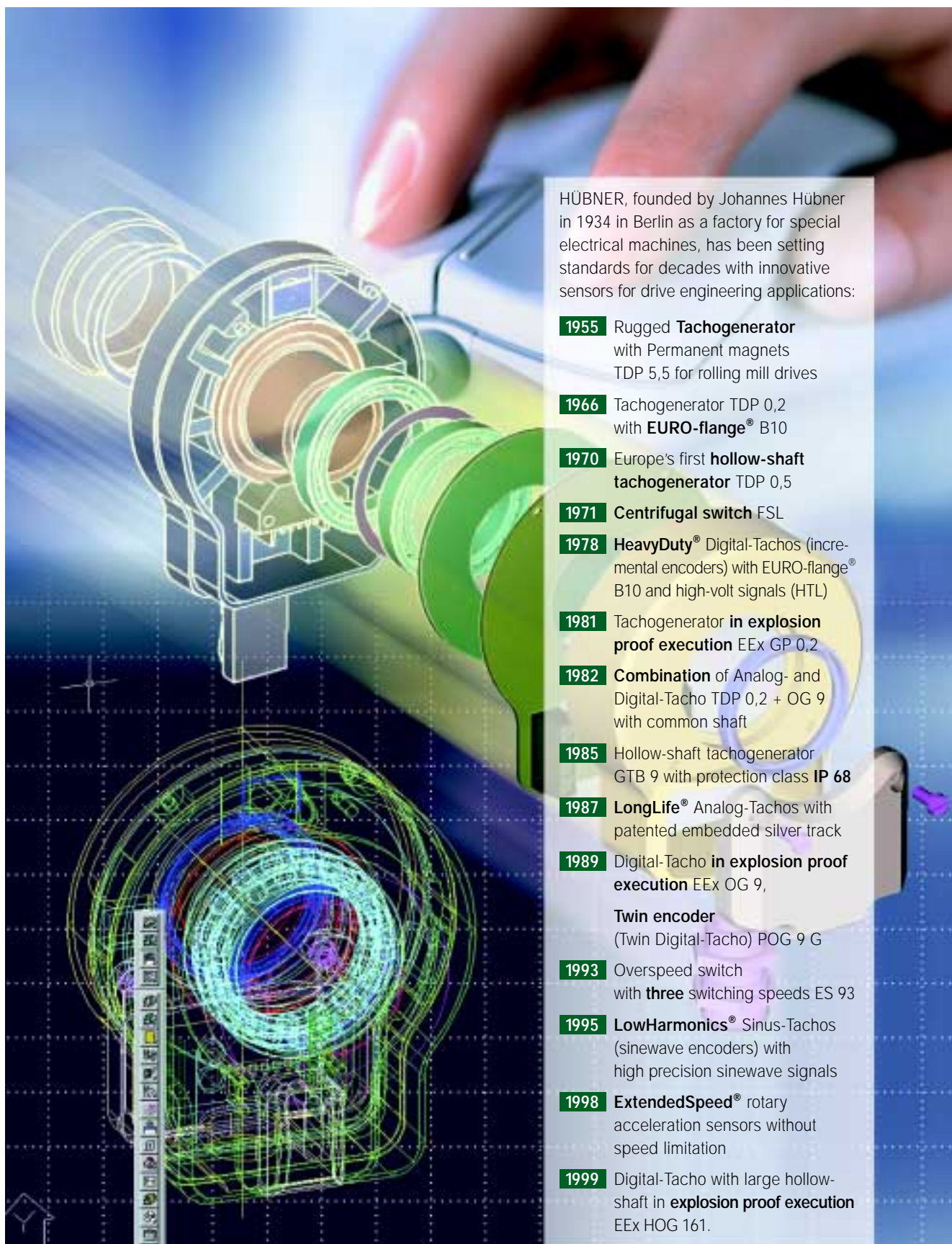


Digital-Tachos (Incremental Encoders) and Sinus-Tachos (Sinewave Encoders) are devices for measuring speed and position in drive technology.

HÜBNER HeavyDuty® Digital-Tachos and **HÜBNER Low Harmonics®** Sinus-Tachos are characterized by the following excellent features:

- **Robust construction** with solid light alloy housing for high vibration and shock proof protection.
- **Bearings at both ends** of the shaft, where construction permits.
- **Short-circuit proof power transistors** with peak currents up to 300 mA for line driving over long cables with HTL-signals or optional TTL-signals to RS-422.
- High **Electromagnetic Compatibility (EMC)**, tested to IEC 801-4.
- **Protection against shaft currents** due to insulated ball bearings, in some devices.
- **Digital-Tachos without bearings** for drives with large axial play or high speeds.
- **Excellent sinewave signals** due to the patented **HÜBNER LowHarmonics®** technology.
- **Thru-hole hollow-shaft**, also available in Sinus-Technology and in explosion proof execution "EEx de II C T 6".
- Wide range of program with standard **EURO-Flange B10**.
- **Rear shaft option** for mounting of other devices.
- **Combinations with common shaft:**
 - Digital-Tacho + Digital-Tacho (Twin Tacho),
 - Digital-Tacho + Analog-Tacho,
 - Digital-Tacho + Overspeed Switch.
- All HÜBNER devices are covered by a **two-year guarantee** subject to the conditions of the Association of the German Electrical Engineering Industry (ZVEI).





HÜBNER, founded by Johannes Hübner in 1934 in Berlin as a factory for special electrical machines, has been setting standards for decades with innovative sensors for drive engineering applications:

- 1955** Rugged **Tachogenerator** with Permanent magnets TDP 5,5 for rolling mill drives
- 1966** Tachogenerator TDP 0,2 with **EURO-flange®** B10
- 1970** Europe's first **hollow-shaft tachogenerator** TDP 0,5
- 1971** **Centrifugal switch** FSL
- 1978** **HeavyDuty®** Digital-Tachos (incremental encoders) with EURO-flange® B10 and high-volt signals (HTL)
- 1981** Tachogenerator **in explosion proof execution** EEx GP 0,2
- 1982** **Combination** of Analog- and Digital-Tacho TDP 0,2 + OG 9 with common shaft
- 1985** Hollow-shaft tachogenerator GTB 9 with protection class **IP 68**
- 1987** **LongLife®** Analog-Tachos with patented embedded silver track
- 1989** Digital-Tacho **in explosion proof execution** EEx OG 9,
Twin encoder
(Twin Digital-Tacho) POG 9 G
- 1993** Overspeed switch with **three** switching speeds ES 93
- 1995** **LowHarmonics®** Sinus-Tachos (sinewave encoders) with high precision sinewave signals
- 1998** **ExtendedSpeed®** rotary acceleration sensors without speed limitation
- 1999** Digital-Tacho with large hollow-shaft in **explosion proof execution** EEx HOG 161.

This document builds on many years of experience with applications in nearly all sectors of industry and shows HÜBNER as your capable partner for Digital-Tachos (encoders) with **square-wave** and **sinewave signals**.

- The following pages...
- ... will give you an overview of the strength of the **HÜBNER technology**,
- ... clarify decisive key technical data,
- ... contain tips for optimum signal transmission.
- Typical **applications** show HÜBNER encoders: Tough in operation – precise in application.
- A catalogue section then follows with all the key **technical data**.
- A detailed **index** concludes the document.

You can find additional information in the Internet at:

<http://www.huebner-berlin.de> 

or you may be advised individually by the **Hot Line +49 (0) 30 - 6 90 03 - 111**
oder - 112

We would be grateful for any information that will help us to develop this document further.


We reserve the right to modify technical data in the interest of technological advance.

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HÜBNER Technology Survey

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Combinations for Special Drive Applications

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- Digital-Tacho + Digital-Tacho (Twin Encoder)
- Digital-Tacho + LongLife® DC Tachogenerator
- Digital-Tacho + Overspeed Switch
- Sinus-Tacho (Sinewave Encoder) + Acceleration Sensor

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Typical Applications

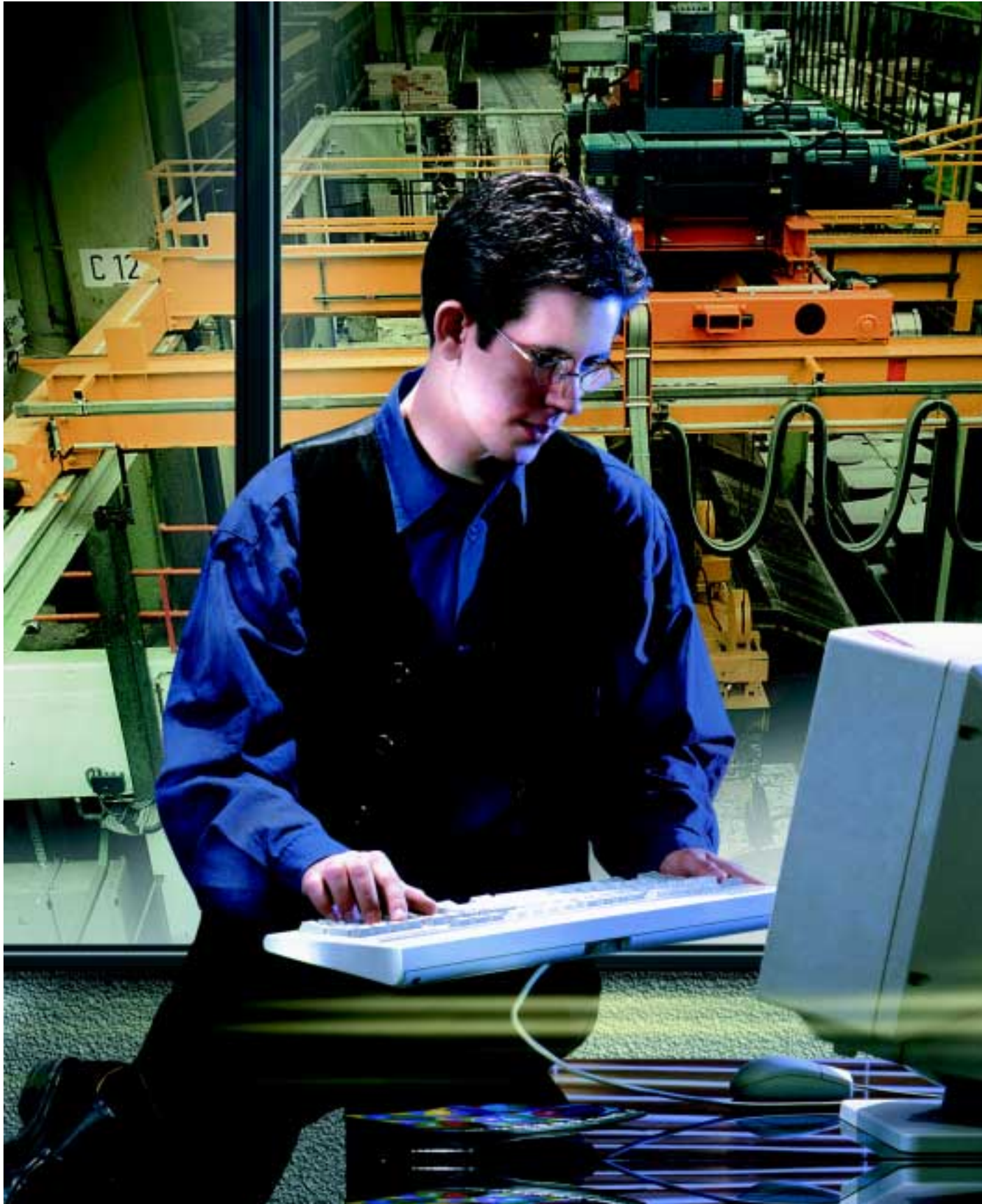
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