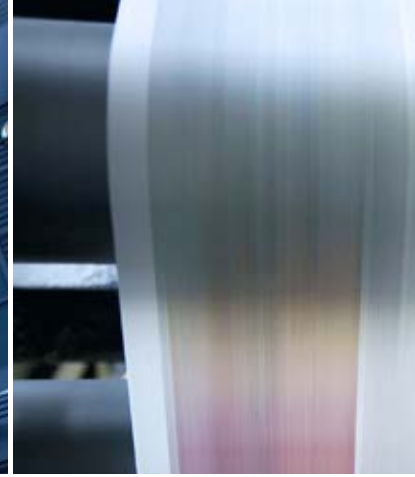


Rugged, accurate and programmable
incremental encoder.

HS35





HS35 – target applications.

Vector Motor Feedback

Customer demand: "I need a unit that lasts for the entire life-cycle of my motor and that provides high-quality signals for more precise and efficient control."

Our answer: "The new *ShaftLock* design in combination with very rugged bearings withstand higher shaft run-outs. This reduces motor down time and maintenance costs. Ultra precise signals guarantee dynamic operation over the full temperature range."

Cranes and Hoists

Customer demand: "My cranes operate outside. A high protection class and cold-climate capability are very important. Additionally, corrosion protection and a robust mechanical design are key."

Our answer: "IP67 and -40°F are standard options for the HS35 series. Isolated hollow bore design provides protection against shaft current discharge. The robust surface coating and the thick-walled housings protect the encoder against corrosion and mechanical stress."

Printing

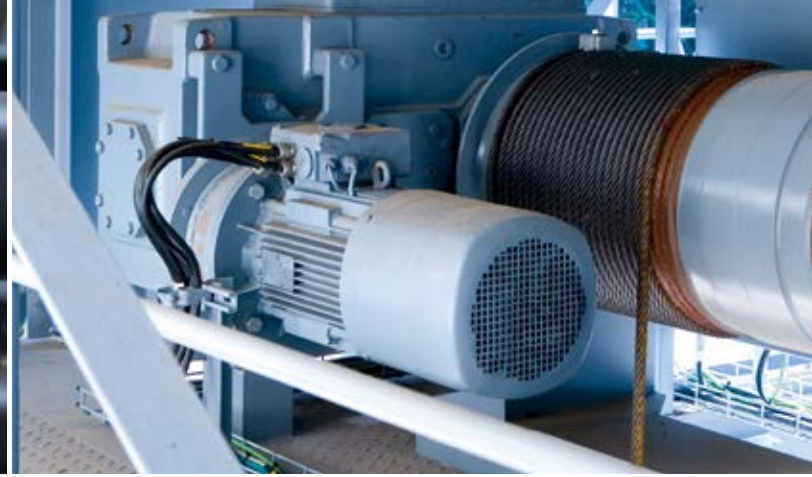
Customer demand: "Our printing machines operate at 400 dpi. The encoder that measures the feed of the material must be ultra-precise. Any flaw is rejected immediately."

Our answer: "The high-performance optical scanning with 60 arcsec or better accuracy and the high resolution of up to 8192 ppr allows optimum precision in operation."

Further application fields

- Material handling
- Elevator
- HeavyDuty
- Medical
- Oil and gas
- Food and beverage
- Hazardous areas





HS35 – robust meets precision.

Choose the right one

HS35P – Programmable square wave

- Fewer part numbers to maintain
- Minimizes inventory cost
- Increases flexibility and time to market
- Resolution 1 ... 8192 ppr in increments of one
- Index position, zero setting programmable
- Programming outputs HTL/TTL
- Individual PPR setting channel A/B

HS35F – square wave

- TTL, HTL or OC (open collector) outputs
- High accuracy
- Direct read resolution up to 5000 ppr
- Up to 80 000 ppr with internal interpolation
- Excellent signal quality, especially at low speeds

HS35S – SinCos 1 Vpp

- Patented LowHarmonics technology
- Outstanding signal quality for all speeds
- Used in high dynamic servo systems
- Prevents drive heating and saves energy

ExHS35 – square wave for hazardous areas

- ATEX and IECEx certification
- Gas: up to zone 0 / Dust: up to zone 20
- High accuracy
- TTL, HTL
- Direct read resolution up to 5000 ppr
- Required: Intrinsic safety barrier

ShaftLock system

- The large diameter between the smooth running ABEC 5 bearings, combined with a precision steel spacer ring, makes this setup well suited for highest mechanical loads.
- This enables precise concentricity over the temperature range.

High-precision optical scanning

- The position accuracy is 60 arcsec or better – not arcmin! This is approximately 5 times better than competition and significantly enhances usability.

Rugged HeavyDuty mechanics

- The Baumer HS35 is designed with Heavy-Duty castings and optimum wall structure for maximum durability and stiffness.
- This design is capable of operation in all environmental conditions and shocks up to 200 g.

Safe shaft current protection

- Specialized non-hydroscopic bushing provide electrical isolation against shaft currents and reliably prevent bearing corrosion and wear.

Drop in replacement of competitive models

- Programmable resolution, index, and outputs match any competitor in marketplace.



Durable IP 67 protection

- Available optimized package incorporating specialized dual seals and lubricants ensuring lifetime protection in all environments.

Surface coating

- A durable powder coating on the bearing housing and cover effectively protects against corrosion, even after long term operation in harsh environments.

Shaft inserts

- Adjust the shaft diameter to your exact needs – by using shaft insert adaptors.

Wide temperature range

- Reliable and precise output signals at all temperatures from -40°F to $+212^{\circ}\text{F}$.

Overvoltage, reverse voltage and short-circuit protection

- The electronics are safely protected against all kind of connecting errors which can occur during installation.



Easy programming via handheld tool.

Thanks to a compact handheld programming tool, encoder configuration is done in seconds – even if the encoder is already integrated in the system. Handling the battery-operated stand-alone solution is child’s play:



- Four user-assigned buttons for simple and quick programming
- Memory of several encoder configuration profiles
- Intuitive, fully menu-driven programming
- Backlit display
- Clear readability under any ambient light condition
- Encoder diagnostics
- LED activity indicator

Convenient programming via PC software.

The convenient PC software is ideal for distributors or drive manufacturers who need to program several encoders in line. Simply select the desired configuration profile and just a mouse click later it’s all done:

- Efficient programming by automatic identification of the connected devices
- Easy, intuitive operation and programming
- Quick and efficient configuration by user-assigned buttons
- Encoder diagnostics with on-screen readout
- On-screen feedback of the programming process
- Perfect product documentation by individual product label print outs



HS35P – REM-KIT (Replacement Encoder Motor-Mount-KIT).

The HS35P is a powerful and fully programmable encoder. Pre-configurable – both mechanically and electronically – to every customer's unique requirements. Easily integrated into existing motor configurations, such as Baldor, Marathon, WEG, Toshiba, and US Electric. Same day shipment is available for orders received by noon (Eastern Time Zone). Expedite charges for same day shipment: zero!

HS35P programmable parameters:

- Resolution 1 ... 8192 ppr in increments of one
- Index position, zero point programmable
- Programming outputs HTL/TTL
- Individual PPR setting channel A/B



HS35P – Programmable square wave with MIL connector

- HS35P with MIL screw-type connector, 10-pin
- Tether T6 with
 - 3 sized isolation grommets
 - 3 tether mounting screws
- Reducer insert $\varnothing 0.625$ " (5/8")
- Hex wrench for tether mounting and shaft clamp screws



HS35P – Programmable square wave with cable

- HS35P with cable, 24-inches
- Tether T6 with
 - 3 sized isolation grommets
 - 3 tether mounting screws
- Reducer insert $\varnothing 0.625$ " (5/8")
- Hex wrench for tether mounting and shaft clamp screws

24-hour turn-around not fast enough? You need it now! You can use the HS35P as a Maintenance & Operations hero in those "need it yesterday" emergency situations! Days-long downtimes are reduced to a matter of minutes.

Using the HS35P - REM KITS, the handheld or PC-based programmer, and a small handful of accessory parts, you can be fully equipped to configure over 100 000 variations right from your own stockroom shelf. HS35P programming is intuitive and simple to use, and mechanically reconfiguring the bore or tether mount is also simple and error proof.

Check this 90-second video link on baumer.com/hs35

For more information, please call Baumer today!



Handheld Programming Tool



PC Programming Tool



We deliver promptly and dependably

Baumer USA & Canada provide same day shipment of the programmable HS35P – matching specifications for universal replacements. The product data sheet provides more details on standard items.

HS35 – incremental hollow shaft encoder.

The Baumer HS35 combines a rugged HeavyDuty design with an unrivalled precision into a new high-performance and versatile product family.

The Baumer HS35 is available for shaft diameters from 0.5" to 1" (standard). Insulating inserts prevent undesired shaft currents to maximize bearing lifetime and enables mounting on smaller shafts. Through hollow shaft or blind hollow shaft mounting with closed cover allow encoder to maintain its outstanding environmental ratings.

The design includes our proven dual bearing system, durable shaft seals and IP67 environmental rating option, sealed connector or flying lead cable, and an ultra-precise optical scanning (*LowHarmonics*) system. Proven applications include motor and drive control, oil and gas, cranes, elevators and hoists, and printing machines.

The world's most rugged and flexible hollow shaft encoder

Highlights

- IP 67 robust package available
- ≤ 60 arcsec accuracy
- 200 g's shock withstanding
- $-40^{\circ}\text{F} \dots +212^{\circ}\text{F}$ standard operating temperature
- User configurable design – fully programmable
- Programmable encoder versions available from stock

Benefits

- Increased reliability
- Precise closed loop speed control
- Reduces inventory – only 1 part number required (programmable HS35P)
- Warranty 3 years
- Utmost safety and system availability



Product overview HS35



	HS35F	HS35P	HS35S
Sensing method	Optical		
Size	ø3.15" (ø80 mm)		
Voltage supply	4.75 ... 30 VDC		
Output stages	Linedriver, push-pull or open collector		SinCos 1 Vpp
Shaft type	ø0.375 ... 1" (ø9.525 ... 25.4 mm) through hollow shaft		
Connection	MIL screw-type connector or 24-inch flying lead cable		
Pulse/sinewave cycles per revolution	1024 ... 80 000	1 ... 8192	1024 ... 5000
Operating temperature	-40 ... +212 °F (-40 ... +100 °C)		
Protection	IP 54, IP 65, IP 67		
Programmable parameters	-	Resolution, output level, zero pulse width or position, rotation direction	-

Latest accessory highlights



Dust cap



Reducer insert



Tether



Protective cage



MIL spec mating connector



Learn more about our HS35 encoder series at:
www.baumer.com/hs35

Find your local partners at: www.baumer.com/worldwide

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