

PENLINK

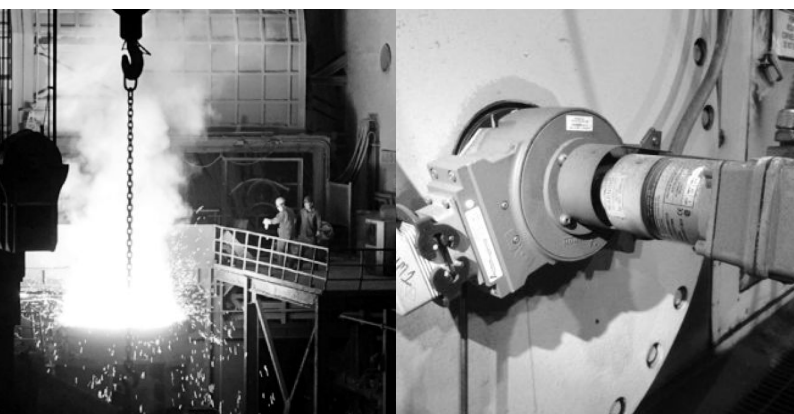
Process Industry Encoders

APPLICATION NOTE

Working in process factories will be easy and safe with our products for heavy and light mill industries!

We provide a wide range of magnetic encoders to various heavy and light mill applications. Our encoders has the option to have a solid shaft or through bore mount depending on usage and application. All encoders are of high IP-rating which mean they can handle though environments, such as dust, vibration, oil, cold or hot temperatures.

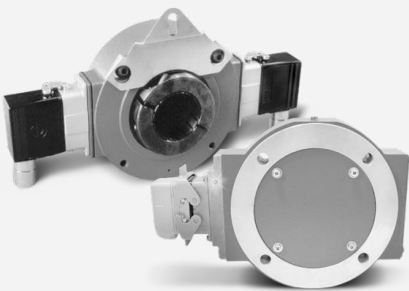
Are you wondering which encoder your application need, take a look at our application note or get in touch with us!



WORKING TOGETHER TO MAKE GREAT DESIGN

PROCESS INDUSTRY ENCODERS

Our team at Penlink uses the most advanced tools to create, debug, maintain and support our customers in the most transparent, agile and effective way.



Transparent Documentation
& Version Control



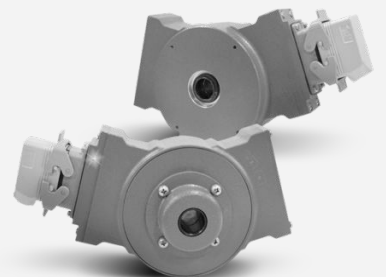
Agile Project Management
& Issue Tracking



World Standard Electronics
Design Software



Online and Offline
First-Class Support



WHY YOU SHOULD CONSIDER OUR ENCODER SOLUTIONS

PROCESS INDUSTRY ENCODERS



RETROFIT

Big part of our business comes to retrofitting present encoders in various application. Our magnetic encoders are perfect for replacing incremental optical encoders. They have no glass disk, can be bearing less to remove bearing failure, and offers the highest MTBF in the industry!

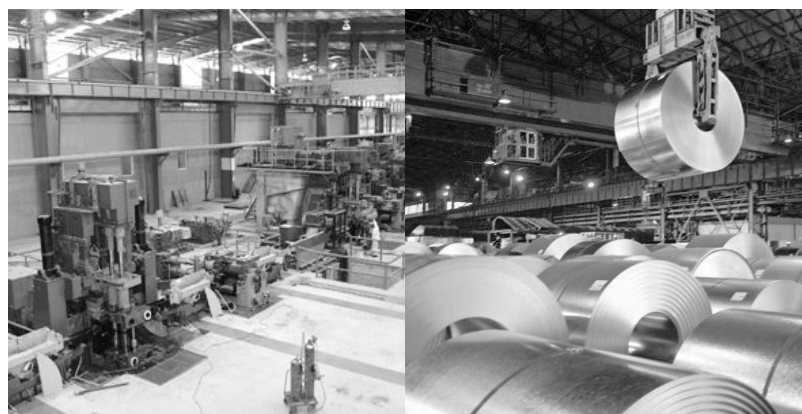
ABSOLUTE TRADE-IN PROGRAM

Depending on volume PENLINK is offering a trade-in program; trade in your old absolute encoders for high quality, high durability models!

Our goal is to end ALL encoder failures!

RUGGEDIZED AND HIGHLY CONFIGURABLE

We offer full range of encoders from 100g to 8kg, magnetic, optical, with bearing and bearingless options. Our encoders come with various options of mounting styles and flanges. All our encoder are ruggedized! The encoders we offer are also protected from corrosion, salt water, acid and bases. As all electronics are fully potted and sealed they can withstand being dropped, banged and even hosed down with water. That makes these encoders ideal for various heavy duty industries.



ADVANTAGES BY SWITCHING TO OUR ENCODERS

PROCESS INDUSTRY ENCODERS



TECHNOLOGICAL ADVANTAGES

- + Far more durable than optical encoders
- + Read through dirt, dust, oil, water
- + No glass disks
- + Withstand impacts
- + Self-diagnostic
- + High-Power output for long cable
- + Protected Against Wiring Errors (even Short Circuit)
- + -40°C to +115°C
- + Multicolor LED for status indication



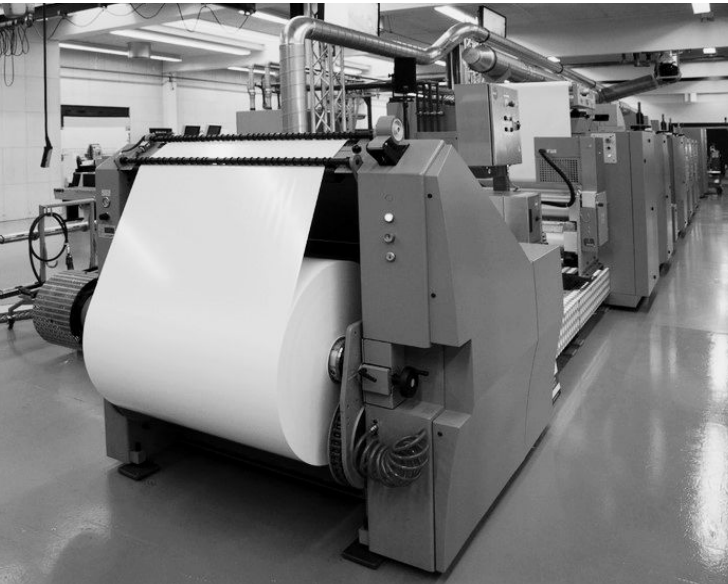
MODULAR ENCODERS

- + Large sensor-to-rotor air gap
- + No bearings
- + No couplings
- + Real-world MTBF of 4,500,000 hours!
- + No Service Required
- + 1 or 2 Independent Outputs available
- + 10-200mm bore size available



APPLICATIONS THAT USE OUR ENCODERS

PROCESS INDUSTRY ENCODERS



PULP & PAPER APPLICATIONS

- + Calendars
- + Dryer
- + Presses
- + Winders / Rewinders / Reel
- + Line Speed Feedback
- + Line Shafts
- + Sheeters
- + Slitters
- + Conveyors
- + Many Others

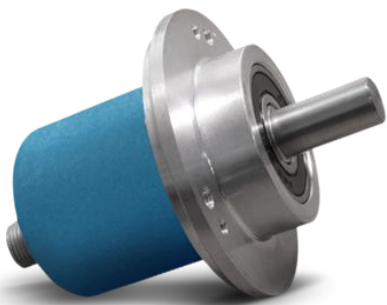
METALS APPLICATIONS

- Rolling Mills +
- Cold Mills +
- Pipe Mills +
- Rod Mills +
- Hot Strip +
- Galvanizing Lines +
- Casters +
- Pickle Lines +
- Many Others +



ABSOLUTE MAGNETIC SHAFT ENCODERS

PROCESS INDUSTRY ENCODERS



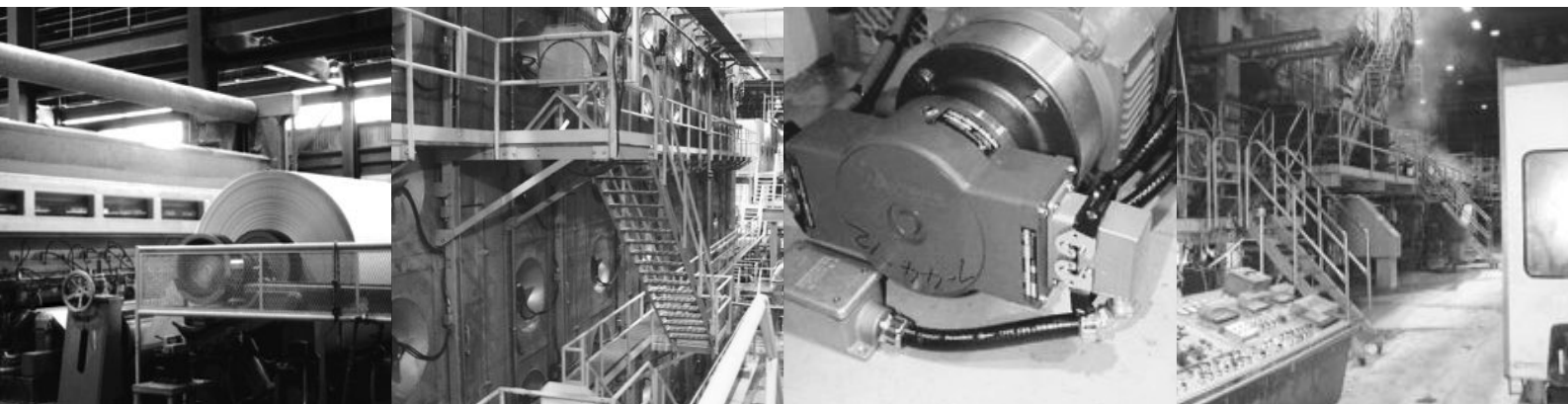
THE AV30 ENCODER

This encoder has a solid shaft mount with 6mm to 18mm space. It's made for the Severe Mill Duty environments. It has a IP-rating of 65 which is due to its main purpose of industry. The single turn of the encoder is 8192 PPR and the multi turn is 8192x32768. It has BUS outputs, Parallel and SSI. No need for batteries or gears.

It also handles cold/heat from -30°C up to +85°C during operations.

THE AV6M ENCODER

This encoder has a solid shaft mount with 6mm and 10mm space. It's made for the Light Mill Duty industry. It handles tough environments that requires IP-rating of IP69K. The encoders single turn goes up to 8192 PPR and it's multi turn goes up to 8192x32768 PPR. It has BUS outputs, Parallel and SSI. No need for batteries or gears. It also handles cold/heat from -40°C up to +85°C during operations.



SHAFTED MAGNETIC ENCODERS

PROCESS INDUSTRY ENCODERS



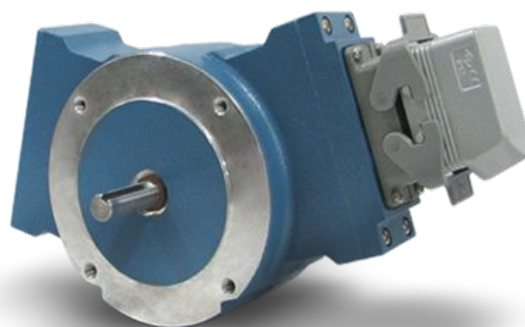
THE AV45 ENCODER

The AV45 Encoder with solid shaft magnetic incremental quadrature rotary encoders fit European B10 (85mm) flanges with 100mm bolt circles, and offer 10 or 11mm shaft sizes. It also offers foot mounting, with bolt patterns to match Hubner POG/OG styles, PGH4 styles, and Toshiba foot-mounted resolvers.

AV45 built-in magnetic sensors are fully potted to withstand dirt and liquids and extreme temperature changes. No glass disks, no optics to clog. Bigger bearings and superior seals far outlast any comparable model.

THE AV485 ENCODER

The AV485 is designed to withstand the worst environments: buried in slag, coated in pulp, sprayed with salt water or cutting coolants, it keeps working. The modular, gull-winged design makes it easy to install and service; the base can be bolted in place without removing the encoder, and the AV5 wide-gap removable sensors require no adjustment or shimming. The LED on an AV485 is much more than a green power light. It offers a diagnostic look inside the encoder. The self-tuning electronics assure you of proper duty cycle and phasing—no more false drive trips.

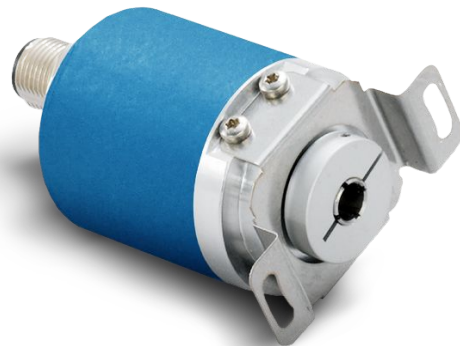
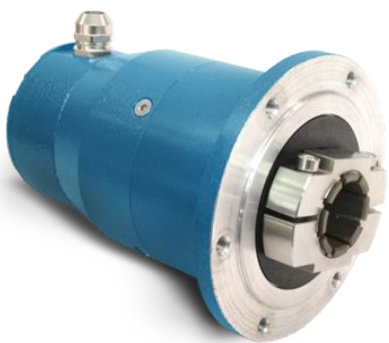


ABSOLUTE MAGNETIC HOLLOW SHAFT ENCODERS

PROCESS INDUSTRY ENCODERS

THE HS6M ENCODER

This encoder is for Light Mill Duty environments, it has a hollow shaft Mount that is 6mm. To protect the encoder it has a IP-rating of IP65. It has a single turn of 8192 PPR and a multi turn of 8192x32768. It comes with BUS outputs, parallel and SSI. It doesn't need any batteries or gears. The HS6M encoder can handle temperatures of -40C to +85°C during operation



THE HS40 ENCODER

HS40 hollow shaft severe duty magnetic absolute rotary encoders offer unequalled durability. HS40 features massive bearings and the best shaft sealing system in the industry to keep your process running, through temperature cycling and liquid sprays. Moreover, the magnetic sensor can see through oil, dust and dirt that disable ordinary optical absolute encoders.

Unlike other absolute encoders, HS40 allows a full size shaft fit; this allows it to easily fit on both NEMA and IEC frame motors with no special modification needed. Isolation from shaft currents is standard, and the interchangeable bore sizing inserts allow easy modification.

ABSOLUTE MAGNETIC HOLLOW SHAFT ENCODERS

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THE HS35M ENCODER

The HS35M features two large bearings, one at each end of the enclosure for strength and resistance to damage. Often, optical encoders fail because of dust or water contamination that prevents the sensor from seeing the optical disk. The HS35M advanced magnetic technology sees through contamination and the fully sealed circuit design ensures your machine keeps working, even in mill environments.

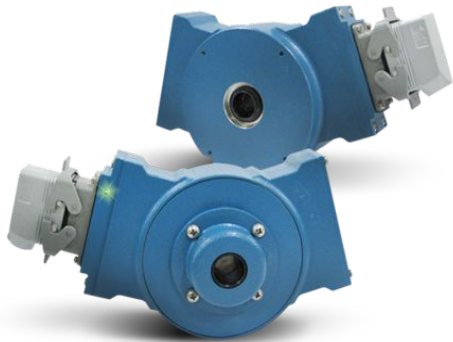


THE HS45 ENCODER

The HS45 is designed for use in rough environments with constant exposure to temperature extremes, water, oil, and dirt. Its high-power output circuits with universal 5-24V power are fully protected against surges and wiring errors. The onboard diagnostics warn of any signal quality issues before these problems cause downtime on your machine.

HOLLOW SHAFT MAGNETIC ENCODERS

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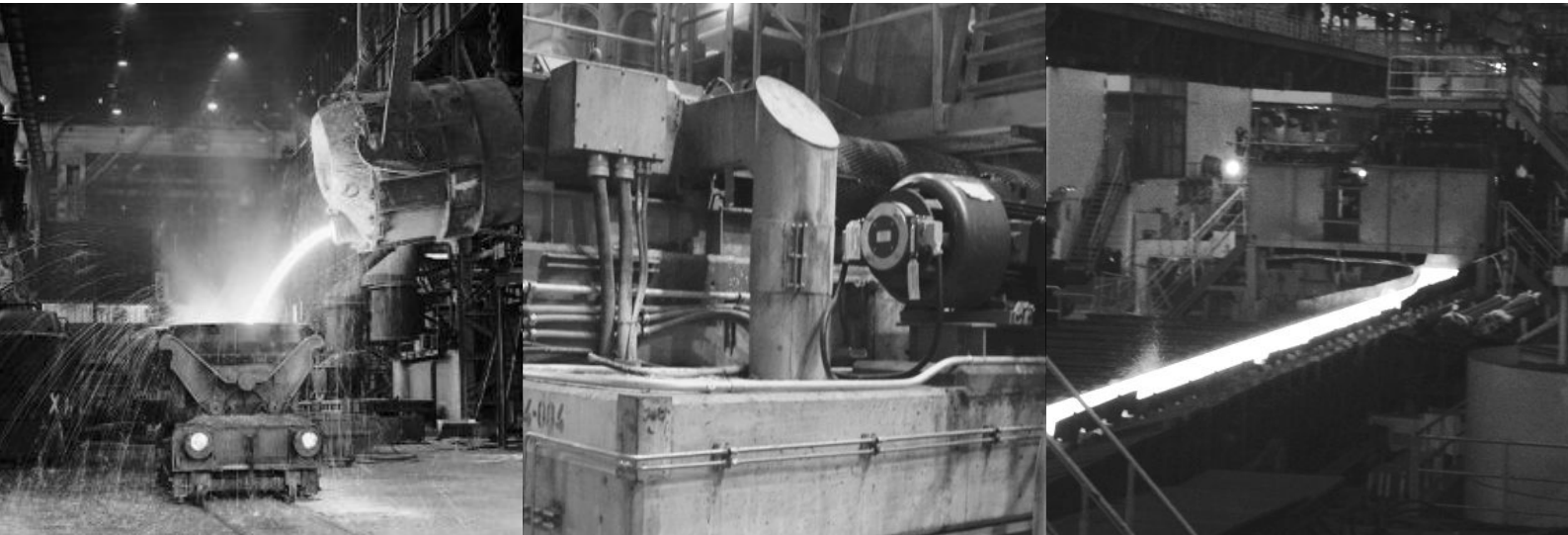
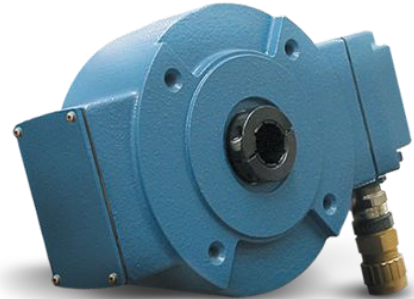


THE M6C ENCODER

Avtron M6C explosion protected ATEX and IECEx rated severe mill duty rotary encoders are designed for direct mounting on motor or load shafts, from 1" to 1 1/8" [25-30mm]. The M6C is an updated model which directly replaces the M6 encoder, and M6C adds IECEx certification. No barrier or isolator is required—mount M6C directly in any ATEX or IECEx Zone 1 application.

THE AV685 ENCODER

AV685 hollow shaft encoders survive the worst conditions and temperature extremes from -40°C to +120°C! The durable hollow shaft design tolerates huge axial movements, and withstands more shaft runout than any other encoder available. The green diagnostic LED on the sensors assure you that the encoder is outputting ideal signals—no more false drive trips.



MODULAR MAGNETIC ENCODERS

PROCESS INDUSTRY ENCODERS



THE AV56 ENCODER

The AV56 magnetic encoders fit standard 4.5" C-Face motors such as Marathon Blue and Black Max, as well as Baldor Reliance models. The stainless steel AV56S is designed for washdown and marine duty.

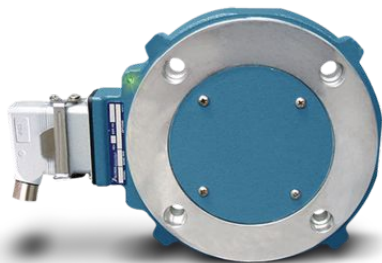
If at any time, the AV56 cannot produce ideal signals, the LED changes to red and the remote alarm contact activates. Even wiring errors and short circuits are detected and indicated by changing the LED to orange. However, the encoder keeps working to give you time to schedule service.

THE AV67 ENCODER

The AV67 T modular magnetic encoders fit 6.75" C-Face flanges typically found on Baldor Reliance motors.

Installation: Firstly, the magnetic sensors are fully potted, to withstand dirt and liquids. No glass disks, no optics to clog.

There are no moving, wearing parts! The patented Wide-Gap™ Cam Screw Rotors™ put an end to sensor damage, are simpler to install, and stay securely mounted to the shaft.



THE AV85 ENCODER

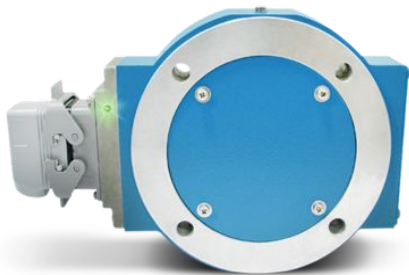
The AV85 modular magnetic encoders fit standard 8.5" C-Face motors and 8.5" flanges commonly used for NEMA brake mounting. The AV85 is perfect for brake motor applications where the encoder is sandwiched between the motor and brake. With a real-world installation history of over 4,500,000 hour MTBF, you don't have to worry about replacing the encoder!

MODULAR MAGNETIC ENCODERS

PROCESS INDUSTRY ENCODERS

THE AV115 ENCODER

The AV115 modular magnetic encoders fit standard 115mm flange motors. Adapters are available to fit European B-flange (85mm/100mm BC) motors. First, the magnetic sensors are fully potted to withstand dirt and liquids. No glass disks, no optics to clog. There are no moving, wearing parts! The patented Wide-Gap™ Cam Screw Rotors™ put an end to sensor damage, are simpler to install, and stay securely mounted to the shaft.



THE AV850 ENCODER

All AV850 electronics are fully encapsulated. There are no moving wearing parts. AV850 sensors locate over 4X farther from the rotor than the competition; no more sensor/rotor grinding! The AV850's high-power outputs have over 50X more capacity.

Miswiring an encoder is common— and it shouldn't cost you time or money. The AV850 has full output short circuit and reverse voltage protection, plus surge protection.

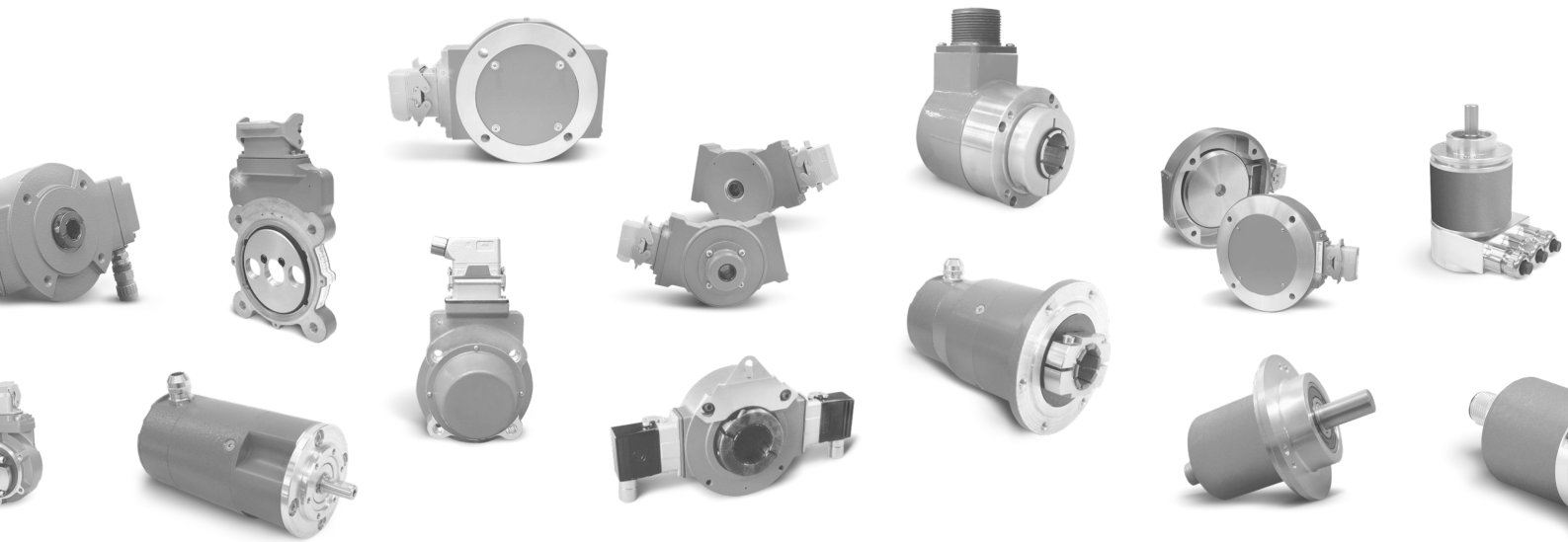
THE AV125 ENCODER

AV125 is ideal for large motor and brake applications where a large diameter through-shaft is needed. It permits shafts up to 7 7/8" [200mm] to pass through the encoder, facilitating motor-encoder-brake sandwich construction, as well as hollow shafts for water or air cooling systems to pass through the encoder. Because AV125 is super-reliable and features removable sensors, you can install it in hard-to-access configurations and locations without risk of downtime.



OVERSPEED SWITCHES FOR OUR ENCODERS

PROCESS INDUSTRY ENCODERS



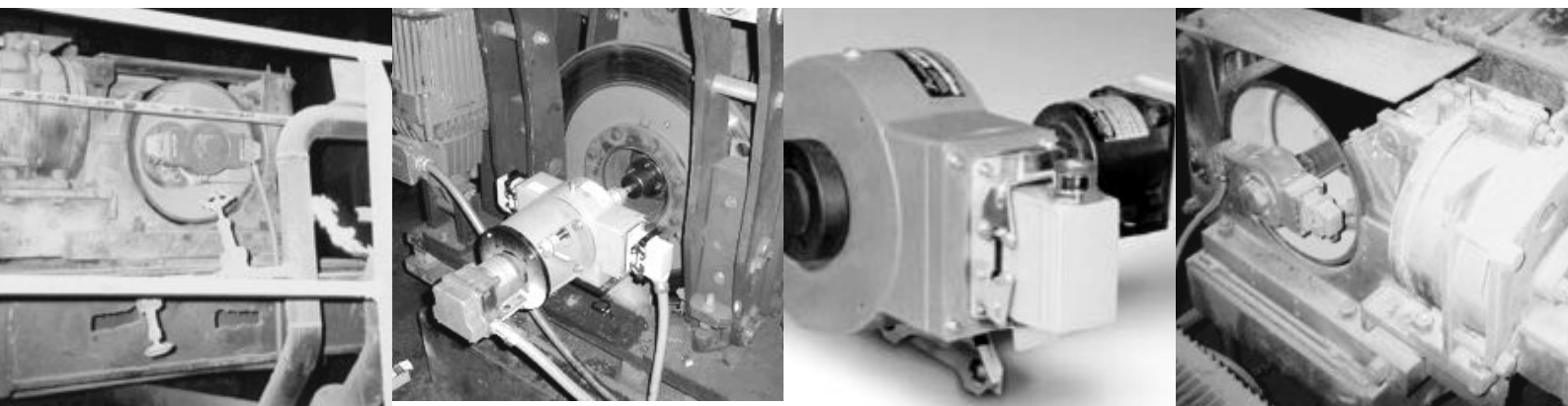
OVERSPEED SWITCHES

We offer overspeed switch options for our encoders. Mechanical or electronic overspeed option.

Mechanical Overspeed: AV850, AV485, AV685, AV125 Electronic

Overspeed: *All models*

For DC motor or hoist safety



PENLINK

Let's talk business!

WWW.PENLINK.SE

Get in touch with
us at Penlink!
No question is too
small or big.



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HEADQUARTERS

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Engineering &
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Inspection &
Quality management



Simulation &
Design verification



Assembly &
Testing



Advanced
Manufacturing



Value-Added
Products & Services