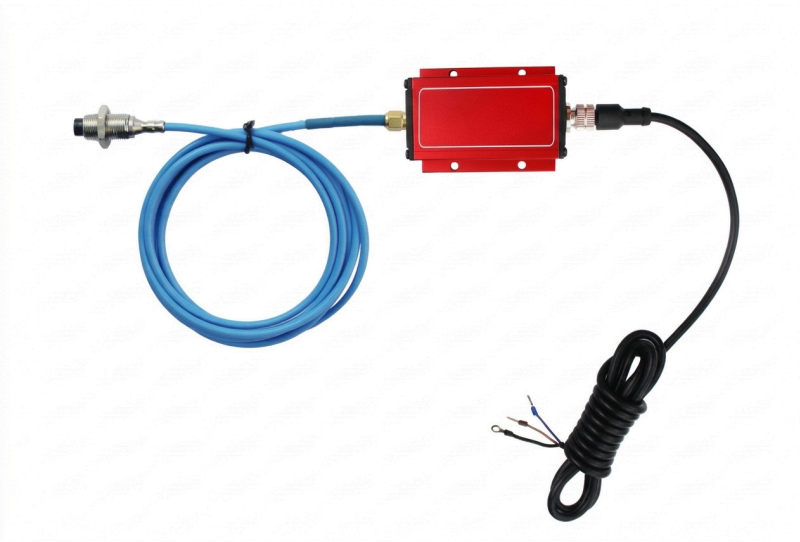
Industrial Eddy Current Sensor Selection Guide

Start with the measurement. Specify the complete system.

Selection and engineering inquiry guide. Confirm the exact assembly, drawings, calibration scope, performance and supply terms in the written quotation.



Supplier construction references. Confirm dimensions and electrical specifications on the selected assembly drawing.

ECS review family	Measurement task	Information to send
ECS-NCDT / Gap and precision displacement	Spindle growth, positioning and conductive-target gap measurement.	Target grade and geometry; gap interval; bandwidth and noise metric; controller input.
ECS-3300 / Shaft vibration and thrust	Radial vibration, eccentricity and axial-position measurement review.	Probe, extension and conditioner labels; target; supply polarity; scale and monitor input.
ECS-AUTO / Speed and phase reference	Shaft marks, turbo blade passage and dynamic test requests.	RPM envelope; blade/mark drawing; material; gap; trigger and pulse requirements.
ECS-HT / Hot-zone measurement	Ceramic-head and remote-electronics configuration review.	Continuous/peak temperature and duration for each component; pressure and atmosphere.

Choose the parts and the signal your machine needs.

Use the original component labels when reviewing an existing system. For a new design, start with the target and controller input, then select the complete measurement chain.

Requested part	Information that defines the request
Probe / sensing head	Thread or flange, body and unthreaded lengths, cable exit, target and required gap.
Extension cable	Exact references, nominal electrical length, connector pair, armor and routing environment.
Signal conditioner / driver	Matched probe system, supply polarity, output definition, mounting and controller input.
Gap / vibration transmitter	Gap or vibration quantity, range, unit, filtering and loop/interface requirements.
Mounting bracket / adapter	Housing drawing, adjustment access, thread, side clearance and environmental sealing scope.
Static-gap calibration fixture	Target grade and shape, travel and reference-instrument requirements; agree the test scope.

Output meaning belongs on the request

Output path	Measured quantity	Confirm with the assembly
Raw proximity voltage	DC gap and dynamic voltage	Confirm sign, scale, operating gap, supply and monitor input.
Position voltage	Continuous displacement	Confirm voltage span, reference ground, bandwidth and controller input.
Gap current	A defined gap interval	Specify current span and the two physical gap endpoints.
Vibration-severity current	A defined vibration quantity	State displacement/velocity quantity, units, detector and frequency band.
Digital measurement	Configured displacement data	Confirm protocol, update rate, filter and host interface.

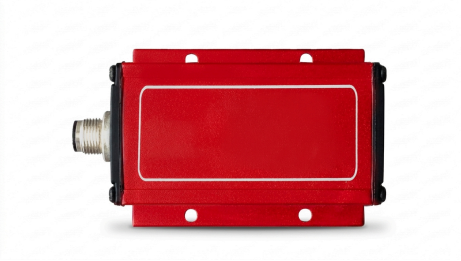
Nominal length example: 1 m probe lead + 8 m extension = 9 m total. Equal labels check arithmetic only; confirm the exact components, target, output curve and monitor together.

Keep the installation and calibration in the same review.

Installation input	What to include
Metal target	Exact grade, heat treatment, thickness, flat size or shaft diameter.
Working gap	Minimum/maximum gap, motion direction and available mechanical clearance.
Probe holder	Thread/flange drawing, recess, nearby metal and adjacent-probe positions.
Cable route	Integral and extension labels, connector access, bend/routing limits and protection.
Temperature zones	Tip, target, transition, cable, connector and electronics separately; peaks and duration.
Electrical interface	Supply polarity, output meaning, signal reference and the receiving input diagram.

Agree the test record before selection

- Identify the assembled components and serial numbers.
- Use a representative target and the intended mounting geometry.
- Agree displacement points and measured output for the static curve.
- Request reference instrument, traceability and uncertainty information.
- Define dynamic response and thermal testing separately from static gap calibration.



Separate conditioner construction



Integrated sensor construction

Supplier construction references. Confirm dimensions and electrical specifications on the selected assembly drawing.

Send a procurement brief that engineering can act on.

Request section	Information / agreement
Existing equipment	Complete original probe, cable, driver and monitor references; photographs of labels.
Measurement requirement	Application, gap range, material/geometry, bandwidth and component temperatures.
Items and quantity	Complete system or named individual parts, accessory quantities and destination country.
Required documents	Assembly/dimension drawing, wiring, configuration datasheet, STEP and agreed test evidence.
Acceptance scope	Static curve, signal meaning, installation checks and any dynamic/environmental testing.
Supply agreement	Confirm price, delivery, shipping, warranty and required approvals in writing.

Use the published selection pack

Document	Purpose
Selection guide PDF / text	Published architecture, interface and inquiry guidance.
Installation request worksheet	Blank mechanical, cable and electrical requirement fields.
Calibration request worksheet	Blank target, test-point, instrument and uncertainty request fields.
Configuration-specific files	Request the exact drawing, datasheet, STEP and test record for the proposed assembly.

Download the latest files: eddycurrentsensor.com/resources

Send the brief and original labels: inquiry@eddycurrentsensor.com

Primary engineering background

Baker Hughes 141194 Rev. AN, extension-cable ordering information

Kaman 860214-001, target, mounting and calibration sections

Original-system references explain engineering principles. Confirm ECS configuration-specific evidence and any protection-service qualification with the equipment owner.