



INDUSTRIALHUB BD

RELIABILITY & ENGINEERING SERVICE PARTNER

PORTABLE VIBRATION METER

Choose, set up and use handheld vibration, bearing and temperature tools.



Why use a portable vibration meter

A handheld meter screens many machines fast. It shows which ones need a closer look, and when.



SKF PEN ON A MOTOR BEARING HOUSING

Screen fast

A reading takes seconds. Walk a route with no shutdown.

Catch bearings early

A bearing signal shows faults before noise or heat do.

Trend it

One number means little. A rising trend means a problem.

Go or no-go

Alarm levels tell the crew to run, plan or stop.

WHERE ENGINEERS USE THEM

Motors

bearings, fan, rotor

Pumps

bearings, cavitation

Fans and blowers

unbalance, belts

Gearboxes

gears, bearings

Compressors

screw, piston, centrifugal

Cooling tower drives

motor, belt, fan

3 readings

vibration, bearing, temperature

In seconds

one point, one press

Route based

same points every round

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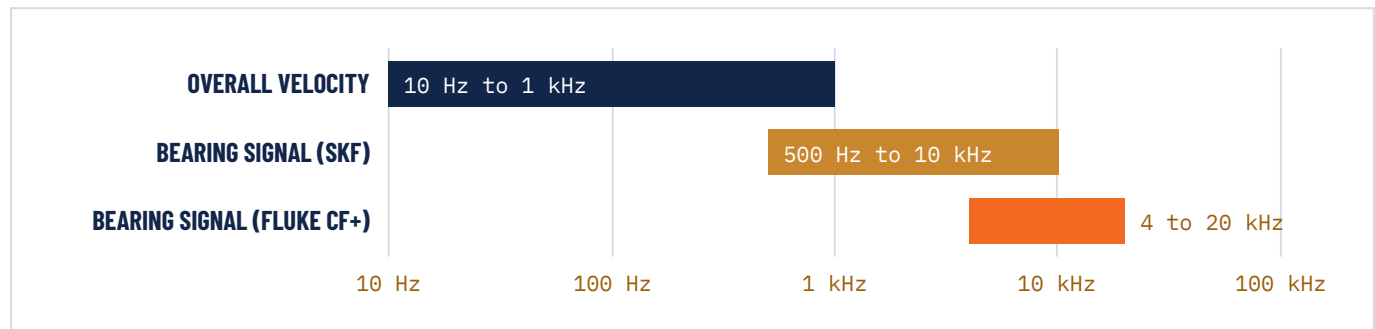
10 Request a quotation

A meter screens, it does not diagnose. It tells you which machine to act on. Keep the same points and the same method every round.

What a meter measures

Different faults show up in different frequency bands. Use the measurement that fits the fault.

WHERE EACH MEASUREMENT SITS



Ranges as stated by SKF (velocity, SKF enveloping band 3) and Fluke (overall, CF+). Temperature uses an infrared sensor.

Overall velocity

mm/s RMS. General machine health. It rises with unbalance, misalignment and looseness. Compared to ISO 10816 limits.

Bearing signal

SKF enveloped acceleration (gE) or Fluke Crest Factor+ (CF+ 1 to 16). Filters out machine vibration to show early bearing and gear faults.

Temperature

Infrared, -20 to +200 °C. Rising heat points to friction, overload or poor lubrication.

WHAT FINDS WHAT

Fault	Best measurement	Why
Unbalance, misalignment, looseness	Overall velocity	Low to mid frequency energy
Early rolling bearing fault	Bearing signal (gE or CF+)	Enveloping brings out repeating impacts
Gear fault	Bearing signal, trended	No alarm limit for gears in the SKF pen. Watch the trend
Poor or no lubrication	Bearing signal and temperature	Friction raises both
Hot spot, overload	Temperature	Heat shows load or friction

KEY NOTE • HOW IT WORKS

Velocity shows how hard the whole machine shakes, so it follows unbalance, misalignment and looseness. A bearing fault makes small repeating impacts, much weaker than that shaking, so the bearing signal filters out the slow vibration and keeps the impacts. **Axis:** axial points to misalignment, vertical to looseness or unbalance, horizontal to unbalance. Use two measurements, then confirm with heat.

Use two or more. Velocity plus a bearing signal catches most general and bearing faults. Add temperature to confirm.

Choose the right meter

Three handheld forms cover most routes: a pen, a probe with LED alarms, and a meter with a screen. Pick by the job, the area and how you record.

THREE TOOLS AT A GLANCE

	SKF Machine Condition Advisor	SKF Machine Condition Detector Pro IS	Fluke 805 FC
Form	Pen with display	Probe with LED alarm	Meter with screen
Overall velocity	0.7 to 65 mm/s RMS	0.3 to 55 mm/s RMS	10 Hz to 1 kHz, g or mm/s
Bearing signal	Enveloped accel. 0.2 to 50 gE	Enveloped accel. 0.3 to 20 gE	CF+ 1 to 16, 4 to 20 kHz
Temperature	Infrared -20 to +200 °C	Magnet probe 0 to +100 °C	Infrared -20 to +200 °C
Alarm	Alert and Danger on screen	Red, yellow, green LED	Four-level scale
Memory	Manual log	Manual log	3,500 measurements
Power	Li-ion, about 10 h	2 AA, about 30 h	2 AA
Protection	IP54, 2 m drop	IP65, ATEX Zone 0 (IS)	IP54, 1 m drop
Mass	125 g	431 g	See page 07

WHICH ONE FOR WHICH JOB

Daily route, pocket size

SKF Machine Condition Advisor. Alert and Danger shown on the display.

Hazardous areas

SKF Pro IS. Certified intrinsically safe for petrochemical areas.

Trending to a spreadsheet

Fluke 805 FC. 3,500 stored readings, USB and app export.

Repeatable readings

SKF Pro IS studs, or an external magnet sensor on the SKF and Fluke tools.

KEY NOTE • HOW IT WORKS

Pick by area first: a classified area rules out every tool except the certified one. Then pick by how you record. A screen and memory suit spreadsheet trending, and flags or LEDs suit fast go or no-go checks. Whatever you choose, keep the same points and the same method every round.

Our advice: pick the tool by the machine area first, then by how you want to record and trend the readings.

SKF Machine Condition Advisor

A pocket-size pen that reads overall velocity, bearing signal and temperature at once, and shows an Alert or Danger flag.



SKF MACHINE CONDITION ADVISOR CMAS 100-SL

125 g

weight, 20 cm long

10 h

on one charge, Li-ion

IP54

2 m drop test

3 in 1

velocity, bearing, temp.

KEY DATA • CMAS 100-SL

Item	Detail
Overall velocity	0.7 to 65 mm/s RMS (0.04 to 3.6 IPS). 10 Hz to 1 kHz. Meets ISO 10816
Bearing signal	Enveloped acceleration 0.2 to 50 gE ±10%. SKF band 3, 500 Hz to 10 kHz
Temperature	Infrared -20 to +200 °C, ±2 °C, up to 10 cm from the target
Display	Three lines: velocity, bearing gE, temperature. Alarm, group and class shown
Settings	ISO machine group (1&3 or 2&4), rigid or flexible base, bearing class CL1 to CL3
Environment	-10 to +60 °C in use. 95% RH non-condensing. CE
External sensor	Any 100 mV/g accelerometer. 24 V DC at 3.5 mA. Temperature turns off

Extension kit CMAC 105

100 mV/g accelerometer, 1.5 m cable and a 4.5 kg magnet for hard-to-reach points.

In the box

Belt holster, charger, user manual and an Excel trend worksheet.

Warranty

One year. Free online training on SKF @ptitude Exchange.

KEY NOTE • HOW IT WORKS

The pen shows three numbers. **Velocity** (mm/s) is compared with ISO 10816 for the machine group you set. The **bearing value** (gE) is compared with the bearing class CL1 to CL3. The pen turns each into OK, Alert or Danger, so the crew reads the flag and follows the trend.

Best for: daily routes where the crew needs a clear Alert or Danger flag from a tool that fits in a pocket.

SKF Machine Condition Detector Pro IS

A probe with red, yellow and green LEDs for fast go or no-go checks. Certified intrinsically safe for hazardous areas.



ATEX

II 1G EEx ia IIC T4

30 h

on 2 AA batteries

IP65

water and dust resistant

6 alarms

alert and danger, x3

KEY DATA • CMVL 3600-IS

Item	Detail
Overall velocity	0.3 to 55 mm/s RMS. 10 Hz to 1 kHz. ISO 10816-1
Bearing signal	Enveloped acceleration 0.3 to 20 gE. SKF band 3, 500 Hz to 10 kHz
Temperature	0 to +100 °C with the temperature magnet probe tip
Alarms	Six user settings: alert and danger for each of the three measurements. LED shows the result
Mounting	QuickConnect studs, quarter-turn. 1/4-28 or M8 x 1.25, mechanical or computerized
Size and mass	190.5 x 43.2 x 41.4 mm. 431 g (635 g with temperature magnet tip)
Hazardous area	Class I, Division 1, Groups A to D, T3A (USA, Canada). -20 to +40 °C

Repeatable

The stud fixes the position, so every reading is taken in the same place.

Kit

Probe, 1/4-28 stud, temperature magnet, setup key, case, manual.

Auto off

Two minutes after the last action. RS232 port for set-up.

KEY NOTE • HOW IT WORKS

Fix the stud to the machine so every round reads the same point, then a change in the reading is the machine and not the hand. Read the LEDs: green is normal, yellow is alert and red is danger, against the six alarms you set. In a classified area use only the certified kit.

Best for: petrochemical and other classified areas, and routes where the same point must be read the same way every time.

Fluke 805 FC Vibration Meter

A meter, not a pen. The sensor tip corrects for hand force and angle, and a four-level scale tells the crew what the number means.



FLUKE 805 FC VIBRATION METER KIT

3,500

stored measurements

CF+

1 to 16, 4 to 20 kHz

4 levels

Good to Unacceptable

IP54

1 m drop test

KEY DATA • FLUKE 805

Item	Detail
Overall vibration	10 Hz to 1 kHz. Acceleration (g, m/s ²), velocity (in/s, mm/s), displacement (mils, mm). ±5% at 100 Hz
Bearing signal	Crest Factor+ 4 to 20 kHz, 1 to 16. Severity Good, Satisfactory, Unsatisfactory, Unacceptable
Temperature	Infrared -20 to +200 °C, ±2 °C. Fixed focus at about 3.8 cm
Sensor	100 mV/g ±10%. 0.01 g to 50 g. External sensor jack (not supplied)
Data	USB mini-B export to Excel templates. Compares with ISO 10816-1, -3 and -7. 805 FC adds Fluke Connect
Power	2 AA batteries. About 250 measurements. Operating -20 to +50 °C
Extras	Audio jack for bearing tones. Flashlight. Colour LED shows if you press too hard or too soft

Pressure guide

Green and red light show the right tip force. It limits false alarms from technique.

Machine types

Preset categories: pumps, fans, compressors, blowers, gearboxes, cooling tower drives, machine tools.

In the box

Meter, USB cable, case, belt holster, quick guide, two AA batteries.

KEY NOTE • HOW IT WORKS

CF+ is Fluke's crest-factor bearing value: a low number is a healthy bearing and a higher number means sharper impacts (scale 1 to 16). The tip corrects for hand force and angle, and the four-level scale, Good to Unacceptable, turns a number into a decision. Store each reading and export to a spreadsheet to trend it.

Best for: routes where results go straight to a spreadsheet and any technician must get the same reading.

Set-up, measure and trend

Set the alarm limits first, then measure the same way every round and read the result.

Machine group

Group 2&4: shaft height 160 to 315 mm. Mostly rolling bearings, medium motors and pumps.

Group 1&3: above 315 mm. Large machines, mostly sleeve bearings.

Foundation

Rigid: stiff base or concrete.
Lower limits.

Flexible: springs or a light frame.
Higher limits.

Bearing class

Set by bore and shaft speed. Class CL1, CL2 or CL3 sets the bearing alarm in gE.

TYPICAL ISO 10816-3 LIMITS, MM/S RMS

Group and base	A/B limit	Alert from (B/C)	Danger from (C/D)
Group 2&4, rigid	1.4	2.8	4.5
Group 2&4, flexible	2.3	4.5	7.1
Group 1&3, rigid	2.3	4.5	7.1
Group 1&3, flexible	3.5	7.1	11.0

SKF BEARING CLASS (ENVELOPED ACCELERATION, GE)

Class	OK	Alert	Danger
CL1	0 to 1	1 to 2	over 2
CL2 (default)	0 to 2	2 to 4	over 4
CL3	0 to 4	4 to 10	over 10

MEASURE AND READ

1 Run it normally

Normal speed, load and temperature.

2 Mark the point

Ink, a centre dot or a disc.

3 Switch on

Wait for a stable reading.

4 Press square

Tip square, firm and steady.

5 Hold the reading

Keep still, press Select.

6 Record it

Point, value and alarm.

KEY NOTE • HOW IT WORKS

ISO 10816-3 limits depend on machine group and base, so set them first or the flag will be wrong. Measure at normal load, with the same point, angle and pressure. Read the result as Good, Satisfactory, Unsatisfactory, Unacceptable (Fluke) or OK, Alert, Danger (SKF). A steady rise across rounds matters more than any one reading; re-test an alarm within days.

Wrong class, wrong alarm. Take bore and speed from the bearing data. The Fluke 805 asks only for RPM range and machine type.

Global brands and cross-reference

Five global makers cover portable vibration meters, data collectors and analysers. We match the job to the right maker and model, and cross-check offers on one technical basis.

SKF

MACHINE CONDITION ADVISOR • PRO IS

Pen with Alert and Danger flags, and an intrinsically safe LED probe for classified areas.

Fluke

805 FC VIBRATION METER

Meter with a screen, four-level severity scale, 3,500 stored readings and export to a spreadsheet.

Prüftechnik

DATA COLLECTORS AND ANALYSERS

Route data collectors and analysers with balancing. Step up from a meter when you need spectra.

Emerson

AMS ANALYSERS

Portable analysers for complex machines. Outside this meter guide.

Baker Hughes

SCOUT DATA COLLECTORS

Data collectors, including Ex versions for classified areas. Outside this meter guide.

Need another brand?

Send the application and we will cross-reference it.

CROSS-REFERENCE BY JOB

Job	Start with	Step up to
Daily route, pocket size	SKF Machine Condition Advisor	Prüftechnik or Baker Hughes collector
Hazardous areas	SKF Pro IS (ATEX, intrinsically safe)	Baker Hughes Ex data collector
Trending to a spreadsheet	Fluke 805 FC	Prüftechnik OMNITREND route programme
Fault diagnosis and balancing	Meter to find the machine	Emerson or Prüftechnik analyser

CROSS-REFERENCE RULE

Do not swap one maker for another on name or price. Match these points first, then compare the offers.

Instrument form	Measuring ranges	Bearing method	Alarm logic
Hazardous rating	External sensor	Data and trending	Warranty and support

We support solutions from recognized brands including SKF, Fluke, Prüftechnik, Emerson and Baker Hughes, subject to technical suitability, product availability, and specific customer requirements.



REQUEST A QUOTATION

Send the machine type, speed range, what you need to measure and site conditions. We reply with the right device, accessories, price and delivery time.

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★ WE STAY AFTER DELIVERY

AFTER-SALES SERVICE

- Commission and start up equipment
- Find faults and analyse failures
- Plan shutdowns and advise on repairs

★ 20 YEARS ON THE PLANT FLOOR

WHO LEADS US

- Erect, commission and revamp mills
- Operation, maintenance & shutdowns
- Troubleshoot and spares

WHAT WE SUPPLY AND SUPPORT

PARTS

- Handheld vibration meters
- Bearing and temperature tools
- Ultrasonic and thermal tools
- Sensors, cables, software

SUPPORT

- Pick the right device
- Set-up and alarm advice
- Route and trend advice
- Quotation and delivery follow-up