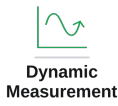


STRAIN RING GAUGE

TENSION &
COMPRESSION



- MOUNTED WITH TWO SCREWS
- $\pm 1000 \mu\epsilon$
- 0.5 % ACCURACY, NO CALIBRATION



VERSIONS

Feature	Available versions
Bar diameter	050 ... 400 — 34 sizes, in mm: 50 · 55 · 60 · 65 · 70 · 75 · 80 · 85 · 90 · 95 · 100 · 110 · 115 · 120 · 125 · 130 · 135 · 140 · 145 · 150 · 155 · 160 · 170 · 180 · 190 · 200 · 230 · 250 · 280 · 300 · 310 · 340 · 350 · 400
Bridge	2 = 2/4 bridge · 4 = full bridge, only with connection C
Connection	D = direct, without cable · C = cable with connector
Cable length	005 = 0.5 m · 030 = 3 m · 050 = 5 m · 100 = 10 m — with connection C only
Type key	RG-<diameter>-<bridge>-<connection>-<cable>

Example: RG-080-2-C-050 — bar diameter 80 mm, 2/4 bridge, connection C, 5 m of cable. The nameplate carries both Mod: DKFB and this key.



OVERVIEW

Strain measured on a round tie bar without glue and without calibration: the ring clamps around the bar with two screws and presses foil strain gauges, protected under a stainless steel foil, against the surface so firmly that friction carries the surface strain into the gauge. It replaces the bonding a strain gauge otherwise needs, and with it the three quarters of an hour, the chemical cleaning and the grinding — the measuring location only has to be free of loose material such as rust or flaking paint, and a solvent is enough. It works on any round bar, magnetic or not. Two versions are available: a 2/4 bridge with two active gauges, or a full bridge, the latter only with the cable-and-connector version. After mounting, the zero offset of the pressed-on gauges is high; an amplifier that resets it at the push of a button or by a signal belongs to the measuring chain.

MEASUREMENT

- Reads the surface strain of the bar directly, like a bonded strain gauge
- Measuring range $\pm 1000 \mu\epsilon$ · accuracy $< \pm 0.5 \%$ FS
- Foil gauges, $GF = 2.0$, 350Ω bridge — usable without calibration
- Two versions: 2/4 bridge · full bridge with the connector version
- Cannot be overloaded — an offset appears instead of damage
- Passive: no amplifier inside — an external amplifier is required
- Transverse sensitivity $0.9 \pm 0.2 \%$, documented

MOUNTING AND USE

- Clamped around the bar with two screws, 3 Nm — no adhesive, no drilling
- Works on any round bar, magnetic or not
- No chemical cleaning and no grinding — a solvent is enough
- Loose material — rust, flaking paint — has to come off first
- 34 bar diameters from 50 to 400 mm in the order code
- High zero offset after mounting — the amplifier resets it
- Made for cyclical measurements, e.g. clamping force on presses



TECHNICAL DATA

MEASUREMENT

Strain gauge type	foil, GF = 2.0
Measuring range	$\pm 1000 \mu\epsilon$

PRECISION

Accuracy	$< \pm 0.5 \% \text{ FS}$
Linearity	$< \pm 0.5 \% \text{ FS}$
Hysteresis	$< \pm 0.2 \% \text{ FS}$
Repeatability	$< \pm 0.1 \% \text{ FS}$
Sensitivity tolerance	$\pm 0.2 \%$
Transverse sensitivity	$0.9 \pm 0.2 \%$
Operating temperature range	$0^\circ\text{C} \dots +55^\circ\text{C}$
Storage temperature range	$0^\circ\text{C} \dots +55^\circ\text{C}$

MECHANICAL PROPERTIES

Case material	aluminium, anodised
Cover material	stainless steel
Dimensions	width D + 36 · depth 25 · height D + 37.5 (C) or D + 115.5 (D)

ELECTRICAL PROPERTIES

Bridge resistance	350 Ω
Nominal input resistance	350 Ω
Bridge configuration	2/4 bridge, two active gauges · or full bridge, only with connection C
Supply voltage	5 V DC, max 8 V DC
Supply current	$< 15 \text{ mA}$
Amplifier	none built in — the ring is passive
Output	bridge signal
Connection	6-pole connector · version C with cable
Cable lengths	0.5 · 3 · 5 · 10 m, version C only

MOUNTING AND SCOPE OF SUPPLY

Mounting	two screws around the bar, tightening torque 3 Nm
Measuring location	free of loose material such as rust or flaking paint · chemical cleaning is not required, a solvent is enough
Zero offset	high after mounting — to be reset at the amplifier by button or signal
Delivered with	ring gauge in the ordered diameter · Y-cable for connection D (3 m · 5 m · 10 m) as an accessory



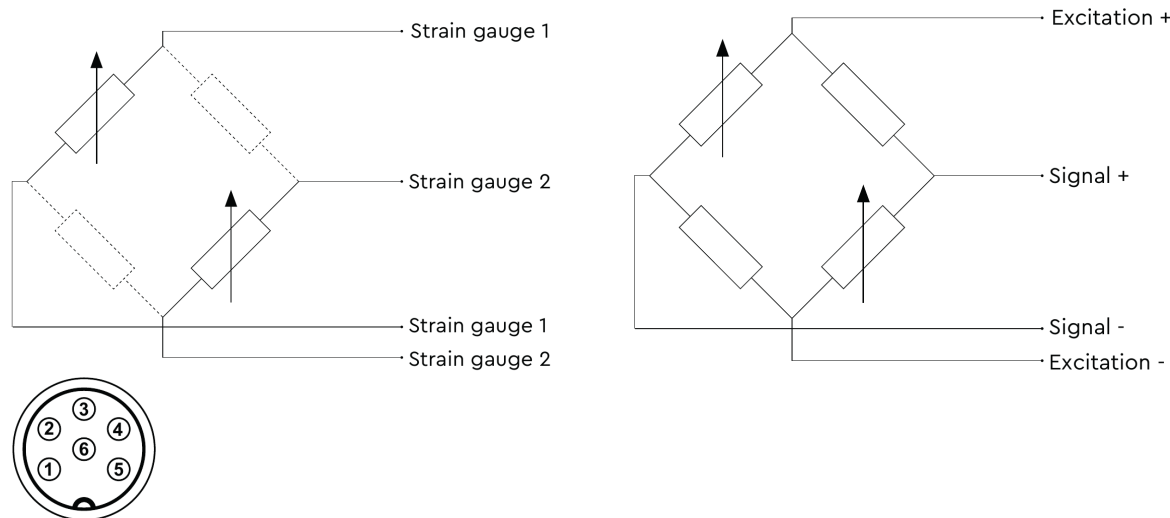
MECHANICAL LIMITS

Overload capability indefinite — an offset occurs

TERMINAL ASSIGNMENT

Connector PIN	2/4 bridge	Full bridge
1	Strain gauge 1	Excitation +
2	Strain gauge 1	Excitation +
3	not used	Excitation -
4	Strain gauge 2	Signal +
5	Strain gauge 2	Signal -
6	not used	Excitation -

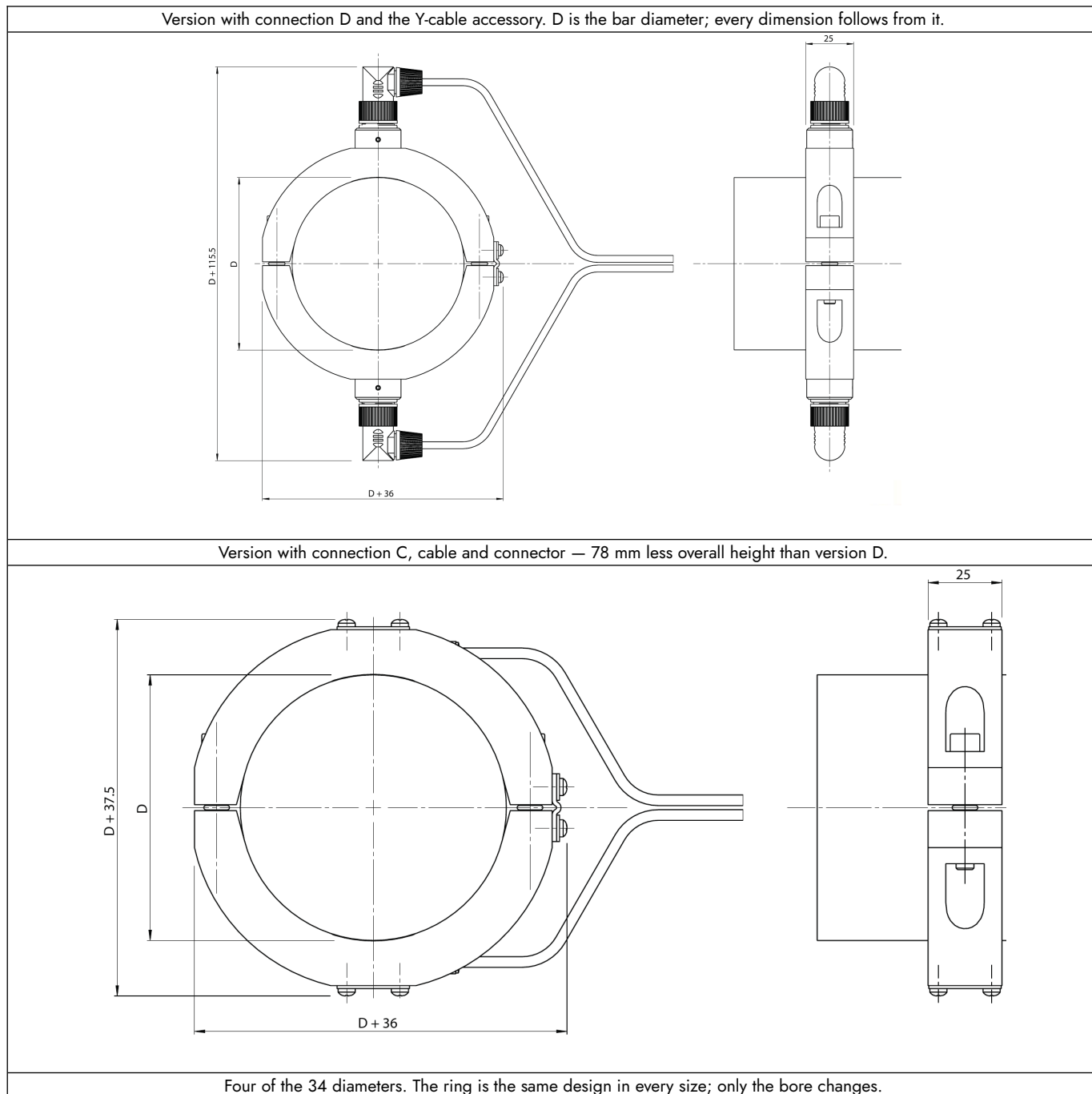
ELECTRICAL CONNECTION



Left: 2/4 bridge, two active gauges. Middle: full bridge, only with connection C. Right: connector pin numbering, identical for both versions. The full bridge uses all six pins; the 2/4 bridge leaves pins 3 and 6 unused. The completion resistors of the 2/4 bridge are not in the ring — they belong to the amplifier.



DIMENSIONS (mm)





COMPLIANCE AND CERTIFICATION

Protection Rating IP66 with connection C · IP40 with connection D

