

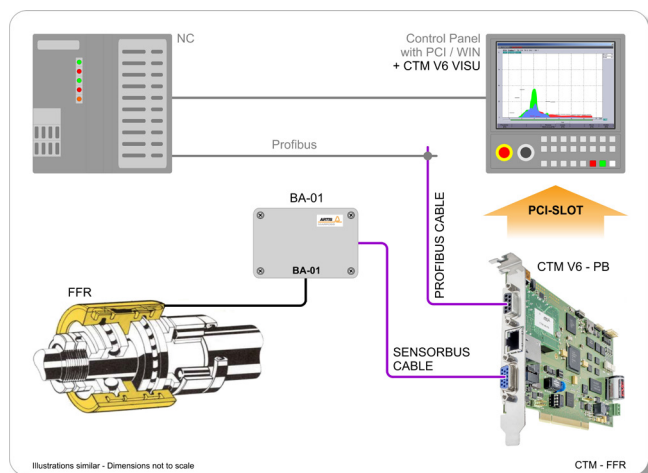
## FFR STRAIN GAUGE MEASURING RING

### Properties

- High sensitivity, fast response time, high signal stability
- Design as Wheatstone bridge circuit, thus thermally stable
- Direct recording of the cutting forces thanks to mounting in the main force flow
- Easy mounting between sliding bed and turret
- Degree of protection IP65
- Measures feed forces of one or two axes
- Linear response

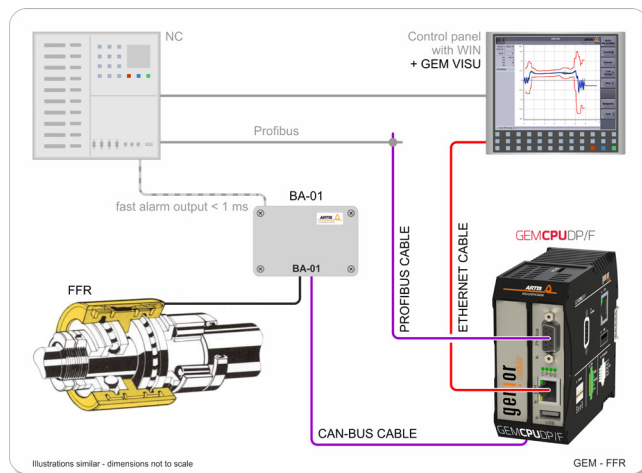


Illustration similar



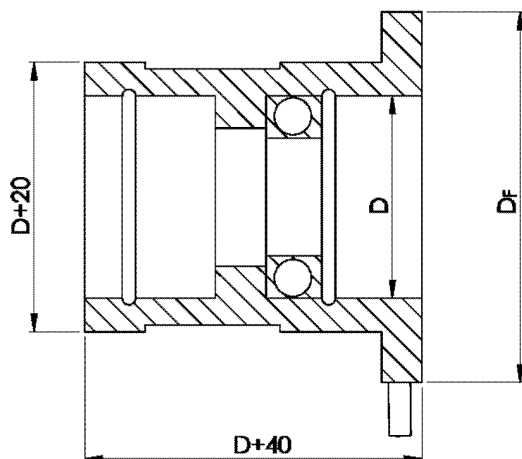
Application example:

**FFR** Strain Gauge Measuring Ring with BA-01 Bridge Amplifier in the CTM Tool and Process Monitoring System



Application example:

**FFR** Strain Gauge Measuring Ring with BA-01 Bridge Amplifier in the GENIOR MODULAR Tool and Process Monitoring System



#### 03PZ0712RRR

(RRR = Variant code, variants on request)

#### SUMMARY

The FFR strain gauge measuring ring is available in two versions: with and without flange. Based on these basic versions the dimensions of the FFR measuring ring are adapted to the design of the machine. Please refer to the general requirements listed below. Any further information available on request.

#### MEASURING RING GENERAL CONDITIONS

##### Type/size 1-axis

without flange	D = bearing Ø (mm)
FFR-FS 1001	40 – 64.99
FFR-FS 1002	65 – 84.99
FFR-FS 1003	85 – 109.99
FFR-FS 1004	110 – 150

##### Type/size 2-axes

with flange	D = bearing Ø / D <sub>f</sub> (mm)
FFR-FS 1201	40 – 64.99 / 110
FFR-FS 1202	65 – 84.99 / 140
FFR-FS 1203	85 – 109.99 / 170
FFR-FS 1204	110 – 150 / 200

#### REQUIRED SPACE

D + 20 mm

#### RANGE OF NOMINAL FORCE (FN)

1 kN bis 100 kN  
(higher ranges on request)

#### MEASURING DEVICE

Strain gauges, Wheatstone bridge design  
with four active elements

#### DEGREE OF PROTECTION

IP65

#### LINEAR EXPANSION $\epsilon$

~ 0,000047 at nominal force

#### SENSITIVITY

~ 0,3 mV/V to 2 mV/V

#### LINEAR DEVIATION

< ± 1 %

#### BRIDGE POWER SUPPLY

10 V Ref.

#### BRIDGE RESISTANCE

360 Ω

#### OVERLOAD LIMIT

800 % of nominal force (additional overload  
protection on request)

#### CONFORMITY

CE, UKCA

#### SENSOR CONNECTION

Color	Description
blue	Supply voltage -
white	Signal -
green	Signal +
red	Supply voltage +



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For a full list of address locations, please consult the Marposs official website

ODN6397EN06 – Edition 04/2022 – Specifications are subject to modifications  
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