

# Force Transducer ZKA-14-1t-1.20 with swivel heads

Part no.: VX34020102

Serial no.: Key 27U



- **Measurement range 0 ... 9.80 kN**
- **Measuring signal 1 ... 9 mA**
- **external amplifier**

## Description

The tensile force transducer operates on the principle of measuring force in the direction of the longitudinal axis.

It can be used to measure tensile forces in lifts, cranes and gondolas, as well as the tension in masts, towers, platforms and so on.

The ZKA-14 tensile force transducer is designed as a threaded rod (M14 on both ends). This allows for simple and universal mounting. The supplied EF15 swivel heads provide further mounting options.

The application area for the strain gauges (SG) is protected from mechanical and chemical damage by an aluminium tube filled with a highly elastic compound.

Full-bridge strain gauges measure the change in length and transverse strain caused by tensile forces acting on the transducer. An external amplifier supplies the measurement signal of 1–9 mA.

In the unloaded state, the nominal output current can be generated by switching on the calibration check signal (software calibration). This allows the force transducer, together with its amplifier and the downstream measuring equipment, to be checked.

The ZKA-14 tensile force transducer is designed for direct connection to a control system or comparator circuit.

The shield of the supply cable is not connected to the surface of the force transducer.

# VELOMAT

MESSELEKTRONIK GmbH



## Product Range Force Transducer



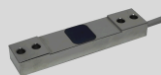
Shear force  
Transducer  
SKA-30D



Parallel  
Bending Beam  
PBB-28A



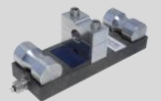
Tensile Force  
Transducer  
ZKA-12



Strain  
Transducer  
DA-20



Compression  
Force  
Transducer  
DKA-30



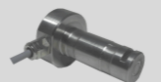
Rope Force  
Transducer  
LBA-160



Tensile Force  
Transducer  
KWZ-70



Tensile / Com-  
pression Force  
Transducer  
DZA-24A



Load Pin  
SB-25



Load Pin  
SKL-90

# Force Transducer

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## Technical Data

### Mechanical Data:

#### Force Transducer:

Weight:	approx. 0.7 kg
Material:	Stainless steel / Aluminium
Degree of protection:	IP 67
Nominal force:	9.80 kN = 9 mA
Max. force of use:	150 % of nominal force
Min. breaking force:	400 % of nominal force

### Electrical Data:

#### General Data:

Total error:	≤ 1 % of final value
Temperature error zero point:	≤ 0.04 % of final value / K
Temperature error sensitivity:	≤ 0.04 % of final value / K
Insulation resistance:	> 5000 MΩ
Nominal temperature range:	-15 °C to +70 °C
Temperature range of use:	-25 °C to +80 °C

#### Measurement Amplifier:

Power supply:	12-24 V DC ± 20 %
Current consumption:	max. 35 mA
Output signal:	1 ... 9 mA = 0 ... 9.80 kN
Execution:	external amplifier

## Cable and Connector

### Cable:

Type:	PVC, screened, 4 x 0.14 mm <sup>2</sup>
Length:	Sensor – Amplifier: 0.9 m, 4 x 0.14 mm <sup>2</sup> Amplifier – Cable end: 1.3 m, 4 x 0.14 mm <sup>2</sup>
Cable end:	ferrules

### Connection:

Core Colour	Description
brown	Operating voltage (UB)
white	Calibration check CC
green	Ground (GND)
yellow	Load signal (IM)
blue	Screen connection cable

## Product Range Electronics



Measurement Amplifier  
VMV-0025



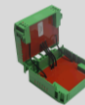
Limiting Switch  
VMV-0131



Large Size Display  
VPA-0185



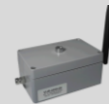
Handheld Terminal  
VHT-0041  
VHT-0020



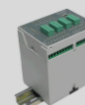
ATEX Barrier  
VZB-0010



Data Logger  
VPA-0400



Radio System  
VUR-0350



Small Control System  
VKS-0100



Measurement Controller  
VKS-0120



Load Monitor  
VKS-0151



ATEX Device  
VMV-0034

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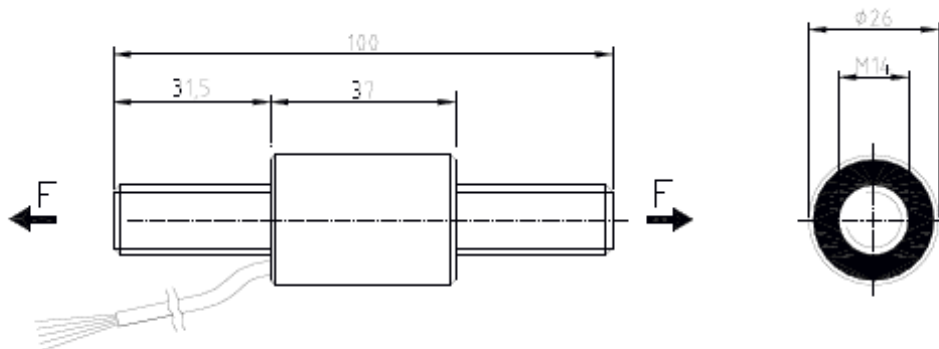
Serial no.: Key 27U

# VELOMAT

MESSELEKTRONIK GmbH



## Installation Dimensions



Customised  
Special Solutions

Contract  
Applications

Factory Calibration

DAkkS- / DKD-  
Calibration

Cable Assembly

Engineering Services