

# Force Transducer ZKA-12D-750kg-1.S70

Part no.: VX34021697

Serial no.: Key 64W

# VELOMAT

MESSELEKTRONIK GmbH



- **Measurement range 0 ... 9.80 kN**
- **2 channel redundant 4 ... 20 mA**
- **2 internal 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 much more.

The ZKA-12D tensile force transducer is designed as a threaded rod (M12 on both ends). This allows for simple and universal mounting. Various ball joints, available as accessories, provide further mounting options.

The strain gauge (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 integrated amplifier supplies a measurement signal of 4–20 mA.

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

The ZKA-12 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.

## Product Range Force Transducer



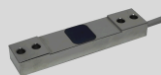
Shear force  
Transducer  
SKA-30D



Parallel  
Bending Beam  
PBB-28A



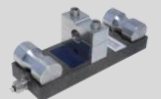
Tensile Force  
Transducer  
ZKA-12



Strain  
Transducer  
DA-20



Compression  
Force  
Transducer  
DKA-30



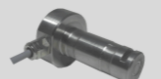
Rope Force  
Transducer  
LBA-160



Tensile Force  
Transducer  
KWZ-70



Tensile / Com-  
pression Force  
Transducer  
DZA-24A



Load Pin  
SB-25



Load Pin  
SKL-90

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## Technical Data

### Mechanical Data:

#### Force Transducer:

Weight:	approx. 0.44 kg
Material:	Stainless steel / Aluminium
Degree of protection:	IP 67
Nominal force:	7.35 kN = 16 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:	2x 12-24 V DC ± 20 %
Current consumption:	2x max. 45 mA
Output signal:	2x 4 ... 16 ... 20 mA = 0 ... 7.35 ... 9.80 kN
Execution:	2x internal amplifier
Calibration check stroke:	2 x +12 mA
Synchronisation error:	≤ 2 % of final value

## Cable and Connection

#### Cable:

Type:	2 x PUR, screened, 4 x 0.14 mm <sup>2</sup>
Length:	2 x 5 m
Cable end:	Wire end ferrules

#### Core Colour

brown  
white  
green  
yellow  
blue

#### Description

Operating voltage UB  
Calibration check (low aktiv) CC\*  
GND  
Load signal IM  
Screen connection cable

### Product Range Electronics



Measurement  
Amplifier  
VMV-0025



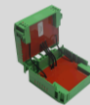
Limiting  
Switch  
VMV-0131



Large Size  
Display  
VPA-0185



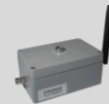
Handheld  
Terminal  
VHT-0041  
VHT-0020



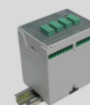
ATEX Barrier  
VZB-0010



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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## Installation & Dimensions

Customised  
Special Solutions

Contract  
Applications

Factory Calibration

DAkKS- / DKD-  
Calibration

Cable Assembly

Engineering Services

