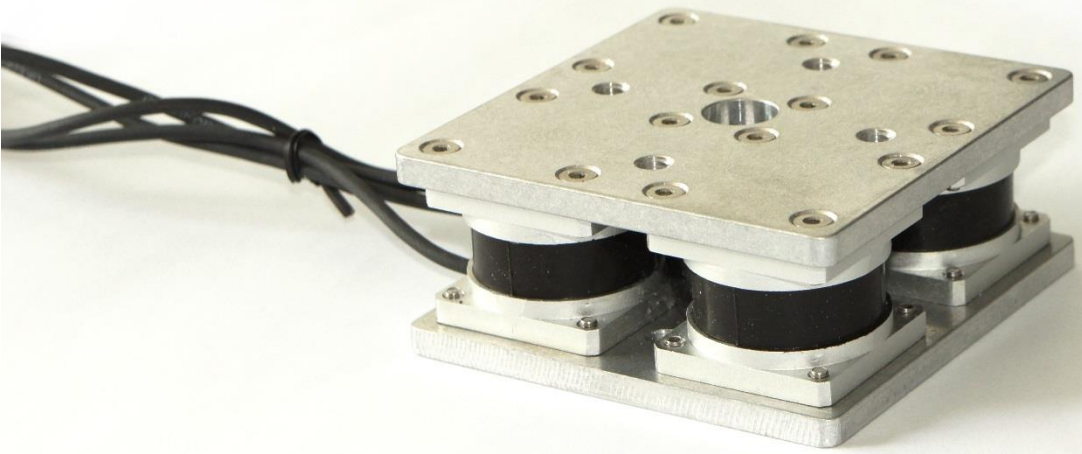
OPTOFORCE
SENSING FLEXIBILITY

HEX

OPTOFORCE
6 - A X I S
S E N S O R

TECHNICAL DATASHEET v1.1

HEX-80-RE-1200N 6-axis Force/Torque Sensor



(product photo)

BENEFITS

- Precise measurement
- High resolution
- Low chemical reactivity
- Dust and water proof
- 200% overload range
- Robust design and easy to use
- Highly reliable
- Low power consumption
- High sensitivity

TECHNICAL DATA

Sensing surface:

High stiffness silicone rubber

Sensor base:

Aluminum 6062 (customizable)

Operating temperature

-40°C to 85°C (on request)

Measurement properties

Fz+: 1200N nominal capacity

Fx,y,z-: 150N nominal capacity

T: 5Nm nominal capacity

CE

TECHNICAL PARAMETERS

OPERATING SPECIFICATION

Parameter	Value	On request	Unit
Nominal capacity: Fz+	1200	20 –	N
Nominal capacity: Fz-, Fx, Fy	150	20 –	N
Nominal capacity: Tx, Ty, Tz	5	1 –	Nm
Safe single axis overload	200	Mechanical hard stop	% of N.C.
Linearity	< 2	1	%
Noise level[1]	< 2	< 1	LSB
Nominal sample rate	100	10 000	Hz
Temperature	-10 to 40	-40 to 85	°C
Sensor output	USB (DAQ included)	Any standard digital output	
Maximum resolution[2]	16	20	bit
Operating system support	Windows, Ubuntu	Any OS	
Software support	API: C++, C# Sample: LabView, MATLAB	Please inquire	

NOTES

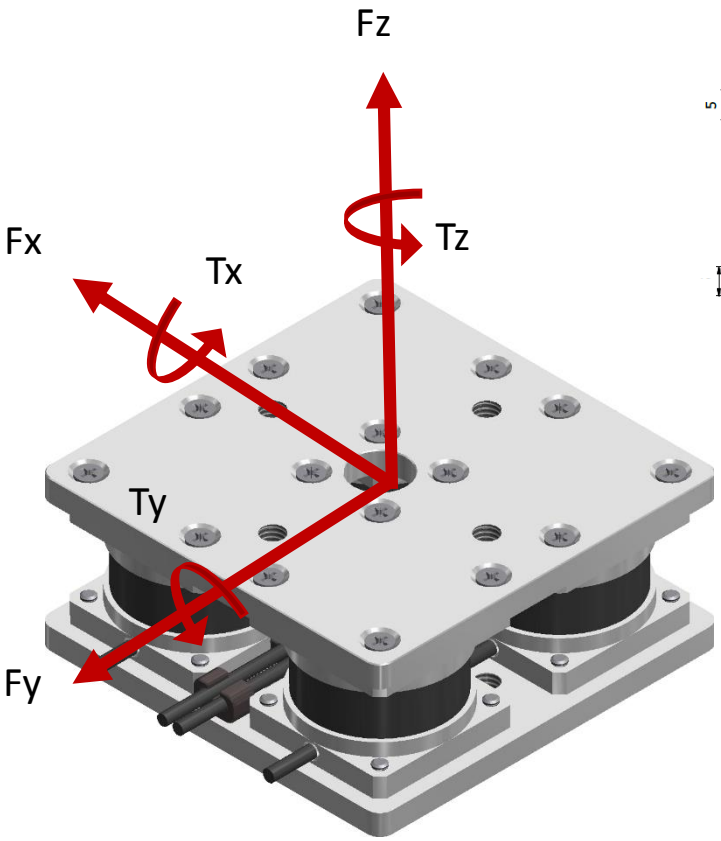
All specifications are subject to change, parameters were measured at 25°C .

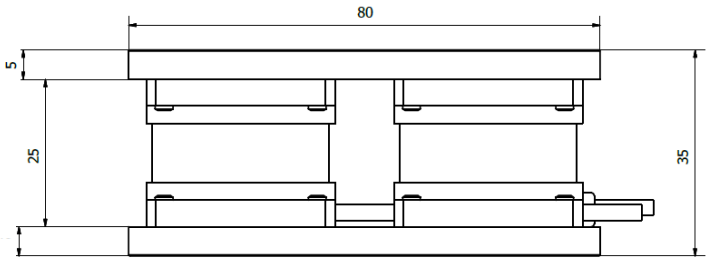
1. Internal filtering enabled.
2. Maximal internal resolution.

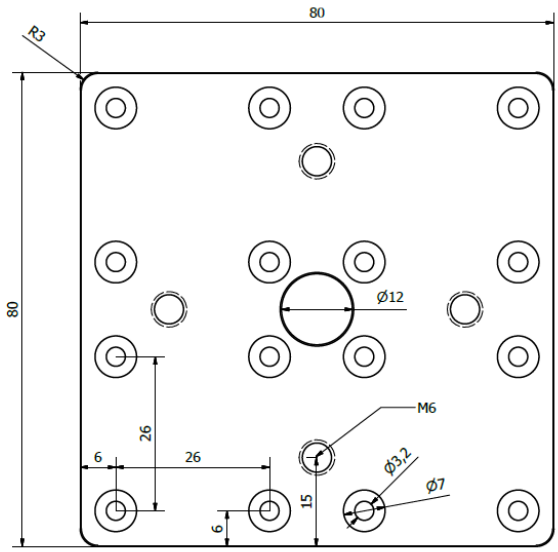
BASIC DRAWINGS

The analog signals generated by the sensors are digitalized and pre-processed (using advanced noise filtering technology and temperature compensation) by the external Data Acquisition (DAQ) device, which is included in the sensor price.

Later standard designs will have an integrated digital output and mechanical overload protection.







SENSOR DESIGN NOTES

This sensor is based on our standard 3-axis OMD line, which is easily scalable (fingertip or palm sized) and customizable. Other standard 6-axis versions are due to enter the market in 2015, but please inquire about any special requests even before that.

The following sensor physical parameters can be customized:

- **Sensor size and shape**– smaller or bigger, even cylindrical sensor can be made
- **Deforming material** - silicone, polyurethane or even metallic materials
- **Measurement range** - by changing the hardness of the silicone
- **Sensor base** - can be different kinds of metal or plastic
- **Sensor fixture** - hole size or position

OptoForce's goal is to help and enable customers to design and create their own end-product solutions that meet applicable functional standards and requirements.

For more information please do not hesitate to contact us at:
info@optoforce.com