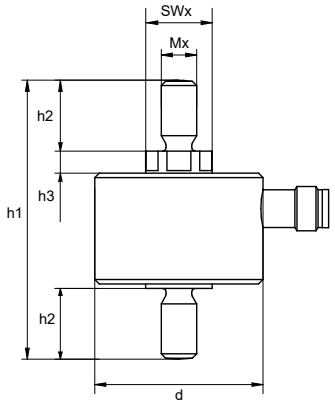
Baumer

Quickstart

DLMx0-IN

Force sensor

Dimensional drawing



	DLM20	DLM30	DLM40
h1 [mm]	31.5	46.5	82.5
h2 [mm]	8	12	24
h3 [mm]	2.5	4	7
d [mm]	19	25.5	41.3
SW	SW7	SW10	SW18
Mx	M4	M6	M12

Scope of delivery

- 1 x sensor
- 1 x quickstart

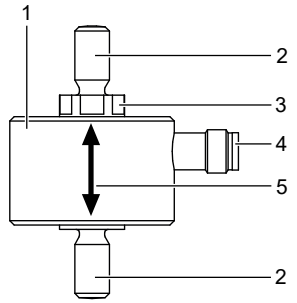
Applicable documents

- Download from www.baumer.com:
  - Operating manual
  - Data sheet
  - EU Declaration of Conformity
- Attached to product:
  - General information sheet (11042373)

Functionality

It is a passive sensor without amplifier electronics. It is is screwed in place at a machine element and measures the applied force. Any change in force measured at the spring by a strain gauge is converted into an electric signal. Compressive force makes the sensor deliver a positive measurement signal. The output signal is delivered in mV/V and proportionate to force.

Structure



1	Sensor housing	2	Pressure / strain stamp
3	Hexagon	4	Connection 4-pin
5	Force measuring direction		

Preventive maintenance

The sensor is maintenance-free. No special preventive maintenance is required. Regular cleaning and regular checking of the plug connections are recommended.

EN

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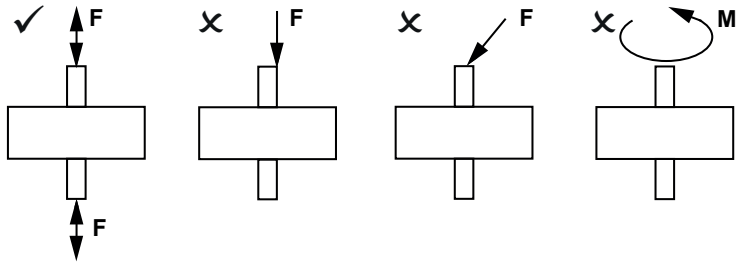
8/24/2022, 81327762, V2
ID 9007199582535307

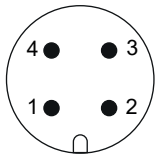
Installation instructions



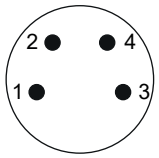
Force is to be applied centrically in axial direction.
Do not apply any side load /torsion on the sensor.

Pin assignment

DLM20 (M5):

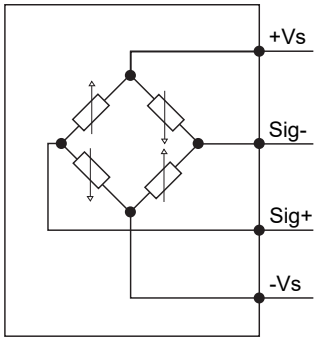


DLM30/40 (M8):



Pin	Assignment
1	+Vs
2	Sig+
3	-Vs
4	Sig-

Connection diagram



Note on electromagnetic compatibility: Shielded supply cable is recommended. Ground the cable shield on both sides over a large surface and ensure potential equalization. Disconnect the system from power prior to connecting the device.
+Vs = 2 ... 7 VDC (UL Class 2)[1]
[1] Alternatively, the device must be protected by an external R/C or approved fuse (rated max. 100 W/Vp or max. 5 A under 20 V).

Preparing installation

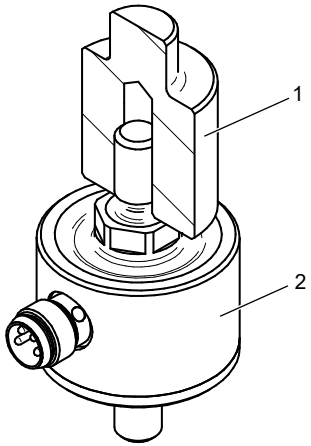
Instruction:

- Make sure the machine element is not under load.

Mounting the sensor

There are different options for sensor mount. A different mounting option can be used for each side.

Variant 1: Tool/mating part is installed at the catch

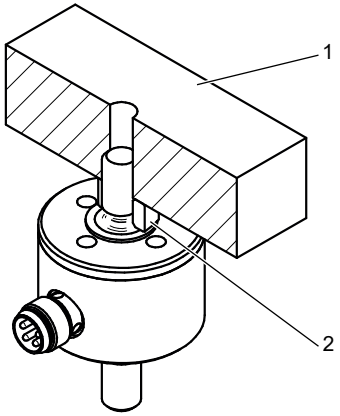


Instruction:

a) Make sure the thread of the mating part (1) provides sufficient depth.
b) Screw the sensor (2) in place using a torque wrench and applying the specified torque.
c) For electrical sensor connection observe the pin assignment /connection diagram.

	DLM20	DLM30	DLM40
Thread of mating part	M4	M6	M12
Minimum depth of thread [mm]	9	13	25
Tightening torque [Nm]	1	5	38

Variant 2: Tool/mating part is bolted and secured with lock nut

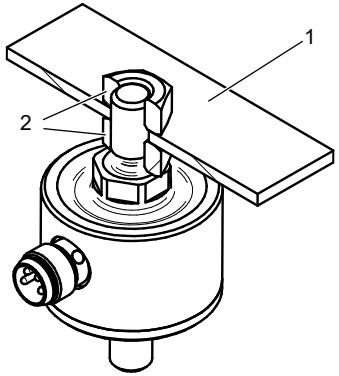


Instruction:

a) Make sure the thread of the mating part (1) provides sufficient depth.
b) Screw lock nut (2) into main thread using a torque wrench and applying the specified torque.
c) For electrical sensor connection observe the pin assignment.

	DLM20	DLM30	DLM40
Thread of mating part	M4	M6	M12
Minimum depth of thread [mm]	5	7	12
Lock nut height [mm]	2.2	3.2	6
Tightening torque [Nm]	1	5	38

Variant 3: Tool/mating part with through hole is fixed full contact with lock nut



Instruction:

a) Observe the maximum permitted tool / plate thickness (1).
b) Screw the lock nuts (2) into main thread using a torque wrench and applying the specified torque.
c) For electrical sensor connection observe the pin assignment.

	DLM20	DLM30	DLM40
Thread of mating part	M4	M6	M12
Diameter through hole [mm]	4.5	6.6	13.5
Lock nut height [mm]	2.2	3.2	6
Tightening torque on the main thread [Nm]	1	5	38
Max. mold / sheet thickness [mm]	1	3	7

Electrical sensor connection

Instruction:

- Perform electrical sensor connection according to the pin assignment /connection diagram.

Sensor deployment

- After the installation: If possible, 10 times expose sensor to full load to minimize effects of settlement.
- Only operate the sensor within the defined nominal force range (see data sheet).