



More Precision

induSENSOR // Linear inductive displacement sensors





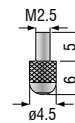
- Proven LVDT technology
- Measuring ranges $\pm 1 \dots \pm 10\text{mm}$
- Excellent price/performance ratio, especially for high volume applications
- Sensor diameter $\varnothing 8\text{mm}$
- Version with pneumatic push

LVDT gauging sensors DTA-xG8 are primarily used for the measurement and inspection of work-piece geometry (length, width, diameter,

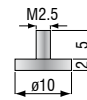
thickness, depth, height). These new gauges are available in two basic versions: feather or pneumatic. The entire housing has a diameter of 8mm. All gauges include a cable that extends axially from the housing. Due to its special design, this series offers a very attractive price/performance ratio, especially for high volumes.

Probe tips

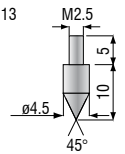
Standard: type 2



Option: type 11



Option: type 13



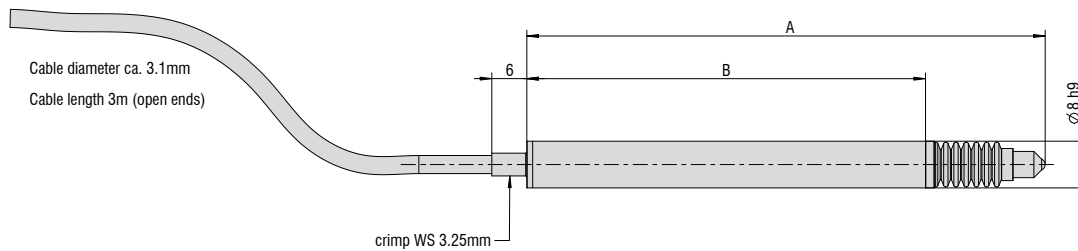
Article

| | | | | | | |
|--|----|----|-----|----|-----|---|
| DT | A- | 5- | G8- | 3- | CA- | V |
| Principle: differential transformer (LVDT) | | | | | | |
| Excitation AC | | | | | | |
| Measuring range \pm mm | | | | | | |
| Function: gauging sensor | | | | | | |
| Linearity: 3 ($\pm 0.3\%$) | | | | | | |
| Connection (axial): CA integral cable (3m) | | | | | | |
| Gauging sensor option: pneumatic push | | | | | | |

| Model | DTA-1G8 | DTA-3G8 | DTA-5G8 | DTA-10G8 | DTA-1G8-V | DTA-3G8-V | DTA-5G8-V | DTA-10G8-V |
|----------------------------|--|------------|------------|------------|-------------|------------|------------|------------|
| Measuring range | ±1mm | ±3mm | ±5mm | ±10mm | ±1mm | ±3mm | ±5mm | ±10mm |
| Linearity | 0.3 % FSO | | | | | | | |
| Repeatability | 0.15µm | 0.45µm | 0.75µm | 1.5µm | 0.15µm | 0.45µm | 0.75µm | 1.5µm |
| Temperature stability | 250ppm/°C | | | | | | | |
| Temperature range | -20...+80 °C (without bellows) / 0...+80 °C (with bellows) | | | | | | | |
| Diameter | 8h9mm | | | | | | | |
| Sensor material | stainless steel / FPM | | | | | | | |
| Connection / pin connector | open ends | | | | | | | |
| Protection class sensor | IP65 (with bellows) / IP54 (without bellows) | | | | | | | |
| Cable output | axial | | | | | | | |
| Sensor cable length | 3m | | | | | | | |
| Life cycle MTBF | 5 million cycles | | | | | | | |
| Sensitivity | 133 mV/mm/V | 85 mV/mm/V | 53 mV/mm/V | 44 mV/mm/V | 133 mV/mm/V | 85 mV/mm/V | 53 mV/mm/V | 44 mV/mm/V |
| Electronics | MSC710 (page 8 - 9) | | | | | | | |

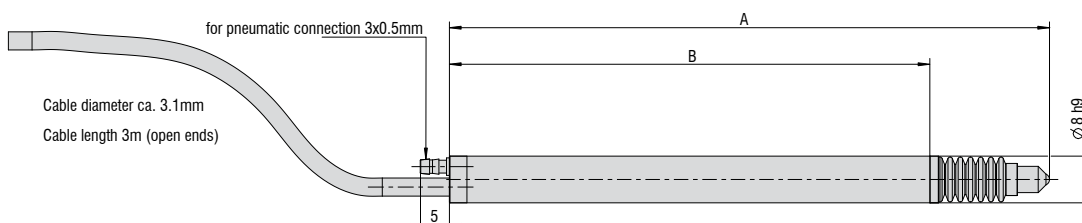
FSO = Full Scale Output

DTA-xG8-3-CA



| Model | A (zero position) | B |
|---------------|-------------------|---------|
| DTA-1G8-3-CA | 83mm | 64.3mm |
| DTA-3G8-3-CA | 89mm | 68.3mm |
| DTA-5G8-3-CA | 118mm | 89.5mm |
| DTA-10G8-3-CA | 155mm | 121.7mm |

DTA-xG8-3-CA-V



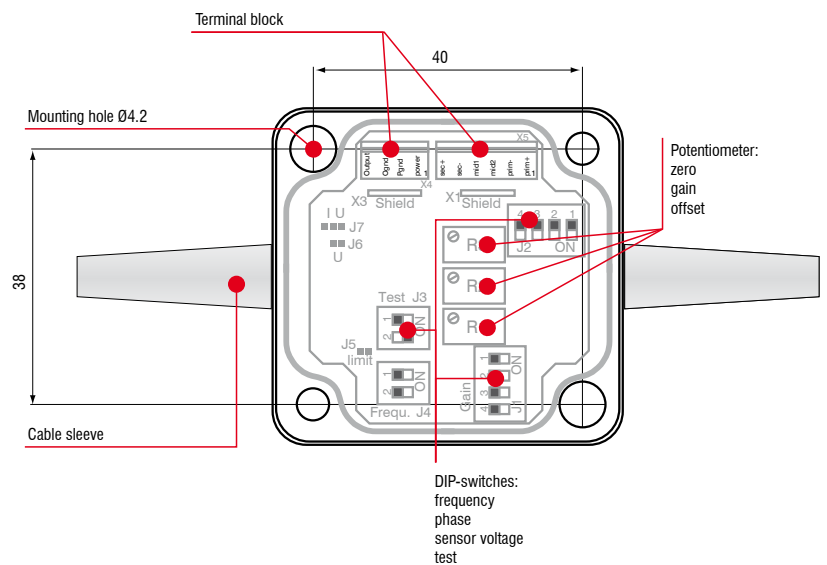
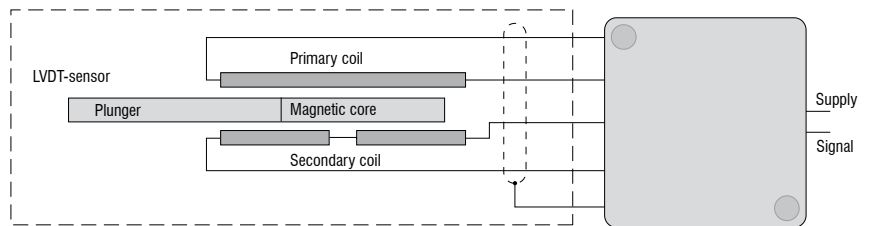
| Model | A (zero position) | B |
|-----------------|-------------------|---------|
| DTA-1G8-3-CA-V | 95mm | 76.3mm |
| DTA-3G8-3-CA-V | 103mm | 82.3mm |
| DTA-5G8-3-CA-V | 134mm | 105.3mm |
| DTA-10G8-3-CA-V | 170.8mm | 137.3mm |



- Excellent linearity and resolution
- Zero and gain adjustable coarse/fine
- Excitation frequency 1 ... 10kHz (selectable)
- Compact and robust EMI-proofed housing

The MSC710 is a single-channel miniature sensor controller for the operation of inductive displacement sensors based on the LVDT principle (Linear Variable Differential Transformer). Its compact, but rugged design, makes it suitable for both industrial and laboratory applications.

Easily accessible and simple to operate, by using DIP-switches. The electronic unit can be matched to a wide range of sensors.



| Model | MSC710-U | MSC710-I |
|-------------------------------------|---|----------------------------|
| Power supply | 18 ... 30 VDC (18 ... 45mA) | |
| Protection | Reverse polarity protection, overvoltage protection | |
| Sensor principle | for LVDT sensors | |
| Sensor excitation | 150 ... 400mV | |
| | 1/2/5kHz (selectable by DIP-switches) | |
| Input impedance | sensor | 10kOhm |
| Range | gain | -20 ... +350% (trimpot) |
| | zero | ±50% (trimpot) |
| Output signal | 2 ... 10 VDC ($R_a > 1k\Omega$) | 4 ... 20mA (load < 500Ohm) |
| Noise | < 1.5mV _{eff} * | < 3μA _{eff} * |
| | < 15mV _{ss} | < 30μA _{ss} |
| Linearity | < 0.02% FSO | |
| Frequency response | 300Hz (-3dB) | |
| Temperature range | storage | -40°C ... +85°C |
| | operating | 0°C ... +70°C |
| Temperature stability | ± 100ppm / °C | |
| Protection class | IP 65 | |
| Weight | 80g | |
| Housing material | ABS-plastic | |
| Electromagnetic compatibility (EMC) | EN 61326-1:2006 (spurious emission) | |
| | EN 61326-2-3:2006 (immunity to interference) | |
| Vibration | EN 60068-2-64 (noise) | |
| Shock | EN 60068-2-29 (continuous shock) | |

FSO = Full Scale Output

* RMS AC-Measuring, Frequency 3 Hz ... 300 Hz

General accessories

| | | |
|---------|--------|---|
| 2960031 | MC25D | digital micrometer calibration fixture |
| 2420062 | PS2020 | power supply on DIN rail, input 100 - 240VAC, output 24VDC / 2.5A |
| 2984026 | | certificate function and linearity inspection certificate incl. protocol with listed measurement data of the linearity inspection and documentation |

Accessories VIP and LVP series**Connection cable**

| | | |
|---------|-----------|--|
| 0157043 | C703-5 | VIP/LVP/EDS 7-pin connection cable, 5m |
| 2902084 | C703-5/U | VIP/LVP/EDS 7-pin connection cable, 5m for voltage output 1 - 5V |
| 0157050 | C703/90-5 | VIP-/LVP-/EDS-7-pin connection cable, 5m with 90° cable connector |
| 2962001 | MBS 12/8 | mounting set for VIP series with 3 mounting blocks and 2 adapting rings |
| 0487087 | MBS 12/8 | mounting block VIP/LVP series |

Plunger

| | | |
|---------|---------|---------|
| 0800114 | LVP-50 | plunger |
| 0800115 | LVP-100 | plunger |
| 0800116 | LVP-200 | plunger |

Accessories LDR series**Connection cable**

| | | |
|---------|--------------|--|
| 0157047 | C7210-5/3 | sensor cable, 5m, with cable connector |
| 0157048 | C7210/90-5/3 | sensor cable, 5m, with 90° cable connector |

Supply cable

| | | |
|---------|-----------|-------------------------|
| 2901087 | PC710-6/4 | supply/output cable, 6m |
|---------|-----------|-------------------------|

Plunger

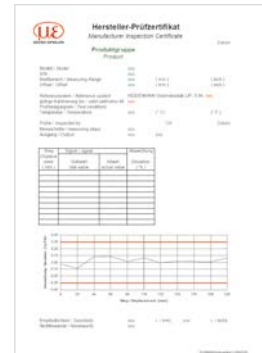
| | | |
|---------|--------|---------|
| 0800136 | LDR-10 | plunger |
| 0800137 | LDR-25 | plunger |
| 0800138 | LDR-50 | plunger |

Accessories EDS series**Service**

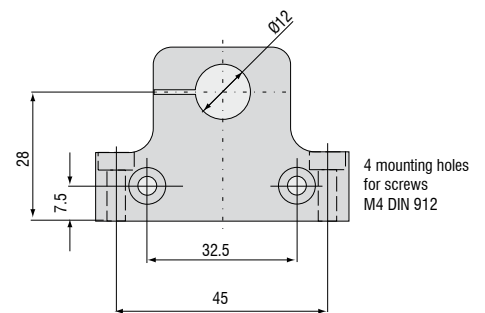
| | | |
|---------|--|---|
| 2985001 | | Function and linearity inspection for EDS series incl. pressure inspection and documentation without recalibration |
|---------|--|---|

Connection cable

| | | |
|---------|-----------|--|
| 0157043 | C703-5 | VIP/LVP/EDS 7-pin connection cable for S series, 5m |
| 2902084 | C703-5/U | VIP/LVP/EDS 7-pin connection cable for S series, 5m for voltage output 1 - 5V |
| 0157050 | C703/90-5 | VIP/LVP/EDS 7-pin connection cable for S series, 5m with 90° cable connector |
| 2901143 | C705-5 | VIP-/LVP-/EDS -pin connection cable for F series, 5m |
| 2901160 | C705-15 | VIP-/LVP-/EDS -pin connection cable for F series, 15m |



Linearity inspection certificate

Mounting block VIP and LVP series

Accessories LVDT series

Sensor cable

| | | |
|---------|-----------|---|
| 2902004 | C701-3 | sensor cable 3m, with connector and tin-plated free ends |
| 2902013 | C701-6 | sensor cable, 6m, with connector and tin-plated free ends |
| 2902009 | C701/90-3 | sensor cable, 3m, with 90° connector and tin-plated free ends |
| 2966002 | MSC710 | connector set for supply/output cable |
| 2981010 | | connector mounting and calibration of MSC710 |

Connection cable

| | | |
|---------|-----------|--------------------------|
| 2901087 | PC710-6/4 | supply/output cable, 6 m |
|---------|-----------|--------------------------|

Plunger

| | | |
|---------|---------|---------|
| 0800001 | DTA-1D | plunger |
| 0800002 | DTA-3D | plunger |
| 0800003 | DTA-5D | plunger |
| 0800004 | DTA-10D | plunger |
| 0800005 | DTA-15D | plunger |
| 0800006 | DTA-25D | plunger |

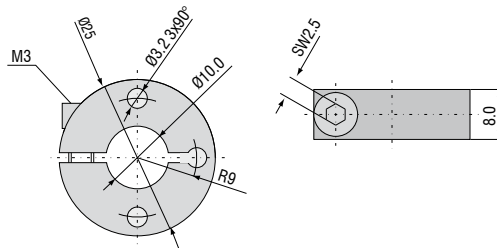
Flange

| | | |
|------------|---------|--|
| 0483090.01 | DTA-F10 | mounting flange, slotted for DTA-1D, DTA-3D, DTA-5D, DTA-10D |
| 0483083.02 | DTA-F20 | mounting flange, slotted for DTA-15D, DTA-25D |

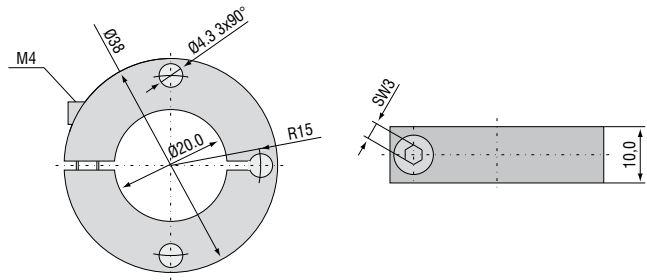
Probe tips

| | |
|---------|--------------------|
| 0459002 | type 2 |
| 0459001 | type 2 hard metall |
| 0459003 | type 11 |
| 0459004 | type 13 |

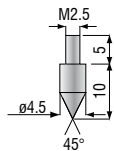
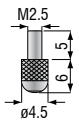
Flange DTA-F10



Flange DTA-F20



Standard probe tip: type 2 Option: type 11 Option: type 13



High performance sensors made by Micro-Epsilon



Sensors and systems for displacement and position



Sensors and measurement devices for non-contact temperature measurement



2D/3D profile sensors (laser scanner)



Optical micrometers, fibre optic sensors and fibre optics



Colour recognition sensors, LED analyzers and colour online spectrometer



Measurement and inspection systems

