

YOUR ULTIMATE SOLUTION PARTNER FOR POSITION CONTROL APPLICATIONS



**LINEAR POSITION TRANSDUCERS
LINEAR & ROTARY ENCODERS
DRAW WIRE SENSORS
PROCESS CONTROL DEVICES
PRESSURE TRANSMITTERS
LEVEL SENSORS**



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Sensing technology...

ROTARY ENCODERS



MAGNETIC LINEAR ENCODERS



DIGITAL READOUTS & MEASURING CONTROL INSTRUMENTS



LINEAR POTENTIOMETERS



PRESSURE TRANSMITTERS



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Potentiometric Linear Transducers

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POTENTIOMETRIC MEASURING BODY CLAMP



SPECIAL FEATURES

- One-sided actuating rod
- Potentiometric measuring up to 1000 mm
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output options
- Absolute measurement of displacement
- Resolution 0,01mm
- Very long life up to 100 million movements
- High operating speed 5 m/s
- The grooves provide an excellent alternative to the usual system
- Excellent Linearity between $\pm 0,1$ and $\pm 0,2$
- Pivoting sleeve bearing
- Optional rod joint

LTM is a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control and Measurement applications. Designed for the direct, absolute measurement of displacement or length in control regulation and measuring applications.

High resolution (0.01 mm) combined with a stroke length of up to 1000 mm permits the accurate measurement of linear displacement.

LTM Series Potentiometric Linear Transducers are mainly used in :

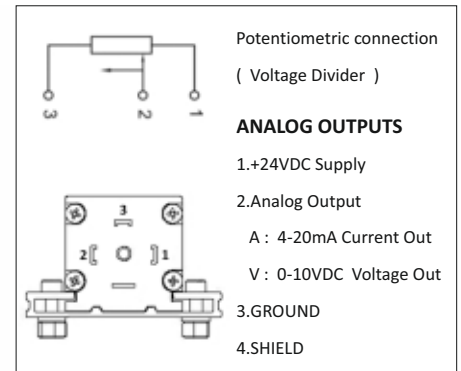
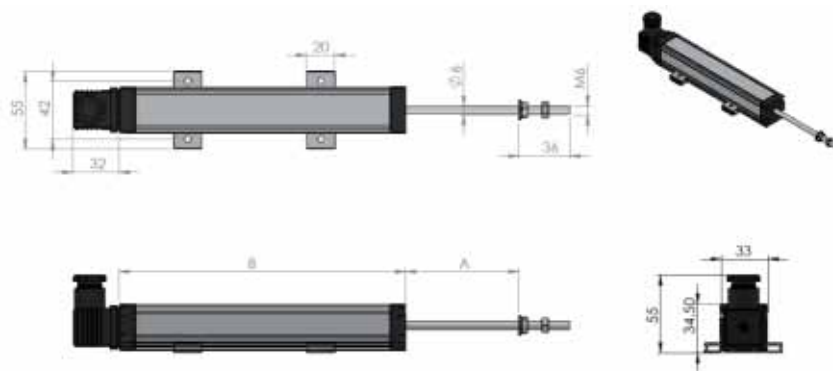
- Plastic & Metal Injection Machines
- Press Brake Machines
- Horizontal Band Saw Machines
- Transfer Machines
- Hydraulic Machines
- Sheet Metal Working Machines
- Bending Presses
- Textile Machines
- Robotics/materials handling
- Profile Cutting Machines



Technical Specifications

| | |
|---------------------------|---|
| Defined Electrical Ranges | 50 - 75 - 100 - 125 - 150 - 175 - 200 - 225 - 250 - 275 - 300 - 325- 350 - 360 - 375 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 900 - 1000 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | $\pm 0,1$... $\pm 0,2$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-A socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other (± 20 tolerance) |
| Protection Class | IP 62 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |

LTM



| | Stroke (mm) | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 360 | 375 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 900 | 1000 |
|-----------------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Potentiometric Output | Mechanical Stroke (A) | 52 | 77 | 102 | 127 | 152 | 177 | 202 | 227 | 252 | 277 | 302 | 327 | 352 | 362 | 377 | 402 | 452 | 502 | 552 | 602 | 652 | 702 | 752 | 802 | 902 | 1002 |
| | Body Length (B) | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 375 | 400 | 425 | 435 | 450 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 975 | 1095 |
| 0-10 V Output | Mechanical Stroke (A) | 52 | 77 | 102 | 127 | 152 | 177 | 202 | 227 | 252 | 277 | 302 | 327 | 352 | 362 | 377 | 402 | 452 | 502 | 552 | 602 | 652 | 702 | 752 | 802 | 902 | 1002 |
| | Body Length (B) | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 375 | 400 | 425 | 435 | 450 | 475 | 525 | 575 | 625 | 675 | 725 | 775 | 825 | 875 | 975 | 1095 |
| 4-20 mA Output | Mechanical Stroke (A) | 52 | 77 | 102 | 127 | 152 | 177 | 202 | 227 | 252 | 277 | 302 | 327 | 352 | 362 | 377 | 402 | 452 | 502 | 552 | 602 | 652 | 702 | 752 | 802 | 902 | 1002 |
| | Body Length (B) | 132 | 157 | 182 | 207 | 232 | 257 | 282 | 307 | 332 | 357 | 382 | 407 | 432 | 442 | 457 | 482 | 532 | 582 | 632 | 682 | 732 | 782 | 832 | 882 | 982 | 1102 |

Order Code

Model No

LTM

XXX

Defined Stroke Range

Several standard lengths from 50 mm to 1000 mm
* other lengths on request

Resistance Value

5K : 5K Ω
10K: 10K Ω

XX

Output Signal

No Code: Potentiometric
V : 0-10VDC Analog Voltage Out
A : 4-20mA Analog Current Out

Electrical Connection

2M: 2 meters PUR cable
(*Optionally different lengths)
No code: DIN 43650-A socket

X

XX

SPECIAL FEATURES

- Twin bearing actuating rod
- Mountable over backlash free pivots heads with a large angle of free movement
- Maximum angular movement up to $\pm 30^\circ$
- Potentiometric measuring up to 1000 mm
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output options
- Absolute measurement of displacement
- Resolution 0,01mm
- Very long life up to 100 million movements
- High operating speed 5 m/s
- The grooves provide an excellent alternative to the usual system
- Excellent Linearity between $\pm 0,1$ and $\pm 0,2$



Technical Specifications

| | |
|---------------------------|--|
| Defined Electrical Ranges | 50 - 75 - 100 - 125 - 150 - 175 - 200 - 225 - 250 - 275 - 300 - 325 - 350 - 360 - 375 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 900 - 1000 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | $\pm 0,1 \dots \pm 0,2$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-C socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other ($\pm 20\%$ tolerance) |
| Protection Class | IP 62 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | With 2 ball-joints |
| Rod material | Stainless Steel |

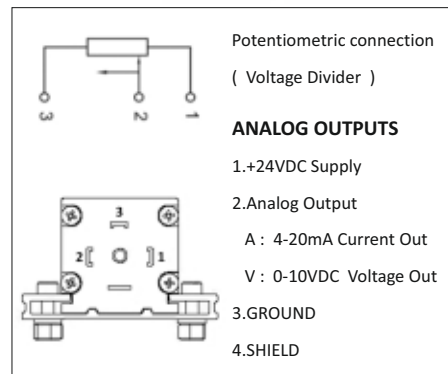
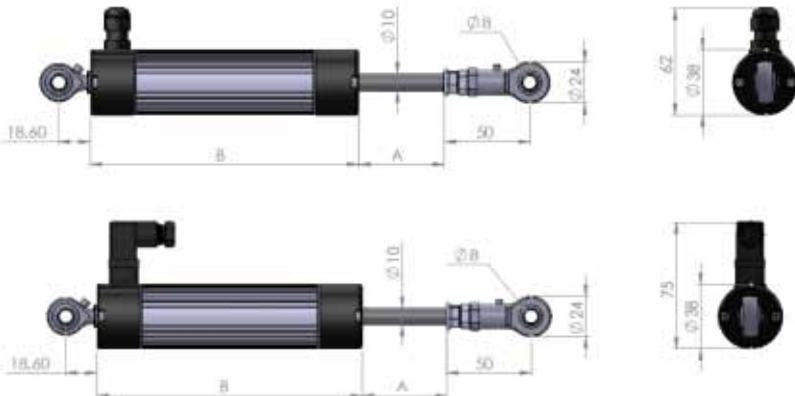
LTP is built easy mounting by double pivot heads. It's a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control and Measurement applications. Designed for the direct, absolute measurement of displacement or angle in control regulation and measuring applications. Mechanical fixing and self-aligning linkage using 2 ball joints. Maximum angular movement angle is up to $\pm 30^\circ$. High resolution (0.01 mm) combined with a stroke length of up to 1000 mm permits the accurate measurement of linear displacement.

LTP Series Potentiometric Linear Transducers are mainly used in :

- Press Brake Machines
- Marble Machines
- Tension Control
- Horizontal Band Saw Machines
- Transfer Machines
- Hydraulic Machines
- Sheet Metal Working Machines
- Bending Presses
- Textile Machines



LTP



| | Stroke (mm) | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 360 | 375 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 900 | 1000 |
|-----------------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Potentiometric Output | Mechanical Stroke (A) | 54 | 79 | 104 | 129 | 154 | 179 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 364 | 379 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 904 | 1004 |
| | Body Length (B) | 154 | 179 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 379 | 404 | 429 | 454 | 464 | 479 | 504 | 545 | 604 | 654 | 704 | 754 | 804 | 854 | 919 | 1019 | 1119 |
| 0-10 V Output | Mechanical Stroke (A) | 54 | 79 | 104 | 129 | 154 | 179 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 364 | 379 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 904 | 1004 |
| | Body Length (B) | 154 | 179 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 379 | 404 | 429 | 454 | 464 | 479 | 504 | 545 | 604 | 654 | 704 | 754 | 804 | 854 | 919 | 1019 | 1119 |
| 4-20 mA Output | Mechanical Stroke (A) | 54 | 79 | 104 | 129 | 154 | 179 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 364 | 379 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 904 | 1004 |
| | Body Length (B) | 159 | 184 | 209 | 234 | 259 | 284 | 309 | 334 | 359 | 384 | 409 | 434 | 459 | 469 | 484 | 509 | 549 | 609 | 659 | 709 | 759 | 809 | 859 | 924 | 1024 | 1124 |

Order Code

Model No

LTP

XXX

Defined Stroke Range

Several standard lengths from 50 mm to 1000 mm
* other lengths on request

Resistance Value

5K : 5K Ω

10K: 10K Ω

XX

X

Output Signal

No Code: Potentiometric

V : 0-10VDC Analog Voltage Out

A : 4-20mA Analog Current Out

Electrical Connection

2M: 2 meters PVC cable

(*Optionally different lengths)

No code: DIN 43650-C socket

XX

POTENTIOMETRIC MEASURING TWIN BEARING ACTUATING ROD



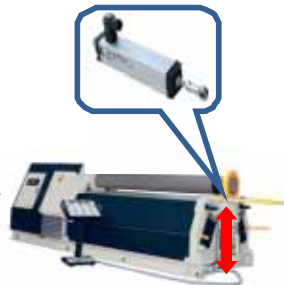
LTC is built easy mounting by double pivot heads. The only difference from the LTP series is the square frame body. It's a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control and Measurement applications. Designed for the direct, absolute measurement of displacement or angle in control regulation and measuring applications.

Mechanical fixing and self-aligning linkage using 2 ball joints. Maximum angular movement angle is up to $\pm 30^\circ$

High resolution (0.01 mm) combined with a stroke length of up to 750 mm permits the accurate measurement of linear displacement.

LTC Series Potentiometric Linear Transducers are mainly used in ;

- Press Brake Machines
- Marble Machines
- Tension Control
- Horizontal Band Saw Machines
- Transfer Machines
- Hydraulic Machines
- Sheet Metal Working Machines
- Bending Presses
- Textile Machines



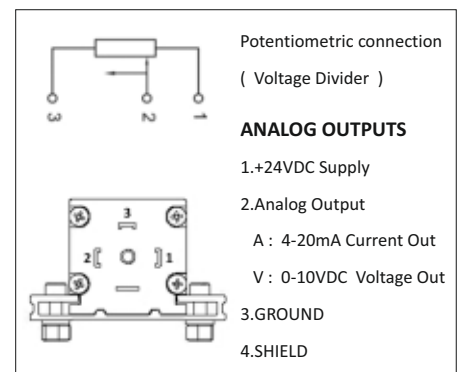
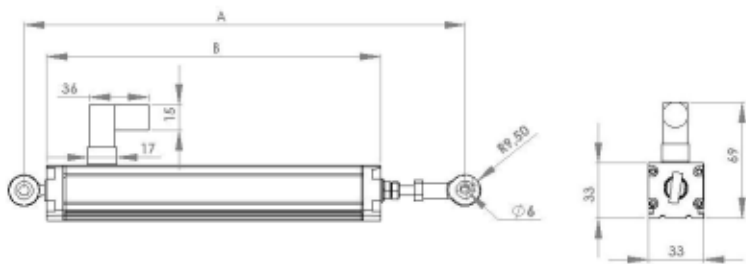
SPECIAL FEATURES

- Twin bearing actuating rod
- Square body (rod diameter 6mm)
- Mountable over backlash free pivots heads with a large angle of free movement
- Maximum angular movement up to $\pm 30^\circ$
- Potentiometric measuring stroke up to 500 mm
- Absolute measurement of displacement
- Resolution 0,01mm
- Very long life up to 100 million movements
- High operating speed 5 m/s
- The grooves provide an excellent alternative to the usual system
- Excellent linearity $\%0,3$

Technical Specifications

| | |
|---------------------------|--|
| Defined Electrical Ranges | 50 - 75 - 100 - 125 - 150 - 200 - 175 - 200 - 225 250 - 275 - 300 - 360 - 400 - 450 - 500 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | $\pm \%0,3$ |
| Electrical Connection | 4 pin female socket |
| Power Supply | Max. 42VDC Analog Series : 24VDC |
| Resistance | 5K or 10Kohm and other ($\pm \%20$ tolerance) |
| Protection Class | IP65 |
| Temperature Range | -30°C $+100^\circ\text{C}$ |
| Life | 100 million movements |
| Mechanical Fixing | With 2 ball-joints and fixing clamps |
| Rod material | Stainless Steel |
| Body and Rod Type | Square Body , 6mm rod diameter |

LTC



Order Code

Model No

LTP

XXX

Resistance Value

5K : 5K Ω
10K: 10K Ω

XX

X

Electrical Connection

2M: 2 meters PVC cable
(*Optionally different lengths)
No code: DIN 43650-C socket

XX

Defined Stroke Range

Several standard lengths from 50 mm to 1000 mm
* other lengths on request

Output Signal

No Code: Potentiometric
V : 0-10VDC Analog Voltage Out
A : 4-20mA Analog Current Out

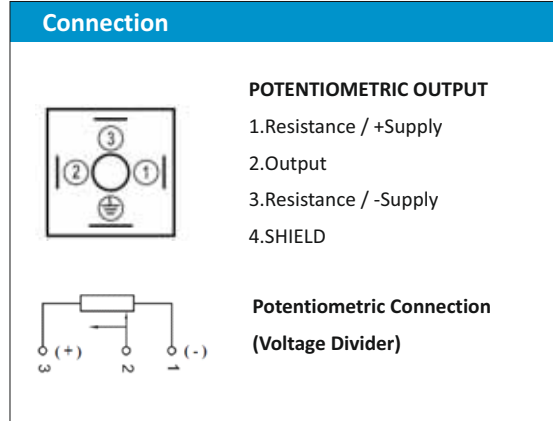
SPECIAL FEATURES

- Short distance measuring scale
- Potentiometric measuring up to 300 mm
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output options
- Absolute measurement of displacement
- Resolution 0,01mm
- Very long life up to 100 million movements
- High operating speed 5 m/s
- Excellent Linearity between $\pm \%0,1$ and $\pm \%1$

LT is a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control measurement applications.



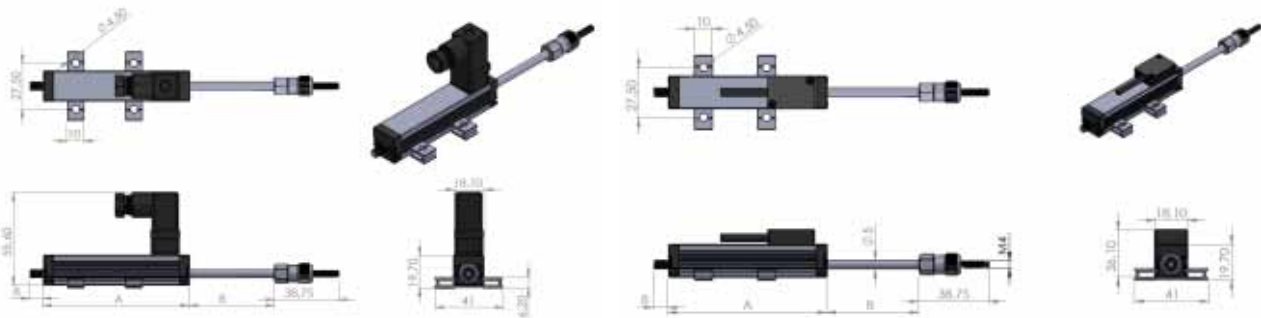
| Technical Specifications | |
|---------------------------|---|
| Defined Electrical Ranges | 10 - 25 - 50 - 75 - 100 - 125 - 150 - 200 - 250 - 300 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | $\pm \%1 \dots \pm \%0,1$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-C socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other ($\pm \%20$ tolerance) |
| Protection Class | IP 40 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |



Mechanical Dimensions

Model with socket

Model with cable



| | Strok (mm) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 |
|--|------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Potansiyometrik çıkışlı (kablolu veya soketli) | A | 48 | 63 | 88 | 113 | 138 | 163 | 188 | 233 | 288 | 333 |
| | B | 11 | 26 | 51 | 76 | 101 | 126 | 151 | 201 | 251 | 301 |
| 0-10V veya 4-20 mA çıkışlı (kablolu) | A | 48 | 63 | 88 | 113 | 138 | 163 | 188 | 233 | 288 | 333 |
| | B | 11 | 26 | 51 | 76 | 101 | 126 | 151 | 201 | 251 | 301 |
| 0-10V veya 4-20 mA çıkışlı (soketli) | A | 82 | 97 | 122 | 147 | 172 | 197 | 222 | 289 | 354 | 417 |
| | B | 11 | 26 | 51 | 76 | 101 | 126 | 151 | 201 | 251 | 301 |

Order Code

| | | |
|--|--|--|
| Model No | Resistance Value | Electrical Connection |
| LT | 5K : 5K Ω 10K: 10K Ω | 2M: 2 meters PVC cable (*Optionally different lengths) No code: DIN 43650-C socket |
| XXX | XX | X |
| Defined Stroke Range | Output Signal | |
| Several standard lengths from 50 mm to 1000 mm * other lengths on request | No Code: Potentiometric V : 0-10VDC Analog Voltage Out A : 4-20mA Analog Current Out | XX |

POTENTIOMETRIC MEASURING SPRING SYSTEM, SHORT STROKES



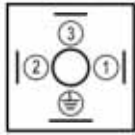
SPECIAL FEATURES

- Push-back spring system
- Potentiometric measuring up to 300 mm
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output options
- Absolute measurement of displacement
- Resolution 0,01mm
- Very long life up to 100 million movements
- High operating speed 5 m/s
- Excellent linearity between $\pm 0,1$ and $\pm 1\%$

LTR Series are the industry proven system on both actuator shaft and spring.

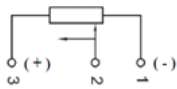
LTR is a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control measurement applications.

Connection



POTENTIOMETRIC OUTPUT

1. Resistance / +Supply
2. Output
3. Resistance / -Supply
4. SHIELD



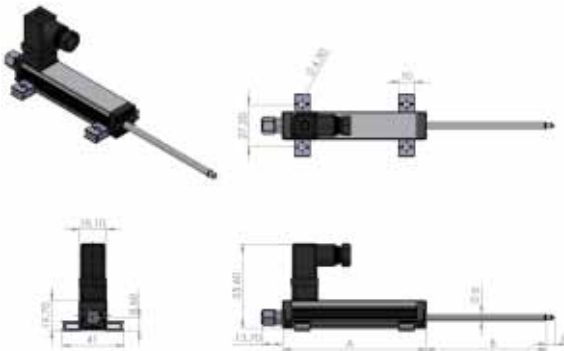
Potentiometric Connection
(Voltage Divider)

Technical Specifications

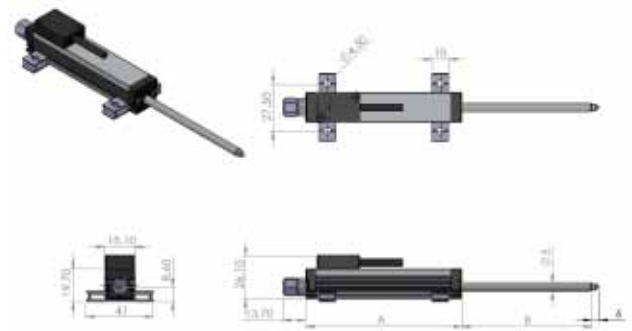
| | |
|----------------------------------|---|
| Defined Electrical Ranges | 10 - 25 - 50 - 75 - 100 - 125 - 150 - 200 - 250 - 300 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | $\pm 1\% \dots \pm 0,1$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-C socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other ($\pm 20\%$ tolerance) |
| Protection Class | IP 40 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |

Mechanical Dimensions

Model with socket



Model with cable



| | Stroke (mm) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 |
|--|-------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Potentiometric Output (with cable or socket) | A | 48 | 64 | 95 | 128 | 167 | 193 | 226 | 289 | 354 | 417 |
| | B | 37 | 54 | 80 | 102 | 120 | 152 | 176 | 227 | 277 | 328 |
| 0-10 V or 4-20 mA Output (with cable) | A | 48 | 64 | 95 | 128 | 167 | 193 | 226 | 289 | 354 | 417 |
| | B | 37 | 54 | 80 | 102 | 120 | 152 | 176 | 227 | 277 | 328 |
| 0-10 V or 4-20 mA Output (with socket) | A | 82 | 97 | 122 | 147 | 172 | 197 | 222 | 289 | 354 | 417 |
| | B | 50 | 65 | 90 | 115 | 140 | 165 | 190 | 257 | 322 | 385 |

Order Code

Model No

LTR

Resistance Value

5K : 5K Ω
10K: 10K Ω

XX

Electrical Connection

2M: 2 meters PUR cable
(*Optionally different lengths)
No code: DIN 43650-C socket

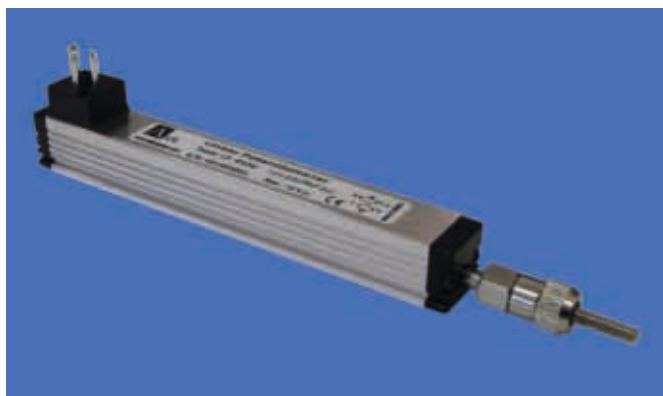
XX

Defined Stroke Range

Several standard lengths from 10 mm to 300 mm
* other lengths on request

Output Signal

No Code: Potentiometric
V : 0-10VDC Analog Voltage Out
A : 4-20mA Analog Current Out



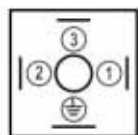
SPECIAL FEATURES

- Single side Actuating Rod
- Potentiometric measuring up to 300 mm
- Ball Coupling against lateral forces
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output
- Absolute measurement of displacement
- High Resolution
- Long life with 100 million moves
- High operating speed 5 m/s
- Excellent linearity between $\pm 0,1$ and ± 1

LF Series are the industry proven system with single side actuating rod in its very compact size.

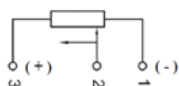
LF is a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control measurement applications.

Connection



POTENTIOMETRIC OUTPUT

1. Resistance / +Supply
2. Output
3. Resistance / -Supply
4. SHIELD



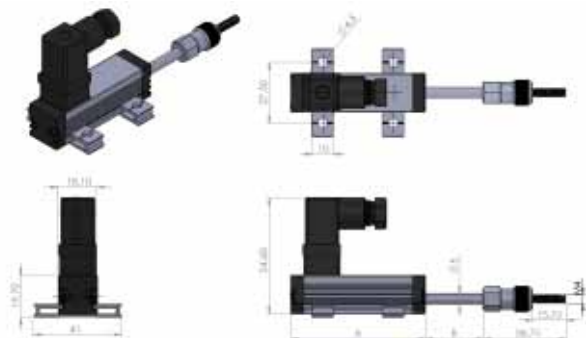
Potentiometric Connection
(Voltage Divider)

Technical Specifications

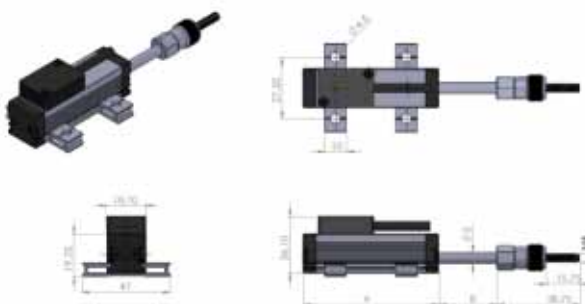
| | |
|----------------------------------|---|
| Defined Electrical Ranges | 10 - 25 - 50 - 75 - 100 - 125 - 150 - 200 - 250 - 300 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | ± 1 ... $\pm 0,1$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-C socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other (± 20 tolerance) |
| Protection Class | IP 40 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |

Mechanical Dimensions

Model with socket



Model with cable



| | Stroke (mm) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 |
|--|-------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Potentiometric Output (with cable or socket) | A | 48 | 63 | 88 | 113 | 138 | 163 | 188 | 238 | 288 | 338 |
| | B | 12 | 27 | 52 | 77 | 102 | 127 | 152 | 202 | 252 | 302 |
| 0-10 V or 4-20 mA Output (with cable) | A | 48 | 63 | 88 | 113 | 138 | 163 | 188 | 238 | 288 | 338 |
| | B | 12 | 27 | 52 | 77 | 102 | 127 | 152 | 202 | 252 | 302 |
| 0-10 V or 4-20 mA Output (with socket) | A | 82 | 97 | 122 | 147 | 172 | 197 | 222 | 272 | 322 | 372 |
| | B | 12 | 27 | 52 | 77 | 102 | 127 | 152 | 202 | 252 | 302 |

Order Code

Model No

LF

XXX

Resistance Value

5K : 5K Ω
10K: 10K Ω

XX

X

Electrical Connection

2M: 2 meters PUR cable
(*Optionally different lengths)
No code: DIN 43650-C socket

XX

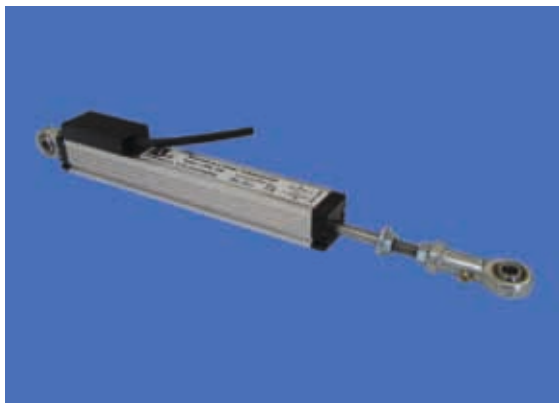
Defined Stroke Range

Several standard lengths from 10 mm to 300 mm
* other lengths on request

Output Signal

No Code: Potentiometric
V : 0-10VDC Analog Voltage Out
A : 4-20mA Analog Current Out

POTENTIOMETRIC MEASURING DOUBLE SIDE ARTICULATED or SPRING SYSTEM

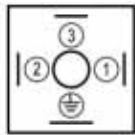


SPECIAL FEATURES

- Double side articulated system
- Potentiometric measuring up to 300 mm
- Ball Coupling against lateral forces
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output
- Absolute measurement of displacement
- High Resolution
- Long life with 100 million moves
- High operating speed 5 m/s
- Excellent linearity between $\pm 0,1$ and ± 1

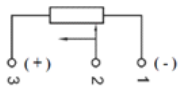
LFM and LFR series are a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control measurement applications.

Connection



POTENTIOMETRIC OUTPUT

1. Resistance / +Supply
2. Output
3. Resistance / -Supply
4. SHIELD



Potentiometric Connection
(Voltage Divider)

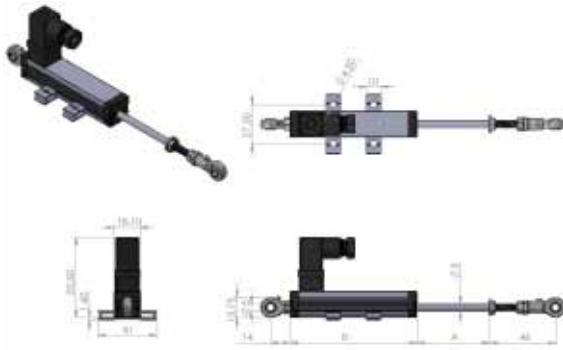
Technical Specifications

| | |
|----------------------------------|---|
| Defined Electrical Ranges | 10 - 25 - 50 - 75 - 100 - 125 - 150 - 200 - 250 - 300 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | ± 1 ... $\pm 0,1$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-C socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other (± 20 % tolerance) |
| Protection Class | IP 40 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |

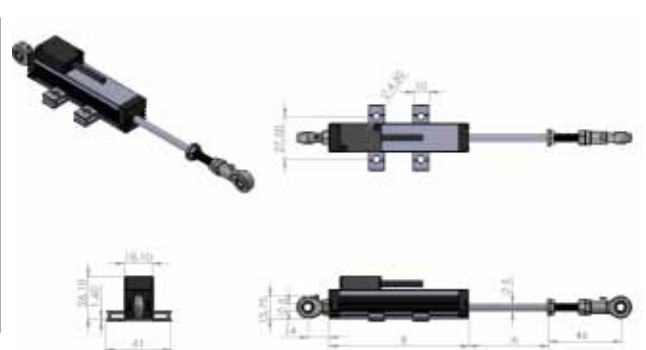
LFM

Mechanical Dimensions

Model with socket



Model with cable



| | Stroke (mm) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 |
|--|-------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Potentiometric Output (with cable or socket) | A | 12 | 27 | 52 | 77 | 102 | 127 | 152 | 202 | 252 | 302 |
| | B | 48 | 63 | 88 | 113 | 138 | 163 | 188 | 238 | 288 | 338 |
| 0-10 V or 4-20 mA Output (with cable) | A | 12 | 27 | 52 | 77 | 102 | 127 | 152 | 202 | 252 | 302 |
| | B | 48 | 63 | 88 | 113 | 138 | 163 | 188 | 238 | 288 | 338 |
| 0-10 V or 4-20 mA Output (with socket) | A | 12 | 27 | 52 | 77 | 102 | 127 | 152 | 202 | 252 | 302 |
| | B | 82 | 97 | 122 | 147 | 172 | 197 | 222 | 272 | 322 | 372 |

Order Code

Model No

LFM

XXX

Resistance Value

5K : 5K Ω
10K: 10K Ω

XX

Electrical Connection

2M: 2 meters PUR cable
(*Optionally different lengths)
No code: DIN 43650-C socket

X

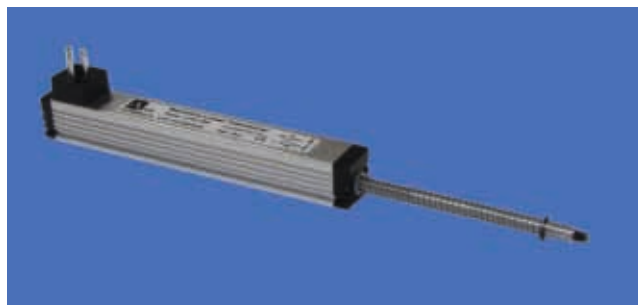
XX

Defined Stroke Range

Several standard lengths from 10 mm to 300 mm
* other lengths on request

Output Signal

No Code: Potentiometric
V : 0-10VDC Analog Voltage Out
A : 4-20mA Analog Current Out



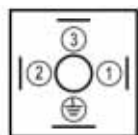
SPECIAL FEATURES

- Single side Actuating Rod
- Potentiometric measuring up to 300 mm
- Ball Coupling against lateral forces
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output
- Absolute measurement of displacement
- High Resolution
- Long life with 100 million moves
- High operating speed 5 m/s
- Excellent linearity between $\pm 0,1$ and ± 1

LFR series is the industry proven system on both actuator shaft and spring.

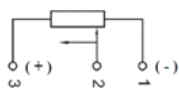
LF is a high precision potentiometric industrial linear motion transducer with a long lasting conductive track suitable for absolute position measuring in control measurement applications.

Connection



POTENTIOMETRIC OUTPUT

1. Resistance / +Supply
2. Output
3. Resistance / -Supply
4. SHIELD



Potentiometric Connection (Voltage Divider)

Technical Specifications

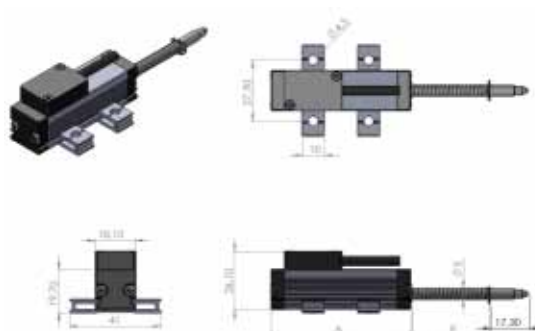
| | |
|----------------------------------|---|
| Defined Electrical Ranges | 10 - 25 - 50 - 75 - 100 - 125 - 150 - 200 - 250 - 300 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | ± 1 ... $\pm 0,1$ |
| Electrical Connection | 3 x 0,14 mm ² PVC cable or DIN43650-C socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other (± 20 tolerance) |
| Protection Class | IP 40 |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |

Mechanical Dimensions

Model with socket



Model with cable



| | Stroke (mm) | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 200 | 250 | 300 |
|--|-------------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| Potentiometric Output (with cable or socket) | A | 48 | 64 | 95 | 128 | 167 | 193 | 226 | 289 | 354 | 417 |
| | B | 15,5 | 34,5 | 65,5 | 96,5 | 127,5 | 161,5 | 192,5 | 248,5 | 306,5 | 364,5 |
| 0-10 V or 4-20 mA Output (with cable) | A | 48 | 64 | 95 | 128 | 167 | 193 | 226 | 289 | 354 | 417 |
| | B | 15,5 | 34,5 | 65,5 | 96,5 | 127,5 | 161,5 | 192,5 | 248,5 | 306,5 | 364,5 |
| 0-10 V or 4-20 mA Output (with socket) | A | 82 | 97 | 122 | 147 | 172 | 197 | 222 | 289 | 354 | 417 |
| | B | 15,5 | 34,5 | 65,5 | 96,5 | 127,5 | 161,5 | 192,5 | 248,5 | 306,5 | 364,5 |

Order Code

Model No

LFR

XXX

Resistance Value

5K : 5K Ω
10K: 10K Ω

XX

X

Electrical Connection

2M: 2 meters PUR cable
(*Optionally different lengths)
No code: DIN 43650-C socket

XX

Defined Stroke Range

Several standard lengths from 10 mm to 300 mm
* other lengths on request

Output Signal

No Code: Potentiometric
V : 0-10VDC Analog Voltage Out
A : 4-20mA Analog Current Out

POTENTIOMETRIC MEASURING BODY CLAMP



SPECIAL FEATURES

- Rodless, sliding system
- Potentiometric measuring up to 1000 mm
- Potentiometric, 4-20 mA (optional 0-20 mA) or 0-10V analog output options
- Absolute measurement of displacement
- 0,01mm repeatability
- Very long life up to 100 million movements
- High operating speed 5 m/s
- The grooves provide an excellent alternative to the usual system
- Excellent Linearity : $\pm 0,1$
- DIN43650-A socket connection
- IP40 protection class
(if slider is mounted upside down, it becomes IP54)

The most important feature of LTK series position sensors is that they have a rodless and sliding system. They take measurement by movement of the sled along the profile. This provides the body to be shorter and allows up to 1000 mm stroke lengths.

They work as ABSOLUTE because they are measuring with the potentiometric principle, that is, they do not lose their position in case of power off.

Because of their linearized conductive plastic resistance alloy and special contacts, they are not affected by wear and operate for a long time with a life cycle of up to 100 million. They are stable by being linear and they measure evenly.

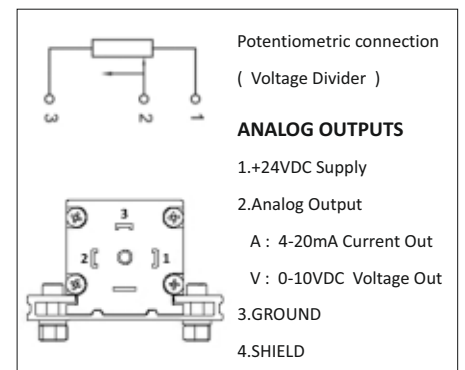
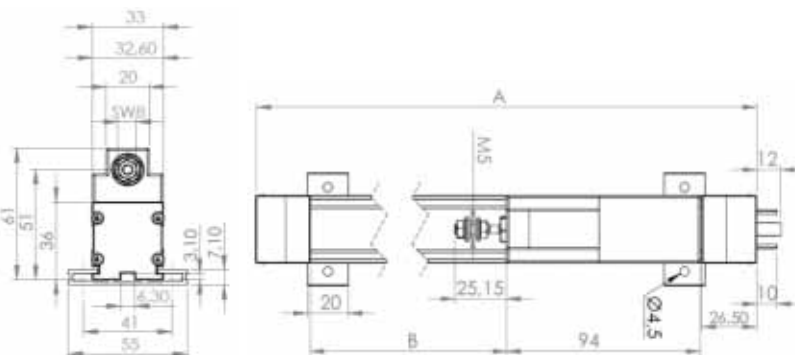
LTK Series Potentiometric Linear Transducers are mainly used in :

- Plastic & Metal Injection Machines
- Press Brake Machines
- Horizontal Band Saw Machines
- Transfer Machines
- Hydraulic Machines
- Sheet Metal Working Machines
- Bending Presses
- Textile Machines
- Robotics/materials handling
- Profile Cutting Machines

Technical Specifications

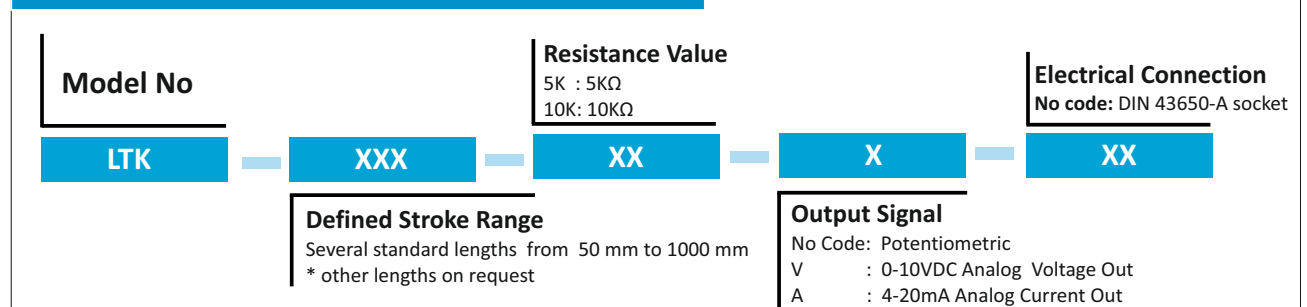
| | |
|---------------------------|--|
| Defined Electrical Ranges | 50 - 75 - 100 - 125 - 150 - 175 - 200 - 225 - 250 - 275 - 300 - 325 - 350 - 360 - 375 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 900 - 1000 |
| Resistance Element | Conductive Plastic |
| Output Signals | Potentiometric (Voltage Divider) Analog outputs: 0-10VDC or 0/4-20mA |
| Independent Linearity | $\pm 0,1$ |
| Electrical Connection | DIN43650-A socket |
| Power Supply | Max. 42VDC / Analog Series : 12...30VDC |
| Resistance | 5K Ω or 10K Ω and other ($\pm 20\%$ tolerance) |
| Protection Class | Ip40 (if slider is mounted upside down; IP54) |
| Temperature Range | -30°C ... +100°C |
| Life | 100 x 10 ⁶ movements |
| Mechanical Fixing | Adjustable distance clamps |
| Rod material | Stainless Steel |

LTK



| MODEL | 50 | 75 | 100 | 125 | 150 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 360 | 375 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 900 | 1000 |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Electrical Stroke (mm) | 50 | 75 | 100 | 125 | 150 | 200 | 225 | 250 | 275 | 300 | 325 | 350 | 360 | 375 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 900 | 1000 |
| Mechanical Stroke (B) (mm) | 54 | 79 | 104 | 129 | 154 | 204 | 229 | 254 | 279 | 304 | 329 | 354 | 364 | 379 | 404 | 454 | 504 | 554 | 604 | 654 | 704 | 754 | 804 | 904 | 1004 |
| Body Length (A) (mm) | 205 | 230 | 255 | 280 | 305 | 355 | 380 | 405 | 430 | 455 | 480 | 505 | 515 | 530 | 555 | 605 | 655 | 705 | 755 | 805 | 855 | 905 | 955 | 1055 | 1155 |

Order Code



- Stroke up to 1000 mm
- Magnetic non-contact measurement
Incremental measurement of displacement
- Push Pull or TTL line driver Output
- 5µm, 10µm, 20µm 25µm, 62.5µm, 80µm and 100µm resolution options
- Infinite mechanical life
- High operating speed 3 m/s
- Twin bearing actuating rod
- Mechanical fixing and self aligning linkage using 2 ball joints
- Free pivot heads with a large angle of free movement (± 30°)



Technical Specifications

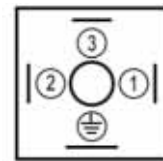
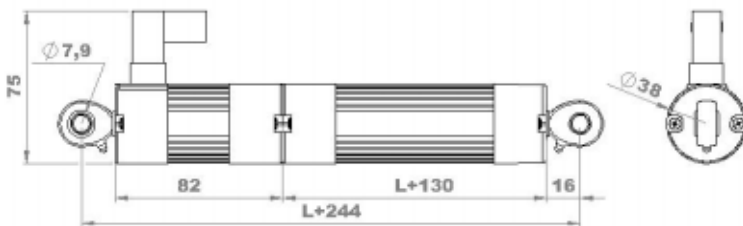
| | |
|------------------------------|---|
| Measuring Distance | Between 50 mm and 1000 mm |
| Resolution | 5µm, 10µm, 20µm 25µm, 62.5µm, 80µm and 100µm |
| Output Signals | Standard A, B Cable models A, B, Z or A, / A, B, / B, Z, / Z |
| Output Type | Push Pull (PP) or TTL RS422 Liner Driver |
| Supply voltage | TTL: 5 VDC or PP: 24 VDC |
| Operating temperature | -20°C to +85°C |
| Electrical Connection | 4 Pin Female Connector or Cable |
| Repeatability | ±1 Pulse |
| Life | Mechanical Infinite |
| Body Material | Anodized Aluminum |

LTS is a high precision Magnetic Linear Encoder LTS System that operates incremental principle. It consists of a sensing head and a magnetically encoded tape. Magnetic tapes are commonly made from a magnetic tape itself made from Strontium ferrite bonded into a plastic or rubber (elastomeric) matrix which is then bonded onto a steel support.

The magnetic tape system is mounted on the actuating rod and is coupled free of backlash; this guaranteeing the highest accuracy and the longest lifetime

LTS Series Magnetic Linear Encoders are mainly used in;

- Press Brake Machines
- Horizontal Band Saw Machines
- Transfer Machines
- Hydraulic Machines
- Sheet Metal Working Machines
- Bending Presses



1. "B" Signal
2. "A" Signal
3. Vcc Power Supply
Push Pull: 24VDC
TTL : 5VDC
4. GND

Order Code

Model

LTS

XX

Resolution

- 05: 05µm
- 10: 10µm
- 20: 20µm
- 25: 25µm
- 62,5: 62,5µm
- 80: 80µm
- 100: 100µm

XXX

Supply and Output Signal

- PP : 10...30VDC ±%20 Supply
24 VDC Push Pull Output
- TTL : 5VDC ±%5 Supply
5 VDC TTL RS422 Liner Driver Output
- HTL : 24VDC ±%20 Supply
5 VDC TTL RS422 Liner Driver Output

X

Signal Output

- 3 : A, B, Z
- 6 : A, /A, B, /B, Z, /Z

Defined Stroke Range

- Several standard lengths from 50mm to 1000mm
- *other lengths on request

XXX

MAGNETIC LINEAR ENCODER SYSTEM READER SENSORS



MLS - 110

MLS - 120

MLS - 121

MLS - 130

MLS - 210

MLS series reader sensors glide contactless over the profile/tape with a gap up to 2 mm.

MLS-110 reader sensors can be used with B series magnetic tape, PS1 profile and PS2 profile. Spiral or pure cable models are available. MLS-110 reader sensor provides maximum simple mounting with small size.

MLS-12X system reader sensors can be used with B series magnetic tape, PS1 profile and PS2 profile. They have model with socket (MLS-120) or cable (MLS-121) and have extra protection for the bad environmental conditions by slider.

MLS-130 can be mounted even in the most cramped spaces with very small size. MLS-130 can be used with all profile and magnetic band systems.

MLS-210 reader sensors can be used with all magnetic tape and profile systems but we suggest you with PS1 profile and PS3 profile for the best harmony. MLS-210 reader sensor both slide/slideless models and spiral/pure cable models are available.

SPECIAL FEATURES

- Wide range of available resolution up to 1 μm
- Protection class IP 67
- Dust, oil and humidity resistant
- Easy mounting
- Incremental outputs A, /A, B, /B and Z Reference signal
- Output signal Push-pull, TTL or RS422 line driver
- 5VDC or 10...30VDC Power Supply
- Robust shielded aluminum

Technical Specifications (MLS-110, MLS-12X, MLS-130)

| | |
|------------------------------|--|
| Resolution | 1 μm , 5 μm , 10 μm , 25 μm , 50 μm , 62.5 μm , 80 μm , 100 μm (other models on request) |
| Output Signal Type | Push-Pull or TTL RS422 Line Driver |
| Output Signals | A, /A, B, /B, Z, /Z |
| Current | Maximum 40 mA per Channel |
| Power Supply | 10...30 VDC or 5 VDC |
| Housing Material | Aluminum |
| Gap Between | For MLS-110 and MLS-120: 0,1 mm to 2 mm |
| Tape and Sensor | For MLS-130: 0,5 mm to 2 mm |
| Travel Velocity | 3 m/s |
| Repeatability | ± 1 Pulse |
| Operating Temperature | -25 to +85° |
| Protection Class | IP67 |

Technical Specifications (MLS-210)

| | |
|------------------------------|---|
| Resolution | 5 μm , 10 μm , 25 μm , 50 μm , 62.5 μm , 100 μm (other models on request) |
| Output Signal Type | Push-Pull or TTL RS422 Line Driver |
| Output Signals | A, /A, B, /B, Z, /Z |
| Current | Maximum 40 mA per Channel |
| Power Supply | 10...30 VDC or 5 VDC |
| Housing Material | Aluminum |
| Gap Between | 0,1 mm to 2 mm |
| Tape and Sensor | |
| Travel Velocity | 3 m/s |
| Repeatability | ± 1 Pulse |
| Operating Temperature | -25 to +85° |
| Protection Class | IP67 |

Order Code

Model

MLS110
MLS120
MLS121
MLS130
MLS210

Resolution

01 : 1 μm | 05 : 5 μm
10 : 10 μm | 25 : 25 μm
62 : 62,5 μm | 80 : 80 μm
100: 100 μm

Signal Output Type

2 : A, B
3 : A, B, Z
4 : A, /A, B, /B
6 : A, /A, B, /B, Z, /Z
Standard: Every 5mm, Z signal
Optional: One Reference Z Signal

Cable Type

C : Pure Cable
S : Shielded Spiral
CSL : Cable and Slider
SSL : Spiral and Slider

MLS XXX

XX

XX

XXX

XX

XXX

X

Magnetic Tape

B5
B2

Power Supply and Output

TTL : 5VDC Supply Voltage,
5 VDC TTL RS422 Line Driver Signal Output
PPL : 10...30 VDC Supply Voltage,
10...30 VDC Push-Pull Signal Output
HTL : 10...30 VDC Supply Voltage,
5 VDC TTL RS422 Line Driver Signal Output
HPL : 5...30 VDC Supply Voltage,
5...30 VDC Push-Pull Signal Output

Cable Length

3M : 3 Meters
5M : 5 Meters
8M : 8 Meters
10M : 10 Meters
* Optional between 5 to 100 Meters



MLS



B Series Magnetic Tape



PS 110 Profile



PS 310 Profile



PS 210 Profile



PS 220 Profile



PS 230 Profile

SPECIAL FEATURES

- Easy mounting
- High accuracy
- Resistant to humidity
- Protection class Ip67
- Contactless and wear free system

B series magnetic tape is supplied with non-magnetic stainless steel cover for physical protection; for its fixing an adhesive tape is pre-mounted. B series magnetic tape is composed by three layers; a flexible magnetic tape made of a plastic material, upside cover strip and downside cover strip. In the profile systems, magnetic tape integrated in the profiles. PS1 systems most important specialty of the system is easy assembly. It can be used with MLS-110, MLS-120 and MLS-210 reader sensors.

PS 200 Series "Slim" profile is highly rugged, flexible plastic magnetic tape can be applied to a machine tool easily. It can be used for all reader sensors.

PS3 "Closed" profile, with the sealing system the extra protection provided against to dust, chip etc. It can be used with only MLS 210 reader sensors.

B Series Magnetic Tapes Technical Specifications

| | |
|--------------------------------|---|
| Operating Temperature | -40 to +120° |
| Pole Pitch | 5 mm, 2 mm |
| Accuracy Class | ±40 µm/m or ±20 µm/m |
| Temperature Coefficient | 11 ± 11 µm/K |
| Water Protection | CrNi 17 7 stainless steel carrier nitrile rubber high temperature magnetic tape |

PS Series Profiles Technical Specifications

| | |
|------------------------------------|-------------------------|
| Life | Infinite (Contactless) |
| Body Material | Aluminum |
| Gap Between Tape and Sensor | 1,5 mm (Maximum 2,5 mm) |
| Magnetic Tape Type | B5 (Optional B2) |
| Operating Temperature Range | -25 to +85° |
| Protection Class | Ip67 |

Example Combinations



**B5 Magnetic Tape +
MLS 110 Sensor**



**B2 Magnetic Tape +
MLS 120 Sensor**



**B2 Magnetic Tape +
MLS 130 Sensor**



**PS 110 Carrier Profile +
MLS 210 Sensor**



**PS 220 Carrier Profile +
MLS 110 Sensor**



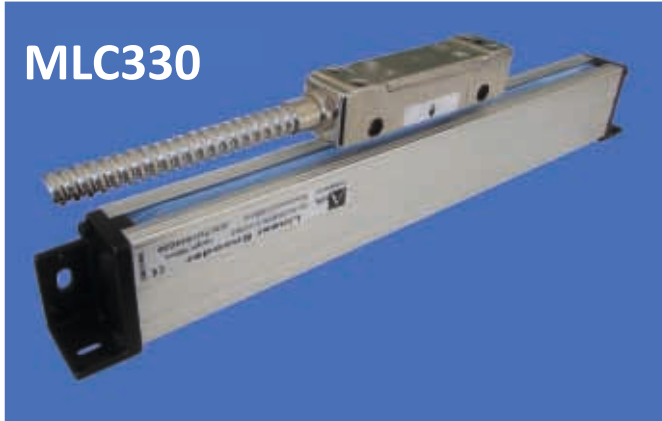
**Ps220 Carrier Profile +
MLS 120 Sensor**



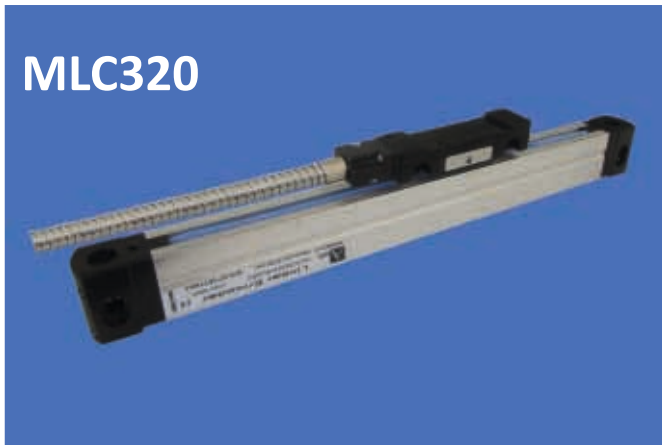
**PS 220 Carrier Profile +
MLS 130 Sensor**



**PS 310 Carrier Profile +
MLS 210 Sensor**



MLC330



MLC320



MLC310

MLC 300 SERIES GENERAL PROPERTIES

- High accuracy measurement with contactless magnetic system
- Measuring up to 20 meters in harsh conditions
- Resolution options up to 1 µm
- Robust aluminum housing with excellent immunity against shock and vibrations
- Sealed protection against harsh environments with dust, humid and oil
- Stable precision at high speeds
- Maintenance-free due to non contact measuring technology
- High reliability and repeability
- Easy mounting
- IP 67 protection class

MLC330

- Excellent quality sealed protection and thin profile design
- MLC330, built with the newest and highest technology, has completed all of durability tests against harsh environment conditions like dust, humid, oil etc.

MLC320

- Compact system embedded in extra thin profile design
- Recommended only up to 2 meters
- Motion-free reader sensor allows MLC320 to be ultimately durable against vibrations and axial shifts

MLC310

- Double sealed protection
- Recommended for long ranges
- Mounting holes for hassle-free mounting

Order Code

Magnetic Tape
B5 (MLC 310 / MLC 330)
B2 (Only MLC 320)

Power Supply and Output

TTL : 5VDC Besleme Gerilimi,
5 VDC TTL RS422 Line Driver Sinyal Çıkışı
PPL : 10...30 VDC Besleme Gerilimi,
10...30 VDC Push-Pull Sinyal Çıkışı
HTL : 10...30 VDC Besleme Gerilimi,
5 VDC TTL RS422 Line Driver Sinyal Çıkışı
HPL : 5...30 VDC Besleme Gerilimi,
5...30 VDC Push-Pull Sinyal Çıkışı

Cable Length

3M : 3 Meters
5M : 5 Meters
8M : 8 Meters
10M: 10 Meters
* Optional between 3 m to 50 m

Measuring Stroke

Optional
(50 to 20.000 mm)



Model

MLC 310
MLC 320
MLC 330

Resolution

01 : 1µm | 05 : 5µm
10 : 10µm | 25 : 25µm
62 : 62,5µm | 80 : 80µm
100 : 100µm

Signal Output Type

2 : A, B
3 : A, B, Z
4 : A, /A, B, /B
6 : A, /A, B, /B, Z, /Z

Sensor Type

C : Cable
S : Spiral

MLC 420 SPECIAL FEATURES

- Integrated wear-free roller guide with steel ball bearings on steel rod
- Portable reference point
- Contactless system
- High resolution up to 5µm
- Smooth slide
- High resistance to vibrations
- IP 65 protection class
- Excellent stability quadrature output
- Large mounting tolerances
- High accuracy

Especially it is recommended for applications with a measuring length of up to 2000 mm in high speed and high vibration environments and small places.

MLC 420 is usable right or left with its portable reference point. It has large mounting tolerances with its ergonomic design.



MLC 420 Technical Specifications

| | |
|-----------------------|------------------------------------|
| Resolution | 5µm, 10µm, 25µm, 50µm (or other) |
| Output Type | Push-Pull or TTL RS422 Line Driver |
| Output Signals | A, /A, B, /B, Z, /Z |
| Input Current | Nominal 40 mA |
| Output Current | 40 mA (Per Channel) |
| Power Supply | 10..30 VDC or 5 VDC |
| Housing Material | Aluminum |
| Magnetic Tape | B2 |
| Travel Velocity | 3 m/s |
| Repeatability | ± 1 Pulse |
| Operating Temperature | -25 to +85°C |
| Protection Class | IP 65 |

MLC 410 SPECIAL FEATURES

- Self adjustment of the clearance between the guide and the carriage
- Double gasket protection
- Contactless system
- High resolution up to 5µm
- Single reference marker
- High resistance to vibrations
- IP 67 protection class
- Excellent stability quadrature output
- Stainless steel cover protect
- High accuracy

The special design of the mounting points minimizes accuracy errors due to temperature changes. On the other hand, the MLC 410 series includes a special support that further improves its behavior against the vibrations caused by the machine.

The reader sensor has a connector. The linear encoder is supplied as a pre assembled unit. The linear encoder and reader sensor are connected to the aluminum support and it can be connected directly to the machine.



MLC 410 Technical Specifications

| | |
|-----------------------|---|
| Resolution | 5µm, 10µm, 25µm, 62.5µm, 100µm (or other) |
| Output Type | Push-Pull or TTL RS422 Line Driver |
| Output Signals | A, /A, B, /B, Z, /Z |
| Input Current | Nominal 40 mA |
| Output Current | 40 mA (Per Channel) |
| Power Supply | 10..30 VDC or 5 VDC |
| Electrical Connection | Cable max. 50m |
| Housing Material | Aluminum |
| Magnetic Tape | B5 |
| Travel Velocity | 3 m/s |
| Repeatability | ± 1 Pulse |
| Operating Temperature | -25 to +85°C |
| Protection Class | IP 67 |

MLC
400

Order Code

Magnetic Tape

B5 (Only MLC410)
B2 (Only MLC420)

Power Supply and Output

TTL : 5VDC Supply Voltage,
5 VDC TTL RS422 Line Driver Signal Output
PPL : 10...30 VDC Supply Voltage,
10...30 VDC Push-Pull Signal Output
HTL : 10...30 VDC Supply Voltage,
5 VDC TTL RS422 Line Driver Signal Output
HPL : 5...30 VDC Supply Voltage,
5...30 VDC Push-Pull Signal Output

Cable Length

3M : 3 Meters
5M : 5 Meters
8M : 8 Meters
10M : 10 Meters
* Optional Between 5m to 50m

Measuring Stroke

Optional, User Defined
(Several Standard Lengths from 50mm to 2000 mm)

MLC XXX

XX

XX

XXX

X

XX

X

XXXmm

X

Model

MLC410
MLC420

Resolution

05 : 5µm | 10 : 10µm
25 : 25µm | 50 : 50µm
62 : 62,5µm | 100 : 100µm

Signal Output Type

2 : A, B
3 : A, B, Z
4 : A, /A, B, /B
6 : A, /A, B, /B, Z, /Z
*Optional One Z Reference Signal

Sensor Type

C : Cable
S : Spiral

Left/ Right

L : Left
R : Right

INCREMENTAL ROTARY ENCODERS SHAFTED ENCODERS



- Magnetic or Optical System
- Incremental Measuring
- 50 or 58 mm Body Diameter
- Resolution up to 20,000 pulse for ARC (Optical), up to 1024 pulse for ARS (Magnetic)
- 6 mm, 8 mm, 10 mm 12 mm or 10 mm shaft diameter
- Connector or Cable Output
- Custom Design Available
- Economical Encoder

Suitable application uses include; Industrial machines, elevators, robots, plotters, cutting machines, injection molding machines, rotary x-y table, NC machine and other position or angle measurement.

It's what you need from your encoder and it's what you get with ATEK SENSOR, the recognized leader in motion feedback control, ATEK SENSOR delivers the most comprehensive encoder selection that's designed with you in mind. Whether you have a heavy, industrial or light-duty application on your hands, the family of trusted ATEK SENSOR brands can meet our specifications.

Suitable application uses include; Industrial machines, elevators, robots, plotters, cutting machines, injection molding machines, rotary x-y table, NC machine and other position or angle measurement.



ARC
ARS

* Standard Resolutions

| | |
|----------|--|
| Optical | 60 - 100 - 360 - 500 - 1024 - 1250 - 2000 - 2048 - 2500 - 3600 - 4096 - 5000 - 8192 - 10000 - 16384 - 20000 (Optional) |
| Magnetic | The desired pulse value can be selected between 1 and 1024 pulses. |

Order Code

| | | | | | | | | | |
|---|--|--|--|---|---|----|---|---|---|
| Model ARC : Optical ARS : Magnetic | Body Size 50 : 50 mm 58 : 58 mm | Power Supply and Output PP : 10...30 VDC Supply : 10...30VDC Output TTL : 5 VDC Supply : 5 VDC TTL Output HTL : 10...30 VDC Supply : 5 VDC TTL Output HPL : 5...24 VDC Supply : 5...24 VDC Push-Pull Output OCL : NPN Open Collector OCP : PNP Open Collector | Cable Length 3M : 3M (Standard) 5M : 5M 8M : 8M 10M : 10M S16 : M16 8 Pin Socket Connector (Only Backside) S23 : M23 12 Pin Socket Connector (Only Sidewise and 58 mm body encoder) | Shaft Diameter 6 : 6 mm 8 : 8 mm 10 : 10 mm 12 : 12 mm* 14 : 14 mm* *available for only 58 mm body encoder | | | | | |
| XXX | S | XX | XXX | XXX | X | XX | X | X | X |
| Shaft Type S : Shafted | Resolution See Resolutions* | Output Signals 3 : A, B, Z 6 : A, /A, B, /B, Z, /Z | Cable Direction A : Backside Y : Sidewise AS : Backside + Spiral | Flange Type C : Clamping S : Synchro * T : Tacho * * S and T flanges are available for only 58 mm body encoder | | | | | |

- Magnetic or optical system
- Incremental measuring
- 50 or 58 mm body diameter
- Resolution up to 20,000 pulse for ARC (Optical), up to 1024 pulse for ARS (Magnetic)
- Different hollow diameters between 6 mm and 20 mm
- Connector or cable output
- Custom design available
- Economical encoder



FZ – "Z" Type Flange

FC – Circular Flange

Atek semi hollow shaft encoders' hole diameter can be between 6 mm to 20 mm.

User can connect the encoder by cable or connector socket. There are two options for socket connector. S16 socket connector is M16 and 8 pin. S16 socket connector can be at the backside of the encoder. S23 socket connector is M23 and 12 pin. S23 socket connector can be at the sidewise of the encoder.

Atek semi hollow shaft encoders are high-resolution encoder. Resolution can be chosen between 1 pulse to 20.000 pulses

There are two body diameter option: 50 mm and 58 mm. S16 socket can be used for all body diameters but S23 socket can be used for only 58 mm body.



S16 (M16, 8 Pin) Socket
Connector

S23 (M23, 12 Pin) Socket
Connector

Backside Poliamid
Spiral

ARS
ARC

* Standard Resolutions

Optical

60 - 100 - 360 - 500 - 1024 - 1250 - 2000 - 2048 - 2500 - 3600 - 4096 - 5000 - 8192 - 10000 - 16384 - 20000 (Optional)

Magnetic

The desired pulse value can be selected between 1 and 1024 pulses.

Order Code

Model

ARC : Optical
ARS : Magnetic

Body Size

50 : 50 mm
58 : 58 mm

Power Supply and Output

PP : 10...30 VDC Supply
: 10...30VDC Output
TTL : 5 VDC Supply
: 5 VDC TTL Output
HTL : 10...30 VDC Supply
: 5 VDC TTL Output
HPL : 5...24 VDC Supply
: 5...24 VDC Push-Pull Output
OCL : NPN Open Collector
OCP : PNP Open Collector

Cable Length

3M : 3M (Standard)
5M : 5M
8M : 8M
10M : 10M
S16 : M16 8 Pin Socket Connector
(Only Backside)
S23 : M23 12 Pin Socket Connector
(Only Sidewise and
58 mm body encoder)

Hole Diameter

6 : 6 mm
8 : 8 mm
10 : 10 mm
12 : 12 mm*
14 : 14 mm*
16 : 16 mm*
18 : 18 mm*
20 : 20 mm*
*Available for only 58 mm body encoder

XXX

B

XX

XXX

XXX

X

XX

X

X

X

Shaft Type

B : Semi Hollow
Shafted (Blind)

Resolution

See Resolutions*

Output Signals

3 : A, B, Z
6 : A, /A, B, /B, Z, /Z

Cable Direction

A : Backside
Y : Sidewise
AS : Backside + Spiral

Flange Type

FZ : "Z" Type Flange
FC : Circular Flange
*FC flange is not used
for products with hollow
diameter of 15 mm or
more

INCREMENTAL ROTARY ENCODERS HOLLOW SHAFT ENCODERS



- Magnetic or optical system
- Incremental measuring
- 50 mm, 58 mm or 100 mm body diameter
- Resolution up to 20.000 Pulse
- Hole diameter between 6 mm to 42 mm
- Cable output
- Custom design available
- Economical encoder

Atek hollow shaft encoders' hole diameter can be between 6 mm to 42 mm. Standard hole diameters for 50 mm body: 6 mm, 8 mm, 10 mm and 58 mm body: 10 mm, 12 mm, 14 mm. Standard hole diameters for 100 mm body: 30 mm, 32 mm, 38 mm, 40 mm, 42 mm.

Atek hollow shaft encoders are high-resolution encoder. Resolution can be chosen between 60 pulse to 20.000 pulses.

There are three body diameter option: 50 mm, 58 mm and 100 mm. Backside flange can be used for only 50 mm body. Circular flange can be used for 50 mm or 58 mm body encoder. "Z" type flange can be used for all encoder models. Or all flanges can be used for all

Standard cable lengths are 3 meters, 5 meters, 8 meters and 10 meters. Optionally up to 35 meters.



B – Backside Flange



FC – Circular Flange



FZ - "Z" Type Flange



ARC
ARS

* Standard Resolutions

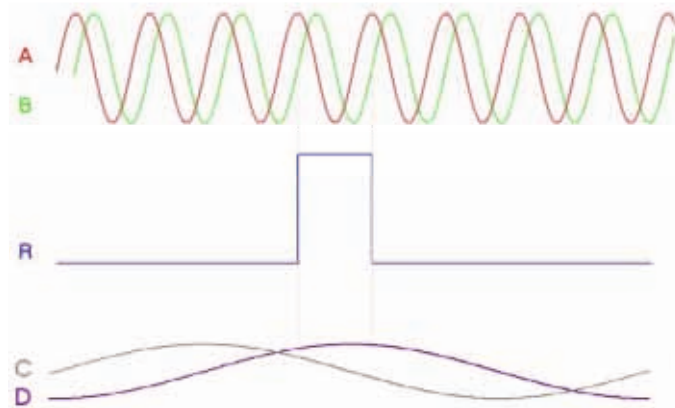
| | |
|----------|--|
| Optical | 1024 (or on request) |
| Magnetic | 200 - 400 - 625 - 800 - 1000 - 1250 - 1600 - 2000 - 2500 - 3200 - 4000 - 5000 6250 - 6400 - 8000 - 10.000 (or on request) |

Order Code

| | | | | | | | | |
|---|--|---|---|--|----|---|----|----|
| Model ARC : Optical ARS : Magnetic | Body Size 50 : 50 mm (Only Optical) 58 : 58 mm 100 : 100 mm (Only Optical) | Power Supply and Output PP : 10...30 VDC Supply : 10...30VDC Output TTL : 5 VDC Supply : 5 VDC TTL Output HTL : 10...30 VDC Supply : 5 VDC TTL Output HPL : 5...24 VDC Supply : 5...24 VDC Push-Pull Output OCL : Open Collector (Only Optical) | Cable Length 3M : 3M (Standard) 5M : 5M 8M : 8M 10M : 10M* * Optional other | Flange Type FZ : "Z" Type Flange FC : Circular Flange (Only 50 & 58 mm Body) B : Backside Flange (Only 50 mm Body) | | | | |
| XXX | H | XX | XXX | XXX | XX | X | XM | XX |
| Shaft Type H : Hollow Shaft | | Resolution See Resolutions | | Output Signals 3 : A, B, Z 6 : A, /A, B, /B, Z, /Z | | Hole Diameter 50 & 58 mm Body 100 mm Body 6 : 6 mm 3 0 : 3 0 m m 8 : 8 mm 3 2 : 3 2 m m 10 : 10 mm 3 8 : 3 8 m m 4 0 : 4 0 m m 4 2 : 4 2 m m | | |



ARF S 58 series SinCos rotary encoders measure with magnetic and optical principle. They offer 2048 pulse resolution per revolution. They are particularly suitable for applications in the field of elevator and drive technology. Thanks to their high signal quality, they work stably without being affected by noise.



ARF S 58: SinCos Rotary Encoder

- Magnetic and optical measurement principle
- 59.6 mm body diameter
- 1:10 tapered shaft
- Incremental 2048 pulse resolution
- Absolute Sin/Cos output signals
- 3000 RPM operating speed
- High signal quality
- Robust structure, long service life
- Easy mount design for motors

- ➔ Output signal samples: A and B are incremental encoder signals which are generated 2048 times in single turn. R is reference signal, C and D are absolute sin/cos signals, which are generated once in single turn.

Technical Features

| Mechanical Specifications | | Electrical Specifications | |
|------------------------------|------------------------|---------------------------------|---|
| Operating Speed | 3000 RPM max. | Supply Voltage | 5 VDC or 10...30 VDC |
| Body Diameter | 59.6 mm | Current Consumption | ≤100 mA |
| Shaft Diameter | 10 mm tapered | Reverse Polarity Protect | Yes |
| Operating Temperature | -25°C...+85°C | Electrical Connection | 4x0,14 mm ² + 4x2x0,14 mm ² |
| Storage Temperature | -40°C...+100°C | Sin/Cos Interface | |
| IP Protection Class | IP54 | Frequency | ≤180 kHz |
| Weight | ~250 gr | Signal Level | 1 V _{pp} (±10 %) |
| Material | Body: Aluminum | Short Circuit Protection | Yes |
| | Shaft: Stainless Steel | Pulse Rate | 2048 ppr |

- ➔ All our custom absolute rotary encoders provides accurate position information; even when there is a power failure and the sensor continues to move.

Order Code

| | | | |
|---------------------------------|--|--|--------------------------------------|
| Model ARF: SinCos | Body Diameter 58: 59.6 mm | Supply Type PP : 10...30 VDC Supply : 10...30VDC Output TTL : 5 VDC Supply : 5 VDC TTL RS422 Line Driver Output HTL : 10...30 VDC Supply : 5 VDC TTL RS422 Line Driver Output HPL : 5...30 VDC Supply : 5...30 VDC Push-Pull Output | Flange Type FM : FM Flange |
| XXX | X | X | X |
| Shaft Type S: Shafted | Resolution 2048: 2048 pulses | Electrical Connection 3M : 3 m PVC cable 5M : 5 m PVC cable 10M : 10 m PVC cable | |
| | | *Optionally, different cable lengths can be requested. | |

SINGLETURN ABSOLUTE ROTARY ENCODERS



The SAS series encoders operate absolute. In other words, unlike the incremental systems, they do not lose their positions in power outages and continue to measure from where they left off.

The SAS series single turn absolute rotary encoders offer highly flexible solutions in use, with different analog output signals, shaft types and user-adjustable measuring range. The SAS single turn absolute rotary encoder with integrated reference provides high quality feedback.

SAS 37 General Features

- Absolute measurement with magnetic principle
- Shafted or semi hollow (end-hollow) shafted
- 37 mm body diameter
- 6, 8 or 10 mm shaft or hole diameter
- 14 bit resolution
- Absolute output signals: CANopen, 4-20 mA, 0.4-4.5 V, 0-10 V
- Analogue output signal forms can be selected according to 3 selected points
- Redundant output option (Dual output on single device)
- 3000 RPM operating speed
- Protection class: IP 67



NEW PRODUCT

SAS 50 & SAS 58 General Features

- Absolute measurement with magnetic principle
- Shafted or semi hollow (end-hollow) shafted
- 50 or 58 mm body diameter
- 6, 8 or 10 mm shaft or hole diameter
- 14 bit resolution
- Absolute output signals: CANopen, Parallel (Push-Pull, PNP Open Collector, NPN Open Collector), 4-20 mA, 0.4-4.5 V, 0-10 V
- Analogue output signal forms can be selected according to 3 selected points
- Redundant output option (Dual output on single device)
- 3000 RPM operating speed
- Protection class: IP 67

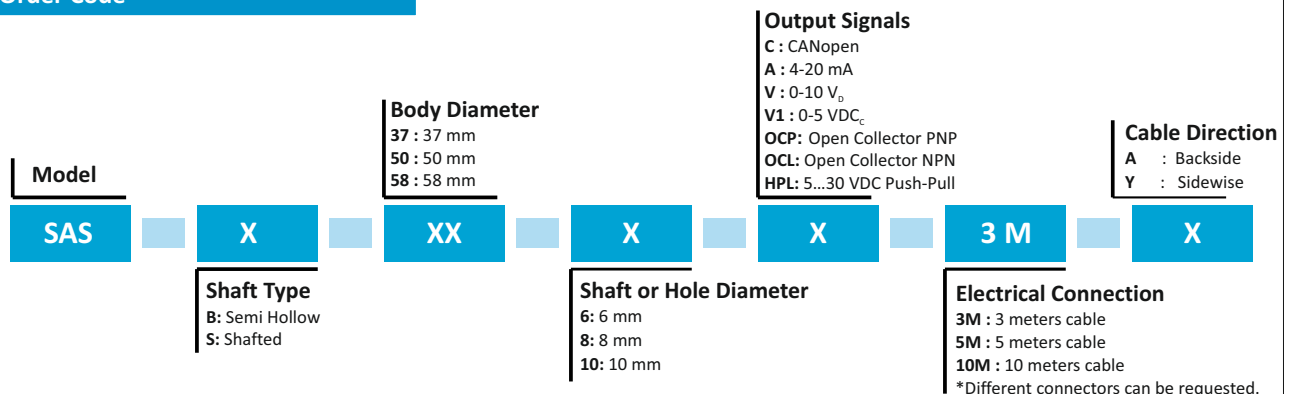
SAS

Applications

Speed and position accuracy in one application; If it is more important than fault tolerance and system simplicity, absolute encoders should be used. Absolute encoders provide precise operation in applications.

- Identifying multi-axis orientation in CNC machines used in component manufacturing
- Automatically determine the height of the scissor bearings used in hospitals
- Correct placement of multiple stabilizers for large vehicles such as cranes or air lifts
- Automatic doors or slots to move without limiting key
- Continue robotic movement even after a power failure

Order Code



The MAS/MAH series encoders operate absolute. In other words, unlike the incremental systems, they do not lose their positions in power outages and continue to measure from where they left off.

They offer highly flexible solutions in use, with different analog output signals, shaft and flange types.

The MAS/MAS multi-turn absolute rotary encoders with integrated reference provide high quality feedback.

MAS Series General Features

- Absolute measurement with magnetic principle
- 50 mm or 58 mm body diameter options
- Shaft or semi hollow shaft options
- For shaft model: 6 mm, 8 mm, 10 mm
- For semi hollow shaft model: 6 mm, 8 mm, 10 mm, 12 mm, 14 mm, 15 mm
- 0.02 ° accuracy in multiple turns of the desired number
- 16 bit resolution
- 4-20 mA, 0-5 V, 0.5-4.5 V or 0-10 V analog output options
- CANopen output option
- High sensitivity
- IP64 protection class
- Connection with cable or connector



MAH Series General Features

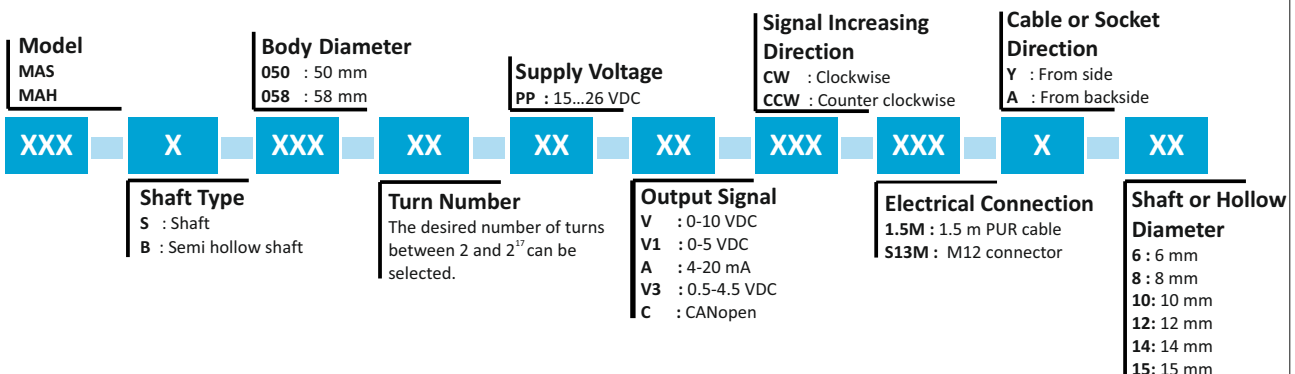
- Absolute measurement with magnetic principle
- 58 mm body diameter
- 6, 8, 10, 12, 14 or 15 mm semi hollow shaft options
- 0.02 ° accuracy in multiple turns of the desired number
- 16 bit resolution
- 4-20 mA, 0-5 V, 0.5-4.5 V or 0-10 V analog output options
- CANopen output option
- High sensitivity
- IP68 protection class

Applications

Speed and position accuracy in one application; If it is more important than fault tolerance and system simplicity, absolute encoders should be used. Absolute encoders provide precise operation in applications.

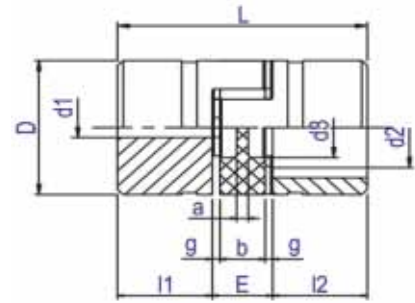
- Identifying multi-axis orientation in CNC machines used in component manufacturing
- Automatically determine the height of the scissor bearings used in hospitals
- Correct placement of multiple stabilizers for large vehicles such as cranes or air lifts
- Automatic doors or slots to move without limiting key
- Continue robotic movement even after a power failure

Order Code





GT SERIES



GT AND EC SERIES GENERAL PROPERTIES

- Flexible, backlash-free and durable design
- No maintenance or lubrication required, very long life
- Fully error-free and uniform power transmission
- Driven elements are connected with polyurethane which provides %100 electrical and vibrational isolation
- Durable against very high torques with the intermediate element polyurethane, separating metallic hubs from each other.
- All pieces are assembled co-axially and applied positive pre-stress to avoid any angular, parallel and axial misalignments

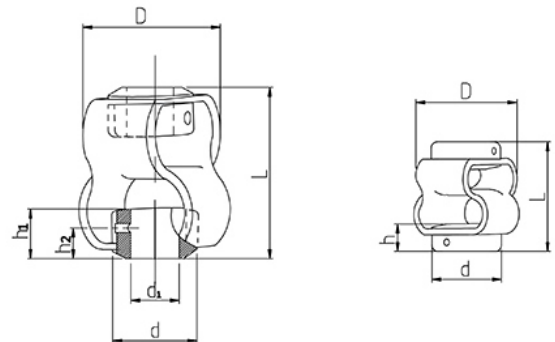
GT series;

- Aluminum body, special grade polyurethane spider
- 6, 8 or 10 mm different bore sizes
- D: 26 mm body (polyurethane) diameter
- L: 28 mm body length
- Clamping hub system

GT
EC



EC SERIES



EC series;

- Steel body, special grade polyurethane spider
- 6, 8 or 10 mm different bore sizes
- D: 26 mm body (polyurethane) diameter
- L: 28 mm body length
- Set screw system

Order Code

Model

GT
EC

X

XX

X - X

L = XX

D= Outside Diameter

GT EC
20 = 20 mm 26 = 26 mm

L = Length

GT EC
30 = 30 mm 28 = 28 mm

Major and Minor Bore Sizes

| | |
|-------------------------|-------------------------|
| GT | EC |
| 6 - 6 : 6 mm - 6 mm | 6 - 6 : 6 mm - 6 mm |
| 8 - 8 : 8 mm - 8 mm | 6 - 8 : 6 mm - 8 mm |
| 10 - 10 : 10 mm - 10 mm | 8 - 8 : 8 mm - 8 mm |
| | 8 - 10 : 8 mm - 10 mm |
| | 10 - 10 : 10 mm - 10 mm |

- Steel Spring, Aluminum alloy or Plactical material
- Different Body Types

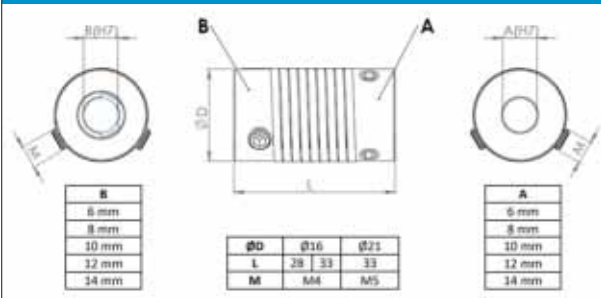
SC SERIES : Steel Spring **Set Screw**
 HT SERIES : Aluminum **Integral Clamp**
 HC SERIES : Aluminum **Set Screw**
 PC SERIES : Plactical **Set Screw**

- High torque, long life
- One piece construction (Aluminum and plactical)
- Constant velocity transmission

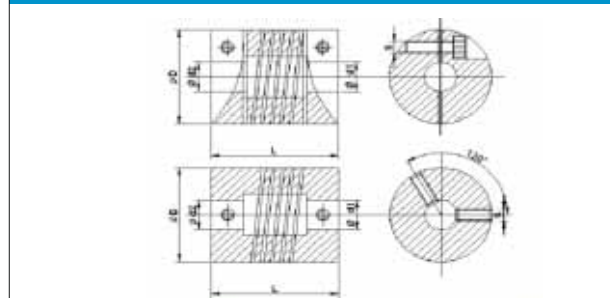


This shaft coupling connects two shafts to transmit torque, motion etc. It is a coupling which can adjust itself to misalignment of two shafts connected by it. Misalignment may be angular, parallel or skew. When motion transmission is important, the misalignment should not affect the velocity & acceleration of the shaft. This calls for a torsion ally rigid, yet flexible coupling. This couplings offer you this advantages using special machining processes. Given in this leaflet are various couplings used in listed applications.

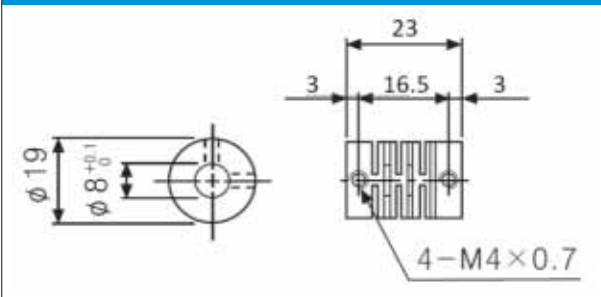
SC Series Mechanical Dimensions



HT – HC Series Mechanical Dimensions



PC Series Mechanical Dimensions



Order Code

Model

HT : Aluminum, integral clamp
 HC : Aluminum, set screw
 PC : Plactical, set screw
 SC : Steel spring, set screw

Major and Minor Bore Sizes

HT & HC

6 – 6 : 6 mm – 6 mm
 8 – 8 : 8 mm – 8 mm
 10 – 10 : 10 mm – 10 mm*
 6 – 8 : 6 mm – 8 mm
 8 – 10 : 8 mm – 10 mm*
 *Only 25 mm Outside Diameter

SC

6 – 6 : 6 mm – 6 mm
 8 – 8 : 8 mm – 8 mm
 10 – 10 : 10 mm – 10 mm
 12 – 12 : 12 mm – 12 mm*
 14 – 14 : 14 mm – 14 mm*
 * Only 21 mm Outside Diameter

PC

6 – 6 : 6 mm – 6 mm
 8 – 8 : 8 mm – 8 mm
 6 – 8 : 6 mm – 8 mm

X

XX

X - X

L = XX

D= Outside Diameter

| HT & HC | SC | PC |
|------------|------------|------------|
| 16 = 16 mm | 16 = 16 mm | 19 = 19 mm |
| 20 = 20 mm | 21 = 21 mm | |
| 25 = 25 mm | | |

L = Length

| HT & HC | SC | PC |
|------------|-------------------------------|------------|
| 24 = 24 mm | 28 = 28 mm* | 23 = 23 mm |
| 28 = 28 mm | 33 = 33 mm | |
| 32 = 32 mm | * Only 16 mm Outside Diameter | |

SC
HT
HC
PC



- 2, 3 or 4 Axis
- User Designated Resolution
- Data Transmission with RS-232 Port
- Angle Measuring
- 1,000 Program Memory
- Angle Measurement
- 1,000 pieces of tool memory for turning
- Contact Probing Connection
- 24 VAC / VDC or 85 - 265 VAC Supply
- 8 + 1 Digit Wide Display Screen
- 5 Different Language Options

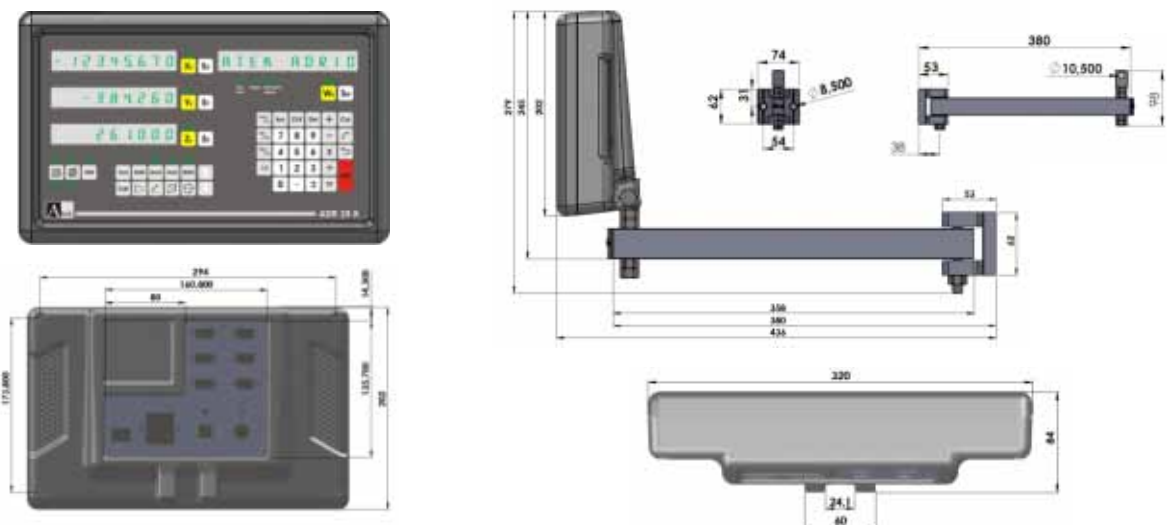
2, 3 and 4 axes available ADR-10 Series Digital Readouts can meet the application in all machine tools with maximum performance and it includes features that are essential for increasing productivity. With high-capacity memory it is possible to save 1000 pcs program and for the lathes 1000 pcs tool memory. 5 different language choices are existed as Turkish, English, German, Spanish and Portuguese. Connection opportunity by touch probe is also available. With 8+1 digit display and standard resolution values with user designated resolution, ADR-10 is designed for your all requires.

Functions:

- ABS / INC System
- Metric / Inch Measurement
- One-Touch Axis Reset
- Circular Drilling (Divisor)
- Shrink Function
- 1/2 Function
- Trigonometric Calculator
- Linear Error Correction
- Segmented Error Correction (100 Points)
- Pool Discharge
- Finding the Workpiece Center (Scenario)
- Digital (Vibration) Filter
- Soft Radius
- Simple Radius
- Correct hole drilling
- Distance measurement with probe
- Workpiece Angle Measurement Function
- Last 5 digits on / off
- Tool Diameter Compensation
- Hole Grating Function
- Tilting Z Axis Machining
- Conical Body Angle Measurement
- Menu Location Storage
- Axis Collection
- Machine Reference Point
- Team Storage and Selection
- Tool Memory (1000 pieces)
- Coordinate Memory (1,000 pieces)
- Progress Limit
- Axis Value Freeze
- Add / Remove Axis Value
- Undo function
- Sleep Mode



Mechanical Dimensions



Order Code

Model

ADR 10

X

Number of Axis

2 : 2 Axis 3 : 3 Axis 4 : 4 Axis



- 2, 3 or 4 Axis
- Colorful LCD
- User Designated Resolution
- USB or RS232 Port Option
- Open Collector Outputs
- 2D Simulations
- Angle Measurement
- 24 VAC/VDC or 85 – 265 VAC Supply
- 1000 Coordinate Memory
- 5 Language Options



New LCD DRO, ADR-50 Series Digital Readouts can meet the application in all machine tools with maximum performance and it includes features that are essential for increasing productivity. 5 different language choice is existed as Turkish, English, German, Spanish and Portuguese. USB or RS232 port connection available. Functions can be used with 2D simulations.

ADR 50 has 6 Open Collector outputs. Every output can be used with a chosen axis.

- ✓ Rectangular Pocket
- ✓ Bolt Hole
- ✓ Linear Pattern

- ✓ Radius
- ✓ Taper Measure
- ✓ Angle Measure

- ✓ Error Compensation
- ✓ Axis Summary
- ✓ Diameter Mode

- ✓ Erosion
- ✓ User Modes
- ✓ Shrink

And more functions...

| Technical Specifications | |
|--------------------------|--|
| Number Of Axis | 2, 3, 4 |
| Display | Color LCD |
| Display Resolution | User can designate as requested |
| Input Signal | Available Push Pull or TTL A,B,Z (Line Driver A, B, Z, /A, /B, /Z) Incremental Encoder Signals |
| Weight | ~ 2,7 Kg |
| Power Supply | 85 – 265 VAC 50/60 Hz. or 24 VAC/VDC |
| Storage Temperature | - 25 ~ 65 °C |
| Operation Temperature | -10 ~ 45 °C |
| Relative Humidity | %20 - %85 |
| Dimensions (HxWxT) | 202mm x 320mm x 84mm |
| Housing | Aluminum Injection Housing |

Order Code

Model

ADR 10

X

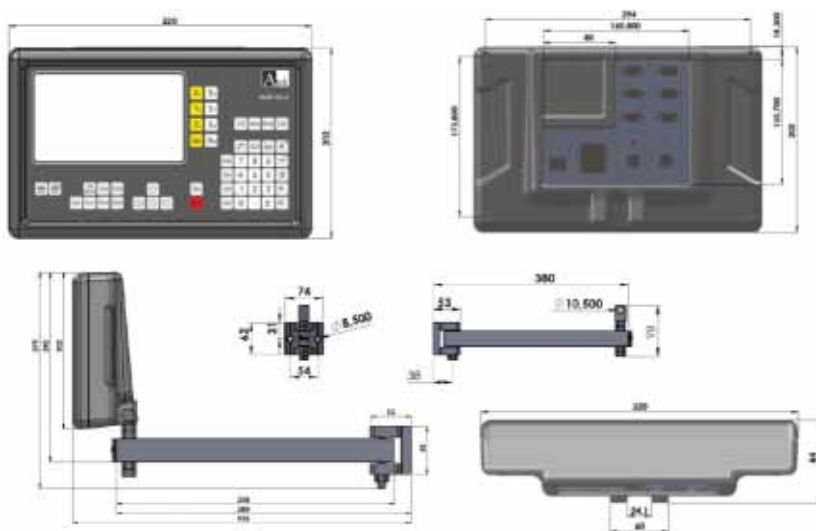
Number of Axis

2 : 2 Axis

3 : 3 Axis

4 : 4 Axis

Mechanical Dimensions



DRAW WIRE SENSORS DRAW WIRE ENCODER



- Different measuring lengths up to 14 meters
- High resolution options;
0.05 mm/pulse - 0.1 mm/pulse - 0.2 mm/pulse - 0.3 mm/pulse
- 5 VDC or 10...30 VDC Power supply
- A, B, Z, /A, /B, /Z Encoder Signal Outputs
- High strength stainless steel wire
- 2 m/s maximum speed
- Wide temperature range of -25 to +85 °C
- IP65 or IP67 Protection class
- Shock/Vibration resistant
- Connection with cable or different connectors
- Aluminum anodized body

AWE series wire encoders are incremental wire transducers that turn a linear motion into coded digital pulses. They are made of an incremental encoder, activated by the stroke of a, winding or unwinding, stainless steel wire. A special feature is their easy assembling. The linking together to a display or an electronic positioner supplies an excellent system to measure the dimensions on machine tools, automatic, wood, marble, glassworking machinery etc.

| AWE 100 | AWE 200 | AWE 300 | AWE 400 |
|---|---|---|---|
| | | | |
| Measurement Length: 300 mm to 1250 mm or on request | Measurement Length: 1000 mm to 5000 mm or on request | Measurement Length: 5000 mm to 11000 mm or on request | Measurement Length: 300 mm to 4500 mm or on request |
| AWE 500 | AWE 800 | AWE 900 | * <u>Measurement Length (mm)</u> AWE 110 : 300 - 1250 AWE 210 : 1000 - 5000 AWE 310 : 5000 - 11000 AWE 404 : Up to 4500 AWE 506 : Up to 6000 AWE 512 : 5000 - 12000 AWE 810 : 2000 - 5100 AWE 820 : 6000 - 14500 AWE 906 : Up to 6000 |
| | | | |
| Measurement Length: 5000 mm to 12000 mm or on request | Measurement Length: 2000 mm to 14500 mm or on request | Measurement Length: Up to 6000 mm or on request | *Other options available on request |

Order Code

Model

AWE 110 AWE 506 AWE 906
 AWE 210 AWE 512
 AWE 310 AWE 810
 AWE 404 AWE 820

Wire Length

See Measurement Length*

Output Signals

2 (A,B)
 3 (A,B,Z)
 4 (A,/A,B,/B)
 6 (A,/A,B,/B,Z,/Z)

Cable or Connector Direction

A : From backside
 Y : From side

AWE

XX

XX

XXX

XXX

3 M

X

Resolution

01 : 0.1 mm/pulse
 02 : 0.2 mm/pulse
 03 : 0.3 mm/pulse
 05 : 0.05 mm/pulse

Power Supply and Output

PP : 10...30 VDC Supply
 : 10...30VDC Output
 TTL : 5 VDC Supply
 : 5 VDC TTL RS422 Line Driver Output
 HTL : 10...30 VDC Supply
 : 5 VDC TTL RS422 Line Driver Output
 HPL : 5...30 VDC Supply (standard)
 : 5...30 VDC Push-Pull Output

Electrical Connection

3M : 3m (standard)
 5M : 5m
 10M: 10m
 S13 : M12 5 Pin Male Socket
 S16 : M16 8 Pin Male Socket
 S23 : M23 12 Pin Male Socket

- Different measuring lengths up to 14 meters
- Potentiometric measuring
- 0...10 VDC, 4-20 mA or potentiometric output
- Maximum 42 V power supply
- High strength stainless steel wire
- 2 m/s maximum speed
- Wide temperature range of -25 to +85 °C
- P65 or IP67 Protection class
- Shock/Vibration resistant
- Connection with cable or different connectors
- Aluminum anodized body



The AWP series are draw wire potentiometric position transducers that turn a linear motion into a resistance variation. They are made of a precision rotating potentiometer operated by a, winding or unwinding, stainless steel wire. The potentiometer's output can be potentiometric, 0...10 VDC or 4...20 mA.

| AWP 100 | AWP 200 | AWP 300 | AWP 400 |
|---|---|--|---|
|  |  |  |  |
| Measurement Length: 300 mm to 1250 mm or on request | Measurement Length: 1000 mm to 5000 mm or on request | Measurement Length: 5000 mm to 11000 mm or on request | Measurement Length: 300 mm to 4500 mm or on request |
| AWP 500 | AWP 800 | AWP 900 | *Measurement Length (mm) |
|  |  |  | AWP 110 : 300 - 1250 AWP 210 : 1000 - 5000 AWP 310 : 5000 - 11000 AWP 404 : Up to 4500 AWP 506 : Up to 6000 AWP 512 : 5000 - 12000 AWP 810 : 2000 - 5100 AWP 820 : 6000 - 14500 AWP 906 : Up to 6000 |
| Measurement Length: 5000 mm to 12000 mm or on request | Measurement Length: 2000 mm to 14500 mm or on request | Measurement Length: Up to 6000 mm or on request | *Other options available on request |

Order Code

Model

AWP 110 AWP 506 AWP 906
 AWP 210 AWP 512
 AWP 310 AWP 810
 AWP 404 AWP 820

Load Resistor

5K: 5 KΩ (standard)
10K: 10 KΩ
 *Others on request

Cable or Connector

Direction
A : From backside
Y : From side

AWP XXX

XXX

Wire Length

See Measurement Length*

XX

XX

Electrical Connection

3M : 3 m cable
5M : 5 m cable
10M : 10 m cable
S13 : M12 5 pin male socket

X

OPTICAL LINEAR ENCODER SYSTEM OPTICAL MEASURING SCALE



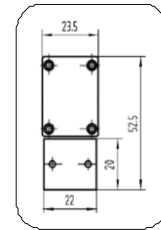
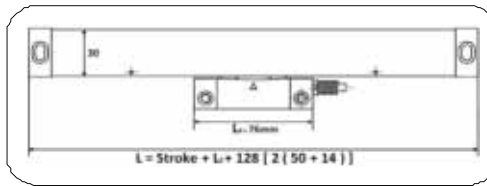
- Optical Incremental Encoder output A, B, Z
- 5 V TTL / RS422 Line Driver Output
- Two square wave signals, TTL output with 90 deg. phase difference
- Robust shielded metal enclosure
- Accuracy: $\pm 5 \mu\text{m/m}$, $\pm 10 \mu\text{m/m}$
- With single/double sealing technologies resistant to dirt, humidity and dust
- Compact design, easy mounting
- High Resolution: $1 \mu\text{m}$, $5 \mu\text{m}$
- High tolerance to shock and vibration
- Measuring lengths: 50 mm up to 12000 mm
- 60 m/min traversing speed
- Reference mark every 50 mm

ALS Series sealed Optic Linear Encoder Scales are protected from dust, chips and splash fluids and are ideal for operation on machine tools. Aluminum housing and elastic sealing lips protect the scale, scanning carriage and guide way from chips, swarf, dirt and splash water the scanning carriage travels in a low-friction guide within the scale unit. It is connected to the external mounting block by a coupling that compensates unavoidable misalignment between the scale and the machine guide ways. Sealed linear encoders are available with full-size scale housings for high resistance to vibration up to 12000 mm measuring length.

ALS 4 SERIES SLIM BODY



Length: 50mm – 1000mm
Single or Double Sealing

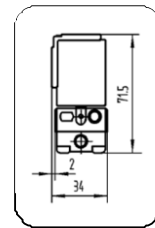
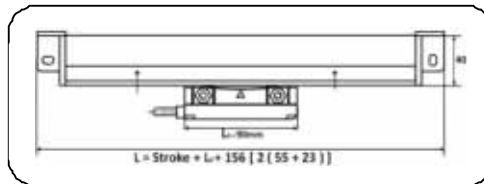


ALS

ALS 5 SERIES BOLD BODY



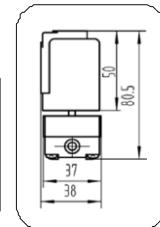
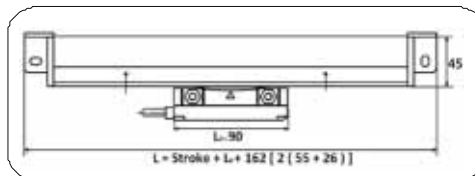
Length: 50mm – 1000mm
Single Sealing



ALS 6 SERIES LONG MEASURING



Length: 1100mm – 12000mm
Single Sealing



Order Code

Model

ALS

Signal Output Type

6 = A, /A, B, /B, Z, /Z
Z-Signal: Standard = every 50mm
*Optional = One Z reference signal

X

Body Type

4 = Recommended for 50 mm to 100 mm applications (Slim Body)
5 = Recommended for 50 mm to 100 mm applications (Bold Body)
6 = Recommended for 1100 mm to 12000 mm applications (Long Distance)

Resolution

01 = $1 \mu\text{m}$
05 = $5 \mu\text{m}$
S = Sinusoidal

XX

Measuring Stroke

200 = 200 mm
500 = 500 mm
1000 = 1000 mm
2000 = 2000 mm

L=XX



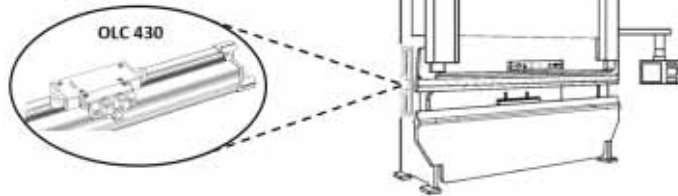
**NEW
PRODUCT**

- Incremental optical system
- Different measuring lengths from 50 mm to 1000 mm
- Reader sensor which is beared with steel shafts and rollers
- Gasket protected aluminium body
- Selectable reference signal which can be selected at every 50 mm
- 3 pcs LED indicators
- 5µm resolution
- IP54 protection class
- Compact design
- Wide mounting tolerance when connected with joint
- 60 m/min traversing speed

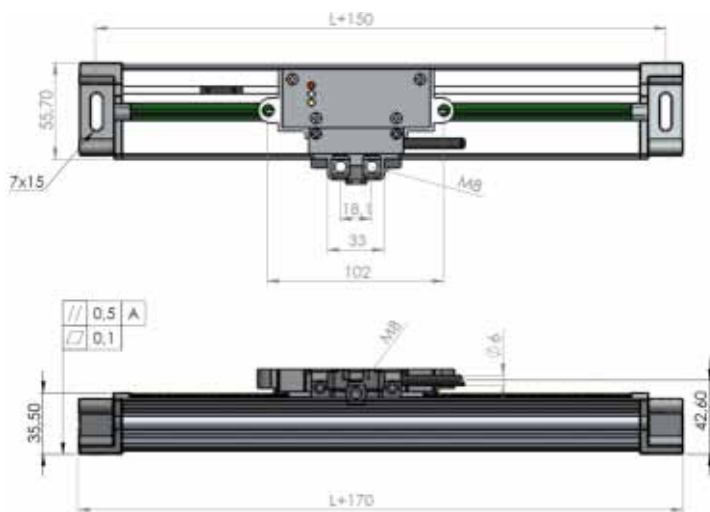
The OLC 430 series optical linear encoders consist of a gasket protected aluminium body and reader sensor moving in this body. It is frictionless because of making non-contact measuring with glass scale. With its selectable reference signal at every 50 mm and its 5µm resolution, it is very suitable for high precision measurements. With gasketed structure, it has extra protection against dust, dirt and chip.

Applications

- Manuel Benches
- Press Brakes and Bending Machines
- Robotic and Material Packaging
- Linear Bearing Systems
- Automation and Robotic Applications



Mechanical Dimensions



| Standard Measuring Lengths * (L) (mm) | |
|---------------------------------------|------|
| 50 | 420 |
| 70 | 450 |
| 100 | 470 |
| 120 | 500 |
| 150 | 550 |
| 170 | 600 |
| 200 | 650 |
| 220 | 700 |
| 250 | 750 |
| 270 | 800 |
| 300 | 850 |
| 320 | 900 |
| 350 | 950 |
| 370 | 1000 |
| 400 | |

(*) Optionally, different measuring lengths can be requested. Please contact the company for non-standard requests.

**OLC
430**

Order Code

Supply and Output

PP : 10...30 VDC Supply
 : 10...30VDC Output
 TTL : 5 VDC Supply
 : 5 VDC TTL RS422 Line Driver Output
 HTL : 10...30 VDC Supply
 : 5 VDC TTL RS422 Line Driver Output
 HPL : 5...30 VDC Supply
 : 5...30 VDC Push-Pull Output
 OCL : NPN Open Collector
 OCP : PNP Open Collector

Cable Length*

3M : 3m cable
 5M : 5m cable
 10M : 10m cable
 *Optionally other lengths up to 100 meters.

Measuring Length*

Different measuring lengths from 50 mm to 1000 mm

Cable Type/ Direction*
 C : PUR Cable R : From right
 L : From left

Model

XXX — XXX — XXX — X — XX — XX — X/X — XX — XX

Resolution
 005 : 5µm

Output Signals
 2 (A,B)
 3 (A,B,Z)
 4 (A,/A,B,/B)
 6 (A,/A,B,/B,Z,/Z)

Socket Type*

No code: No socket on cable
 SK: 0,5 m cable and M16 / 8 pin female socket + (X-0,5) meters cable and M16 / 8 pin male socket
 (X: Cable length selected in previous code)

Reference Point (Z)*

B : Beginning
 M : Middle
 E : End
 No code: No reference point
 *Optionally, can be selected requested with magnet at every 50 mm as requested.



- Ultrasonic working principle
- 0.5 - 9 meters measuring range
- Non-contact and high precision measurement
- $\pm 0.2\%$ FS accuracy
- Single line 5 digit LCD display and 4 sealed keypads for configuration
- Display of measured value in level, distance (cm, m, inch or feet) or volume (liters, m³, imp, gallons)
- RS-232, RS-485 and CANopen serial connection options
- 4-20 mA, 0-20 mA or 0-10V analog output options
- 2 Open Drain outputs
- IP67 high protection class
- Economical and maintenance-free design
- Easy installation

The ultrasonic sensor sends and detects high-frequency ultrasonic sound with a piezoelectric transducer. A part of the reflected sound wave by hitting the measuring surface is detected by the transducer, depending on the speed of the signal in the air, the distance of the objects is determined. When the specified switching point is reached, the output is switched. The measured value is given as analog (0 ... 10 V / 4 ... 20 mA) or CANopen signal.

With ultrasonic sensors, objects can be reliably detected and measured regardless of material, color, transparency and surface properties.

ULS series ultrasonic sensors;

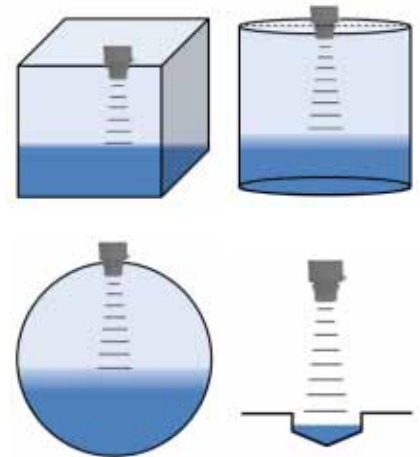
Used in non-contact, level and volume measurement of liquid and solid materials in open and closed tanks. There is also an open canal flow measurement option. It can display the measured value as level, distance (cm, m, inch or feet) or volume (liters, m³, imp, gallons) with 4 sealed membrane keypads.

Technical Features

| | |
|----------------------------------|---|
| Operating range | 0.5 - 9 meters |
| Blind area | 0.5 meters |
| Accuracy | $\pm 0.2\%$ FS |
| Supply Voltage | 16...30 VDC |
| Power consumption | 2,4 Watt max. |
| Current consumption | 100 mA max. @24 VDC / 150 mA max. @16 VDC |
| Sampling rate | 4 Hz |
| Ultrasonic taper angle | 30° |
| Minimum resolution | 1 mm |
| Relay outputs (Optional) | 2 x Open Drain Outputs |
| Serial connection | RS-232, RS-485, CANopen |
| Analog outputs (Optional) | 0-10 V, 4-20 mA, 0-20 mA |
| Analog output load | 500 ohm |
| Analog output resolution | 16 Bit |
| Tare input (Optional) | +Vcc (16...30 VDC) |
| Reverse connection | Yes |
| Overload protection | Yes (600 mA) |
| Temperature | Yes |
| Watchdog | Yes |
| Electrical connection | M12 / 8 pin male and M12 / 5 pin female sockets (standard) 8 x 0,14 mm ² shielded cable and 5 x 0,14 mm ² shielded cable (opt.) |

Applications

- Level measurement, pump control in tanks, warehouses etc.
- Occupancy rate calculation in product warehouses
- Treatment plants
- Food industry
- Chemical industry



Order Code

| | | | |
|-------------------------|---|--|---|
| Model | Measuring Range | Digital Output | Tare Input |
| ULS | 9: 9 m | No code: No digital output C: CANopen S1: RS-232 S2: RS-485 | No code: No tare input T: Tare input |
| XX | X | XX | X |
| Housing Material | Analog Output | Open Drain Output | Electrical Connection |
| D: Delrin | No code: No analog output V0: 0-10 V V1: 0-5 V V3: 0.5-4.5 V A0: 0-20 mA A4: 4-20 mA | No code: No open drain output OD: Open Drain output | S14M: M12/8 pin male socket S10FM: M12/8 pin male socket and M12/5 pin female socket |
| XXX | | | |



RCS3100

- Non-contact measurement
- 12 bit resolution
- User-selectable angle values between 0-360 °
- 0-10 VDC, 4-20 mA or ratiometric output options
- Models with shaft
- Resistant to harsh environmental conditions and vibration
- IP54 or IP67 protection class
- Long service life
- Compact design
- High accuracy

The contactless sensor utilizes the orientation of a magnetic field for the determination of the measurement angle. The magnetic field orientation captured with an integrated circuit. An analogue output signal represents the calculated angle.

RCS series angle sensors with high accuracy, compact design and robust construction; offers suitable solutions for angle measurement in industrial areas like crane and lifting systems, robotic systems, solar energy, wind power plants, auto parts etc. Thanks to their high IP protection class, they can work in harsh environmental conditions.

Applications

- Robotic systems
- Auto parts
- Solar and photovoltaic systems
- Automated guided systems
- Crane and lifting technology
- Wind power plant

| Technical Features | | | |
|------------------------------------|--|--------------------|------------------|
| *Measuring Range | Can be produced in the desired range from 0 to 360 ° | | |
| Measuring Type | Magnetic, non -contact | | |
| Linearity | ±%0.3 FS | | |
| Resolution | 12 bit | | |
| Repeatability | 0.1° | | |
| Response Frequency | 250 Hz | | |
| *Output Signal | | Ratiometric | 0...10VDC |
| | Supply | 5 VDC | 15...32 |
| | Load | ≥ 1Kohm | ≥ 1Kohm |
| | | | 4...20 mA |
| | | | 9...32 VDC |
| | | | 0...250 ohm |
| Current Consumption | 30 mA max. | | |
| Reverse Polarity Protection | Yes, only supply | | |
| Electrical Connection | 3 x 0,14 mm ² shielded cable | | |
| Protection Class | RCS 2100/2200 : IP67 , RCS 3100/3700 : IP54 | | |
| Operating Temperature | -25°C ... +85 °C | | |
| Material | Body: Aluminum | | |
| | Shaft: Stainless Steel | | |



RCS2100

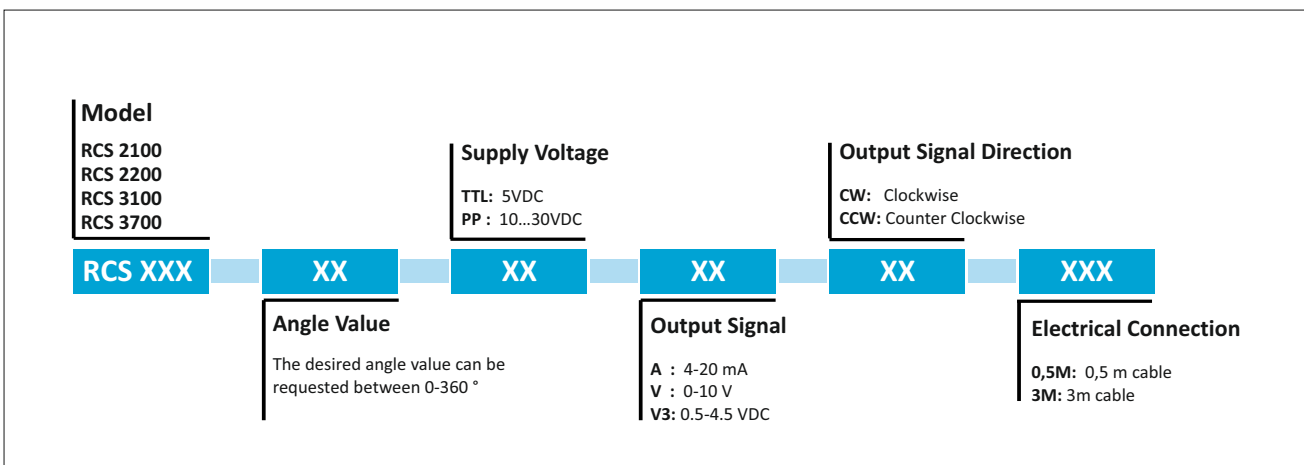


RCS2200



RCS3700

RCS



MELT PRESSURE TRANSMITTERS RIGID / FLEXIBLE / THERMOCOUPLE



- Good Stability and Anti-Jamming compatibility
- Economical Price
- Zero and Span Adjustable
- Various Amplified Signals Optional
4 - 20 mA, 0 - 10V or 3.33mV/V
- Flexible Capillary or Rigid Stem
- Internal 80% Shunt Calibration
- Strain gage Wheatstone bridge
- Diaphragm is 15-5PH stainless steel with TiN coating
100bar-1500psi, our diaphragm is 316SS corrugated one

MPT series melt pressure transmitters, have been designed specifically for harsh and rugged environments of the extrusion and polymer processing industries.

Melt pressure transmitter convert process into an amplified signal for long distance transmission free of noise interference.

It can provide various 4-20mA, 0-10VDC and 3.33mV/V directly input upper control system.

MPT-112 RIGID BODY STEM



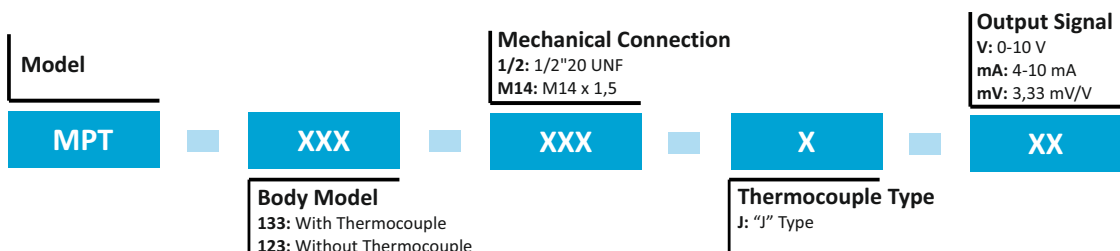
- Rigid body stem
- Shunt calibration 80% FS
- Diaphragm 15-5 PH stainless steel with TIN coating
- Our diaphragm is 316S corrugated
- High diaphragm temp 320°C
- The equipment of rubber plastic machine and etc
- Good stability & interference resistance
- Between 100 BAR to 2000 BAR pressure range
- Anti jamming compatibility
- Zero and Span adjustable
- Various amplified signals
4-20 mA 0-10 VDC or 3,33 mV/V

MPT-133 FLEXIBLE BODY STEM



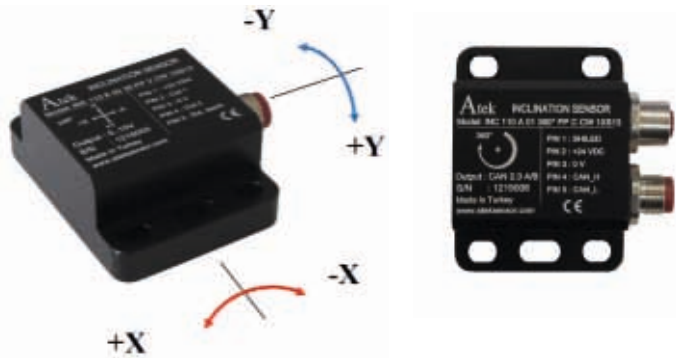
- Flexible body stem
- Shunt calibration 80% FS
- With "J" Type Thermocouple
- Diaphragm 15-5 PH stainless steel with TIN coating
- Our diaphragm is 316S corrugated
- High diaphragm temp 500c°
- The equipment of rubber plastic machine and etc
- Good stability & interference resistance
- Between 100 BAR to 2000 BAR pressure range
- Anti jamming compatibility
- Zero and Span adjustable
- Various amplified signals
4-20 mA 0-10 VDC or 3,33 mV/V

Order Code



INC SERIES INCLINOMETER (TILT SENSOR)

- **INC110:** Measuring range up to $\pm 90^\circ$ inclination
- **INC210:** Measuring range up to 360° angle
- Single or Dual Axis option
- CANopen output
- Analog outputs: 0-10 V_{DC} 4-20 mA
- Optional Redundant output
- Compensated cross sensitivity between axes
- High and stable accuracy $\pm 0.1^\circ$
- Re-determinable 0° point
- Shock/Vibration resistant
- Insensitive to moisture/temperature changes
- Easy to fit and mount
- High protection class: Ip67
- Robust and compact metal housing



INC110

Inclinometer Applications

- Cranes, Excavators, Forklifts
- Fire trucks
- Solar Panels Movement Tracking
- Automation solutions
- Shipbuilding
- Robotics
- Marine transfer ballasts
- Construction machinery
- Camera Systems
- Wind Turbines
- Aviation
- Aerial Lift platform leveling
- Wheel alignment systems
- Precise laser cutting machines
- Aerospace engineering



INC210

INC

“YOUR SOLUTION PARTNER IN CRANE SYSTEMS”



Order Code

| Model | XX | XX | XX | PP | X | XX | XXX |
|---|---|--|---|---|---|---|-----|
| INC 110 INC 210 | | | | | | | |
| Axes 01 : Single Axis 02 : Dual Axis | Sensor Type E: Tilt A: Angle | Measuring Range 90 : $\pm 90^\circ$ 45 : $\pm 45^\circ$ 180 : 0-180° 360 : 0-360° | Supply Voltage PP : 12 ... 30 V _{DC} | Output Signal V : 0.1-10VDC Analog Voltage A : 4-20 mA Analog Current C : CANopen | Output Signal Direction CW: Clockwise CCW: Counter-clockwise | Electrical Connection 3M : 3m cable 5M : 5m cable 10M : 10m cable S13F : M12 5 pin female socket S13M : M12 5 pin male socket S13FM: M12 5 pin female + M12 5 pin male socket (redundant and CANopen models) | |

TILT AND ANGLE SENSORS INCLINOMETER

INS series angle and tilt sensors are the sensors that show the inclination and angle of rotation of objects standing perpendicular to the earth. The measurement limits can be set according to the user request. INS series sensors with high precision, compact design and durable construction; It provides suitable solutions for measuring inclination in industrial areas such as crane and lifting systems, construction machinery and special purpose vehicles, solar energy and photovoltaic systems, wind power plants.

INS 110 SERIES



- Two axes (XY) measurement
- Four different set options (customizable)
- Relay or PNP Open Collector output model options
- High Sensitivity: $\pm 0.15^\circ$
- Ability to specify 0° point
- Easy installation
- IP67 protection class
- Small and robust housing
- Compact Structure



INS 120 SERIES



- Single-axis 360° angle measurement
- Programmable measurement ranges
- Compensated axis sensitivity
- 0-10VDC or 4-20mA analog output options (Dual analog output option)
- PNP Open Collector output
- High Sensitivity: $\pm 0.15^\circ$
- Easy installation
- IP67 protection class
- Small and robust housing
- Compact structure

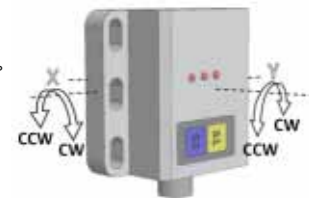


INS

INS 130 SERIES



- Two axis measurement
- Angle and inclination measurement from 0 to 360°
- Programmable measurement ranges
- 0-10VDC or 4-20mA analog output options
- Programmable Switching output (≤ 300 mA)
- PNP Open Collector output
- High Sensitivity: $\pm 0.15^\circ$
- Easy installation
- IP67 protection class
- Small and robust housing
- Compact structure



Order Code

Model
INS 110
INS 120
INS 130

Axes
01 : Single Axis
02 : Dual Axis

Supply Voltage
PP : 12 ... 30 V_{DC}

Output Type
OCP: PNP Open Collector
RLY: Relay Output (*Only for INS 130)

Electrical Connection
3M:3m cable
5M:5m cable
10M:10m cable
S13:M12 5 pin socket
S14:M12 8 pin socket
S13FM:M12 5 pin male socket (for redundant and CANopen)

INS XXX

X

XX

XXX

XX

XX

XXX

XXX

XXX

Sensor Type
E: Tilt
A: Angle

Measuring Range
90 : $\pm 90^\circ$
45 : $\pm 45^\circ$
180 : 0-180°
360 : 0-360°

Output Signal
V : 0-10VDC Analog Voltage (*For INS 120 and INS 130)
A : 4-20 mA Analog Current (*For INS 120 and INS 130)
C : CANopen (*Only for INS 120)

Output Signal Direction
CW: Clockwise
CCW: Counter-clockwise



EPA series process control devices are used for viewing the input signals which are as potentiometer, voltage, current, RTD or thermocouple and giving output signal which are as relay, 4-20 mA, 0-10V or CANopen according to information received from them.

The EPA series process control devices are programmed to accurately display the signals it receives from the sensor connected to it by processing it with special algorithms.

EPA 100 SERIES



- 4 different analogue input on one device
- Two lines display;
The first line shows the analog process value from the sensor and the second line shows the unit or relay set point for the measured value
- Load Cell can also be connected
- RS-232, RS-485, USB or CANopen communication
- 2 relay outputs which can be set in different functions
- Analog output options (0-10V, 0-5V, 0.5-4.5V, 4-20mA, 0-20mA)
- Invertible analog output (eg, 0 V, 20-0 mA)
- High refresh rate: 3.5 kHz
- Converting analogue signals (4-20 mA, 0-20 mA, 0-10 V, potentiometric, ratiometric) to CANopen signals, and CANopen signals to analogue.
- Fast and easy parameter configuration via USB
- Compact design
- User friendly and easy interface
- Tare function (scaling to zero)
- Password protection and Hide function for menu

EPA 200 SERIES



- Process and temperature measurement at the same time
- Two lines display;
The first line shows the analog process value from the sensor and the second line shows the temperature information from the thermocouple.
- PT100, PT1000 or Thermocouples can be connected
- Thermocouple type K, J, N, R, S, T, E and B can be selected from menu
- Temperature can be shown as °C, °K and °F
- Load Cell can also be connected
- RS-232, RS-485, USB or CANopen options
- 3 relay outputs, adjustable for different functions
- High refresh rate: 3.5 kHz
- Analogue signals (0-10 V, 4-20 mA, 0-20 mA) can be converted to CANopen signals
- CANopen signals can be converted to analogue signals (0-10 V, 4-20 mA, 0-20 mA)
- Reversible analogue output (10-0 V, 20-0 mA)
- Fast and multiple parameter configuration via USB
- Easy and user friendly interface
- Tare function
- Menu hiding or password protection

EPA 200 SERIES



- 4 different analog input functions in one device
- RS-232, RS-485, USB or CANopen communication
- 4 relay outputs, adjustable in different functions
- High sampling rate: 3.5 kHz
- Converting analog signals (4-20 mA, 0-20 mA, 0-10 V, potentiometric, ratiometric) to CANopen signals and CANopen signals to analog signals
- Reversible analog output (10-0 V, 20-0mA)
- Fast and multi-parameter configuration via USB
- Compact design
- Easy and user friendly interface
- Tare function
- Menu hiding or password protection

- Free custom MyPanelMeter program developed by our engineers for easy configuration via computer on USB connection
- All Eskon products are %100 designed and manufactured completely in Turkey, with years of engineering of Eskon Research and Development team. Eskon is ATEK Sensor's subbrand for process control devices.



- 600 KHz High Speed Input Frequency
- 4 Digit programmable projection ALC44
- 6 Digit programmable projection ALC94
- 7 Digit programmable projection ALC77 Series
- Prescale can be adjustable (0,000001 to 9999999)
- Tare, Hold, Reset, Offset, Const, Functions
- Excitation

The ALC Series universal programmable impulse counter of signals from Linear Encoder, Rotary Encoder sensors, NPN -PNP proximity sensors, mechanical switches.

This secures high accuracy, stability and easy operation of the instrument.

| Model | Dimensions | Projection | Input Type |
|----------------------|------------|--------------------|---|
| ALC44 Counter | 44 x 44 mm | -999....9999 | Linear or Rotary Encoder, NPN – PNP Proximity |
| ALC77 Counter | 72 x 72 mm | -999999....9999999 | Linear or Rotary Encoder, NPN – PNP Proximity |
| ALC94 Counter | 96 x 48 mm | -99999....999999 | T Linear or Rotary Encoder, NPN – PNP Proximity |
| ALC77B Batch Counter | 72 x 72 mm | -999999....9999999 | Linear or Rotary Encoder, NPN – PNP Proximity |
| ALC77T Tachometer | 72 x 72 mm | -999999....9999999 | Linear or Rotary Encoder, NPN – PNP Proximity |

ALC

ALC44 / ALC77 / ALC94 SERIES UP/DOWN COUNTERS



- Linear Encoder Inputs (A, B, Z Inputs)
- Two Measuring channels (A, B)
- Measured Unit
 - Linear Encoder
 - Rotary Encoder
 - NPN – PNP Proximity / Mechanical switch
- 2 and 4 relay outputs
- Tare, Hold, Reset, Offset, Const Functions
- Power Supply 24VA/VDC or 86 – 265 VAC (110 or 220VAC) Selectable Input (Encoder, Tachometers, Batch Counters)

ALC77 SERIES OTHER COUNTER MODELS



ALC77 B BATCH COUNTER ALC77 T TACHOMETER

- 72 x 72 x 96,4mm mechanical dimensions
- Projection range “-999999...9999999”
- Sensor Input (A, B)
- Measured Unit
 - NPN – PNP Proximity / Mechanical switch
- ALC77B : Input Frequency 500 Hz
ALC77T : Input Frequency 5 KHz
- Power Supply 24VA/VDC or 86 – 265 VAC (110 or 220VAC)



BCT22



- Piezoresistive pressure sensor
- Very small and compact design
- High sensitivity
- 22 mm body diameter
- Stainless steel case
- EMC and reverse polarity protection
- Analog 4...20mA, 0...10VDC etc. different outputs

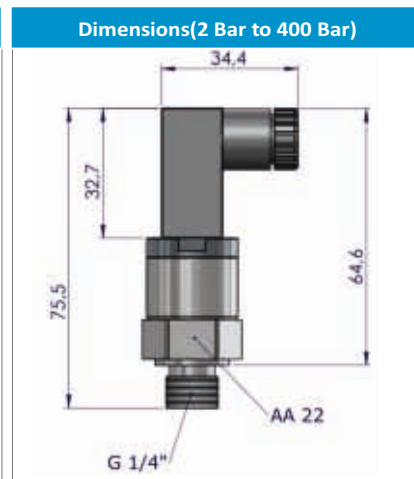
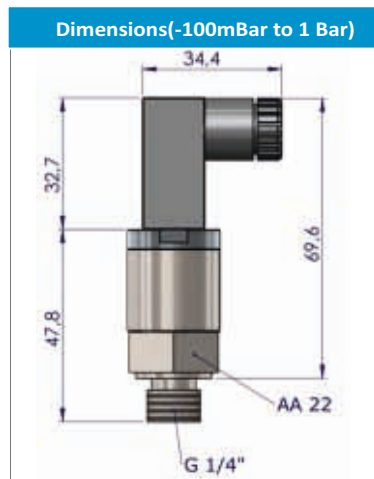
Technical Specifications

| | |
|------------------------------|---|
| Measurement Range | Different models from 0100mbar to 0...600Bar Different vacuum models from 0-100mbar to 0...-1Bar |
| Measurement Type | Ambient pressure measurement as relative Air, Water, Oil, Non-explosive gases |
| Working Principle | Piezoresistive |
| Oring- Sealing | Standard NBR, optional FKM(Viton) or EPDM |
| Output Signal | 4...20mA(2 Wire) , 0...20mA(3 Wire) 0...10VDC, 1...6VDC, 0...5VDC, Ratiometric etc. |
| Mechanical Connection | G1/4, G1/8, G1/2, NPT1/4, NPT1/8, NPT1/2, M14, UNF7/16X20M, UNF7/16X20F |
| Supply Voltage | 4-20 mA : 12 ... 30 V _{DC} 0-10 V : 12 ... 30 V _{DC} Ratiometric : 5 V _{DC} |
| Operating Current | Maximum 30mA |
| Accuracy | ±%0,5 F.S or ±%0,3 F.S @ 25° C |
| Protection Class | IP65 or IP67 |
| Ambient Temperature | -40°C ... +85°C |
| Body | Stainless steel body 1.4305 (AISI304) Optional stainless 316L or Titanium |
| Electrical Connection | Models with socket DIN43650A, DIN43650C, M12, Packard or 3 x 0.14mm ² PVC cable (Optional PUR cable) |

BCT22

BCT 22 Applications

- Pneumatic Systems
- Hydraulic Systems
- Machines Equipments
- Air Cooling Systems
- Heating Systems
- Water Technologies
- Automation Applications



Order Code

Model

BCT 22

XXX

XXX

XX

XXX

XXX

Pressure

Different models from 0...100mbar to 0...600Bar
Different vacuum models from 0... -100mbar to 0...-1Bar

Output Signal

V: 0-10 VDC Analog Voltage
A: 4-20 mA Analog Current
V3: 0,5...4,5 VDC Analog Voltage
* Please ask for others

Electrical Connection

S30 : DIN43650-A type large type socket
S31 : DIN43650-C type small type socket
S12 : M12x1 4 pin
S15 : M12x1 4 pin (1 supply, 3 output)
S32 : Packard socket
2M : 2 Meter Cable
* Ask for other options

Mechanical Connection

G1/4: G1/4 Connection
G1: G1 Connection
G1/2: G1/2 Connection
* Please ask for other mechanical connections

Body Material/ Custom Coding

Empty: Stainless 303
E316: Stainless 316L
* Ask for other options.

INDUSTRIAL PRESSURE TRANSMITTERS DIFFERENTIAL PIEZORESISTIVE / FLUSH DIAPHRAGM



Technical Specifications

| | |
|------------------------------|--|
| Pressure Range | BT 214: 100 mbar to 600 bar BFT 210: 1 mbar to 25 bar |
| Output Signal | BT 214: 4...20mA, 0...10V BFT 210: 4...20mA, 0...5V, 1...5V |
| Mechanical Connection | BT 214: G1, G1/2 BFT 210: G1/2 or 1/4-18 NPT or M20x1.5 |
| Power Supply | +12...30 VDC |
| Accuracy | %0,5 @25°C |
| Protection Class | IP65 |
| Electrical Connection | DIN43650 Female socket or cable |
| Operating Temperature | -40°C to +85°C |
| Media Temperature | -40°C to +120°C |
| Housing Material | Stainless steel |

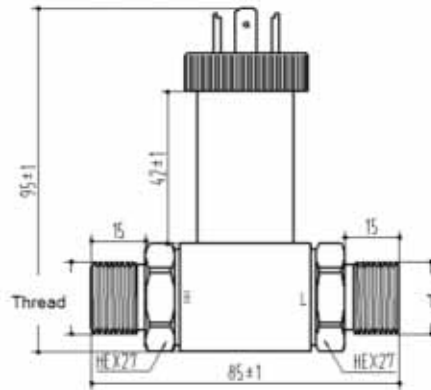
BFT series are used for measuring any pressure difference between its two pressure ports and outputs a single value as differential.

BT series are used for food and chemical industry, where special flush diaphragms are used to prevent accumulation of pressurized material in various areas such as tanks, pipes etc.

BFT

BT

BFT 210 PIEZORESISTIVE DIFFERENTIAL PRESSURE SENSOR

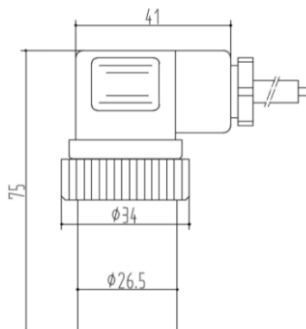


- MEMS based piezoresistive silicon sensor
- Perfect long term stability
- EMC and reverse polarity protection
- Analog output 4...20mA, 0...5V_{dc} or 1...5V_{dc}
- High accuracy: %0,5 FS
- Same day delivery from stock
- CE Certificate
- Measuring range from 1 mBar to 25 Bar

Applications

- ▶ Used for measuring the pressure difference between two pressure ports

BT 214 FLUSH DIAPHRAGM



"Flush Diaphragm / Industrial Applications"

- Flush Diaphragm / Relative pressure measurement
- Chemistry, Food, Sanitary and etc. applications
- Stainless steel case and wetted parts
- EMC and Reverse polarity protection
- Analog output 4...20mA or 0...10VDC
- High Sensitivity
- Internal "ZERO" and "SPAN" adjustment

Applications

- ▶ Chemistry
- ▶ Food
- ▶ Sanitary
- ▶ Level Control
- ▶ Water Technologies
- ▶ Automation Applications

- MEMS technology
- Piezoresistive measurement principle
- Small and compact housing
- Long-term excellent work
- Stainless steel housing
- EMC and reverse polarity protection
- Analog Output (4...20mA, 0...10VDC or Ratiometric)



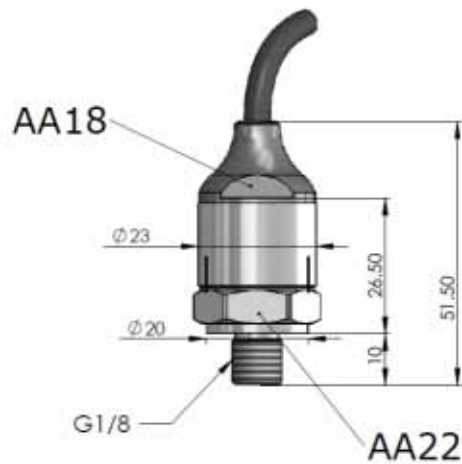
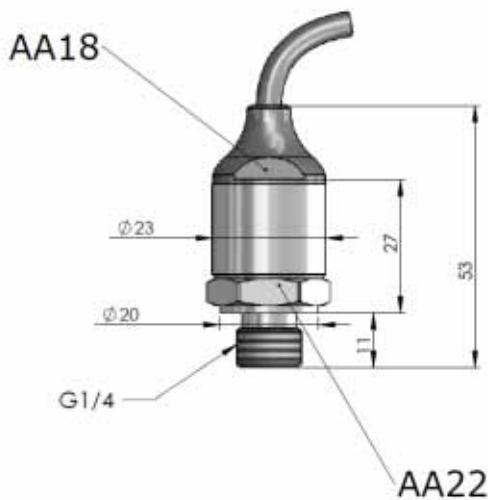
TECHNICAL SPECIFICATIONS

| | |
|------------------------------|--|
| Measurement Range | 10 Bar, 16 Bar, 0...1 Bar, -1...0 Bar |
| Application Area | Air or non-corrosive gas applications |
| Output Signal | 4...20mA (2-wire), 0...10VDC (3-wire), Ratiometric |
| Mechanical Connection | G1/4, G1/8, NPT1/4, NPT1/8 |
| Supply Voltage | +12...30 VDC or 5VDC |
| Precision | %1 |
| Protection Class | IP65 |
| Operating Temperature | -20°C ... +85°C |
| Housing | 303 Stainless Steel |
| Electrical Connection | With Cable 3 x 0.14 mm ² (4,9 mm cable diameter) or DIN43650-A or DIN43650-C socket |

APPLICATIONS

- Compressor Manufacturing
- Medical Applications
- Pneumatic Systems
- Air Cooling-Heating Systems
- Automation Applications

Dimensions



Order Code

Model

EPT 22

XXX

XXX

XX

XXX

XXX

Pressure Range

10B: 0...10BAR
16B: 0... 16BAR
-1...0B: Vacuum -1...0BAR
0...-1B: Vacuum (Reverse)

Output Signal

V: 0-10 VDC Analog Voltage
A: 4-20 mA Analog Current
* Please ask for others

Electrical Connection

2M : 2 meters cable
S30 : DIN43650-A type large socket
S31 : DIN43650-C type small socket

Mechanical Connection

G1/4 : G1/4 Connection
G1/8 : G1/8 Connection
NPT1/4 : NPT 1/4 Connection
NPT1/8 : NPT 1/8 Connection

Sensor

S : Silicon

INDUSTRIAL PRESSURE TRANSMITTERS HYDROSTATIC LIQUID OR AIR COMPRESSOR APPLICATIONS



- Piezoresistive measurement principle
- Long-term stable operation
- EMC and Reverse Polarity protection
- 4-20 mA or 0-10 V analog output
- Different level measuring between 1 meter and 100 meters
- IP68 protection class
- High quality
- Immediate delivery from stock
- Reasonable price, economical solution

PTL series level pressure sensors with piezoresistive working principle; are used for level measurement in applications like streams, reservoirs, water tanks etc.

With its IP68 protection class, it can work in harsh environments.

Thanks to the surge voltage and reverse polarity protection, the PTL110 series is unaffected by electrical fluctuations and reverse connections. Optionally configurable pressure ranges, analog output and mechanical connection options offer solutions suitable for various applications.

PTL 110 Series Level Transmitters

APPLICATIONS

With its ceramic membrane structure, it has high corrosion resistance and is highly resistant to salt water.

- Process technology
- Water treatment (wastewater, grey-water, drinking water)
- Level of river and lake
- Level of oils and fuels
- Seawater, saline water applications
- Marine applications

PTL 120 Series Level Transmitters

APPLICATIONS

- Wells
- Water Tanks
- Lake Level
- River Level
- Reservoirs
- Fuel Tanks

| Product | Housing | Cable Material | O-Ring | Applications |
|---------|----------------------------|---------------------|--------------------------------|---|
| PTL 110 | 1.4435 (316L) | PE (polythene) | NBR (standard), EPDM(optional) | General applications |
| | | FEP (fluoropolymer) | Viton (FKM) (optional) | Oils and fuels |
| PTL 120 | 1.4462 (dublex) (standard) | PE (polythene) | NBR (standard), EPDM(optional) | Sea water, saline water, waste water gray water |
| | 1.4435 (316L) (optional) | | | Viton (FKM) (optional) |
| | Titanium (optional) | | | |

Order Code

Model

PTL 110
PTL 120

PTL XXX

Output Signal

V: 0-10 VDC Analog Voltage
A: 4-20 mA Analog Current

XXX

Electrical Connection

5M : 5 meters

8M : 8 meters

10M: 10 meters

* Must be selected 1 meter above the value to be measured in liquid level measurement

XXX

Pressure

Different models between 100 mbar and 25 bar can be selected

XXX

Mechanical Connection

G1/4: G1/4 Connection

G1: G1 Connection

G1/2: G1/2 Connection

XX

Body Material

E300: 1.4462 (dublex)

E316: 1.4435 (316L)

E100: Titanium

XXX

About Us



ATEK Electronics Sensor Technologies Inc. has certainly been the market leader for position control sensors and measuring devices industries in Turkey since its establishment in 2002.

All of our sensors which are now well being used in Turkey and more than 60 countries throughout the entire world, for measuring linear and circular movements of various kinds of machinery; such as linear transducers, non-contacting magnetic encoders, rotary sensors, draw wire sensors, optical linear scales, digital readout systems, tilt sensors, pressure transmitters and potentiometers are completely hassle-free, long-lasting and of outstanding quality.



Our wide product range allows us to always find the optimal customized solutions for our customers in various industries with different applications for measuring, such as plastic injection machinery, iron and steel machinery, packaging machinery, wood marble and glassworking machinery, bending machinery as press brakes, textile machinery, hydraulics, robotics etc.

Cooperation between our skilled sales team and advanced engineering team, allows us to do all electronical and mechanical design and manufacturing in our high-tech facility in Turkey; and deliver our state of the art products to beloved customers and partners in very short times. We are well prepared and excitingly interested in building long-term relationships with our partners and providing the best solutions for them.

ATEK Sensor Technologies; your ultimate solution partner for your automation applications!



Atek Sensor Technology Incorporation's 3000 m² high-tech facility located in Istanbul, Turkey



"YOUR ULTIMATE SOLUTION PARTNER"

www.ateksensor.com



GROWING GLOBALLY



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