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BC-01 series digital position readouts

- *input frequency 150 kHz*
- *suitable for encoders with resolution from 5 microns*
- *digital readout for encoders with TTL quadrature output*
- *very favourable price*

BC-01 – 1 axis digital readout available at unrivalled price

- 6 digits LED display + sign
- height of digits 14 mm
- selectable direction of measurement
- absolute / incremental display mode
- mm / inch units of measurement
- reset, preset initial measurement value
- halving function, mirror function
- selectable resolution of the encoder within the range of **0.005 up to 0.999 mm**
- decimal point position setting
- possibility to block any key of the digital readout
- linear error compensation
- reference point detection
- in ABS power down memory



Optional accessories:

- power supply 24V AC/DC

BC-A01 – 1 axis digital readout for angular measurements

- 6 digits LED display + sign
- height of digits 14 mm
- selectable direction of measurement
- absolute / incremental display mode
- measured value display in decimal system or degrees, minutes, seconds (max. 5 s)
- reset, preset initial measurement value
- mirror function, halving function
- test of resolution of an unknown encoder
- selectable encoder resolution
- error compensation
- reference point detection
- possibility to block any key of the digital readout
- in ABS power down memory



Optional accessories:

- power supply 24V AC/DC

Holder for the BC-01, BC-A01 digital readouts



BC-03 universal digital readout

- counting speed 2 MHz
- bright, green LED display
- linear / angle measuring
- remote controller / remote cable keyboard available
- data output to PC
- universal power supply solution – 5V DC + 7 ~30 V AC/DC

BC-03 – 1-axis digital readout with wide range of functions

- 8 digits LED display
- height of digits 14 mm
- linear / angle measuring
- selectable direction of measurement
- free range setting of the encoder resolution
- decimal point position setting
- absolute / incremental display mode
- radius / diameter display + colored indication on the button
- reset, preset initial measurement value
- possibility to block any key of the digital readout
- linear error compensation
- in ABS power down memory
- signal input – TTL/RS422A
- also for panel assembly



Optional accessories:

- remote controller
- remote, cable keyboard
- holder arm



Remote, cable keyboard



Remote controller



Holder

BC-13 universal digital readout

- counting speed 2 MHz
- bright, green LED display
- linear / angle measuring
- remote controller / remote cable keyboard available
- data output to PC
- universal power supply solution – 5V DC + 7 ~30 V AC/DC

BC-03 – 1-axis digital readout with wide range of functions

- 8 digits LED display
- height of digits 20 mm
- linear / angle measuring
- selectable direction of measurement
- free range setting of the encoder resolution
- decimal point position setting
- absolute / incremental display mode
- radius / diameter display + colored indication on the button
- reset, preset initial measurement value
- possibility to block any key of the digital readout
- linear error compensation
- in ABS power down memory
- signal input – TTL/RS422A
- also for panel assembly



Optional accessories:

- remote controller
- remote, cable keyboard
- holder arm



Remote, cable keyboard



Remote controller



Holder

BC-x013 universal digital readout for 2-4 axes

- height of digits **20 mm**
- counting speed **2 MHz**
- bright, green LED display
- linear / angle measuring
- remote controller / remote cable keyboard available
- data output to PC
- universal power supply solution – 5V DC + 7 ~30 V AC/DC



BC-x013 – 2-4 axes digital readout with wide range of functions

- BC-2013 – digital readout for 2 axes
- BC-3013 – digital readout for 3 axes
- BC-4013 – digital readout for 4 axes
- 8 digits LED display
- height of digits 20 mm
- linear / angle measuring
- selectable direction of measurement
- free range setting of the encoder resolution
- decimal point position setting
- absolute / incremental display mode
- radius / diameter display + colored indication on the button
- reset, preset initial measurement value
- possibility to block any key of the digital readout
- linear error compensation
- in ABS power down memory
- signal input – TTL/RS422A
- also for panel assembly



Optional accessories:

- remote controller
- remote, cable keyboard
- holder arm



Remote, cable keyboard



Remote controller



Holder

ALC-77 controller for 1 axis

- dimensions: 72 x 72 mm
- 2 x 7 digits LED display
- high speed: 300 kHz
- position display
- selectable resolution within the range of 0.000001 up to 9.99999
- selectable 1 up to 6 digits after decimal point
- adjustable switch-off value
- 2 adjustable values to control 2 relay outputs
- the 1. preset value can influence the 2. preset value
- 11 selectable output modes
- password protection
- the unit is fit for mounting into control panel
- the unit can be used both for magnetic and optical encoders of the JIRKA company



SDS3-1 – general-purpose digital position readout

- digital position readout for 1 axis
- mm / inch units of measurement
- absolute / incremental display mode
- linear error compensation
- measurement in positive / negative directions
- center finder function (halving function)
- reset
- absolute zero point setting
- RS-232-C interface (not included in basic model)



- selectable resolution
- radius/diameter conversion
- power down memory

SDS6-2V / -3V – general-purpose digital position readout for 2 / 3 and 4 axis measurements

SDS6 series features:

- digital position readout for 2 axes (SDS6-2V)
- digital position readout for 3 axes (SDS6-3V)
- digital position readout for 4 axes (SDS6-3V4) - 4 axes display
- 2 axes independently, 2 axes combined
- selectable resolution of the readout
- mm / inch units of measurement
- radius / diameter display mode
- absolute / incremental display mode
- center finder function (halving function)
- arc-shape machining
- bolt-hole function
- memory for up to 200 initial points
- skew line-hole function
- calculator
- machining of internal part of rectangle
(for milling machines – optional)
- tool diameter compensation
- skew plane machining
- memory for up to 200 tools



- linear error compensation
- non-linear error compensation
- power down memory
- **holder included in delivery**

Options:

- RS-232 output
- 24V power supply

Indications with enhanced features

Pearl V4 digital position readout

- 2 or 3 axis measurement
- selectable encoder resolution
- selectable direction of measurement
- mm / inch units of measurement
- radius / diameter display mode
- absolute / incremental display mode
- center finder function of line, circle
- zero setting, preset function
- bolt-hole programming
- programmable tool compensation (10 tools)
- 100 programmable steps
(used also for entry of zero points)



- reference point detection
- calculator
- power down memory
- linear error compensation
- **holder included in delivery**

Pearl V3 digital readout

- 2 / 3 or 4 axis measurement
- **all functions of the Pearl V4 included and more:**
- the displays can be set individually for linear or angular measurements
- high input frequency – 7.5 MHz
- selectable display resolution
- 6 coordinate origins / 1700 starting points segmented into programming blocks
- selectable display repetition frequency (display filter)
- digital position readout remote control
- bolt-hole, arc-hole, line-hole, frame-hole, skew line-hole, matrix-hole
- near zero warning
- mirror function, scaling function
- polar / cartesian coordinate systems
- linear and non-linear error compensation
- conicity calculation
- range of measurement -99999.000 up to 99999.000 mm



- machining time / feed speed display
- XY, YZ, XZ interpolation
- programmable blocks
- RS232 output
- **holder included in delivery**

Optional accessories:

- touch sensor input
- output for 6 relays

PDRG series digital position readout

PDRG series digital position readouts combine the advantages of classic digital position readout and a graphic LCD display.

- 7" colour display
- easier control compared to classic readouts with LED displays
- the option of choosing the number of displayed axes
- option to choose the colour scheme of the display

Digital readout function:

- readout for 2, 3 or 4 axes, including axis hiding
- resetting to zero, value presetting
- setting the number of displayed decimal places
- absolute / relative scale option
- mm / inch option
- diameter / radius display option
- memory for 200 starting points
- memory for 16 instruments
- centre calculation
- arc machining
- drilling holes on a circle, diagonal lines
- calculator
- axes summation
- choice of linear / rotary probe
- linear and non-linear probe error compensation
- readout direction setting
- reference point setting
- movement speed display
- saving data when readout is switched off
- output to 3D probe

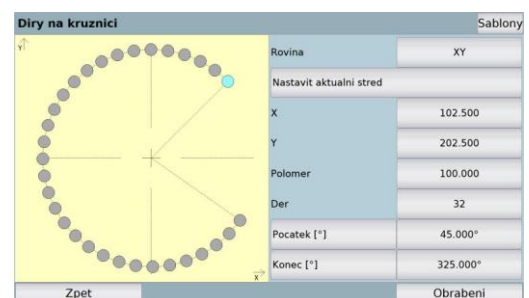
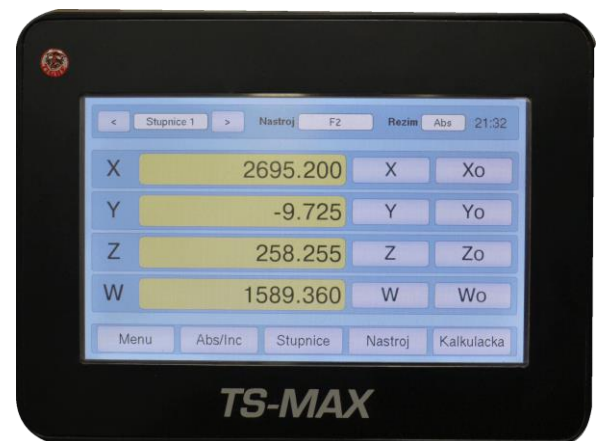


TS-MAX-7" / 10" Series Digital Readout

- uncompromising solution

- *absolutely innovative solution on the market of digital readouts*
 - *7" or 10" colour touchscreen*
 - *possibility to set (decrease) number of visible axes on the display*
 - *graphically visualized functions, intuitive operation, only functions corresponding to a given application are displayed*
 - *control by finger or by the stylus delivered as standard*
 - *software and hardware developed by company JIRKA a spol., s.r.o.*
- digital readout for 3 or 4 axes
 - maximum speed of the 25 MHz encoder
 - all integrated into 1 board + motherboard of the operating system
 - fast processor with sufficient memory
 - possibility to add more axes for special applications
 - possibility to add more axes for special applications
 - selectable axes displayed on the screen
 - selectable buttons displayed on the main screen
 - absolute / incremental display mode
 - selectable mm / inch
 - zero points and tools setting (including description of individual positions)
 - possible addition of any axes of the digital readout
 - selectable display and encoder resolution
 - linear or angular measurements
 - bolt hole, line hole, matrix hole calculation
 - center of line / circle calculation, halving function
 - angle measurement, calculator
 - selectable machine tool (milling machine, lathe, grinding machine)
 - selectable diameter / radius measurements for lathes
 - name of the axes setting
 - selectable filter of displayed values
 - linear error compensation
 - positive / negative reference pulse
 - language selection (Czech, German, English as standard)
possibility to add other languages (on request)
 - reset to factory or user setting
 - selectable colour scheme of the digital readout
 - magnetic stylus for comfortable control of the digital readout
 - removable protection foil on the screen
 - power supply from mains 230V using a power adapter delivered as standard or direct power supply from 24 V DC
 - **stand-by mode for the digital readout counting, when the display and computer are switched off**

Display size 7" or 10"



Data outputs (special accessories)

- TCP-IP output

TS-MAX-7, display size 7“, for 3 axes
TS-MAX-7, display size 7“, for 4 axes

TS-MAX-10, display size 10“, for 4 axes
TS-MAX-10, display size 10“, for 6 axes

Holder for the digital readout (adjustable)

Accessories:

Spare removable foil to TS-MAX-7 (3 pcs)
Spare removable foil to TS-MAX-10 (3 pcs)
Spare magnetic stylus:

Options / modifications of the TS-MAX digital readout

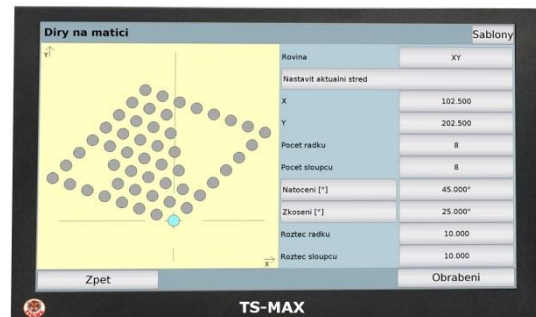
- TCP-IP output, including PC software
- output to probe, incl. software

TS-MAX series digital position readout

- ultra large display

TS-MAX series digital position readout with additional functions:

- **17.3" touch display with ultra HD resolution**
- **possibility of installation into panel or console**
- **possibility to deliver the readout unit separately or integrated in the monitor**
- **standard connection of 4 axes (possibility to add up to 6)**
- **also suitable for mounting into the panel**



TS-MAX-ULTRA, display size 17.3“, for 4 axes
TS-MAX-ULTRA, display size 17.3“, for 6 axes

TS-MAX-LITE digital position readout

- interface with integrated PC for connecting to any monitor

All common functions of TS-MAX digital readout included

- **possibility to connect to any monitor with HDMI input**
- **USB input for connecting a mouse or a track-ball**
- **at the price corresponding to a normal digital readout, a full graphical readout with a large monitor can be created**



TS-MAX-LITE, HDMI output, for 3 axes
TS-MAX-LITE, HDMI output, for 3 axes

Digital readout of the TS-MAX series for 1D measurements

- comfortable, intuitive and friendly operation using a touch screen
- foot switch for simple control
- data output to the PC
- digital readout suitable for operation with gauges, three point internal micrometers of the „Pistol-Grip“ series, inside bore gauges. You can find these devices in the product range of company JIRKA a spol., s.r.o.
- input for a TTL / RS-422A sensor
- foot switch
- data output to the PC
- practically unlimited selection of programs and volume of measured values
- assignment of operator name
- evaluation of correct, defective and repairable workpieces
- display of deviations both in numerical and graphical form
- colour selection of correct, defective and repairable workpieces
- statistical parameters (mean value, minimum, maximum, standard deviation, median)
- possibility to measure minimum/maximum values (e.g. suitable for diameter measurements)
- magnetic stylus for easy control of the digital readout
- protective replaceable foil for the display
- holder (arm or table holder)
- the readout is powered from a standard 230VAC/24VDC adapter or directly from a 24VDC source.



Accessories:

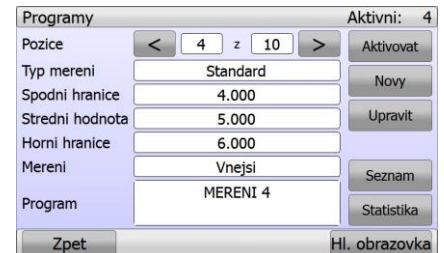
- Spare replaceable foil (3pcs)
- Spare magnetic stylus



Repairable workpiece



Defective workpiece



Program setting

Programy				
	Min	Stred	Max	Nazev
1	5.000	6.000	7.000	MERENI 1
2	5.000	6.000	7.000	MERENI 2
3	5.000	6.000	7.000	MERENI 3
4	4.000	5.000	6.000	MERENI 4
5	5.000	6.000	7.000	MERENI 5
6	-1.000	0.000	1.000	MERENI 6
7	-100.000	-40.000	-10.000	MERENI 7
8	1.000	2.000	3.000	MERENI 8

List of programs

Vysledky			
Hodnota	Stav	Obsluha	
3.4000	Vadny	JAROSLAV BRUSNIK	Smazat
4.1580	Dobry	JAROSLAV BRUSNIK	
4.4830	Dobry	JAROSLAV BRUSNIK	
5.6730	Dobry	JAROSLAV BRUSNIK	
5.1310	Dobry	JAROSLAV BRUSNIK	Smazat vse
5.4550	Dobry	JAROSLAV BRUSNIK	
4.5890	Dobry	JAROSLAV BRUSNIK	
6.2650	Na prepracovani	JAROSLAV BRUSNIK	

Measurement results

Statistika	
Program	Vysledky
MERENI 4	
Vysledku	23 => 13 6 4
Minimum	3.40000
Maximum	6.79400
Prumer	5.09787
Odchyika	-4.11870
Median	3.56300

Statistical parameters

Recommended accessory for TS-MAX indications for 1D measurement

- **TMPx series measuring probes**
 - see catalog page A/36



Pistol Grip, Three Point Inside Micrometers set, carbide measuring tipped, 0,001 mm

Order no.	Measuring range
05-12-SDPG	6 – 12 mm
05-20-SDPG	12 – 20 mm
05-50-SDPG	20 – 50 mm
05-100-SDPG	50 – 100 mm



SUBITO

Order no.	Measuring range	Depth of measurement
16-10-S01	6 – 10 mm	40 mm
16-18-S01	10 – 18 mm	100 mm
16-35-S01	18 – 35 mm	125 mm
16-50-S01	35 – 50 mm	150 mm
16-160-S01	50 – 160 mm	150 mm
16-250-S01	160 – 250 mm	400 mm
16-450-S01	250 – 450 mm	400 mm



Universal pistol inside gauge

- used together with the measuring probe TMPx
- moveable contact distance: 10 mm
- changeable ball contact, Ø 6.5 mm (other shapes customized)
- changeable contact arm length 50 mm and 80 mm

Order no.	Measuring range
05-150-DD1	30 – 150 mm



Universal inside gauge

- used together with the measuring probe TMPx
- moveable contacts diameter : 6 mm, length 25 mm
- moveable contacts distance: 10 mm

Order no.	Measuring range
05-200-PIG	50 - 400 mm
05-500- PIG	200 – 1000 mm
05-1000- PIG	200 – 1500 mm



Universal outside gauge

- used together with the measuring probe TMPx
- jaws height: 35 mm, special jaws height: 70 mm
- measuring range: 10 mm

Order no.	Measuring range
05-200-POG	0 – 200 mm
05-500- POG	0 – 500 mm
05-1000- POG	0 – 1000 mm



Fast caliper gauge

- used together with the measuring probe TMPx
- stroke: 10 mm
- changeable measuring contacts, diameter 16 mm
- with position stopper

Order no.	Measuring range
05-25-FCG	0 – 25 mm
05-50-FCG	25 – 50 mm
05-75-FCG	50 – 75 mm
05-100-FCG	75 – 100 mm
05-125-FCG	100 – 125 mm
05-150-FCG	125 – 150 mm



Granite measuring table	
Order no.	Description
09-3020-SG1 - screw rod	<ul style="list-style-type: none"> • Granite table • Flat surface of the table according to DIN 876/00
09-3020-SG2 - move on smooth bar - telescopic horizontal arm	<ul style="list-style-type: none"> • The measuring table is equipped with adjustable clamping mechanism for pr. 8mm • Table dimensions: 200 x 300 mm • Suitable for dial gauges or linear probes



09-3020-SG1



09-3020-SG2

Concentricity Gauge

Order no.	Diameter mm	Measurement length	Product length	Product width	Accuracy
PJ-25	3-25	305 mm	320 mm	140 mm	$\leq 2 \mu\text{m}$
PJ-50	10-50	305 mm	320 mm	140 mm	$\leq 2 \mu\text{m}$
PJ-102	20-102	305 mm	320 mm	140 mm	$\leq 2 \mu\text{m}$

- dial indicators are optional accessory



DS-600 digital readout

- *DS-600 digital readout is suitable for use with profile projectors, microscopes or other 2D measuring devices.*
- *It enables measurement of points, lines, circles and angles and combination of measurements of individual geometric elements.*

DS-600 digital readout features

- the 3rd axis can be used for angle measurement or linear measurement
- smallest resolution of the digital readout: 0.001mm
- display of polar / Cartesian coordinates
- measurement of points, lines, circles, angles, distances, rectangles, ellipses, threads
- memory for storing 200 measurements of geometric elements (100 elements temporarily + 100 elements permanently)
- construction of geometric elements
- measurement program creation
- encoder linear correction
- encoder segment (nonlinear) correction
- input for the TTL signal encoders
- dimensions: 290 x 195 x 80 mm

Optional accessories:

- RS-232 data output



PC interface – III

(version for 1/2/3 axes)

The PC-03-XX PC interface is intended for connection of incremental encoders providing quadrature signals of TTL or RS422 (optional) level to PC. PC interfaces are supplied including the PC software.

- data input for 1/ 2/ 3 axes
 - input frequency: 25 MHz / axis
 - RS232 / USB data output
 - **library for implementation of the interface into customer applications**
-
- *Firmware features:*
 - storing last value before switching off
 - axis reset function
 - reference point detection function
 - *Software features:*
 - display of coordinate values, automatic detection of the number of axes according to the connected PC interface, designation of individual axes, presetting of values, zeroing, setting of tolerance field of the measurement with graphical representation;
 - possibility of automatic data storage into a table – on the base of the time interval, interval on the axis or the guide axis, recording of the device operator, serial number of the measured componen
 - possibility to display axis values in full screen;
 - data storage into a table, possibility to export it to CSV format.



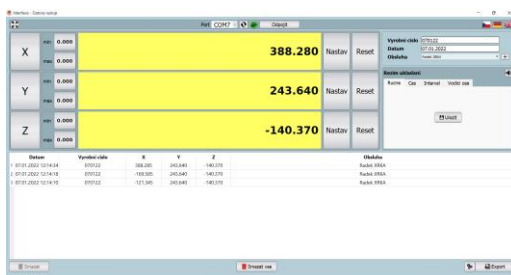
PC interface

- The PC interface enables direct connection with a PC running under the Windows system using a USB cable. Power supply to the PC interface is provided via an external power source (included). The PC interface with USB output is delivered including software and drivers for the Windows system (version XP and higher).

PC interface for 1 axis, RS232 /USB output

PC interface for 2 axes,RS232/ USB output

PC interface for 3 axes,RS232/ USB output



PC interface – III

(version for 4 and 6 axes)

The PC-03-XX PC interface is intended for connection of incremental encoders providing quadrature signals of TTL or RS422 (optional) level to PC. PC interfaces are supplied including the PC software.

- data input for 4 / 6 axes
- input frequency: 25 MHz / axis
- RS232 / USB data output
- **library for implementation of the interface into customer applications**
- *Firmware features:*
 - storing the last value before switching off
 - axis reset function
 - reference point detection function
- *Software features:*
 - display of coordinate values, automatic detection of the number of axes according to the connected PC interface, designation of individual axes, presetting of values, zeroing, setting of tolerance field of the measurement with graphical representation;
 - possibility of automatic data storage into a table – on the base of the time interval, interval on the axis or the guide axis, recording of the device operator, seriál number of the measured component;
 - possibility to display axis values in full screen;
 - data storage into a table, possibility to export it to CSV format.



PC interface

- The PC interface enables direct connection with a PC running under the Windows system using a USB cable. Power supply to the PC interface is provided via an external power source (included). PC interface with USB output is delivered including software and drivers for the Windows system (version XP and higher).

**PC interface for 4 axes, RS232/USB output
PC interface for 6 axes, RS232/ USB output**

Datum	Vychodi číslo	1	2	3	4	5	6	Obiluka
1 10.01.2022 09:18:40	100122	567.155	333.130	334.200	52.140	5568.250	895.350	Mikhal Puchta
2 10.01.2022 09:18:43	100122	567.155	333.130	334.200	52.140	5568.250	895.350	Mikhal Puchta
3 10.01.2022 09:18:43	100122	567.155	333.130	334.200	52.140	5568.250	895.350	Mikhal Puchta
4 10.01.2022 09:18:43	100122	567.155	333.130	334.200	52.140	5568.250	895.350	Mikhal Puchta
5 10.01.2022 09:18:43	100122	567.155	333.130	334.200	52.140	5568.250	895.350	Mikhal Puchta
6 10.01.2022 09:18:43	100122	567.155	333.130	334.200	52.140	5568.250	895.350	Mikhal Puchta

1	min 0.000 max 0.000	567.155	Nastav	Reset
2	min 0.000 max 0.000	333.130	Nastav	Reset
3	min 0.000 max 0.000	334.200	Nastav	Reset
4	min 0.000 max 0.000	52.140	Nastav	Reset
5	min 0.000 max 0.000	5568.250	Nastav	Reset
6	min 0.000 max 0.000	895.350	Nastav	Reset

Magnetic linear encoders

The advantage of the magnetic linear encoders is their resistance to water, oil and dust. Function of the magnetic encoders is based on contactless principle. Air gap between the magnetic tape and the sensor can be up to 2.5mm for the TMLS-05A-05 series sensors and up to 1mm for the TMLS-25B-02, TMLS-05A-02 and TMLS-01A-02 series sensors. Sensor protection is IP67, max. length of the magnetic tape is 50m. Standard length of the delivered cable for the TMLS-05 and TMLS-01 series sensors is 3m, for the TMLS-25 series sensors 2m. An extension cable or longer cable can be delivered if required. The JIRKA company offers a comprehensive range of sensors according to the application in a machine.

Standard warranty provided for the magnetic linear encoders: 24 months.

TMLS25 series magnetic linear encoders – lowest price on the market !

These magnetic encoders are suitable for saws, presses, drilling machines, woodworking machines, tinsmith machines and other appliances where 25 micron resolution is sufficient.

TMLS-25B-02 magnetic encoder

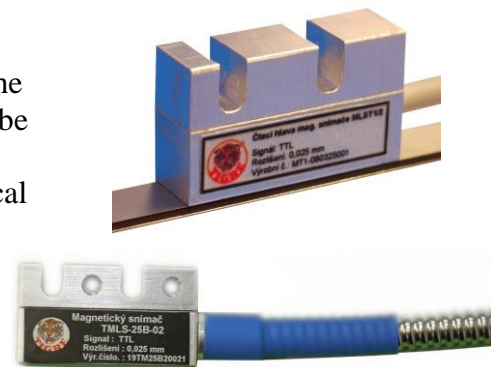
– 25 micron resolution magnetic encoder. Maximum air gap between the magnetic tape and the sensor is 1mm, armoured cable, length 2 m, can be delivered (according to the order).

Advantage of the encoder is its price, reliability, resistivity to mechanical influences, very small dimensions, easy installation and possibility to measure long distances.

The encoder is used together with the MT-02 series magnetic tape.

Sensor head without stainless steel conduit, resolution 25 µm

Sensor head with stainless steel conduit, resolution 25 µm



TMLS05 series magnetic linear encoders – high resolution, low price !

TMLS-05A-05 magnetic encoder

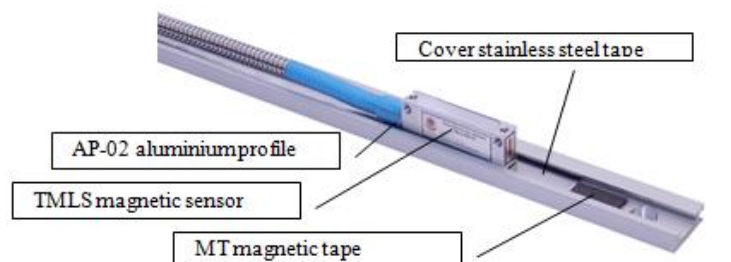
- suitable for wood-working machines, presses, machines with vibrations

– **5 micron high resolution** magnetic encoder. Maximum air gap between the magnetic tape and the sensor is **2.5 mm**, armoured cable, length 3 m, is delivered as standard - protection against metal chips etc.

Advantage of the encoder is its price, reliability, resistivity to mechanical influences, very small dimensions, easy installation and possibility to measure long distances.

The encoder is used together with the MT-05 series magnetic tape.

TMLS-05A-05 sensor head, resolution 5 µm



TMLS-05A-02 magnetic encoder

The magnetic encoders are suitable e.g. for milling machines, lathes, horizontal boring machines and other appliances where 5 micron and higher resolution is required.



– **5 micron high resolution** magnetic encoder.

Maximum air gap between the magnetic tape and the sensor is **1mm**, armoured cable, length 3 m, is delivered as standard - protection against metal chips etc.

Advantage of the encoder is its price, higher accuracy in comparison with the TMLS-05A-05 sensors, reliability, resistivity to mechanical influences, very small dimensions, easy installation and possibility to measure long distances.

The encoder is used together with the MT-02 series magnetic tape.

TMLS-05A-02 sensor head, resolution 5 µm

Optional magnetic encoders modifications TMLS-05/01

- symmetric output (RS422)
- FLEXI cable, without stainless steel conduit, suitable for the energy chains

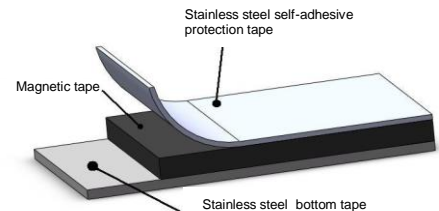
free of charge

MT series magnetic tapes for the TMLS magnetic encoders

Higher accuracy

The magnetic represents a basic component of the linear magnetic encoder principle. The delivery contains a self-adhesive magnetic tape (width 10mm, thickness 1.4mm, max. length 48 m) and a self-adhesive steel cover tape (width 10mm, thickness 0.2 mm).

Advantage of this design is easy installation (if the tape is applied on a quality flat surface) and very favourable price. Missing protection against cooling liquids which can unstick the tape and required quality flat surface for the tape are disadvantage of this design.



MT-02-02 magnetic tapes, accuracy +/- 0.015 mm

MT-05-02 magnetic tapes, accuracy +/- 0.020 mm

Prices of the MT05-02 / MT-02-02 magnetic tape

The magnetic tapes up to length 10m are delivered including a self-adhesive protective steel tape (if delivered without a protective aluminium profile). Over length 10m the self-adhesive protective steel tape is delivered separately (on request).

PRECISE series high accurate magnetic encoders

- *magnetic encoders featuring maximum deviation under 5 μm*
- *+/- 6 μm high accurate magnetic tape*

The PRECISE series high accurate encoders enable to use magnetic encoders in applications where only optical encoders have been used. At the same time all the unique features of the magnetic encoders are maintained: dustproof, waterproof, high resistance against mechanical damage and very small dimensions.

TMLS-01A-02-PRECISE magnetic encoder

– **1 micron high resolution** magnetic encoder.

Maximum air gap between the magnetic tape and the sensor is **1 mm**, armoured cable, length 3 m, is delivered as standard - protection against metal chips etc.

Advantage of the encoder is **high accuracy**, reliability, resistivity to mechanical influences, very small dimensions and easy installation.

The encoder is recommended to use together with the MT-02-008 magnetic tape.



MT-02-008 series magnetic tapes for the TMLS-PRECISE sensor heads *Higher accuracy*

The MT-02-008 series magnetic tapes are mainly intended for use with the PRECISE series high accurate magnetic encoders. Maximum deviation of the magnetic tapes is +/- 0.008mm.

The magnetic tapes up to length 10m are delivered including a self-adhesive protective steel tape (if delivered without a protective aluminium profile). Over length 10m the self-adhesive protective steel tape is delivered separately (on request).

NEW GENERATION of NG series magnetic encoders

- *encoder resolution up to 0.2 μm*
- *calibration button on the connector - to achieve high accuracy of the encoder, it is possible to perform a new encoder calibration by the customer after installation on a specific device*
- *standard encoder resolution 1 μm / 5 μm*
- *the possibility of setting a special resolution of the encoder according to customer requirements*
- *detection of a break in the contact of the encoder with the magnetic tape*
- *high resistance to interference thanks to the standard RS422A output*
- *the possibility of later change of the resolution of the encoder by JIRKA and spol.*

New generation of NG series magnetic encoder enable thanks high resolution and accuracy to use magnetic encoders in applications where only optical encoders have been used. At the same time all the unique features of the magnetic encoders are maintained: dustproof, waterproof, high resistance against mechanical damage and very small dimensions

TMLS-0xA-02-NG magnetic encoder

– **up to 0.2 micron high resolution** magnetic encoder.

Maximum **air gap** between the magnetic tape and the sensor is **1 mm**, armoured cable, length 3 m, is delivered as standard - protection against metal chips etc.

Advantage of the encoder is **high accuracy, resolution**, reliability, resistivity to mechanical influences, very small dimensions and easy installation.

The encoder is recommended to use together with the MT-02-008 magnetic tape.



Magnetic encoders of the TMLS – mini series

Magnetic encoders of the TMLS-0xC-02 series

- very small dimensions: 35 x 15 x 10 mm
- resolution 5 and 1 micron
- IP67 protection
- TTL 5V output, RS-422 optionally
- cable length 3 mtrs – special flexible cable
- intended for the MT-02-02 and MT-02-008 magnetic tape + AP-02 rail



TMLS-05C-02

(resolution 5 μ m, accuracy \pm 12 μ m)

TMLS-05C-02 – Precise

(resolution 5 μ m, accuracy \pm 5 μ m)

TMLS-01C-02 – Precise

(resolution 1 μ m, accuracy \pm 5 μ m)

Magnetic encoders of the TMLS-0xD-02 series

- **height 12 mm only**
- very small dimensions: 44 x 12 x 12 mm
- resolution 5 and 1 micron
- IP67 protection
- TTL 5V output, RS-422 optionally
- cable length 3 mtrs – special flexible cable
- intended for the MT-02-02 and MT-02-008 magnetic tape + AP-02 rail



TMLS-05D-02

(resolution 5 μ m, accuracy \pm 12 μ m)

TMLS-05D-02 – Precise

(resolution 5 μ m, accuracy \pm 5 μ m)

TMLS-01D-02 – Precise

(resolution 1 μ m, accuracy \pm 5 μ m)

Magnetic encoders of the TMLS-0xL-02 series integrated into the linear rail

- magnetic encoder integrated into the bearing block
- magnetic tape integrated into the rail
- high resistance against the dust and liquids
- suitable for the construction of the machines
 - saves the installation time and the needed space
- optimized for the PMI MSA-20, MSA-25 linear rail and the MSA20, MSA25 bearing block
- resolution 5 and 1 micron
- TTL 5V output, RS-422 optionally
- cable length 3 mtrs



TMLS-05L-02-20

(resolution 5 μ m, accuracy \pm 12 μ m)

TMLS-01L-02-20 – Precise

(resolution 1 μ m, accuracy \pm 5 μ m)

TMLS-05L-02-25

(resolution 5 μ m, accuracy \pm 12 μ m)

TMLS-01L-02-25 – Precise

(resolution 1 μ m, accuracy \pm 5 μ m)

Linear rail with the bearing block

- linear rail with the bearing block, size 20 – MSA20R
- linear rail with the bearing block, size 25 – MSA25R

Manual clamp

- manual clamp, size 20
- manual clamp, size 25



AP series aluminium protection profiles for the magnetic tapes

The magnetic tapes can be effectively protected by the aluminium protection profiles delivered by the JIRKA a spol., s.r.o. company. The profiles provide 100% resistivity of the magnetic tape against unsticking, better protection against impurities and metal chips. They also make the installation easier. The steel cover tape is used together with the aluminium profiles, without self-adhesive layer, width 16 mm.

AP-02 aluminium profile

This aluminium profile is suitable for all the magnetic encoders delivered by the JIRKA a spol., s.r.o. company. Advantage of the AP-02 profile is application of a thin steel cover tape enabling to achieve minimum air gap between the magnetic tape and the magnetic sensor. The side T-groove enables to mount the L-cover using a nut. Surface of the aluminium profile is anodized. The linear rail is delivered incl. stainless steel cover tape and rubber sealing.

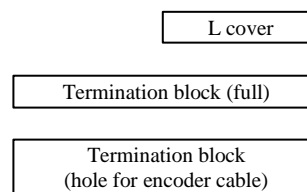
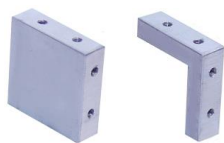


L -cover for the AP-02 profile

The L-cover can be used together with the AP-02 profile to increase protection of the encoder. Cuts made in 100 mm distances along the L-cover enable easy mounting onto the basic aluminium profile.



Termination block for the L-cover



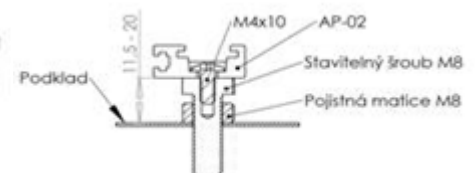
AP-01 aluminium profile

This aluminium profile is suitable primarily for the TMLS-05A-05 series magnetic encoders. Advantage of the profile is its rigidity and smooth surface preventing from deposition of impurities on the surface.



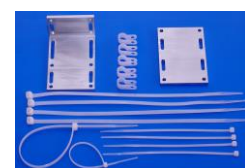
Adjustable screws for the AP aluminium profiles

Adjustable screws are used to easily reach the straight surface for the assembly of the aluminium profiles on the machine.



Mounting set

Detailed description and price of mounting kit for encoders can be found in the catalog section: Others : A/45



Guided magnetic encoder

Advantages of the system:

- ideal for axes with the length over 2 m
- easy installation of the linear encoder. The rail ensures constant air gap between the magnetic sensor and the magnetic tape.
- sufficiently robust linear guidance for the sensor
- length without limitation (maximum length of one segment is 3 m)
- the magnetic sensor is delivered incl. the flexible holder

TMLS-05G-02 / TMLS-01G-02-PRECISE guided magnetic encoders

TMLS-05G-02 - 5 micron resolution magnetic encoder

TMLS-01G-02-PRECISE - 1 micron resolution magnetic encoder

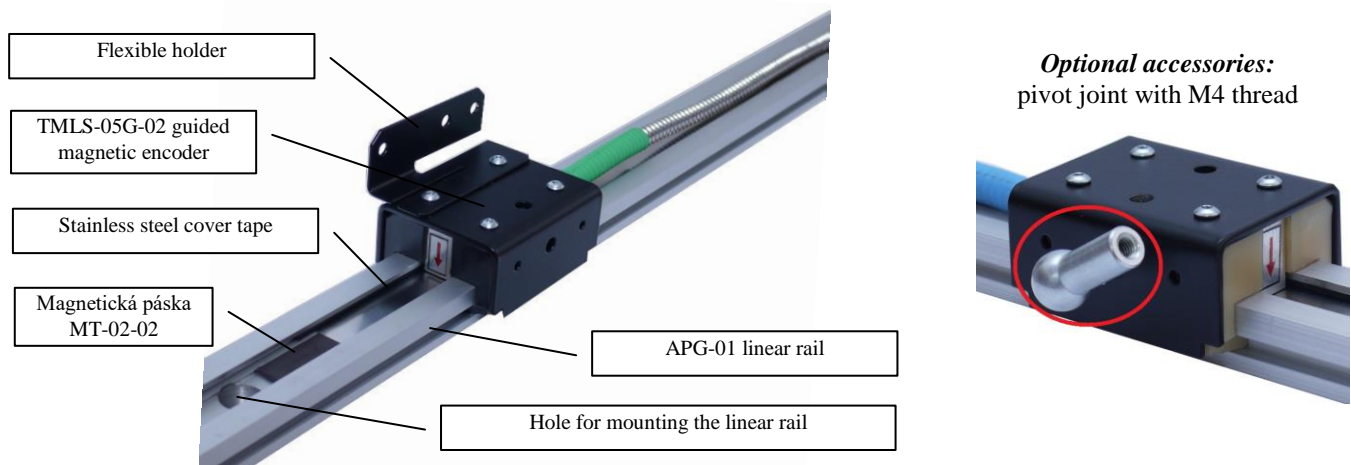
If the length of axes is over 2 m, it's difficult to adjust the air gap. The air gap is secured by the sliding guide. An armoured cable (length 3 m) is delivered as standard - protection against metal chips etc. The length is facultative according to customer requirements.

Advantage of the encoder is its reliability, resistivity to mechanical influences, small dimensions, easy installation and possibility to measure long distances.

The encoder is used together with the MT-02 series magnetic tape and the APG-01 series linear rail.

TMLS-05G-02 magnetic sensor, resolution 5 μm

TMLS-01G-02-PREICSE magnetic sensor, resolution 1 μm



APG-01 linear rail for the TMLS-05G-02 / TMLS-01G-02 series magnetic encoders

The aluminium profile was designed for linear guidance of the TMLS-05G-02 / TMLS-01G-02 series encoders. This design ensures constant air gap between the sensor and the magnetic tape, therefore the signal cannot be interrupted and optimum conditions for maximum system accuracy are guaranteed.

The linear rail is delivered incl. stainless steel cover tape and rubber sealing. Surface of the aluminium profile is anodized.

Optional accessories: pivot joint with M4 female thread for fastening the sensor glider
(the pivot joint can be fastened from the upper or lateral side of the sensor glider)

TMLS-0xS linear magnetic scale

- *dimensions and installation compatible with the HEIDENHAIN optical encoders*
- *dimension of the encoder: (w) 20 x (h) 30 mm*
- *total height of the encoder (including the head): 48 mm*
- *easy and fast installation*
- *resolution 0.005mm and 0.001mm*
- *output signals 5V TTL. Optionally 5V RS422 or 24 V level using signal converters (see A/44)*
- *cable length 3 m*
- *the magnetic tape and the sensor are protected by one or two (optional) pairs of rubber lips*

Longueur mm	Distinction			Longueur mm	Distinction		
	5 µm	5 µm - Precise	1 µm Precise		5 µm	5 µm - Precise	1 µm Precise
120			Price on request	1100			Price on request
170			Price on request	1200			Price on request
220			Price on request	1300			Price on request
270			Price on request	1400			Price on request
320			Price on request	1500			Price on request
370			Price on request	1600			Price on request
420			Price on request	1700			Price on request
470			Price on request	1800			Price on request
520			Price on request	1900			Price on request
570			Price on request	2000			Price on request
620			Price on request	2100			Price on request
670			Price on request	2200			Price on request
720			Price on request	2300			Price on request
770			Price on request	2400			Price on request
820			Price on request	2500			Price on request
870			Price on request	2600			Price on request
920			Price on request	2700			Price on request
970			Price on request	2800			Price on request
1020			Price on request	2900			Price on request

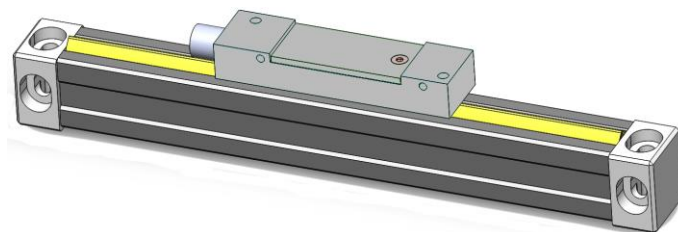
optionally: L-cover for magnetic scale protection



TMLS-0xSM series miniature magnetic linear scales

- *miniaturized dimensions of magnetic encoder*
- *dimension of the encoder: (w) 20 x (h) 24 mm*
- *total height of the encoder (including the head): 39 mm*
- *suitable, for example, for lathe transverse movements*
- *easy and fast installation*
- *resolution 0.005 and 0.001 mm*
- *output signals 5V TTL. Optionally 5V RS422 or 24 V level using signal converters (see A/44)*
- *cable length 3 m*
- *the magnetic tape and the sensor are protected by one pair of rubber lips*

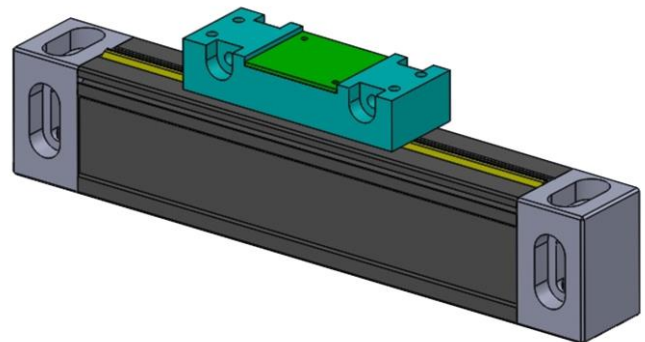
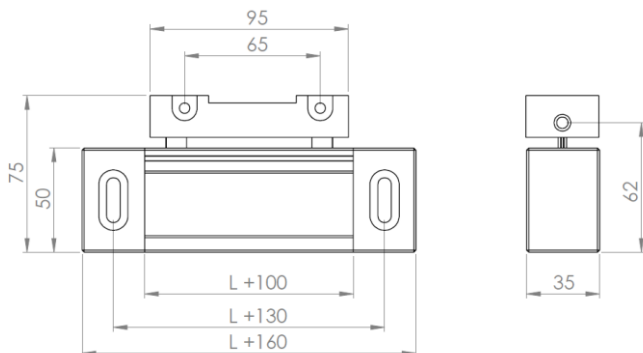
Miniature magnetic linear encoder		
Length mm	Resolution	
	5 μ m	1 μ m
120	Price on request	
170	Price on request	
220	Price on request	
270	Price on request	
320	Price on request	
370	Price on request	
420	Price on request	
470	Price on request	
520	Price on request	
570	Price on request	
620	Price on request	



TMLS-0xSG series magnetic linear scales

- suitable especially for linear scales with the length over 2 m
- robust magnetic encoder with the guided wagon magnetic encoder. It includes the advantages of the APG-01 system and fully closed magnetic encoders
- possibility to assembly the profiles together to endless length
- dimension of the linear scale profile: (w) 35 x (h) 50 mm
- total height (including reading head): 75 mm
- resolution 0,005 mm
- output signals 5V TTL. Optionally 5V RS422 or 24 V level using signal converters (see A/44)
- standard cable length 3 m
- the magnetic tape and the sensor are protected by one or two (optional) pairs of rubber lips

Meas. length mm	Resolution 5 µm	Meas. length mm	Resolution 5 µm
120	Price on request	1100	Price on request
170	Price on request	1200	Price on request
220	Price on request	1300	Price on request
270	Price on request	1400	Price on request
320	Price on request	1500	Price on request
370	Price on request	1600	Price on request
420	Price on request	1700	Price on request
470	Price on request	1800	Price on request
520	Price on request	1900	Price on request
570	Price on request	2000	Price on request
620	Price on request	2100	Price on request
670	Price on request	2200	Price on request
720	Price on request	2300	Price on request
770	Price on request	2400	Price on request
820	Price on request	2500	Price on request
870	Price on request	2600	Price on request
920	Price on request	2700	Price on request
970	Price on request	2800	Price on request
1020	Price on request	2900	Price on request



Optical linear encoders

KA series

– standard linear encoders are used primarily in milling machine tools, lathes, drilling machines and other machine tools

KA-300

– most frequently used linear encoders with TTL output signals. D covers are used for protection of the encoders.

KA-500

– miniature linear encoders (20 x 18 mm) designed for small-space applications. The H cover can be used for protection of the encoders.

KA-600

- linear encoders for long-axis measurements. The M cover can be used for protection of the encoders. The cover is delivered free of charge.

KA series linear encoders			
Model	KA-300	KA-500	KA-600
Encoder length	70-1020	70-470	1000-3000
Cross section (mm)	25x34	18x20	30x43
Max. response speed	1 m/s		
Repeatability	± 1 pulse		
Protection	IP 55		
Resolution (um)	1/5	1/5	1/5
Output signal	TTL		

JCX series

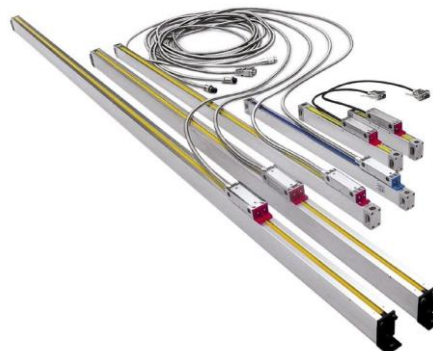
– **high accurate linear encoders with increased protection against dust and water.** They provide you with **higher accuracy and double rubber lips** protecting internal parts of the encoder against water and dust. They are suitable primarily for grinding machines (because of their better protection) and also for high accurate devices and machines. They are delivered with 1 and 5 microns resolution. According to customer request they are delivered with 0.1 or 0.2 microns resolution.

JCXE

– robust encoders for all sorts of measurement applications up to 1000 mm


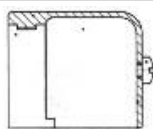
JCXG

– linear encoders for applications over 1000 mm



KA series linear encoders

KA-300 linear encoders		Covers for linear encoders
Length mm	Resolution	
	5 µm	1 µm
70		Price on request
120		Price on request
170		Price on request
220		Price on request
270		Price on request
320		Price on request
370		Price on request
420		Price on request
470		Price on request
520		Price on request
570		Price on request
620		Price on request
670		Price on request
720		Price on request
770		Price on request
820		Price on request
870		Price on request
920		Price on request
970		Price on request
1020		Price on request

Covers for KA-300 linear encoders	KA-500
	
Type D Full cover	Type H Full cover

Recommended covers:

KA-300 series

Type D – short milling machines, saws

KA-500 series

Type H – for the KA-500 series only

KA – 500		
Length mm	Resolution	
	5 µm	1 µm
70		Price on request
120		Price on request
170		Price on request
220		Price on request
270		Price on request
320		Price on request
370		Price on request
420		Price on request
470		Price on request
520		Price on request
570		Price on request
620		Price on request
670	KA-300 – standard robust linear encoders for length up to 1000 mm	
720		
770		
820	KA-500 – miniature linear encoders	
870	KA-600 – linear encoders for length over 1000 mm	
920		
970		

KA - 600 (cover type M included in price)		
Length mm	Resolution	
	5 µm	1 µm
1000		Price on request
1100		Price on request
1200		Price on request
1300		Price on request
1400		Price on request
1500		Price on request
1600		Price on request
1800		Price on request
2000		Price on request
2100		Price on request
2200		Price on request
2400		Price on request
2500		Price on request
2600		Price on request
2700		Price on request
2800		Price on request
2900		Price on request
3000		Price on request

JCX series linear encoders

JCXE optical linear encoders			Covers for linear encoders
Length mm	Resolution		JF-T-Z4, free of charge Free of charge
	5 μ m	1 μ m	
50	Price on request		Free of charge
100	Price on request		Free of charge
150	Price on request		Free of charge
200	Price on request		Free of charge
250	Price on request		Free of charge
300	Price on request		Free of charge
350	Price on request		Free of charge
400	Price on request		Free of charge
450	Price on request		Free of charge
500	Price on request		Free of charge
550	Price on request		Free of charge
600	Price on request		Free of charge
650	Price on request		Free of charge
700	Price on request		Free of charge
750	Price on request		Free of charge
800	Price on request		Free of charge
850	Price on request		Free of charge
900	Price on request		Free of charge
950	Price on request		Free of charge
1000	Price on request		Free of charge
1050	Price on request		Free of charge

JCXG optical linear encoders			Covers
Length mm	Resolution		JF-T-003
	5 μ m	1 μ m	
1100	Price on request		
1200	Price on request		
1300	Price on request		
1400	Price on request		
1500	Price on request		
1600	Price on request		
1700	Price on request		
1800	Price on request		
1900	Price on request		
2000	Price on request		
2100	Price on request		
2200	Price on request		
2300	Price on request		
2400	Price on request		
2500	Price on request		
2600	Price on request		
2700	Price on request		
2800	Price on request		
2900	Price on request		
3000	Price on request		

H-18 accurate optical linear encoders

- opticals linear encoders of the highest quality and precision from our offer
- made in EU
- possibility to connect compressed air to protect the encoder against penetration of impurities
- dimensions compatible with the Heidenhain, RSF and Fagor encoders
- possibility to choose output signal and resolution of the encoder

Linear encoders of the H-18 series	
Encoder length	70 - 1540 mm
Profile	18 x 46 mm
Max. velocity	1 m/s
Repeatability	± 1 pulse
Protection	IP 53 – without compressed air protection IP 64 – with compressed air protection
TTL signal resolution	5; 2.5; 1; 0.5 and 0.1 μm
Output signal	11μApp, 1 Vpp, TTL
Working temperature	0 ~ +50°C
Allowed vibrations	≤ 30 m/s ²

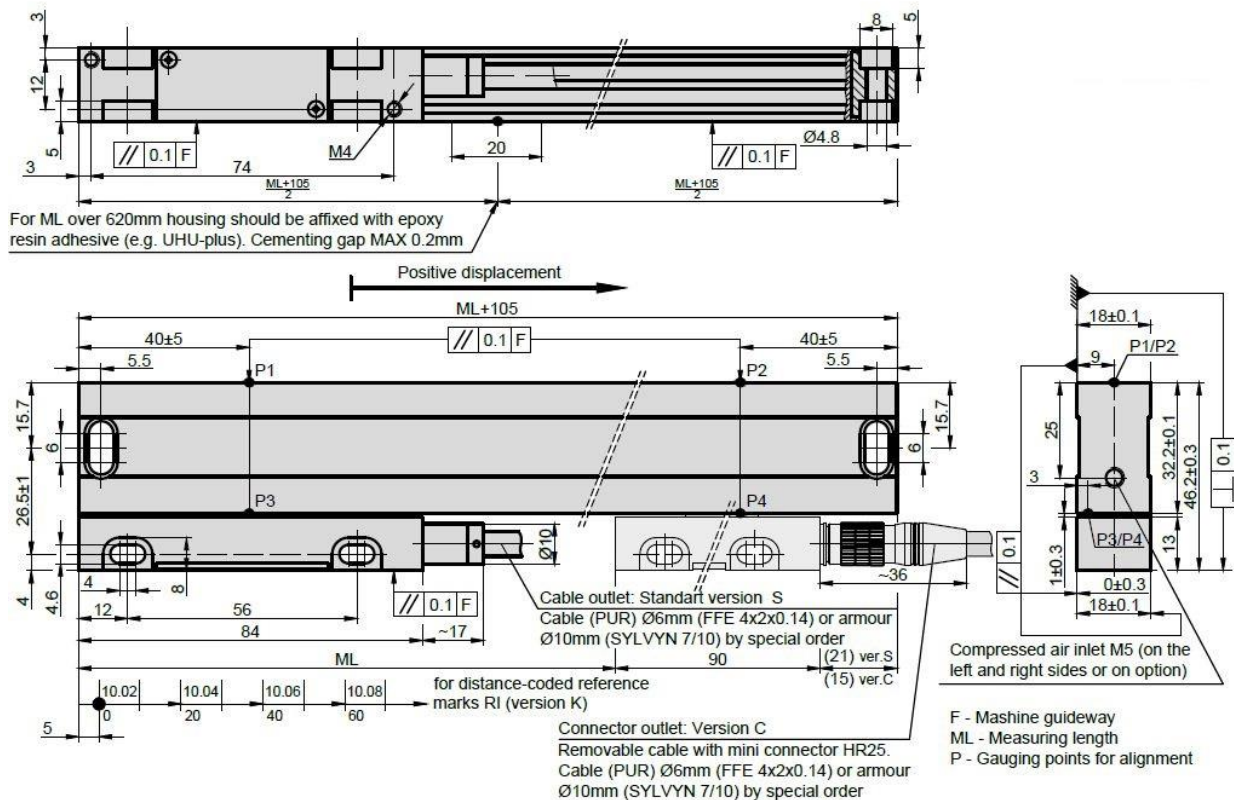


H-18 optical linear scales

H-18 optical linear scales			
Measuring length mm	Price EUR	Measuring length mm	Price EUR
70	Price on request	520	Price on request
120	Price on request	620	Price on request
140	Price on request	720	Price on request
160	Price on request	820	Price on request
170	Price on request	920	Price on request
220	Price on request	1020	Price on request
270	Price on request	1140	Price on request
320	Price on request	1240	Price on request
370	Price on request	1340	Price on request
420	Price on request	1440	Price on request
470	Price on request	1540	Price on request

The price is valid for resolutions 0.5µm, 1 µm, 2.5µm and 5µm, TTL output signal.
Length of the cable 3m, stainless steel armoured, D-SUB 9 connector
The cable can be delivered with fixed connection to the measurement head or with a connector.
Option: aluminium base for the encoder.

Dimensions:



Accurate optical linear encoders of the H-35 series

- opticals linear encoders of the highest quality and precision from our offer
- made in EU
- possibility to connect compressed air to protect the encoder against penetration of impurities
- dimensions compatible with the Heidenhain encoders
- possibility to choose output signal and resolution of the encoder

Linear encoders of the H-35 series	
Encoder length	70 - 3240 mm
Profile	35x77 mm
Max. velocity	1 m/s
Repeatability	± 1 pulse
Protection	IP 53 – without compressed air protection IP 64 – with compressed air protection
TTL signal resolution	5, 2.5, 1, 0.5 and 0.1µm
Output signal	11µApp, 1 Vpp, TTL, HTL
Working temperature	0 ~ +50°C
Allowed vibrations	≤ 150 m/s ²

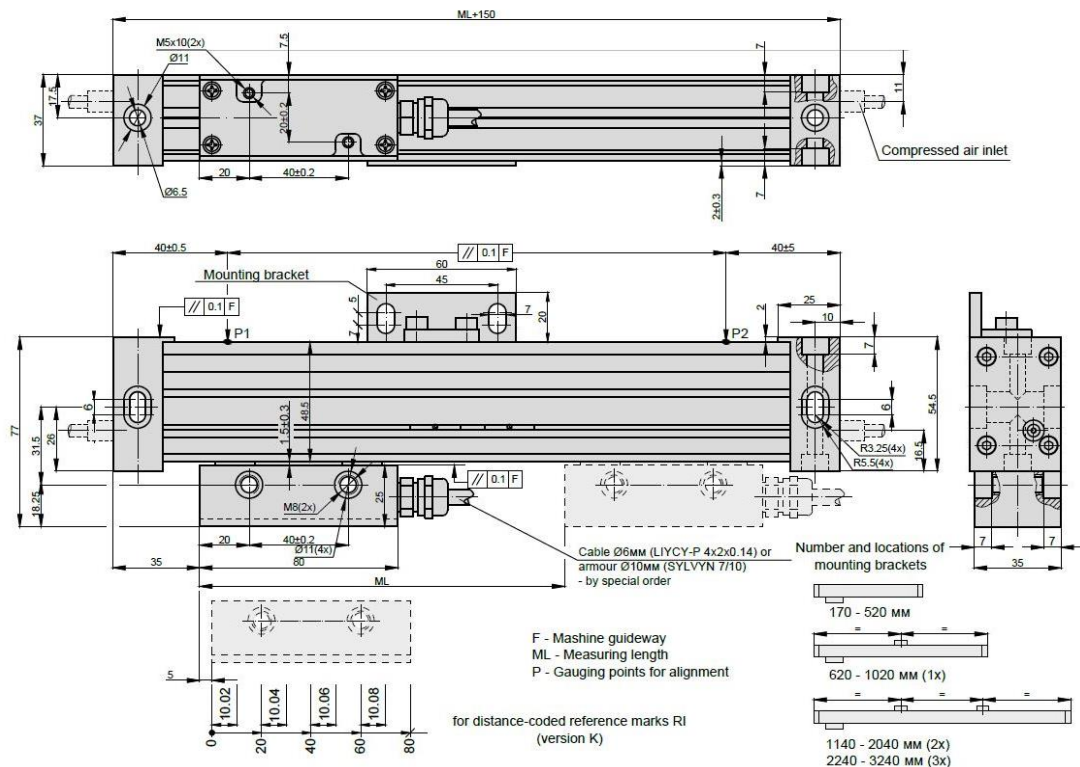


H-35 optical linear scales

H-35 optial linear scales			
Measuring length mm	Price EUR	Measuring length mm	Price EUR
70	Price on request	1340	Price on request
120	Price on request	1440	Price on request
140	Price on request	1540	Price on request
160	Price on request	1640	Price on request
170	Price on request	1740	Price on request
220	Price on request	1840	Price on request
270	Price on request	1940	Price on request
320	Price on request	2040	Price on request
370	Price on request	2140	Price on request
420	Price on request	2240	Price on request
470	Price on request	2340	Price on request
520	Price on request	2440	Price on request
620	Price on request	2540	Price on request
670	Price on request	2640	Price on request
720	Price on request	2740	Price on request
820	Price on request	2840	Price on request
920	Price on request	2940	Price on request
1020	Price on request	3040	Price on request
1140	Price on request	3140	Price on request
1240	Price on request	3240	Price on request

The price is valid for resolutions 0.5µm, 1 µm, 2.5µm and 5µm, TTL or HTL output signal.
Length of the cable 3m, stainless steel armoured, D-SUB 9 connector.

Dimensions:



TMPx measuring gauges

The TMPx measuring gauges are designed for accurate length measurements within small ranges e.g. in accurate machinery or in testing and sorting automatic machines for automatic data collection. The gauges can be connected to any TIGRE digital readout or PC interface. The measuring gauges together with digital readouts can replace mechanical indicators or can be used like accurate end position sensors with movement speed measurement.

The TMPx gauges are based on a measuring magnetic sensor and represent a cost effective option of measuring gauges.

TMP2 series

- new series of gauges

Features:

- measuring range up to 50 mm
- robust design
- smooth running
- modifications are possible

Technical specification

Measuring range:	10mm / 25mm / 50mm
Resolution:	1µm / 5µm / selectable resolution
Measuring principle:	magnetic sensor
Standard length of the cable:	2 m



Price of the TMP2-10.005 gauge, range 0-10mm, resolution 5 microns

Price of the TMP2-10.001 gauge, range 0-10mm, resolution 1 microns

Price of the TMP2-25.005 gauge, range 0-25mm, resolution 5 microns

Price of the TMP2-25.001 gauge, range 0-25mm, resolution 1 microns

Price of the TMP2-50.005 gauge, range 0-50mm, resolution 5 microns



TMP1 series

Features:

- robust construction
- smooth running

Technical specification

Measuring range:	10 mm
Resolution:	1 µm / 5 µm
Encoder type:	magnetic encoder
Standard cable length:	2 m



Meas. gauge TMP1-10.005, range 0-10 mm, resolution 5 microns

Meas. gauge TMP1-10.001, range 0-10 mm, resolution 1 micron

TRME rotary encoders

The rotary encoders can be used for angle, length and rotation speed measurements. They are delivered with 1024 / 4096 / rev. (PPR) resolutions. Maximum robustness was taken into account.

Technical specifications:

Resolution: 1024 / 4096 pulses / rev. (PPR)
 Measuring principle: magnetic
 Output signal: TTL
 Power supply: 5 V
 Encoder housing: aluminium
 Encoder diameter: 50 mm
 Encoder housing height: 60 mm
 Rotary encoder height: 80 mm
 Encoder shaft diameter: 8 mm
 Standard cable length: 2 m



Order Number	Description
TRME-1	Magnetic rotary encoder, resolution 1024 pulse / revolution
TRME-2	Magnetic rotary encoder, resolution 4096 pulse / revolution
	Cable extension for rotary encoders – 1 m, armoured
	L - bracket for fastening the rotary encoder

Measuring wheel for rotary encoders:

Order number	Description
TRME-K1	Measuring wheel, circumference 200 mm
TRME-K2	Measuring wheel, circumference 300 mm



Magnetic rings

Magnetic rings are designed particularly for measurement of angles. Thanks to big diameters of the rings and high resolution of the magnetic sensor very high angular resolution can be achieved.

Features:

- excellent resistance against dust and fluids
- high accuracy of the ring (test protocol included)
- ring body made of stainless steel
- magnetic pole spacing: 2+2mm / 5+5mm
- possibility to deliver special diameters according to customers' needs



Order No.	Description of the magnetic ring
95.070.050	Outer diameter 95.3mm, inner diameter 70mm, pole spacing 5mm
114.090.020	Outer diameter 114.4mm, inner diameter 90mm, pole spacing 2mm
114.090.050	Outer diameter 114.4mm, inner diameter 90mm, pole spacing 5mm
159.135.020	Outer diameter 159.0mm, inner diameter 135mm, pole spacing 2mm
159.135.050	Outer diameter 159.0mm, inner diameter 135mm, pole spacing 5mm
229.205.020	Outer diameter 229.1mm, inner diameter 205mm, pole spacing 2mm
229.205.050	Outer diameter 229.1mm, inner diameter 205mm, pole spacing 5mm

BC-02 series battery powered digital position readout

The BC-02 battery powered digital position readout with the TMLS-10A-25 magnetic encoder are suitable for linear position measurements using a magnetic tape.

BC-02 digital readout features:

- digital readout and encoder powered from AA batteries, 4 pieces
- low battery voltage warning
- absolute / incremental display mode
- mm / inch units of measurement
- resolution 0.1 mm
- possible rounding to 5
- selectable direction of measurement
- mirror function, halving function
- key blocking, linear error compensation
- selectable display frequency
- possibility to switch the display off
- response speed: max. 60 m / min.



TMLS-10A-25 magnetic encoder - permanently connected to the BC-02 digital readout

- max. air gap between the sensor head and the magnetic tape: 0.8 mm
- dust-proof and water-resistant magnetic sensor
- stainless steel armoured cable

MT-25-02 magnetic tape

MT-25-02 magnetic tape, accuracy +/- 0.02 mm

For protection of magnetic tape, we recommend the AP-02 series aluminium profile and the L-cover or the linear rail for the APG-01 series sensor (the sensor should be ordered with modification for the linear rail).

The battery powered digital position readout can be delivered also in modification for the guided magnetic sensor

The digital readout can be delivered firmly fastened to the guided sensor or separately with a cable of standard length (cable between the sensor and the digital readout cannot be disconnected).

Prices of battery powered digital readouts with guided sensor:

A) Battery powered digital readout fastened to the guided sensor

- digital readout fastened to the guided sensor
- cable length between sensor and digital readout: 150 mm
- the system is delivered incl. pivot joint with M4 thread

B) Separated battery powered digital readout

- digital readout is not fastened to the guided sensor
- cable length between sensor and digital readout: 1500 mm
- the system is delivered incl. flexible mounting holder

Option: pivot joint with M4 female thread



Potentiometric linear transducers

- maximal measuring range upto 2000 mm
- linear precision:
 - measuring range 75 – 110 mm: $\pm 0,2 \%$
 - measuring range 125 – 175 mm: $\pm 0,1 \%$
 - measuring range 200 – 1000 mm: $\pm 0,05 \%$
 - measuring range 1150 – 2000 mm: $\pm 0,04 \%$
- resistance ($\pm 10 \%$):
 - measuring range 75 – 550 mm: $5 \text{ k}\Omega$ ($\pm 20 \%$)
 - measuring range 600 – 1000 mm: $10 \text{ k}\Omega$ ($\pm 20 \%$)
 - measuring range 1150 – 2000 mm: $20 \text{ k}\Omega$
- recommended current: $\leq 1 \text{ mA}$
- maximal measuring speed: 5 m / s

Original marking LTM

Type	Meas. range mm
KTC50	50
KTC75	75
KTC100	100
KTC125	125
KTC150	150
KTC175	175
KTC200	200
KTC225	225
KTC250	250
KTC275	275
KTC300	300
KTC350	350
KTC400	400
KTC450	450
KTC500	500
KTC550	550
KTC600	600
KTC650	650
KTC700	700
KTC750	750
KTC800	800
KTC850	850
KTC900	900
KTC950	950
KTC1000	1000

Original marking LTP

Type	Meas. range mm
KPC50	50
KPC75	75
KPC100	100
KPC125	125
KPC150	150
KPC175	175
KPC200	200
KPC225	225
KPC250	250
KPC275	275
KPC300	300
KPC350	350
KPC400	400
KPC450	450
KPC500	500
KPC550	550
KPC600	600
KPC650	650
KPC700	700
KPC750	750



Typ	Meas. range mm
KTF50	50
KTF75	75
KTF100	100
KTF125	125
KTF150	150
KTF175	175
KTF200	200
KTF225	225
KTF250	250
KTF275	275
KTF300	300
KTF350	350
KTF400	400
KTF450	450
KTF500	500
KTF550	550
KTF600	600
KTF650	650
KTF700	700
KTF750	750
KTF800	800
KTF850	850
KTF900	900
KTF950	950
KTF1000	1000



Optional outputs for KTC, KPC, KTF potentiometric linear transducers:

- 0 – 5 V
- 0 – 10 V
- 4 – 20 mA (2 wires)
- 4 – 20 mA (3 wires)
- - 10V ~ 10 V
- RS485
- modbus

Special digital readouts

BC-RPM revolution counter

- 6 digits LED display
- height of digits 14 mm
- maximum input frequency: 150 kHz
- maximum measured revolutions: 60 0000 rev. / min.
- minimum response speed: 1 pulse / sec
- selectable number of pulses per revolution
- contactless measurement, using e.g. a tooth wheel (max. 60 teeth), groove or screw on a metal shaft. Suitable e.g. for spindle speed measurements.
- Speed calculation on the base of pulse width for low speeds, automatic switch-over to calculation on the base of pulse number for high speeds.



Optional accessories:

- 24V AC/DC power supply, protection against short-term power drop-out
- BC-A1 holder arm

BC-C01 stroke counter

- memory for up to 64 products
- increment / decrement of produced pieces
- pause during counting
- subtraction of defective products
- selectable number of pulses per one product
- selectable number of strokes before service warning
- **digital readout is delivered incl. magnetic pulse sensor**



Optional accessories:

- 24V AC/DC power supply, protection against short-term power drop-out
- BC-A1 holder arm

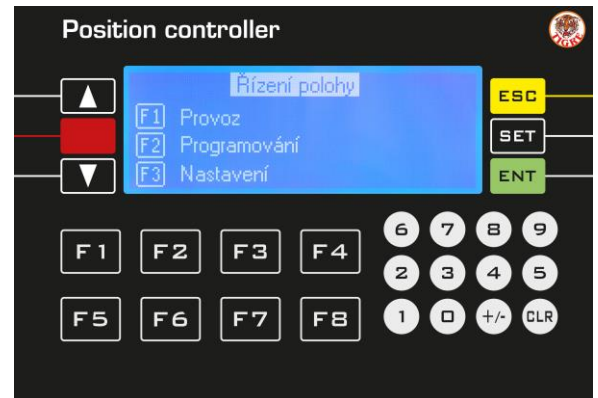
Position controllers

1 axis positioning system

The position controller enables to control a drive (up to three motor speeds) in dependence on position of a linear encoder or directly using a stepping motor.

In case of a drive with a linear encoder 4 output relays are controlled. In case of a drive with a stepping motor 4 open collector outputs are controlled.

Possibility to produce the program according to customer needs.



Description:

- compact position controller
- 3.7" highly legible blue monochromatic display
- input frequency: 80 kHz (can be increased using a special interface)
- 24 VDC power supply or 230VAC mains adapter

Drice control:

- actual position display, target position display
- start / stop function
- machine movement in steps (manually) or in a loop (automatically)
- zoom of the actual position display and target position display

Programming:

- 6 position programming
- selectable time delay between cycles
- selectable 2 slow-down points for 3 motor speeds
- selectable tolerance of positioning

Modes:

- positioning on the base of linear encoder or stepping motor control

Lin. encoder setting:


- return to reference point
- encoder resolution setting, conversion coefficient setting
- direction of measurement setting
- one-side positioning advanced switch-off

Stepper setting:

- initial position
- counting direction
- number of pulses per mm
- max. frequency in Hz
- start/end ramp in ms



Special converters for encoders and position sensors

	Order No.	Converter type	
1	TI-02	Converter 5V TTL to 5V RS422	
2	TI-03	Converter 5V TTL to 24V HTL	
3	TI-05	Converter 5V TTL to 11 uA	
4	TI-06	Converter 5V TTL to 1 Vpp	
5	TI-07	Converter 11 uA to 5V TTL	
6	TI-08	Converter 1 Vpp to 5V TTL	
7	TI-10	Converter 5V TTL to RS485	

Notes:

- TI-02** - conversion of A/B/Z signals of 5V TTL levels without negative signals to RS422A differential signals.
- TI-03** - conversion of A/B/Z signals of 5V TTL levels without negative signals to differential signals of HTL (24V logic) level.
- TI-05** - conversion of A/B/Z signals of 5V TTL levels without negative signals to 11uA signals (incl. negative signals). The converter is suitable, for example, for connecting the TIGRE magnetic or optical encoders to the HEIDENHAIN digital readouts (it is necessary to check connection of a specific connector of the digital readout).
- TI-06** - conversion of A/B/Z signals of 5V TTL levels without negative signals to 1Vpp signals. The converter is suitable, for example, for connecting the TIGRE magnetic or optical encoders to the older HEIDENHAIN digital readouts (it is necessary to check connection of a specific connector of the digital readout).
- TI-07** - conversion of 11uA signals to 5V TTL. The converter is suitable, for example, for connecting HEIDENHAIN linear scales to the TIGRE digital readouts (there is needed to change the scale connector).
- TI-08** - conversion of 1 Vpp signals to 5V TTL. The converter is suitable, for example, for connecting older HEIDENHAIN linear scales to the TIGRE digital readouts (there is needed to change the scale connector).
- TI-10** - the converter counts A/B/Z pulses from an incremental encoder and transfers the values to the RS485 bus. This solution is suitable for connecting TTL sensors to a PLC without suitable inputs for incremental sensors. However, the converter is not suitable for continuous control (there is small delay during communication caused by communication between the PLC and the converter).

Others

Extension cables for encoders

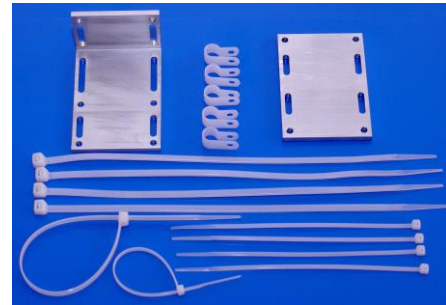
- extension cable, length up to 1m
- extension cables, length 2m and more



Mounting set for the TMLS-05A / TMLS-01A magnetic encoders

The set contains:

- big flat bracket (1pc)
- square bracket (1pc)
- nylon cable clamps (5 pcs)
- plastic ties (5 pcs nylon plastic ties, length 100mm + 5 pcs nylon plastic ties, length 250mm)



Mounting brackets for the TMLS05A/01A encoder

Flat bracket – small (Fig. a)

Flat bracket – big (Fig. b)

Square bracket (Fig. c)

Mounting set

- big flat bracket (1pc), square bracket (1pc), plastic ties (5 pcs nylon plastic ties, length 100mm + 5 pcs nylon plastic ties, length 250mm), nylon cable clamps (5 pcs)

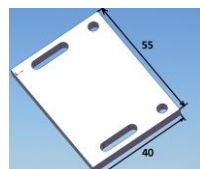


Fig. a

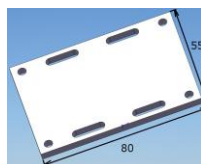


Fig. b

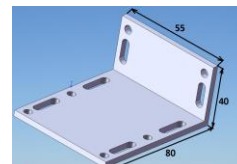


Fig. c

2D probe

- it is possible to connect with TS-MAX digital readout
- digital readout will automatically stop counting, when the 2D probe will touch the work piece
- 2 color LED light diode
 - green color - ready to measure
 - red color - touch the work piece



3D probe

- measurement repeatability 0.001 mm
- measurement in X, Y and Z axes
- measurement of electrically conductive and non-conductive materials
- optical alarm when the probe approaches
- the possibility of separate use of the probe thanks to optical output
- the possibility of connection to TS-MAX series indicators for automatic recording of approach to the edge of the workpiece



Technical specifications:

Measurement repeatability:	0.001 mm
Max. deflection in the XY axis:	+/- 15°
Probe tip length:	30mm
Probe ball diameter:	3mm
Probe tip thread:	M4
Max. stroke in Z axis:	3 mm
Force for measurement:	1 N
Power supply:	Battery CR2032
Max. signal flow:	< 50 ma
Probe stem diameter:	10 mm
Probe stem length:	25mm
Protection:	IP56
Weight:	328g

Standard accessories:

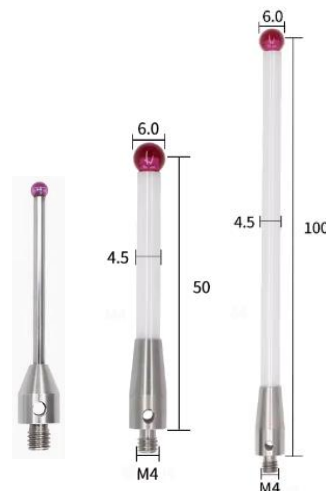
- probe + data cable

Optional accessories:

- tips with a ceramic stem, length 50 mm and 100 mm

3D probe - touch tips

- Steel tip for 3D touch probe,
M4 thread, 6 mm ball diameter, length 30 mm
- Ceramic tip for 3D touch probe,
M4 thread, 6 mm ball diameter, length 50 mm
- Ceramic tip for 3D touch probe,
M4 thread, 6 mm ball diameter, length 100 mm



Custom production of gauges and measuring instruments

Measuring scale for measurement of the rail vehicle bumper

Order No.	Description	Measuring range
PMK-01	Measuring scale for measurement of the rail vehicle bumper	750-1150mm
PMK-02	Measuring scale for measurement of the rail vehicle bumper	1600-1900mm



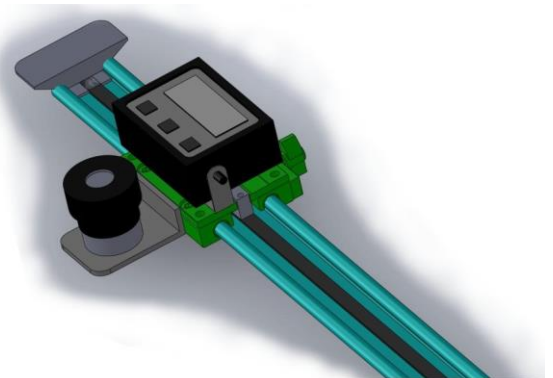
Controlling device - length measurement, measuring range 0-1600mm



*Measuring device for dimension inspection
Škoda Rapid dashboard*



Special gauge for geography





Jirka a spol., s.r.o.

Zbečnák 354
549 31 Hronov
IČ: 25924109

Telefon: 491 481 062
FAX: 491 481 063
e-mail: info@jirkapol.cz
web: www.jirkapol.cz



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