

INSTALLATION GUIDE

Digital Linear Scale DMO

For further information please see the data sheet at www.waycon.biz/products/digital-linear-scales/

FIRST STEPS

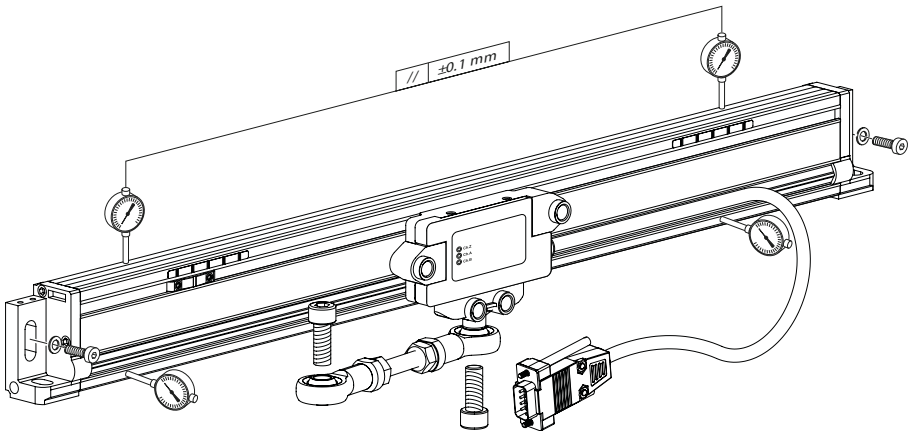
WayCon Positionsmesstechnik GmbH would like to thank you for the trust you have placed in us and our products. This manual will make you familiar with the installation and operation of our digital linear scales. Please read this manual carefully before initial operation!

Unpacking and checking:

Carefully lift the device out of the box by grabbing the housing. After unpacking the device, check it for any visible damage as a result of rough handling during the shipment. Check the delivery for completeness.

If necessary consult the transportation company, or contact WayCon directly for further assistance.

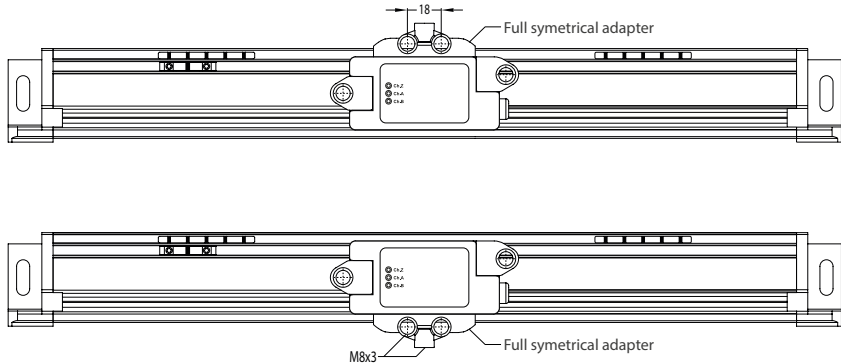
MOUNTING OF THE SENSOR



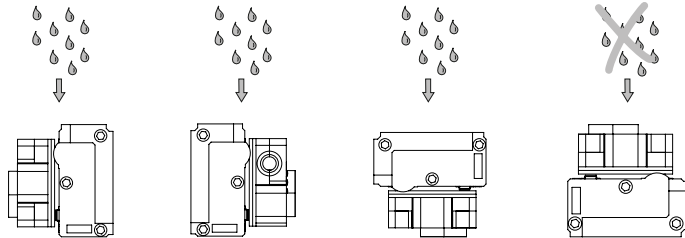
- For optimal alignment, use a mounting gauge during installation.
- The end brackets should be mounted with M6x20 screws (not included).
- The joint eyes of the towing arm should be mounted on the read head using M8x20 screws (included in the scope of delivery).
- Please note that the read head should not be allowed to move as to the end brackets during measurement and a safety distance should be maintained.

MOUNTING OF THE SENSOR

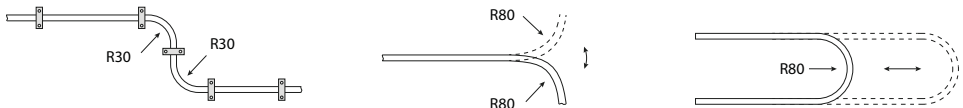
The adapter for the towing arm is completely symmetrical and can be used on both sides.



For optimum seal protection, mount the scale as shown in the following diagram.



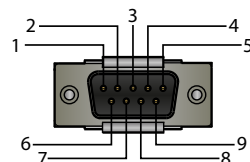
The following bending radii must be respected for the cable.



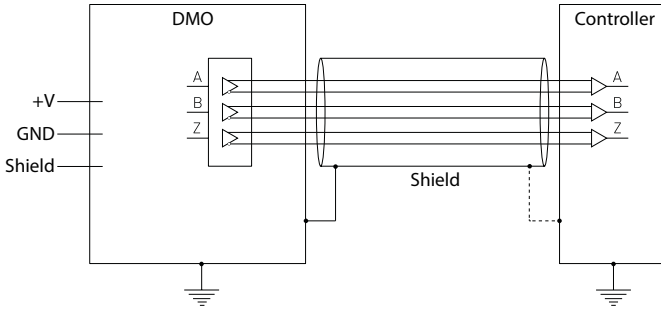
ELECTRICAL CONNECTION AND OUTPUT SIGNAL

Signal	Cable output	Connector output
+V	BN	Pin 9
GND	BU	Pin 5
A	BK	Pin 3
B	WH	Pin 2
Z	OG	Pin 1
/A	YE	Pin 8
/B	GN	Pin 7
/Z	RD	Pin 6
Shield	Shield	Pin 4 (n. c.)

**DB9 connector
(male)**

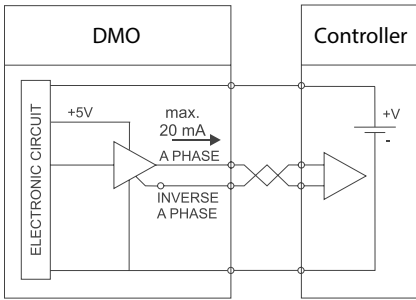


ELECTRICAL CONNECTION AND OUTPUT SIGNAL



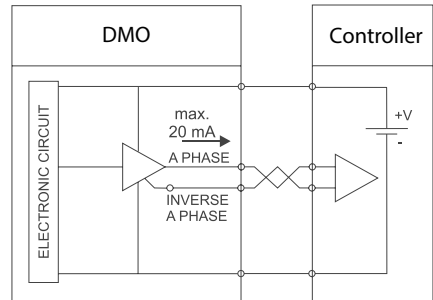
- If the inverse signals are not used, make sure that the unused cables are individually insulated.
- A distance of at least 200 mm from power lines should be maintained.
- The DMO cable is 85 % shielded (\varnothing 0.1 mm). Use a cable that is shielded in the same ratio to ensure the best possible signal transmission.
- On the controller side (PLC, counter, etc.), the shielding must be connected to the grounding of the controller.

Circuit diagram TTL



Power supply: 5 VDC
Output current max.: 20 mA

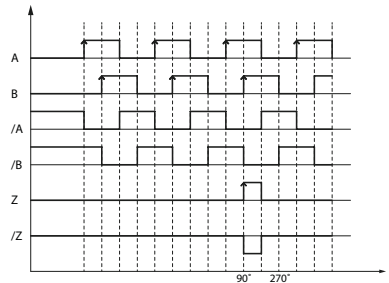
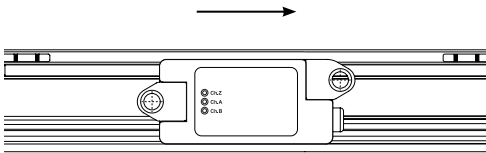
Circuit diagram HTL



Power supply: 8...24 VDC
Output current max.: 20 mA

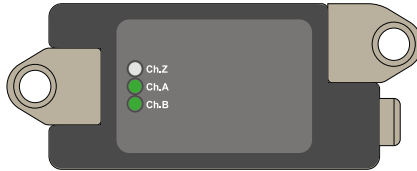
Both circuits are compatible with the RS422 standard.

If the reading head is moved to the right (in the direction of the cable), the output signal corresponds to the figure on the right.





STATUS LEDs AND INDEX SETTING



The status of the output signal can be easily checked using the three indicator LEDs:

- The LED Z (index) has an internal “signal hold” circuit to display the index position for a duration of approx. 2 seconds. This allows the position of the index signal to be set to any desired position in 10 mm increments.
- LEDs A and B light up when the signal level of the respective channel is zero and are off when the signal level is high.
- In the event of a fault, the illumination of the LEDs does not change (no ON/OFF or flashing)

ADJUSTING THE Z POSITION (INDEX)

To obtain a correct Z signal (index), proceed as follows:

1. Energize the DMO with a power supply of 5 VDC or 8...24 VDC depending on the output signal.
2. Move the magnetic carrier (reference point) to the desired position.
3. Move the reading head slowly from right to left and move over the magnetic carrier (reference point). Observe the LED Z (index). The LED lights up once for approx. 2 seconds, then goes out.
4. Move the read head slowly from left to right and move over the magnetic carrier (reference point). Observe the LED Z (index). The LED lights up once for approx. 2 seconds, then goes out.

The following errors may occur in step 3 or 4:

- The LED Z lights up for movement from right to left, but not for movement from left to right or vice versa.
- LED Z does not light up for any of the movements.
- The Z LED lights up twice for one of the movements.

If one or more of the above errors occur, proceed as follows:

1. Move the magnet carrier slightly to the right or left (0.1 mm to 0.5 mm).
2. Repeat step 3 and step 4 and observe LED Z again.