



RSF Elektronik

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MSA 373, 374, 375 SEALED LINEAR ENCODERS WITH SELF GUIDING



MSA 373, MSA 374, MSA 375

MSA 373



READING HEAD

Model	MSA 37x	MSA 37x
Interface	□ TTL	□ TTL
Measuring step	5.0 μm	1.0 μm
Max. velocity	1.0 m/s	1.0 m/s
Edge separation a _{min}	1.6 μs	800 ns
Electrical connection	Cable, 0.5, 1 m or 3 m with D-sub connector, male, 15-pin	
Voltage supply	+5 V ±5 %	
Power consumption max.	660 mW (without load)	
Current consumption max.	120 mA (without load)	
Vibration 40 Hz – 2000 Hz Shock 8 ms	<ul style="list-style-type: none"> 150 m/s² 300 m/s² 	
Operating temperature Storage temperature	<ul style="list-style-type: none"> 0 °C to 50 °C -20 °C to 70 °C 	
Mass reading head	<ul style="list-style-type: none"> 171 g (reading head without cable) Cable: 30 g/m, connector: D-sub connector: 28 g 	

GRADUATION CARRIER

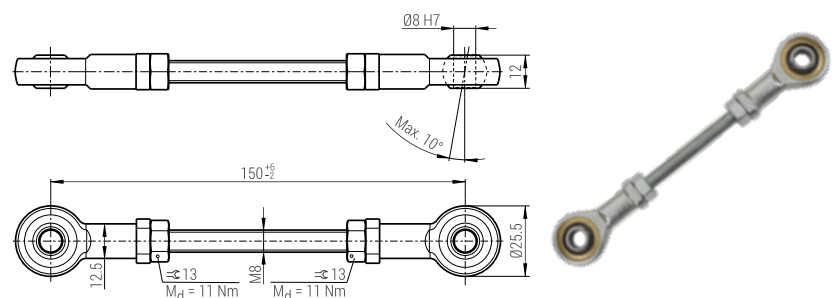
Standard measuring lengths (ML): [mm]	70, 120, 170, 220, 270, 320, 370, 420, 470, 520, 620, 720, 770, 820, 920, 1040, 1140, 1240, 1340, 1440, 1540 (other ML on request)
Graduation carrier	Glass scale (α ≈ 8.5 × 10 ⁻⁶ /K), grating period: 200 μm
Accuracy grade (at 20 °C)	±10 μm/m
Free positionable actuator magnets for special functions	The position of the two switch points (S1 and S2) can be selected by the customer within measuring length.
Location of the reference mark (RI):	<ul style="list-style-type: none"> One reference mark in the center of measuring length or 35 mm from either end of measuring length. Optional: one reference mark at any location, additional reference marks can be selected by distances of n × 50 mm.
Required moving force	< 5.0 N
Environmental protection EN 60529	IP 52
Masse scale spar (approx.)	237 g + 1.17 g/mm (ML)

CONFORMITIES AND CERTIFICATIONS

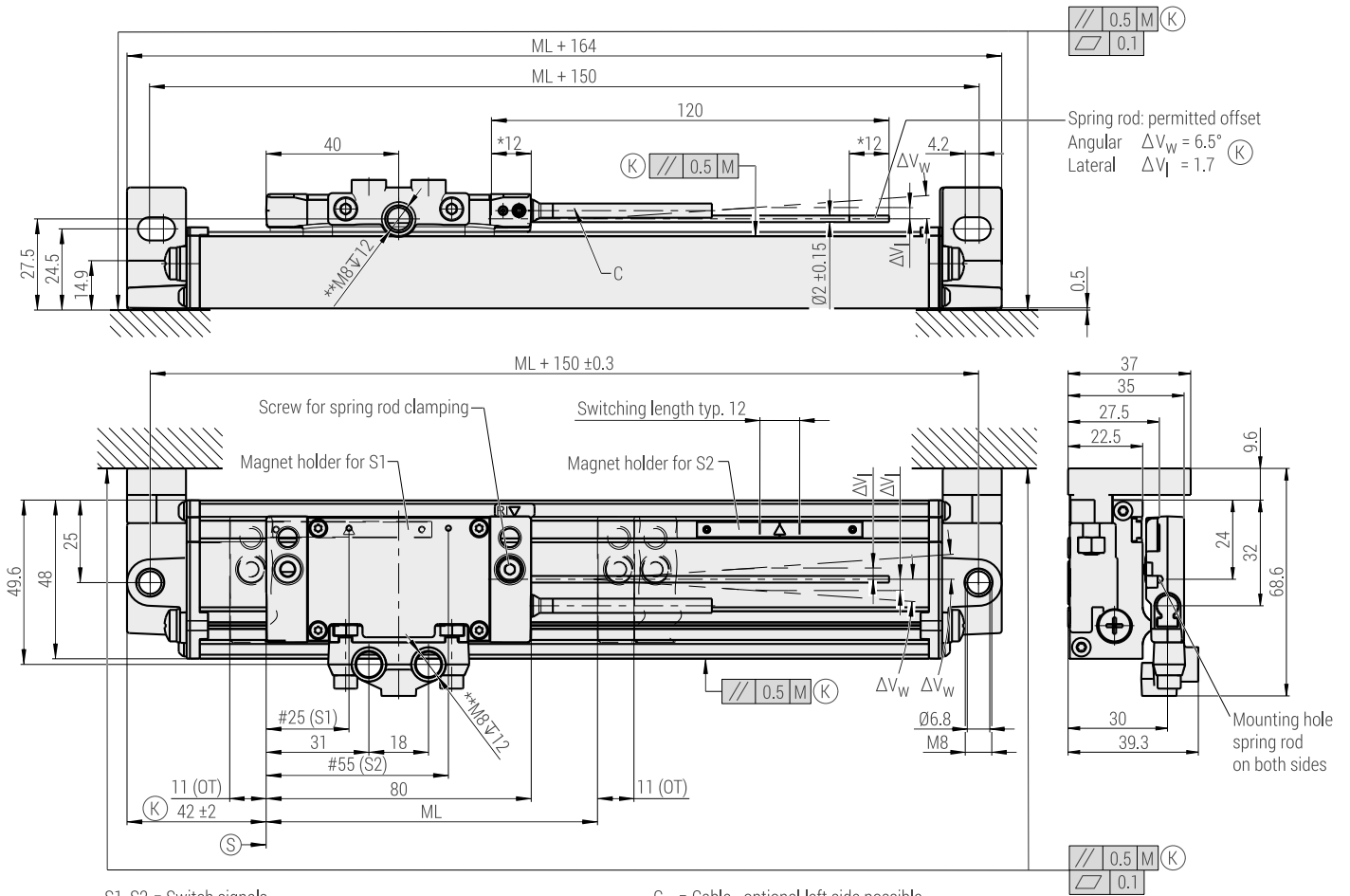
RoHS	2011/65/EU, 2015/863/EU
EMV	2014/30/EU
Product-Certifications	UL, CSA, EN, IEC 61010-1

ACCESSORY: CB8-150 coupling bar (only for MSA 373 and MSA 375)

Axis distance: 150 mm (other distances on request).
Included in delivery:
2 hexagon socket screws M8 x 20 ISO 4762 for mounting.



MSA 373



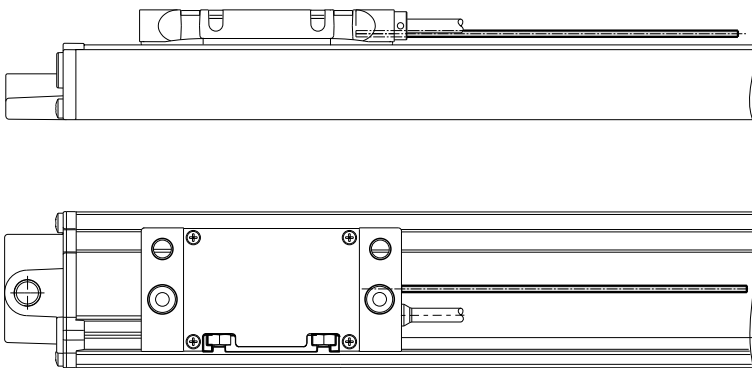
S1, S2 = Switch signals
 Switch positions S1 and S2 free selectable (allen wrench 0.9 mm)
 # = Sensor position
 Spring rod clamping on both sides possible (allen wrench 3 mm)
 * Clamping length spring rod
 ** Fastening screw thread for coupling bar

C = Cable - optional left side possible
 ML = Measuring length
 M = Machine guideway
 OT = Overtravel
 (K) = Required mating dimensions
 (S) = Beginning of the measuring length

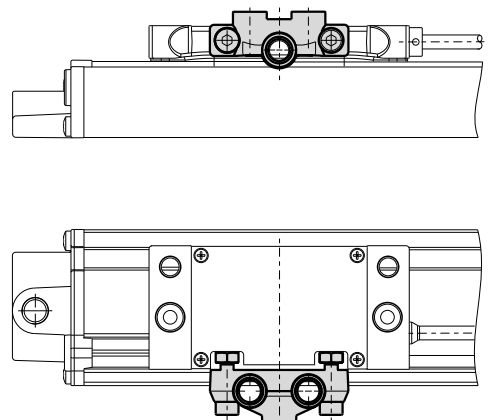
mm

 Tolerancing ISO 8015
 ISO 2768 - m H
 < 6 mm: ±0.2 mm

MSA 374



MSA 375

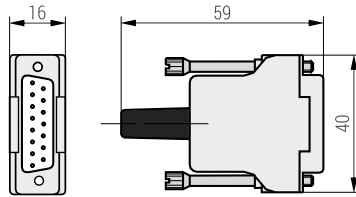


MALE CONNECTORS, PIN ASSIGNMENTS

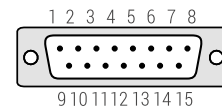
D-sub connector, 15-pin



Dimensions
(male, 15-pin, mass: 25 g)



Pin assignment
View on pins

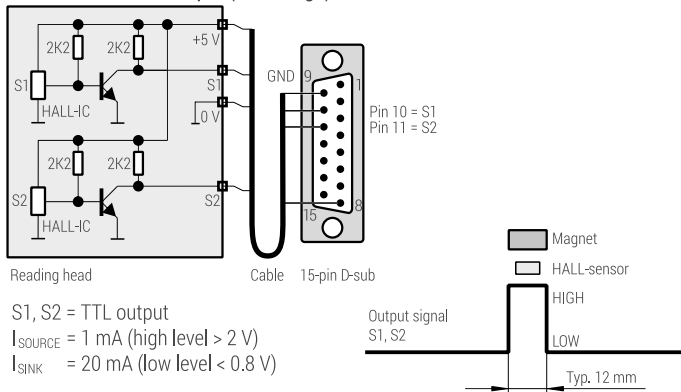


Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sinusoidal voltage signals 1 Vpp	Occupied	0 V Sensor	Occupied	RI-	A2-	A1-	V+ Sensor	V+	0 V	S1*	S2*	RI+	A2+	A1+	nc
TTL-signals	Occupied	0 V Sensor	US	RI	T2	T1	V+ Sensor	V+	0 V	S1*	S2*	RI	T2	T1	nc

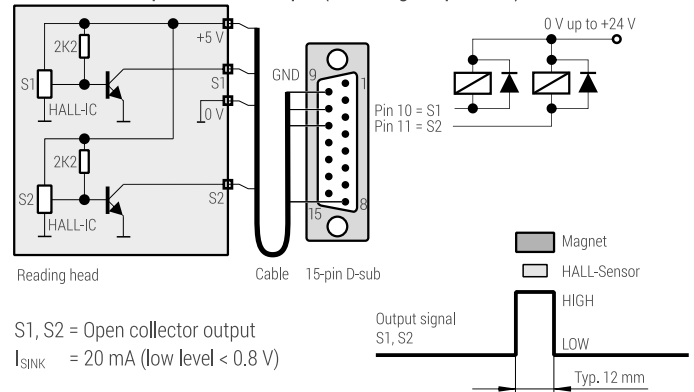
- Sensor: the sensor pins are bridged in the chassis with the particular power supply.
- * Version without switch signals (version K) = nc.
- Shield is connected with the chassis.
- Pins or wires marked "occupied" or "nc" must not be used by the customer.

SWITCH SIGNAL OUTPUT

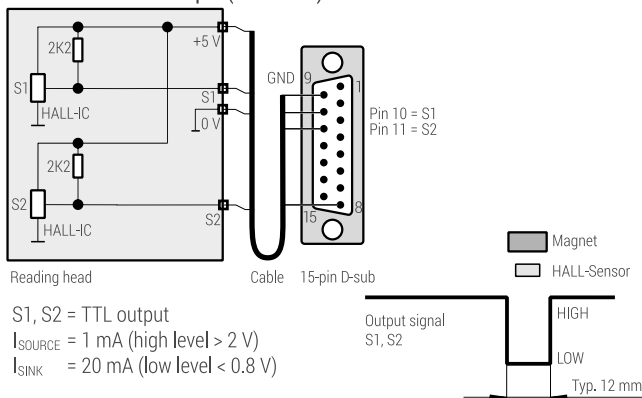
VERSION H: TTL output (active high)



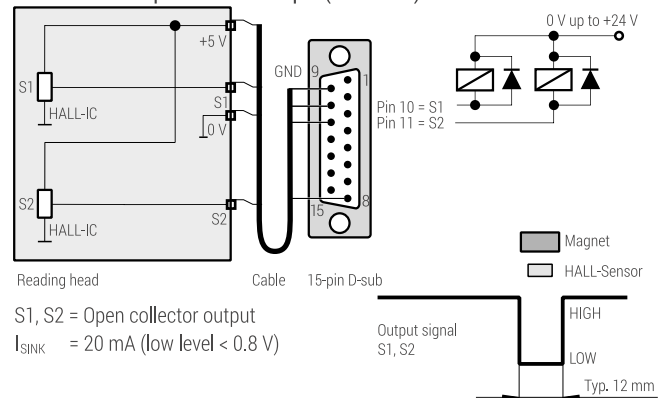
VERSION Z: Open collector output (active high impedance)



VERSION L: TTL output (active low)



VERSION C: Open collector output (active low)



According to factory default setting the actuator magnets are placed at the beginning (S1) and at the end (S2) of measuring length and can be moved by the customer.

Date 08/2021 ■ Art.No.1340647-01 ■ Doc.No. D1340647-01-A-01 ■ Technical adjustments in reserve!

