



# Read head

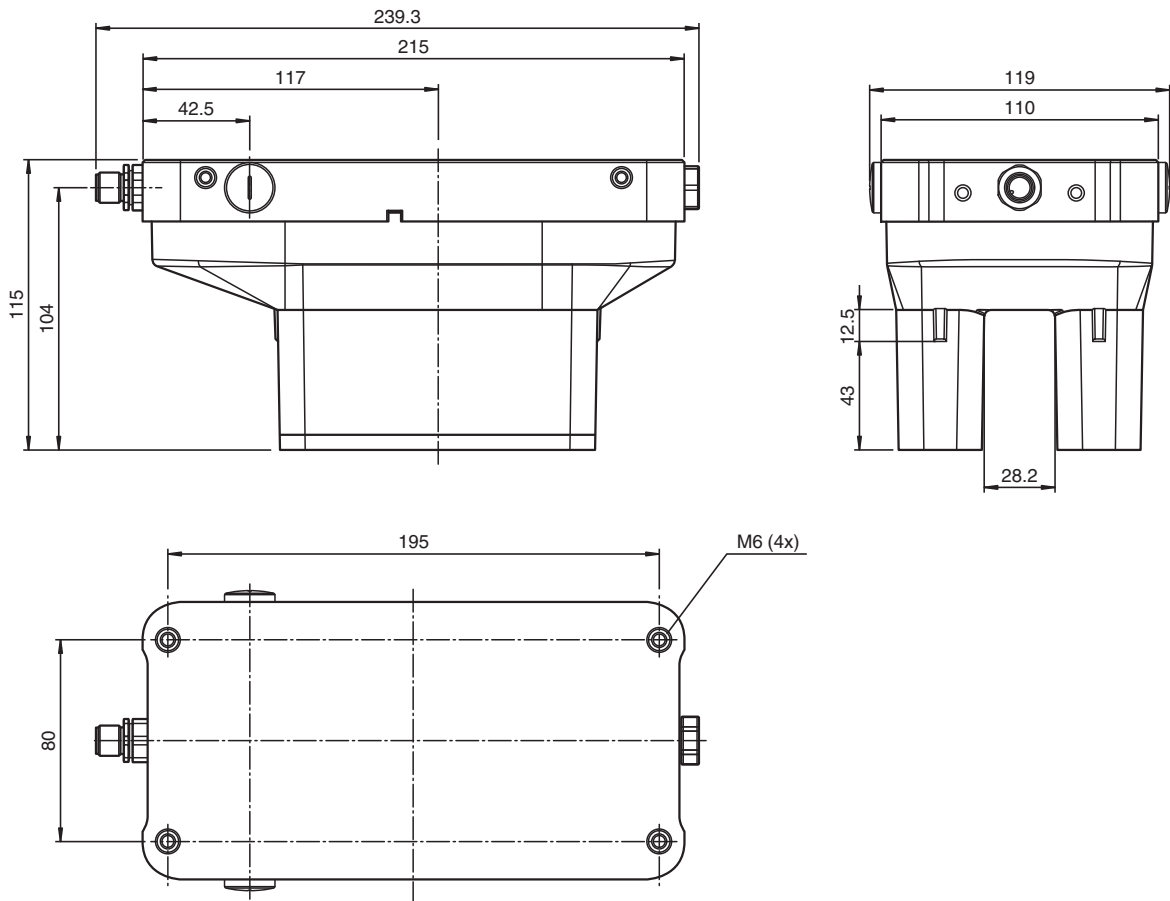
## WCS3B-LS221ES-OM

- For outdoor use
- Non-contact, absolute position encoder
- Extended temperature range
- Automatic detection of dirt accumulation
- RS-485 interface
- Freely selectable cable outlet due to rotating insert
- Measuring length max. 629 m

Read head, RS-485 interface, with RS-485 termination resistor



### Dimensions



### Technical Data

#### General specifications

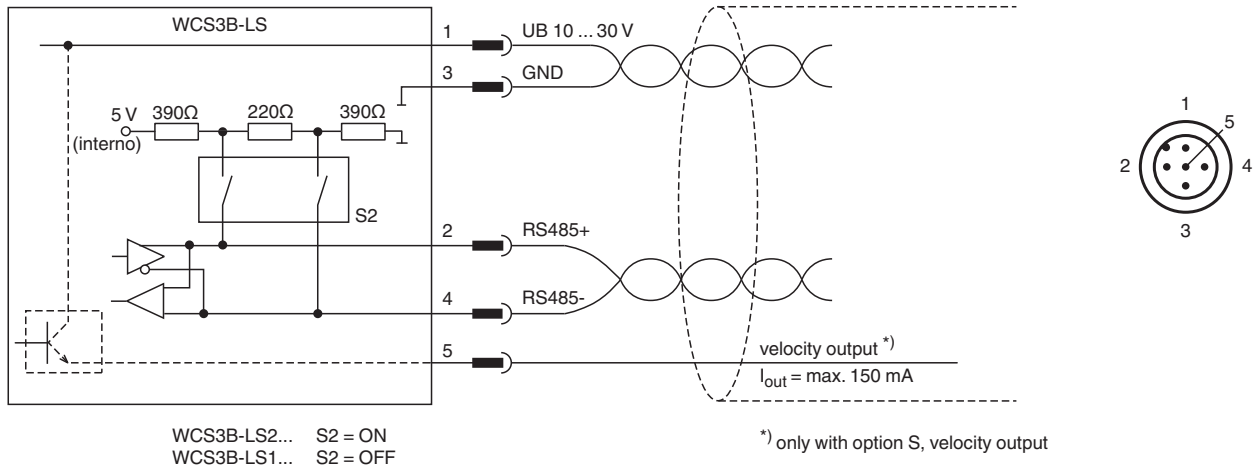
Passage speed	v	≤ 12.5 m/s
Measuring range		max. 629 m

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## Technical Data

Free tolerances to code rail	horizontal: 28 mm ( ± 14 mm ) vertical: 25.5 mm ( +11.5 mm/-14 mm )	
Resolution	± 0.4 mm (1,250 positions/m)	
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>	151 a	
Mission Time (T <sub>M</sub> )	20 a	
Diagnostic Coverage (DC)	0 %	
<b>Indicators/operating means</b>		
Data flow indicator	1 LED yellow flashing: data communication active	
Velocity indicator	2 LED yellow on: if the speed limit is not exceeded off, if speed limit is exceeded	
Error indicator	3 Dual LED green on: code rail detected, normal function green flashing: invalid position red on: internal diagnostic test failed red flashing: read head outside of code rail	
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Power consumption	P <sub>0</sub>	2.2 VA
<b>Interface</b>		
Interface type	RS 485 interface	
Data output code	binary code	
Protocol	2 , extended to 629 m	
Transfer rate	62.5 kBit/s	
Address	0	
Termination	with RS 485 termination	
Query cycle time	≥ 5 ms	
<b>Output</b>		
Output velocity	switching output	
Output type	1 switch output PNP, NO , short-circuit protected	
Switching voltage	Operating voltage	
Switching current	150 mA	
<b>Standard conformity</b>		
Emitted interference	DIN EN 61000-6-4 , DIN EN 12015	
Noise immunity	DIN EN 61000-6-2 , DIN EN 12016	
Shock resistance	DIN EN 60068-2-27, half sine 30 g, 18 ms	
Vibration resistance	DIN EN 60068-2-6, sine, 5 g, 10 - 2000 Hz, 10 cycles	
<b>Approvals and certificates</b>		
CSA approval	cCSAus Certified, General Purpose Class 2 power source	
CCC approval	CCC approval / marking not required for products rated ≤36 V	
<b>Ambient conditions</b>		
Operating temperature	0 ... 60 °C (32 ... 140 °F)	
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)	
<b>Mechanical specifications</b>		
Connection type	5-pin, M12 x 1 connector	
Degree of protection	IP67 / IP69	
Material		
Housing	PET , PC (Polycarbonate)	
Mass	1000 g	
Note	The reader must not be operated without the protective housing!	

**Connection**



**Accessories**

	<b>WCS3B-OBP</b>	Stopping plugs For WCS3B-OP* housing
	<b>WCS3B-OPC</b>	Outdoor protective cover for WCS3B reader
	<b>WCS3B-OPH</b>	Outdoor protective housing for reader WCS3B

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