

- **Non-contact, absolute position encoder**
- **Automatic detection of dirt accumulation**
- **Output of position and speed**
- **Optimized for all control and elevator systems**
- **Slip-free system**
- **No reference run required**
- **Quick mounting**
- **RS 422 interface**
- **High resolution**

WCS3R-LS24AH

Technical data

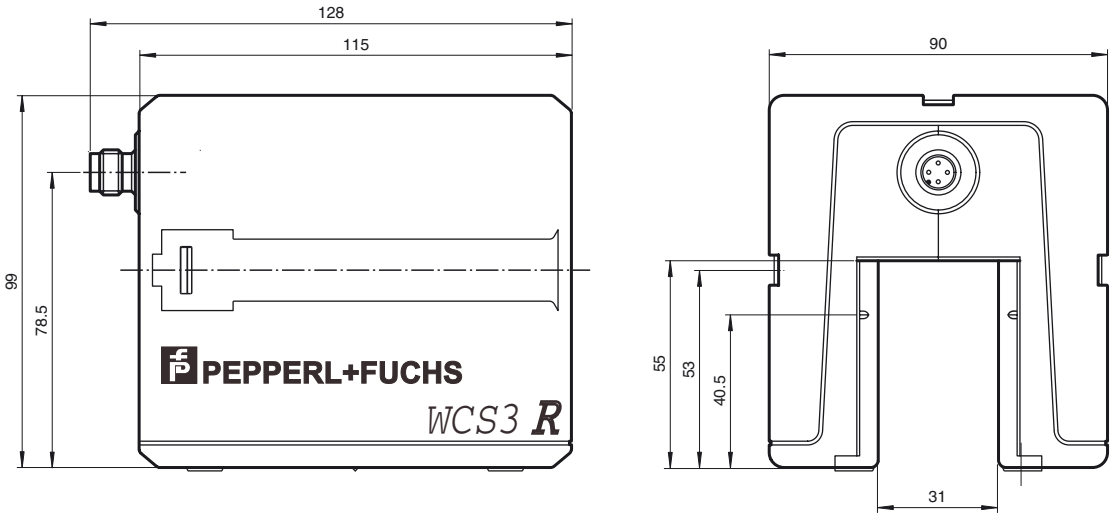
General specifications	
Passage speed v	≤ 2.2 m/s
Measuring range	max. 100 m
Free tolerances to code rail	horizontal: 31 mm (± 15.5 mm) vertical: 28 mm (± 14 mm)
Resolution	± 1 mm
Functional safety related parameters	
$MTTF_d$	50 a
Mission Time (T_M)	10 a
Diagnostic Coverage (DC)	0 %
Indicators/operating means	
Operating display	LED green: power on
Data flow display	LED yellow: data communication active
Error display	LED red flashing: read head outside of code rail solid on: internal diagnostic test failed
Electrical specifications	
Operating voltage U_B	10 ... 30 V DC
Power consumption P_0	11 VA at 24 V DC
Interface	
Interface type	RS 422
Data output code	binary code
Protocol	see protocol description
Transfer rate	Baud rate 19.2 kBit/s
Standard conformity	
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
Ambient conditions	
Operating temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Relative humidity	90 % , noncondensing
Mechanical specifications	
Connection type	8-pin, M12 x 1 connector
Protection degree	IP54
Material	
Housing	ABS , PC (Polycarbonate)
Mass	500 g
General information	
Ordering information	Mounting plate included with delivery
Approvals and certificates	
CSA approval	cCSAus Certified, General Purpose Class 2 power source

Date of edition 2012-01-25

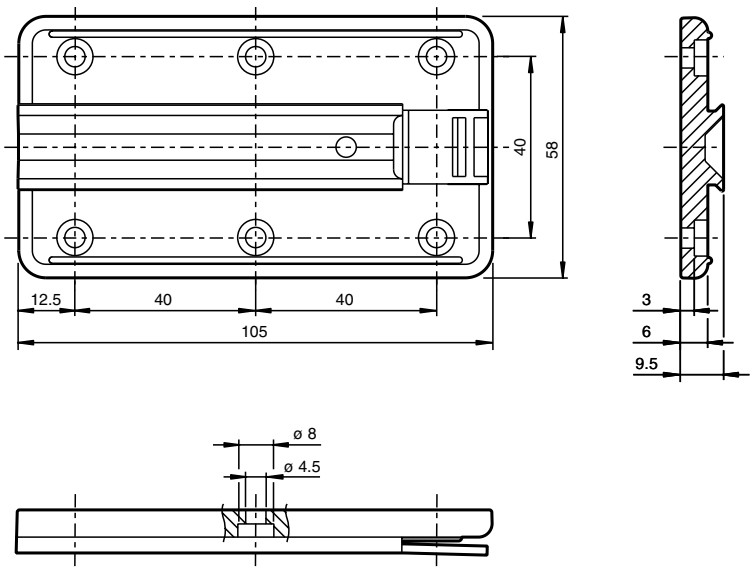
Subject to reasonable modifications due to technical advances. Copyright Pepperl+Fuchs, Printed in Germany

CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

Dimensions



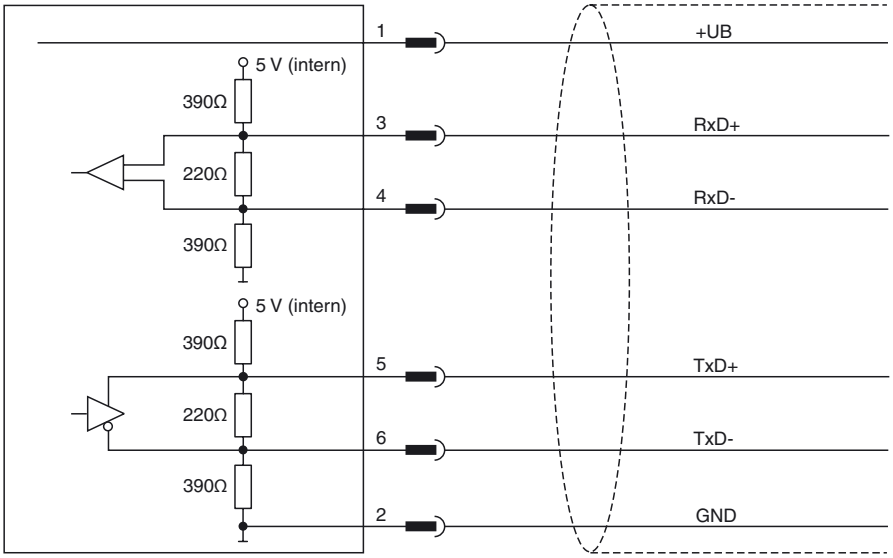
Mounting plate

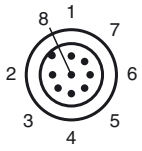


Date of edition 2012-01-25

Subject to reasonable modifications due to technical advances.
Copyright Pepperl+Fuchs, Printed in Germany

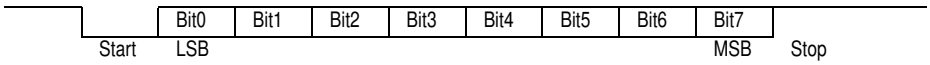
Electrical connection





Interface desription

Byte format



Data protocol

Request bytes

Byte	0	0	0	0	0	0	1	0
	Bit7							Bit0

Cycle time: 10 ms

Answer telegram of the read head

Bit	7	6	5	4	3	2	1	0
Byte1	XP07	XP06	XP05	XP04	XP03	XP02	XP01	XP00
Byte2	XP15	XP14	XP13	XP12	XP11	XP10	XP09	XP08
Byte3	XP23	XP22	XP21	XP20	XP19	XP18	XP17	XP16
Byte4	Out	OutAll	DB	Status	0	Err02	Err01	Err00

Output in increments of 0.25 mm
Out = 1: Read head partly outside of the code rail
OutAll = 1: Read head completely outside of the code rail
DB = 1: Soiled read head optics
Status: 0 = error; 1 = no error
Error: Error number in Err02 ... Err00

Date of edition 2012-01-25

Subject to reasonable modifications due to technical advances.
Copyright Pepperl+Fuchs, Printed in Germany
Pepperl+Fuchs Group • Tel.: Germany +49 621 776-0 • USA +1 330 4253555 • Singapore +65 67799091 • Internet http://www.pepperl-fuchs.com