



- 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-LS24A

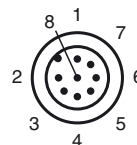
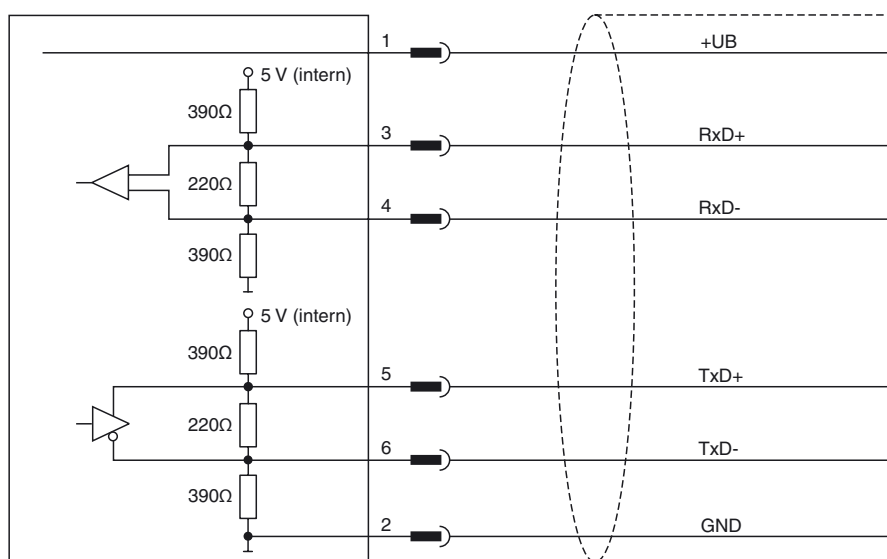


Technical data

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	2 VA
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		0 ... 60 °C (32 ... 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

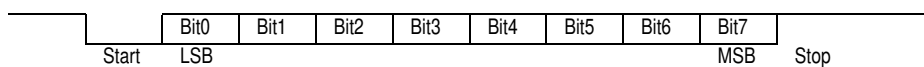
Date of edition 2012-01-25

Electrical connection



Interface description

Byte format



Data protocol

Request bytes	Response bytes	Request bytes	Response bytes
100	100	100	100
200	200	200	200
300	300	300	300
400	400	400	400
500	500	500	500
600	600	600	600
700	700	700	700
800	800	800	800
900	900	900	900
1000	1000	1000	1000
1100	1100	1100	1100
1200	1200	1200	1200
1300	1300	1300	1300
1400	1400	1400	1400
1500	1500	1500	1500
1600	1600	1600	1600
1700	1700	1700	1700
1800	1800	1800	1800
1900	1900	1900	1900
2000	2000	2000	2000
2100	2100	2100	2100
2200	2200	2200	2200
2300	2300	2300	2300
2400	2400	2400	2400
2500	2500	2500	2500
2600	2600	2600	2600
2700	2700	2700	2700
2800	2800	2800	2800
2900	2900	2900	2900
3000	3000	3000	3000
3100	3100	3100	3100
3200	3200	3200	3200
3300	3300	3300	3300
3400	3400	3400	3400
3500	3500	3500	3500
3600	3600	3600	3600
3700	3700	3700	3700
3800	3800	3800	3800
3900	3900	3900	3900
4000	4000	4000	4000
4100	4100	4100	4100
4200	4200	4200	4200
4300	4300	4300	4300
4400	4400	4400	4400
4500	4500	4500	4500
4600	4600	4600	4600
4700	4700	4700	4700
4800	4800	4800	4800
4900	4900	4900	4900
5000	5000	5000	5000
5100	5100	5100	5100
5200	5200	5200	5200
5300	5300	5300	5300
5400	5400	5400	5400
5500	5500	5500	5500
5600	5600	5600	5600
5700	5700	5700	5700
5800	5800	5800	5800
5900	5900	5900	5900
6000	6000	6000	6000
6100	6100	6100	6100
6200	6200	6200	6200
6300	6300	6300	6300
6400	6400	6400	6400
6500	6500	6500	6500
6600	6600	6600	6600
6700	6700	6700	6700
6800	6800	6800	6800
6900	6900	6900	6900
7000	7000	7000	7000
7100	7100	7100	7100
7200	7200	7200	7200
7300	7300	7300	7300
7400	7400	7400	7400
7500	7500	7500	7500
7600	7600	7600	7600
7700	7700	7700	7700
7800	7800	7800	7800
7900	7900	7900	7900
8000	8000	8000	8000
8100	8100	8100	8100
8200	8200	8200	8200
8300	8300	8300	8300
8400	8400	8400	8400
8500	8500	8500	8500
8600	8600	8600	8600
8700	8700	8700	

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

Out = 1: Head head partly outside of the code rail
OutAll = 1: Read head completely outside of the code rail
DR = 1: Sealed read head entries

Status: 0 = error; 1 = no error

Status: 0 = error; 1 = no error

Error: Error number in Err02 ... Err00