



- Up to 4 read heads can be connected
- DIN rail mounting
- EtherNet/IP

WCS-EIG210



## Technical data

### General specifications

Installation DIN rail mounting

### Electrical specifications

Operating voltage  $U_B$  10 ... 30 V

Power consumption  $P_0$   $\leq 3.6$  W (without read heads)

### Interface 1

Connection of control system

Interface type Ethernet

Protocol Ethernet/IP

Transfer rate 10 MBit/s or 100 MBit/s

Data output format Ethernet 10/100 BASE-TX

### Interface 2

Connection of Reading head

Connectable read heads WCS-LS221 , WCS-LS121

Interface type RS 485

Transmission method half duplex

Transfer rate 62.5 kBit/s

RS485 termination resistor switchable

Refresh cycle of read head 1 ms

### Standard conformity

Emitted interference EN 55011

Interference rejection EN 61000-4-2/3/4/5/6

### Ambient conditions

Operating temperature 0 ... 55 °C (32 ... 131 °F) , no moisture condensation

Storage temperature -40 ... 70 °C (-40 ... 158 °F)

Relative humidity  $\leq 80$  %

### Mechanical specifications

Connection type Interface 1: RJ-45 socket, 8-pin  
Interface 2: terminal connection  $\leq 2.5$  mm<sup>2</sup> , 5-pin

Housing width 23 mm

Housing height 118 mm

Housing depth 115 mm

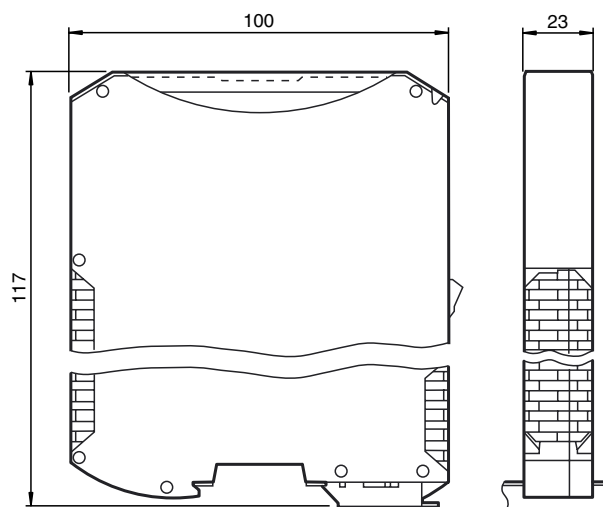
Protection degree IP20

Material plastic

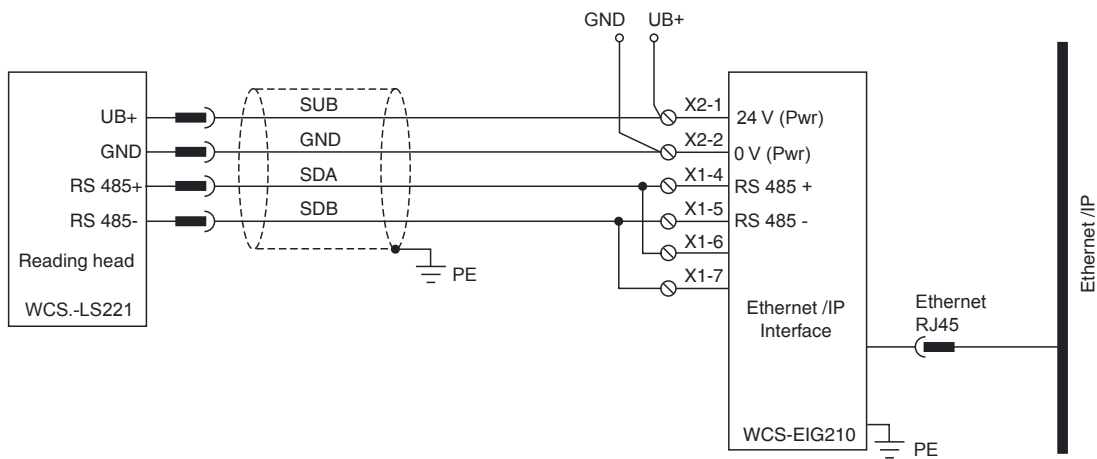
Installation position any position

Mass approx. 140 g

**Dimensions**



**Electrical connection**



**Read Head Connection Charts**

WCS2B Read Head	Pin #	Color Code (if using molded cordset)
+ Supply (SUB)	2	White
- Supply (GND)	3	Blue
+ RS 485 (SDA)	4	Black
- RS 485 (SDB)	1	Brown

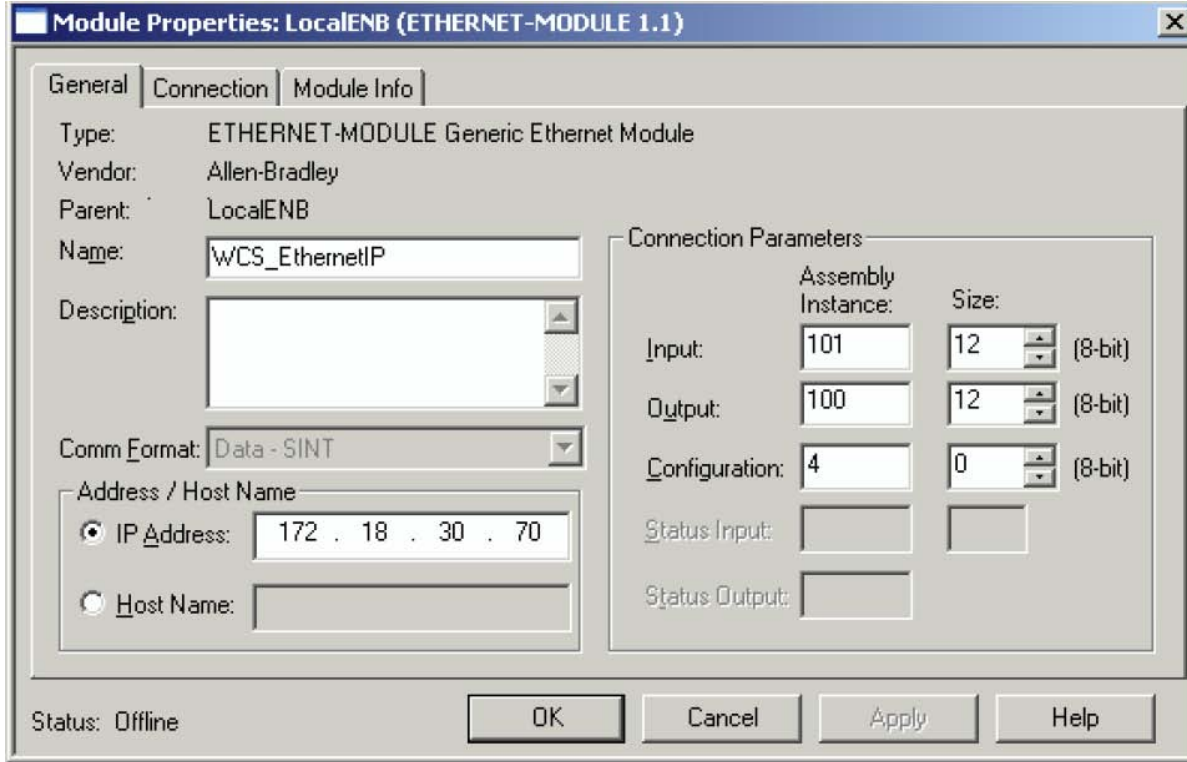
WCS3B Read Head	Pin #	Color Code (if using molded cordset)
+ Supply (SUB)	1	Brown
- Supply (GND)	3	Blue
+ RS 485 (SDA)	2	White
- RS 485 (SDB)	4	Black

Date of edition 2010-12-21, Doc.No. TDOCT-2076A\_ENG

### WCS and Ethernet/IP Quick Start Guide

The WCS Ethernet/IP interface uses implicit messaging, thus all position and speed data is directly mapped in the PLC. See below for the correct configuration of the generic Ethernet/IP device.

Input assembly 101      Minimum RPI 10 ms  
 Output assembly 100  
 Configuration assembly 4

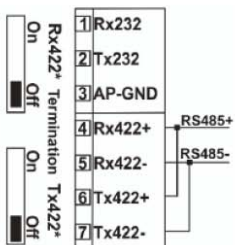


### Configuration for Multiple Read Heads

The length of the assembly instances will vary depending upon the rotary switch setting, the number of heads used and if speed data is required.

Possible configuration options include --

Configuration	Rotary Switch Setting	Size (bytes)
1 head	0	4
2 heads	1	8
3 heads	2	12
4 heads	3	16
1 head with speed	4	6
2 heads with speed	5	12
3 heads with speed	6	18
4 heads with speed	7	24



Switch	Terminating Resistor "ON"	Terminating Resistor "OFF"
Rx 422	OFF	OFF
Tx 422	ON	OFF

**Read Head Byte Layout**

Position, speed and health check data is presented in the format below

Byte Pattern -- Without speed indication								
Byte 0	0	0	0	0	0	P18	P17	P16
Byte 1	P15	P14	P13	P12	P11	P10	P09	P08
Byte 2	P07	P06	P05	P04	P03	P02	P01	P00
Byte 3	0	0	0	DB	ERR	OUT	A1	A0

Byte Pattern -- With speed indication								
Byte 0	0	0	0	0	0	P18	P17	P16
Byte 1	P15	P14	P13	P12	P11	P10	P09	P08
Byte 2	P07	P06	P05	P04	P03	P02	P01	P00
Byte 3	0	0	0	DB	ERR	OUT	A1	A0
Byte 4	0	0	0	0	0	0	0	0
Byte 5		S06	S05	S04	S03	S02	S01	S00

PXX = Position Bit [P00 = LSB]

SXX = Speed Bit [S00 = LSB]

AXX = Read Head Address [A00 = Read Head #1]

DB = Dirty Lens (1 = cleaning required)

OUT = Code Rail Presence (0 = present)

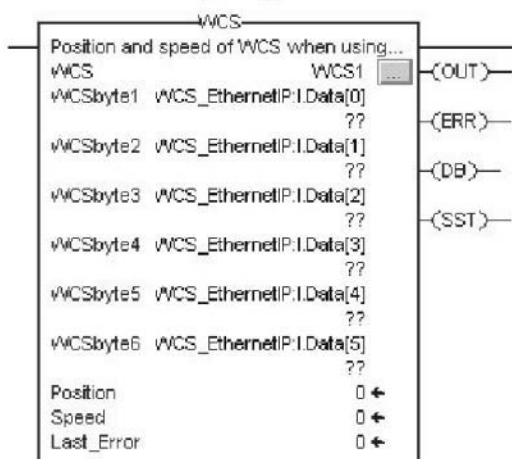
ERR = Error Notification Code

**Add-on instructions**

Add-on instructions for RSLogix 5000 V16 and V17 are available on the internet at <http://www.pepperl-fuchs.com>. This handy tool separates the 4 or 6 byte packets from each WCS read head into dedicated speed, position and diagnostic information.

To download the add-on instructions locate the WCS-EIG210 data using the site search function, and then refer to the "Technical Documents" option.

Position and Speed Feedback  
When Using Ethernet/IP



**Outputs**

**Position** - WCS read heads position on the rail

**Speed** - Velocity, in increments of 0.1 m/s

**Last Error** - If an error bit was active, it is logged here. It can be cleared by the user.

**SST** - Normally low. „1“ means speed is not valid.

**OUT** - Active when code rail is outside the read head slot.

**ERR** - An error has occurred, check „LastError“ for detailed information.

**DB** - Dirty lens, lens should be cleaned.

## WinZip Installation and Set up

To change the WCS-EIG210 IP address, Subnet Mask and Gateway IP address a WinZip file is required. To download WinGate V2.55, locate the WCS-EIG210 using the <http://pepperl-fuchs.com> search function, and then refer to the "Technical Documents" option.

