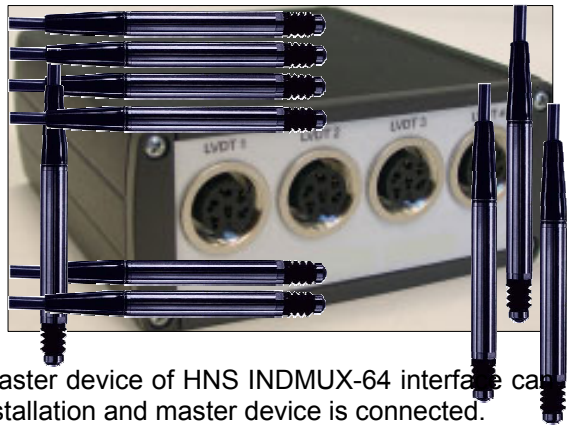
HNS **INDMUX-64**

Interface for Inductive Probes

Communication Protocol

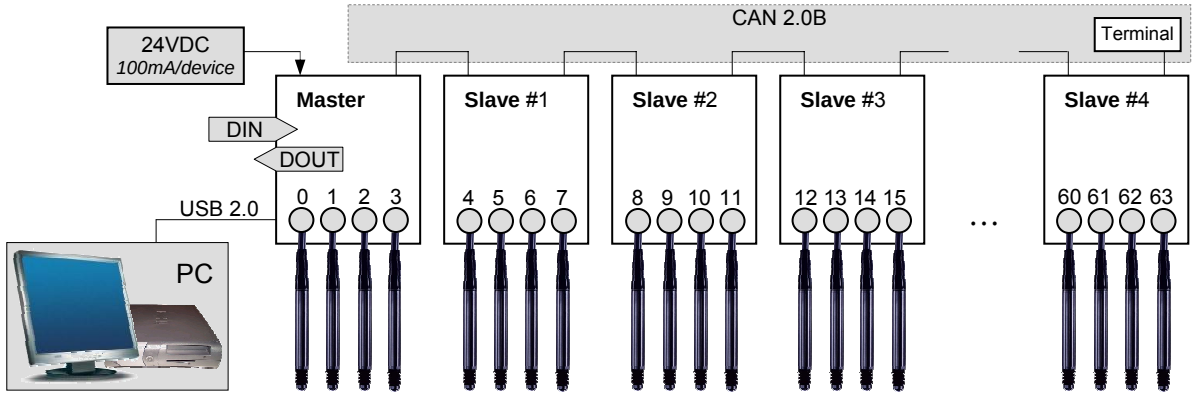
Programmer's Manual



A HNS INDMUX-64 interface has master and slave devices. The master device of HNS INDMUX-64 interface can be accessed using the virtual COM port is created after the driver installation and master device is connected.
The FTDI CDM driver installation program can be downloading from: http://www.hns.eu/spce/MUX/CDM_Setup.exe.

The interface can be used by your PC application as a simple serial line connected device, use the standard Windows API functions or your RS232 service library to communicate with the device via the (FTDI CDM created virtual) COM port.

Device connections



Attention!
The master device is sending the value of probes measured in 16 bit (±32000) A/D value, so the calibration and linearization must be done by your application.
The synchronization of reading the measuring channels is assured by devices, it must be considered when you design the measuring application and assign the probes to the measured parameters.

Communication

Application can read the measured values of probes and set the digital outputs sending a simple command byte to the COM port of the connected master device. Answer receives from the interface contains the measured (A/D!) values and the status byte of digital input lines.

COM port settings

Baud rate: 115KBaud
Number of data bits: 8
Parity: none
Number of stop bits: 1

Messages

Command byte to read probe values and status of digital inputs
PC ➲ Interface

'**?**'

Command byte to read probe values and status of digital inputs and to set the status of digital outputs
PC ➲ Interface

Command byte	DO3	DO2	DO1	DO0
'**0**'	0	0	0	0

'**1**'	0	0	0	1
'**2**'	0	0	1	0
'**3**'	0	0	1	1
'**4**'	0	1	0	0
...				
'**a**'	1	0	1	0
'**b**'	1	0	1	1
'**c**'	1	1	0	0
...				
'**f**'	1	1	1	1

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Answer for command bytes above
Interface ➲ PC

'#'	Tab	*Chn#0*	Tab	*Chn#1*	Tab	*Chn#2*	Tab	...	*Chn#63*	Tab	*DI*	Cr

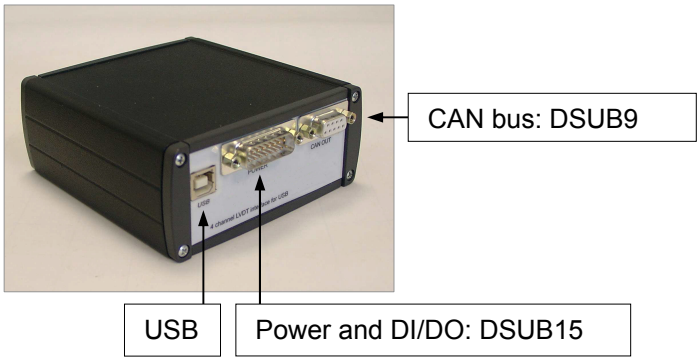
Where

Chn#0**…**Chn#63 measured (A/D!) values of the probe at 6 bytes, for example. '+00123', '-00321',
DI status byte of the digital inputs (representation mode is same to the representation mode of status byte of the digital outputs, see the table above!).

Values of the non-existing (not existing slaves) and the unused (not connected) channels is +00000.

The interface drops the invalid command bytes (byte is lower than space = 20h) and does not send back the answer to the application.
The interface must be answer immediately when a valid command byte is received, by the way using of 2 second TMO to detect the connection failure is suggested. Check the USB connection and the COM port settings if no answer is received. Communication failure can be occurred by invalid driver installation also.

Connectors



CAN bus *DSUB9*	
Pin	Function
1	+24V
2	0V
3	0V
4	shield
5	
6	+24V
7	CANH
8	CANL
9	

Power and DI/DO *DSUB15*	
Pin	Function
1	+24V= power
2	0V
3	0V
4	shield
5	IN1
6	IN3
7	OUT1
8	OUT3
9	+24V
10	CANH
11	CANL
12	IN0
13	IN2
14	OUT0
15	OUT2

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