

NCI-1 CAN cable connection to the WSDI-2 wind display			
NCI-1 wire colour	Function	WSDI-2 terminal	Note
Black	Supply -	1	0 V
Red	Supply +	2	Nominal 12-24V DC
White	CAN-H	3	Built-in termination from 3 to 5
Bare (shield)	CAN-C	(4)	Should not be connected
Blue	CAN-L	5	



Do not connect a dimmer switch between WSDI-2 terminal 4 and 5!

Extending the CAN cable

The CAN cable may be extended to max. 6 m by using either a shielded DeviceNet cable or a shielded Ethernet CAT5 cable (or higher).

NCI-1 NMEA cable connection to navigation system			
NCI-1 wire colour	NCI-1 function	Navigation system NMEA port	NMEA sentences
Blue	Out: B	In: B / - / GND/Return	VWR & MWV
White	Out: A	In: A / + / RX	
Black	Input: B	Out: B / - / GND/Return	VHW or RMC
Red	Input: A	Out: A / + / TX	
Bare (shield)	Do not connect	Do not connect	

Extending the NMEA 0183 cable

The NMEA 0183 cable may be extended by using a shielded twisted pair cable (e.g. a single wire pair in an Ethernet CAT5 cable only used for the NMEA 0183 signal).



Take care to connect the right cable to the WSDI-2. If the NMEA 0183 cable is accidentally connected to the supply voltage, the NMEA I/O may be damaged!



If the NCI-1 box is replaced by another NCI-1, you will have to make a “CAN reset” in the installation menu to be able to receive speed data again!

NMEA data indicator

A red LED inside the box, where NMEA is connected, will flash when NMEA 0183 data is received. If this indicator is not flashing when NMEA input data is supposed to be available, the NMEA input connection may be reversed (wrong polarity), the bit rate may be wrong (must be 4800 Baud) or data is not sent from the speed log, navigation system or GPS receiver.

CAN data indicator

Similarly, there is a LED where the CAN cable is connected, indicating that the CANbus is correctly connected and wind data from the WSDI-2 is received.

If both indicator LEDs are flashing at the same time once every 10 sec., it indicates that the aux. supply voltage for the NCI-1 box is present, but neither NMEA nor CAN input signals are available. Check cabling and connection to the WSDI-2, and check the NMEA 0183 connection as mentioned above.

NCI-1 technical specifications

Aux. voltage	Nom. 12-24V DC (8-35V DC)
Consumption	Max. 0.8 W @ full loaded I/O
CANbus	Built-in 120 Ω termination
NMEA 0183 input	<p>Opto-isolated NMEA input</p> <p>Sentence: VHW (water speed) or RMC, VTG (COG)</p> <p>Bit rate: 4800 b/s</p> <p>Min. input voltage: 1.8 V</p> <p>Max. input voltage: ± 15 V continuous</p> <p>Input voltage < 1 sec.: ± 35 V</p> <p>Max. input current: 2 mA</p> <p>Galvanic protection Aux./CAN/NMEAout: 1500 V</p>
NMEA 0183 output	<p>RS485/RS422 and RS232 compatible</p> <p>Sentence: MWV and VWR</p> <p>Bit rate: 4800 b/s</p> <p>Differential output 100 Ω load: 2.1 V</p> <p>Max. output current: 20 mA</p> <p>Galvanic protection Aux./CAN: 1500 V</p>

NMEA 0183 output sentences

MWV wind speed and angle, format:

\$IIMWV,67.99,R,3.40,N,A*0B<Cr><Lf>

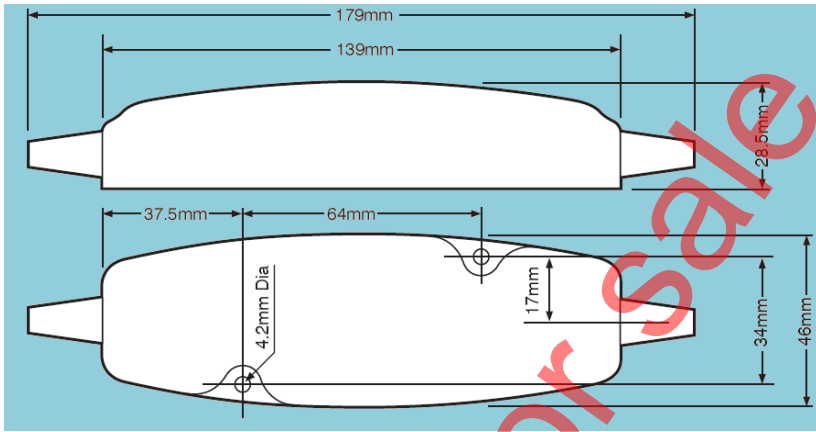
- 67.99 is the wind angle in degrees from 0 to 360°
- R indicates that it is a relative wind measurement
- 3.40 is the wind speed
- N is speed unit, knots
- A is status – data is valid
- 0B is the checksum

VWR relative (apparent) wind speed and angle, format:

\$IIVWR,67.9,R,3.4,N,1.7,M,6.2,K*74<Cr><Lf>

- 67.9 is the wind angle in degrees from 0 to 180°
- R indicates that the wind is coming from right (starboard), alternatively, L indicates that the wind is coming from left (port)
- 3.4,N is the wind speed in knots
- 1.7,M is the wind speed in m/s
- 6.2,K is the wind speed in km/h
- 74 is the checksum

Dimensions



DEIF A/S reserves the right to change any of the above.