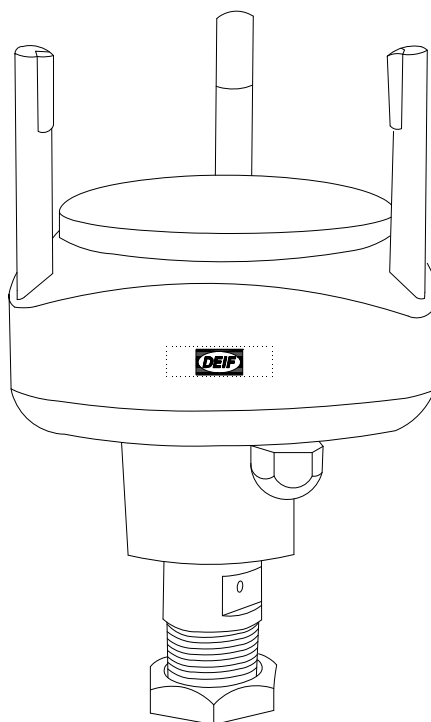**DEIF**

-power in control

Appendix to User's Manual

Ultrasonic wind measuring system
WSS 500 series

4189350076A

DEIF A/S

CE

Connection of the WSS 500 series wind sensor

Cable colour	Function		Note
Black	Supply voltage	-	12 V DC ±20 % (max. 1.1 A) or 24 V DC ±20 %
Red		+	(max. 0.6 A) supply for the wind sensor. Note 1.
Orange	RS-485 comm.	A	Wind speed and direction data output.
Brown		B	

Note 1: At approximately 16 V the combination of the heating elements is changed in order to consume equal power with 12 V DC and 24 V DC supplies. Input resistance is changed from 13 ohm to 52 ohm for voltages above 16 V. In order to have the best heating using 12 V DC as supply, it is recommended to keep the voltage level below 16 V DC even though the WSS can operate correctly in the range 9.6 V DC to 28.8 V DC.

WSS 500 series NMEA0183 protocol

MWV, Wind Speed and Direction Response:

Response format: $WIMWV,296,R,9.7,N,A*20<cr><lf>

where
$	=	Start of the message
WI	=	Talker identifier (WI = weather instrument)
MWV	=	Wind speed and direction response identifier
296	=	Wind direction value (degrees)
R	=	Wind direction unit (R = relative)
9.7	=	Wind speed value (knots)
N	=	Wind speed unit (knots)
A	=	Data status: A = valid, V = invalid
*	=	Check sum delimiter
20	=	Two-character check sum for the response
<cr><lf>	=	Response terminator

Update rate: Every 1 second.

XDR, Transducer Measurement Response:

Response format: $WIXDR,C,25.0,C,2,U,23.3,N,0,U,24.3,V,1,U,3.491,V,2*75<cr><lf>

where
$	=	Start of the message
WI	=	Talker identifier (WI = weather instrument)
XDR	=	Transducer measurement response identifier
C	=	Transducer id 2 type (temperature)
25.0	=	Transducer id 2 data (heating temperature)
C	=	Transducer id 2 units (C, heating temperature)
2	=	Transducer id for heating temperature
U	=	Transducer id 0 type (voltage)
23.3	=	Transducer id 0 data (heating voltage)
N	=	Transducer id 0 units (N = heating disabled or heating temperature too high, heating voltage)
0	=	Transducer id for heating voltage
U	=	Transducer id 1 type (supply voltage)

24.3	=	Transducer id 1 data (voltage)
V	=	Transducer id 1 units (V, supply voltage)
1	=	Transducer id for supply voltage
U	=	Transducer id 2 type (voltage)
3.491	=	Transducer id 2 data (3.5 V reference voltage)
V	=	Transducer id 2 data (V, 3.5 V reference voltage)
2	=	Transducer id for V, 3.5 V reference voltage
*	=	Check sum delimiter
75	=	Two-character CRC for the response
<cr><lf>	=	Response terminator

Update rate: Every 15 seconds.

Response example:

$WIXDR,C,25.0,C,2,U,23.3,N,0,U,24.3,V,1,U,3.491,V,2*75
$WIMWV,296,R,9.7,N,A*20
$WIMWV,297,R,9.9,N,A*2F
$WIMWV,294,R,9.5,N,A*20
$WIMWV,294,R,9.7,N,A*22
$WIMWV,296,R,9.5,N,A*22
$WIMWV,297,R,9.1,N,A*27
$WIMWV,298,R,8.9,N,A*21
$WIMWV,294,R,9.5,N,A*20
$WIMWV,293,R,9.7,N,A*25
$WIMWV,296,R,9.5,N,A*22
$WIMWV,298,R,10.1,N,A*10
$WIMWV,297,R,10.5,N,A*1B
$WIMWV,296,R,9.9,N,A*2E
$WIMWV,296,R,9.9,N,A*2E
$WIXDR,C,24.8,C,2,U,24.1,N,0,U,24.3,V,1,U,3.483,V,2*7A
$WIMWV,296,R,10.5,N,A*1A
$WIMWV,296,R,11.0,N,A*1E
$WIMWV,297,R,10.5,N,A*1B
$WIMWV,298,R,10.3,N,A*12
$WIMWV,296,R,10.1,N,A*1E

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