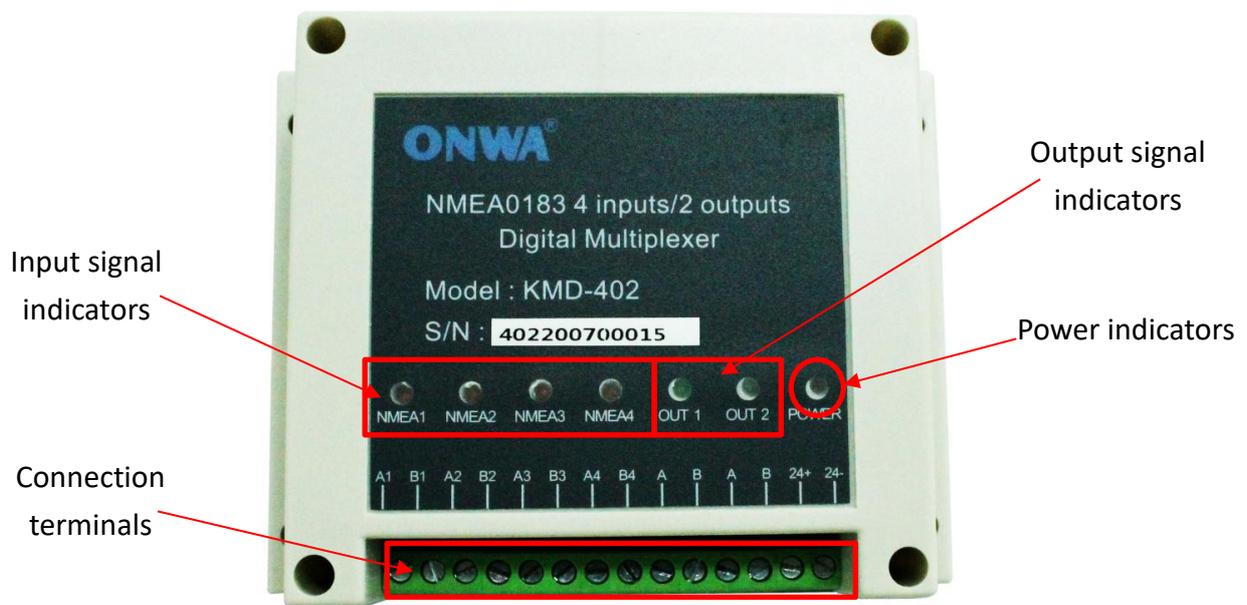# ONWA®

KMD-402 NMEA0183 Multiplexer/Combiner

1. Introduction:

KMD-402 provides four serial port data inputs (NMEA0183 protocol) and combines them into two serial port outputs (NMEA0183 protocol). Each serial port input baud rate can be automatically detected from 2400 up to 115200. The combined output signal baud rate is set to 38400 as default and can be set among 4800, 9600, 19200 and 38400.
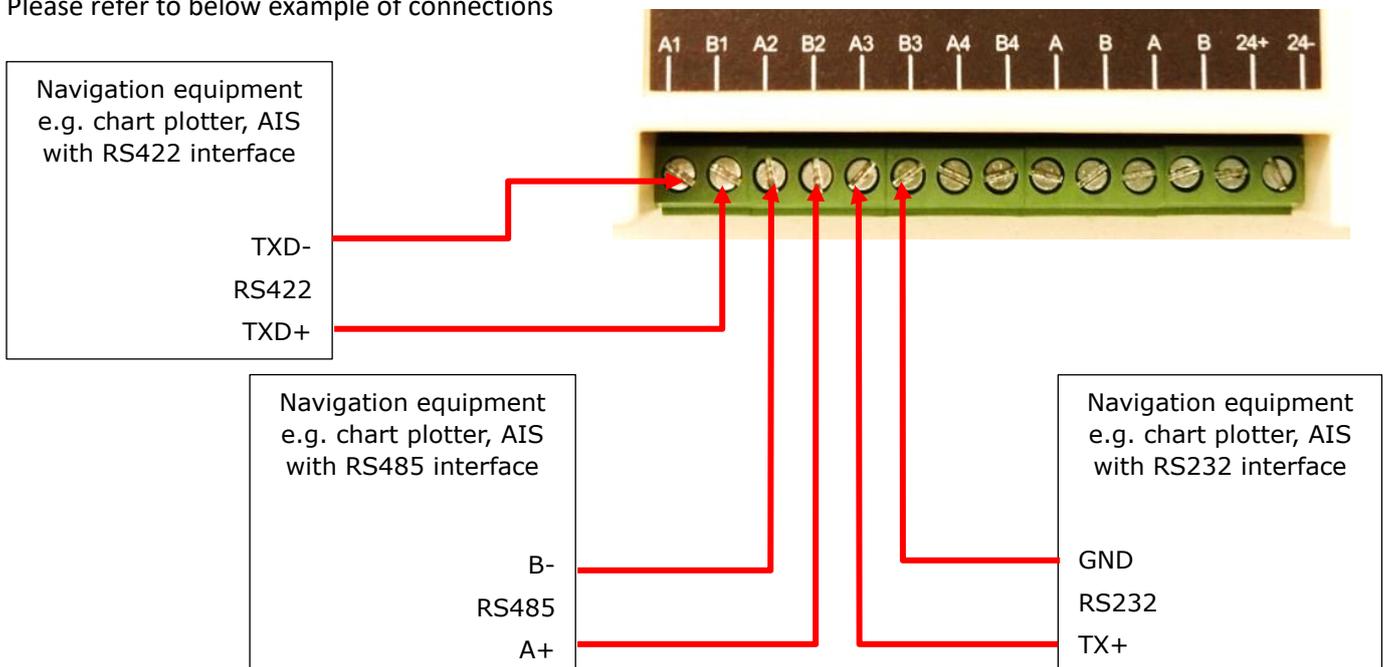
2. Description:

3. Installation Guide

3.1 NMEA0183 input RS422, RS485 and RS232 connections
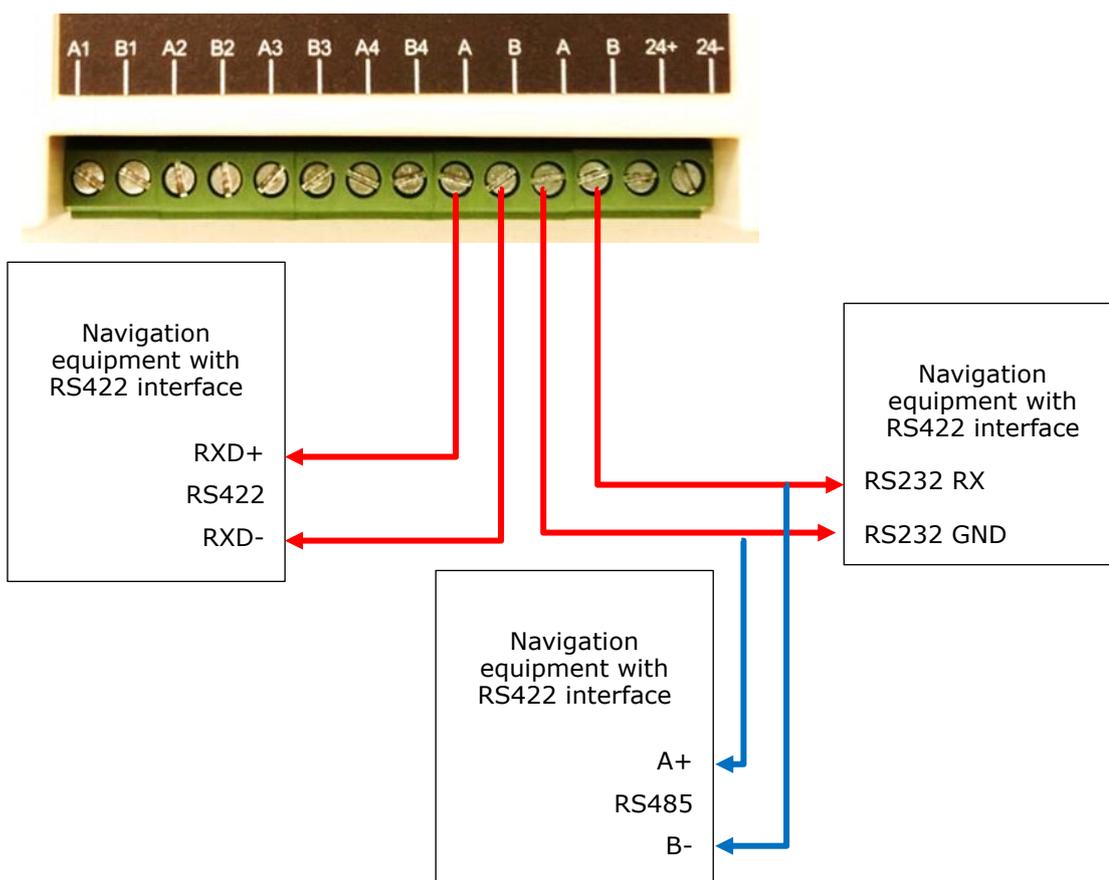
Please refer to below example of connections

example of input connections:

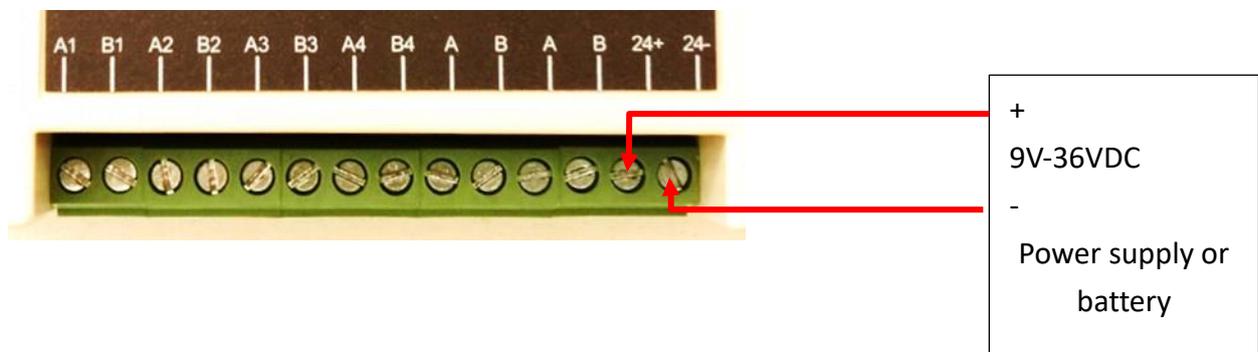| Navigation equipment output	KMD-402 input
RS422 connection	
RS422A(TXD-)	A1
RS422B (TXD+)	B1
RS485 connection	
RS485B-	A2
RS485A+	B2
RS232 connection	
RS232 TX+	A3
RS232 GND	B3

3.2 NMEA0183 output RS422, RS485 and RS232 connections

Please refer to below example of connections

Navigation equipment input	KMD-402 output
RS422 connection	
RS422A(RXD+)	A
RS422B (RXD-)	B
RS485 connection	
RS485A+	A
RS485B-	B
RS232 connection	
RS232 GND	A
RS232 RX	B

3.3 Power connection

4. Instructions:

4.1 Input and output data format and baudrate

- Serial input signal shall conform to NMEA0183 protocol format statement, for example: heading statement $HDHDT,123.0,T*2E, with any baudrate between 2400 to 115200.

- The original input format will be maintained when the input signals of each serial port are combined and outputted. For example, the original format is as follows: $HDHDT,123.0,T*2E ；The output is the same, but the baudrate has been changed to 38400;

Example:

1) Input statement format:

The first serial port (A1B1) statement is a heading statement

$HEHDM,282.0,T*3E

The second serial port (A2B2) statement is a GPS statement

$GPRMC,090951,A,2304.5504,N,11325.8370,E,000.0,000.0,120917,002.6,W*61

The third serial port (A3B3) statement is an AIS statement

!AIVDM,1,1,0,A,16:FDnPP0087<LP==n>U?gwl2588,0*29

The fourth serial port (A4B4) statement is a log statement

$HCVBW,20.3,1.5,A,23.1,1.2,A,1.1,A,1.5,A*4A

2）Output statement format：

The output signal is outputted in two ways at the same time. The output statement is the sum of all statements after synthesis. The signal format conforms to RS-422 standard, and the baud rate is 38400.

$HEHDM,282.0,T*3E

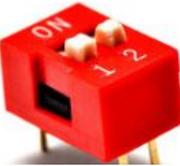$GPRMC,090951,A,2304.5504,N,11325.8370,E,000.0,000.0,120917,002.6,W*61

!AIVDM,1,1,0,A,16:FDnPP0087<LP==n>U?gwl2588,0*29

$HCVBW,20.3,1.5,A,23.1,1.2,A,1.1,A,1.5,A*4A

4.2 Output baudrate setting:

The baudrate of the combined output is 38400 by default, to set the output baudrate just open the housing and set the dip switch as shown below.

	1	2	baud rate
	ON	ON	4800
	ON	OFF	9600
	OFF	ON	19200
	OFF	OFF	38400

5. Product size

Size: 115 (L) * 90 (W) * 40 (H) (mm)

Mounting holes : 105 (L)*70 (W) (mm)