Introduction

The HPS-200 from HandyWave is a ready-to-use short-range wireless connectivity solution for industrial. It provides the most economic and powerful way of cable replacement for the serial communication systems including RS-232, RS-422, and RS-485.

Features

- Supports DIN-RAIL and Wall Mount
- Supports Bluetooth Serial Port Profile and Generic Access Profile
- No need of external host and software
- Easy of installation and use
- Supports configuration of the local device
- Supports configuration of the remote device via Over-the-Air
- Easy of maintenance
- Supports up to 100 meter (Line of Sight)[1]
- Supports RS-232, RS-422, and RS-485
- Supports Point-to-Point and Point-to-Multipoint Topology

Specifications

- Standard: Bluetooth Specification Version 1.2 and/or above
- Operation Frequency: 2.4GHz ISM Band
- Transmitted Power: Max 20 / Typical 16dBm (Class 1)
- Received Sensitivity: More than –80dBm
- Power Supply: DC +5 ~ +30V
- Current Consumption: Up to 200mA at DC 5V
- Operation Temperature: -20 ~ 60 °C
- Dimension: 52.5mm (W) x 86.0mm (D) x 58.0mm (H)
- Baud Rate: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, and 115.2Kbps
- Antenna Interface: SMA Female
- Signal Interface: 14 Terminals and screws

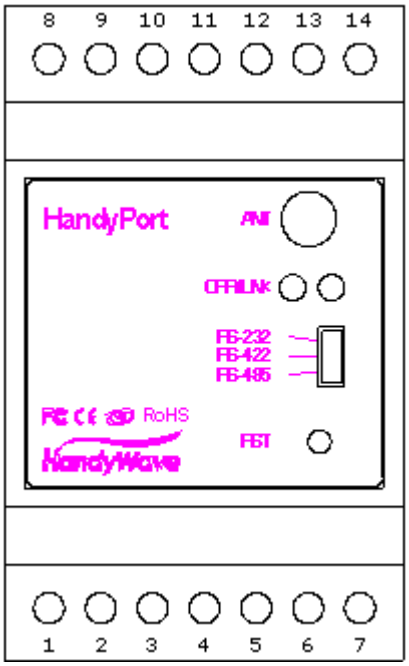
Contents

- HPS-200 2 EA
- Antenna 2 EA
- A Quick Start Guide

[1] It can be extended up to 1Km with a high gain antenna.

Hardware Setup

Interface

Items	Description			Figure
ANT	Antenna Port			
OPR/LNK	LED Display			
RS-232	Serial Selection Switch for RS-232, RS-422, and RS-485			
RS-422				
RS-485				
RST	Configuration Button			
Pin #	**Signal**	**Direction**	**Descriptions**	
1	TxD	O[1]	TxD for RS-232	
2	RxD	I[2]	RxD for RS-232	
3	RTS/DTR	O	RTS/DTR for RS-232	
4	CTS/DSR	I	CTS/DSR for RS-232	
5	GND	Common	Signal Ground	
6	GND	Common	Power Ground	
7	Power	I	Power Supply	
8	TX+/TRX+	I/O	TX+: RS-422 TRX+: RS-485	
9	TX-/TRX-	I/O	TX-: RS-422 TRX-: RS-485	
10	RX+	I	RX+: RS-422	
11	RX-	I	RX-: RS-422	
12	GND	Common	Signal Ground	
13	EoR+	O	End of Resistor[3] +	RS-485 Only
14	EoR-	I	End of Resistor –	RS-485 Only

Quick Installation Guide

Step 1: Assemble a provided antenna to the antenna port on the HandyPort.

Step 2: Select a serial interface using the serial selection switch on the HandyPort.

Step 3: Make connections using 14 terminals and screws for power and serial interface.

Step 4: Configure the HandyPort, if necessary.

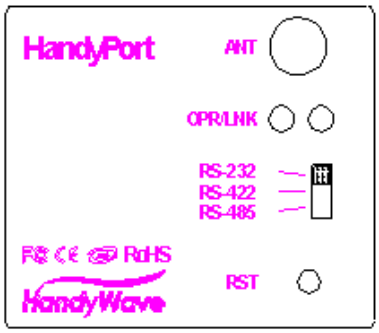
[1] O: Output
[2] I: Input
[3] End of Resistor: If the HandyPort is required an end of resistor, you can make a loop between EoR+ and EoR-. It is only for RS-485.

Connection Overview for Power and Serial Interfaces

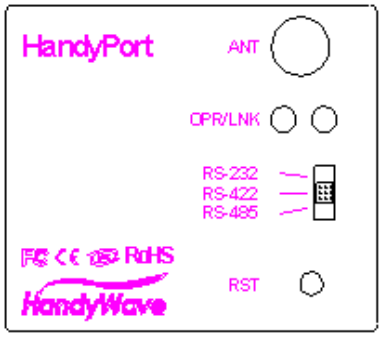
Power

Pin #	Signal	Descriptions
6	GND	Power Ground
7	Power	Power Supply (DC +5V ~ +30V)

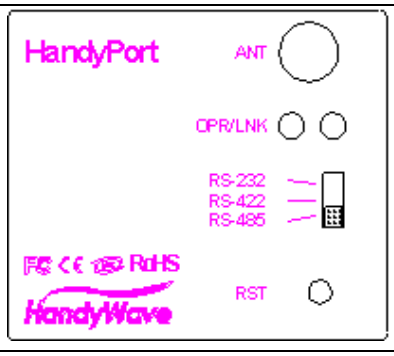
RS-232

Items	Location			Figure
Switch	RS-232			
Pin #	**Signal**	**Direction**	**Remarks**	
1	TxD	O[1]		
2	RxD	I[2]		
3	RTS/DTR	O	Please see the below.[3]	
4	CTS/DSR	I		
5	GND	Common		

RS-422

Items	Location			Figure
Switch	RS-422			
Pin #	**Signal**	**Direction**	**Remarks**	
8	TX+	Output		
9	TX-	Output		
10	RX+	Input		
11	RX-	Input		
12	GND	Common	If necessary	

RS-485

Items	Location			Figure
Switch	RS-422			
Pin #	**Signal**	**Direction**	**Remarks**	
8	TRX+	I/O		
9	TRX-	I/O		
12	GND	Common		
13	EoR+	O	Please see the below.[4]	
14	EoR-	I		

[1] O: Output
[2] I: Input
[3] Flow Control (RTS/CTS and/or DTR/DSR): You can use the flow control for RS-232. To use the flow control, you have to set the flow control for the HandyPort and DTE accordingly.
[4] EoR (End of Resistor): If the HandyPort is required an end of resistor, you can make a loop between EoR+ and EoR-. It is only for RS-485.

Configuration

You can change the configuration of HandyPort using HyperTerminal or similar terminal emulator.

HyperTerminal Settings

- COM Port Settings: 9600 8-N-1, Flow Control: None (Factory Settings of HandyPort)
- Emulation: VT100

Switch Location

To configure the HandyPort, the serial selection switch shall be at RS-232.

Start Configurations

Step 1: Make a RS-232 connection between the PC and HandyPort. And supply power for HandyPort.

Step 2: Open a Hyper Terminal at the PC and set it up.

Step 3: Push the RST button on HandyPort. If you enter the configuration mode successfully, LNK LED will be flashing every second.

Step 4: Hit the <Enter> key, 5 second later.

Step 5: Change the configuration of HandyPort with commands, if necessary.

Usage Printing

If you are in the configuration mode, type “?<Enter>” for listing commands. If you want to know the usage of specific command, type “?[command]<Enter>”. All commands and parameters are case sensitive. Therefore, you have to use the capital letter for commands and parameters.

End Configurations

After finishing the configuration, you have to execute a command “X” to apply changes and exit the configuration mode.

Frequently Used Commands

Command	Syntax	Description
A	ABD_ADDR<CR>	Change the remote device address
B	BBR[D]<CR>	Change the baud rate
M	MMode<CR>	Change the connection mode
P	PPA[D]<CR>	Change the parity bit
S	SST[D]<CR>	Change the stop bits
V	V	Display the device information

Please refer to the user’s manual for more details.