Catalogue

Overview

Appearance

Assembly

Item	Number
WiFi Adapter	1
Charger	1
Data cable	1
Hook	2
Clip	2
Packet	1
Data disc	1
Manual	1

Specifications

HART

Signal	1200bps，Bell202 FSK

Wireless

WiFi signal	802. 11b/g/n 2. 4GHz Wi-Fi，Distance 50m
WiFi mode	AP/Station

Loop power source

Interface	Same as HART communicate interface
Power	Max DC 21. 6V，Current 45mA

Power

Battery cap	3600mAh Li-ion Battery
Battery life	Loop power source with 4mA：12 hours Loop power source with 21mA：8 hours Loop power source disabled：16 hours
Interface	micro-usb
Charge time	Max current 1000mA，240 minutes

Other attributes

Dimensions	92mm x 70mm x 24mm
Weight	200g

Environmental

Usage	-20 °C ~ +50 °C
Storage	-40 °C ~ +85 °C

App appearance
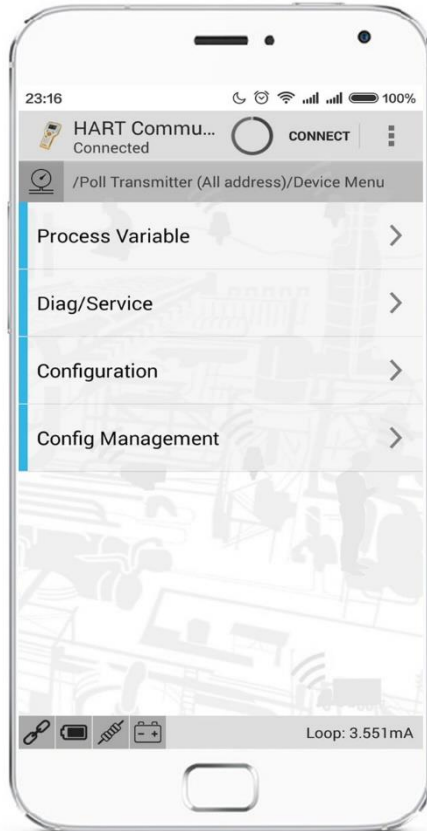
Download address:
http://app.woyatech.com

Handset requirements

OS	Android 4.1 or above
Screen size	4.3 inch or above

Features

i595 uses APP + smart hardware architecture, it not only supports all general parameters of HART transmitter, also supports more than fifty transmitter's advanced parameters, i595 has best cost-effective to replace Rosemount 475.

i595 has remote　assistance, built-in loop power supply, built-in resistor, and other intelligence features. These technical innovation will save us much time and labour.

Local use

The i595 hardware is a WiFi to HART adapter, it can work as WiFi AP or Station mode. When adapter work in "local" mode, it work as a AP essentially, also, When adapter work in "remote" mode, it work as a station essentially.

Normally, we set the i595 in "local" mode, so the android handset could connect to i595 AP through WiFi, with no password. In this mode, after the APP has connected to adapter, the data from APP to adapter will be transfer to HART side, vice versa, the channel is two-way.

Please refering to "Quick guide" section for detailed use steps.

Remote assistance
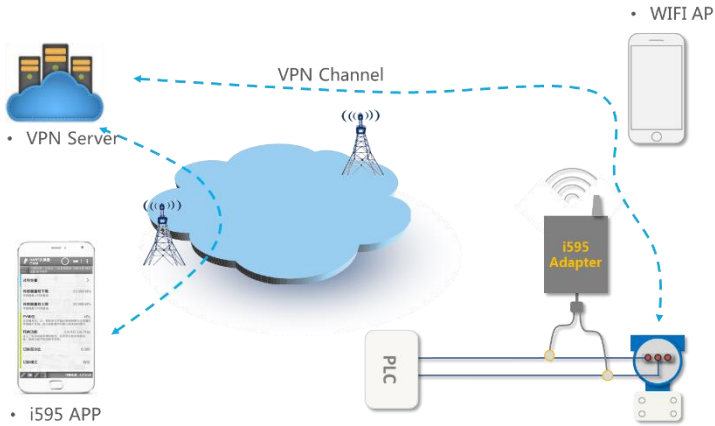
    The upper figure is a topology of remote debugging system. the i595 adapter connect to VPN server through a WiFi hotspot AP. Inputting the serial number of adapter in i595 APP, the APP will connect to transmitter at remote place, then we can setup the remote transmitter just like "local".

    If we need use "remote" mode, the adapter will work in station mode, just like a handset. It will attempt to connect to a WiFi AP with default SSID and password, the i595 APP has provide a soft-AP for i595 adapter, please refering to the menu "Create hotspot".

USB HART modem

    Sometimes, we want to setup the transmitter with PC software. i595 also can play a role of a usb interface HART modem.
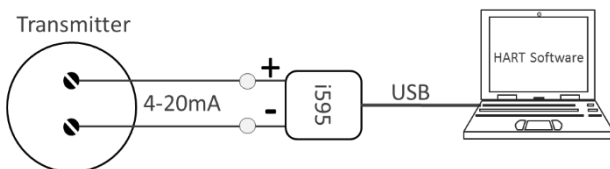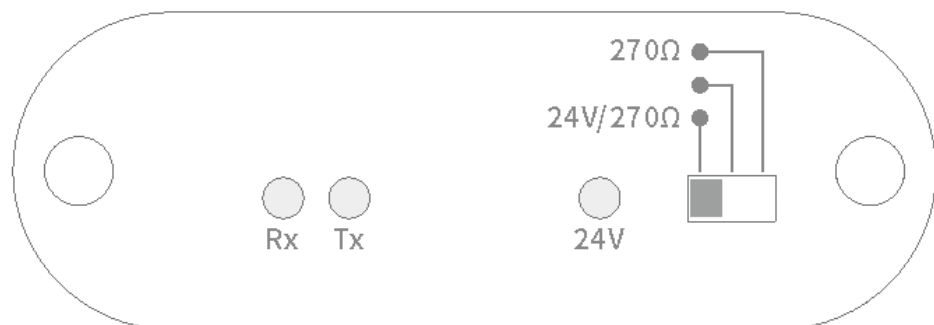
Upgrade

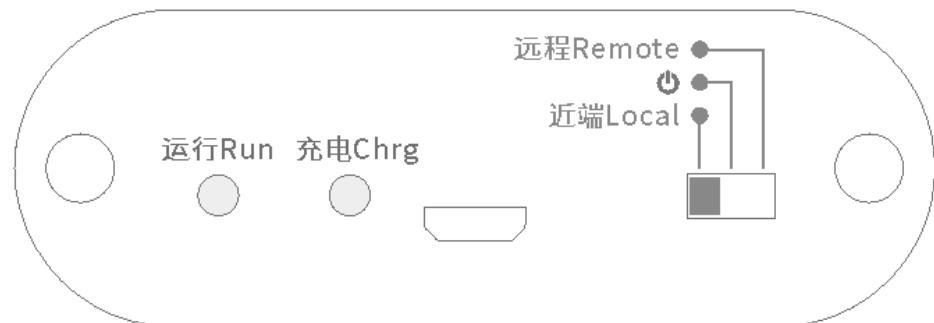i595 upgrade software automatically through the network, simple and quick.

Hardware

Panel

- Panel with resistor switch

- Panel with power switch

Lights

Light	Color	Status	Meaning
Rx	Red	Blink	Receive HART data from transmitter
		On	Loop power output protection mode.
Tx	Green	Blink	Send HART data to transmitter
		On	Loop power output protection mode.
24V	Red	On	Loop power on
Run	Green	Blink	During Startup, as a battery power gauge, blink 4 times indicator 100%.
		On	Local mode : Device running Remote mode : Connected to VPN server
Charge	Red	Off	Not charge or full charge
		On	Charging

Loop power output protection mode. For security, the i595 adapter will not keep Loop power outputting after reset even though the toggle switch is at "24V/270Ω" position, Under this situation, the Rx, Tx LED will both turn on indicating abnormal status. just reset the resistor switch to recover.
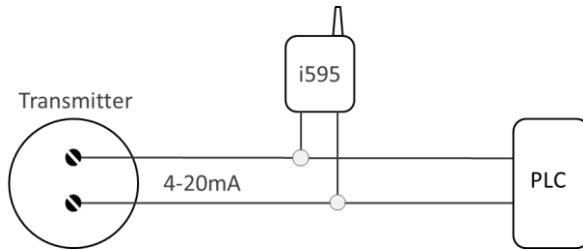
Resistor switch

| Position	Meaning
24V/270Ω	Both built-in loop power and 270Ω are enabled
Middle position	Both built-in loop power and 270Ω are disabled
270Ω	Only built-in 270Ω enabled

Power switch

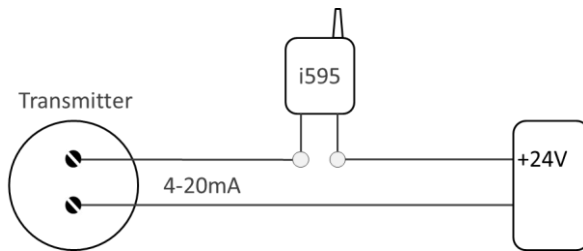| Position	Meaning
Local	Local mode, setup through WiFi
Middle position	Power off
Remote	Remote mode, setup through internet

Connection

- **Type 1 General usage ,** set resister switch to middle position.
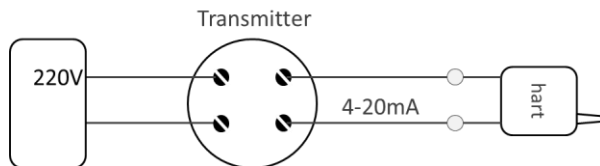

- **Type 2 Use built-in 24V/270Ω ,** set resister switch to 24V/270Ω position.
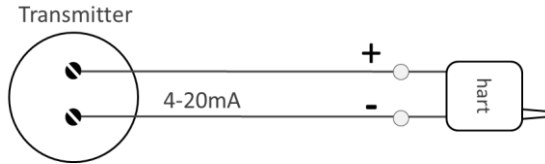
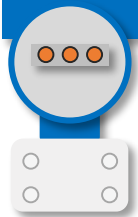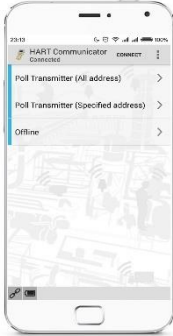- **Type 3 Use built-in 270Ω ,** set resister switch to 270Ω position.

- **Type 4 Use for not loop powered transmitter,** set resister switch to 270Ω position.
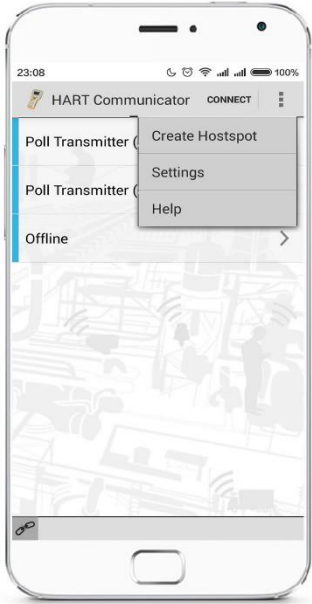
Quick Guide And Troubleshooting

Step 1：Prepare

HART transmitter	
Android handset	
i595 adapter	
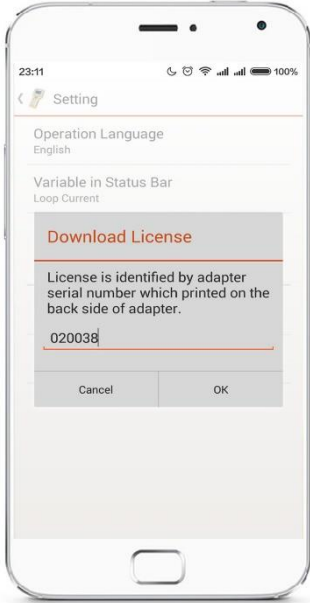
Step 2：Download and install APP

Download and install APP. Address: http://app.woyatech.com

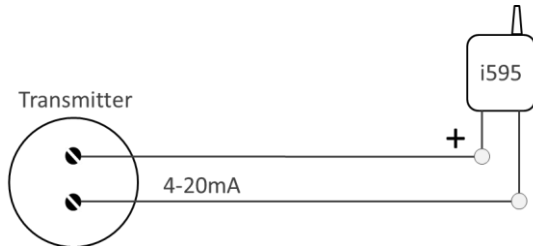| Description	Troubleshooting	Resovle
Visit address failure	Checking that the phone can connect to internet.	
Install failure	Not android phone,or version too low.	Use android ver 4.1 or above.
	Insufficient space	Uninstall some other APPs

Step 3：Download license

1	Click the button on top right corner, a menu is displayed.	

2	Get serial number from the back of i595 WiFi adapter. eg. 020038 Click "Setting" ->" Download License" . Input the serial number, then click OK to download license.	
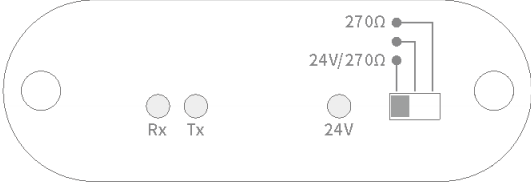
Description	Troubleshooting	Resovle
Download license failure	Checking that the phone can connect to internet.	
	The serial number is incorrect.	Inputting correct serial number

Step 4：Connect transmitter

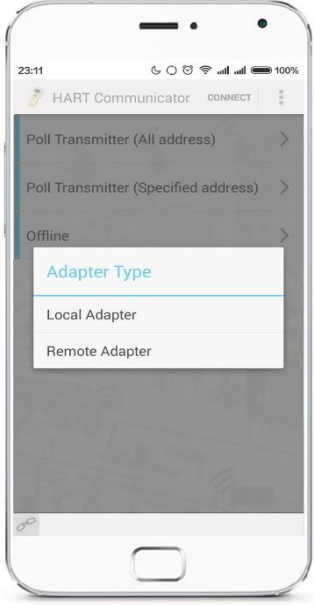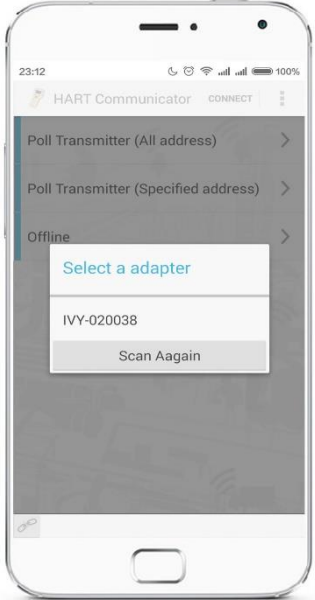Please refer to the "Connection" section for more types.

Step 5：Start i595 adapter

Toggle the power switch to "local", the adapter will work in WiFi-AP hotspot mode.	
Toggle the power switch to "24V/270Ω", the 24V led should be light up, and the transmitter should be powered on.	

Loop power output protection mode. For security, the i595 adapter will not keep Loop power outputting after reset even though the resistor switch is at "24V/270Ω" position, Under this situation, the Rx, Tx LED will both turn on indicating abnormal status. just reset the resistor switch to recover.

Description	Troubleshooting	Resovle
RUN led off	The battery's power is too low.	Charge up the battery.
24V led off	Output protection mode	Reset the "24V/270Ω" switch
Both TX/RX led on	Output protection mode	Reset the "24V/270Ω" switch
The transmitter have no power.	The line or switch is in correct position.	Checking that the line and switch are in correct position, and the connection is strong enough.

Step 6：Connect to adapter

1	Click "CONNECT" on top right corner, , a menu is displayed.	
2	Select "Local Adapter", now a adapter named "IVY-020038" is found. if no adapter is found, it May be the cause of android security softwares, please set the APP as a "trust" software or allow the APP to "get location info from GPS, WiFi or Base station". (But the APP never want to get location info, it only want a permission of scanning WiFi hotspot .)	
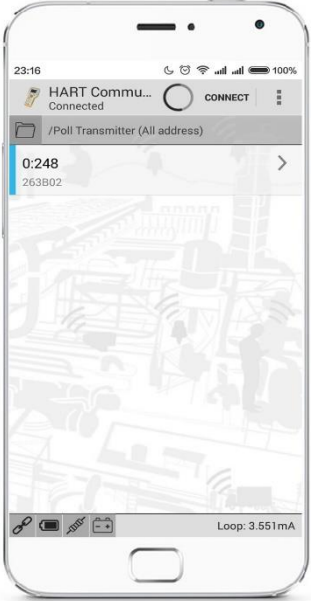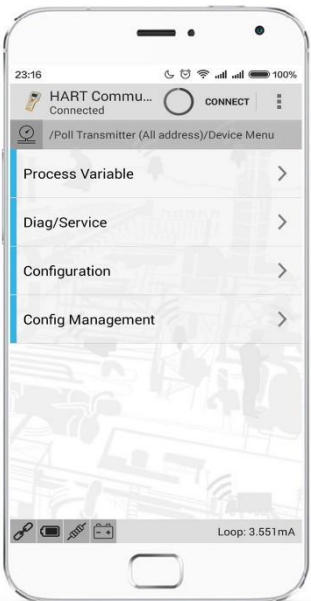
3	Click "IVY-020038", after handset has connected to i595 adapter hotspot, a "Connected" info will be shown in the top left corner.	 23:13 100% **HART Communicator** CONNECT Connected Poll Transmitter (All address) > Poll Transmitter (Specified address) > Offline >
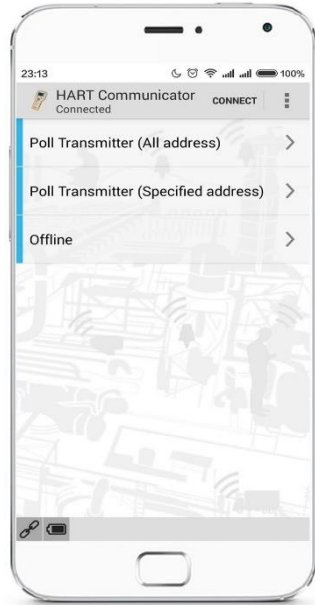
Description	Troubleshooting	Resovle
No adapter is found	Android security softwares restrict the permission of APP.	set the APP as a "trust" software or allow the APP to "get location info from GPS, WiFi or Base station".
	WiFi signal is too week.	In general,less than 50 meters.
	The battery's power is too low, Adapter is powered off.	Charge up the battery.
	Other problems	Rescanning, or trying other android phones.
Connection failed	WiFi signal is too week.	In general,less than 50 meters.
	Other problems	Reconnecting, or trying other android phones.

Step 7 Scan transmitters

1	Click "Poll Transmitter(All address)", it will scan address from 0 to 63. If the transmitter's address is 0, it should be found within 10 seconds. The scanning address will be displayed at bottom right corner. The right figure show that a transmitter is found at address 0. Please repeat scan if no transmitter is found.	
2	Click the found transmitter to enter setup menus.	

Description	Troubleshooting	Resovle
No transmitter is found	The transmitter have no power.	Checking that the line、switch is in correct position, and the connection is strong.
	The current loop of transmitter is faulted if loop current is not between 3.6mA and 22mA. You can connect a ammeter in series to test.	Trying other transmitters
	Address of the transmitter is not 0, It will lead to a longer polling time.	Polling with specified address.

Step 8：Finish

1、 Press the return button until app exited.
2、 Toggle the resistor switch to middle position to close the loop power.
3、 Toggle the power switch to middle position to shutdown adapter.

Appendix A : Supported transmitters

i595 supports all the common hart parameters, in addition, also supports the following advanced parameters.

Vendor	Model
Rosemount	3051CD, 3051CG, 3051DP, 3051GP, 3051TG, 3051S, 8600D, 8800D, 8732E, 2088, 248, 3144, Vortex, 8732C
Micro Motion	1700, 2700
E+H	Promag 10D,10H,10L,10P,10W. Promag 50D,50H,50L,50P,50W. Promass 40E, Promass 80A,80E,80F,80H,80I,80P,80S. Prowirl 72F,72W. t-mass 65I,65F. Prosonic Flow 91W,93W. PMD 70, PMD 75, PMD 55, FMD 76, FMD 77, FMD 78. TMT 182, FMR 240, FMR 25x, FMU 40, FEC 12.
ABB	2600T Series
Siemens	TH300
Yokogawa	DY Series, SE Series, EJA110A
Fuji	FCX-A2
Fisher	DVC6000 Series, DVC6200 Series, DVC2000 Series

Appendix B : Common HART menus

| [Process Variable] |
| [Diagnosis and Maintenance] |
| [View] |
| [Basic Setting] |

| PV |
| AO |
| PV Percent |

| [Device Status] |
| Loop Test |
| Trim Zero |
| Reset |
| [Output Adjust] |

| Refresh Status |
| Device Status |
| Extended Device Status |

| 4mA Trim |
| 20mA Trim |

| Manufacturers |
| Device Type |
| Device Version |
| Universal Revision |
| Hardware Revision |
| Software Revision |
| Device ID |
| Device Flag |

| Upper Sensor Limit |
| Lower Sensor Limit |
| Minimum Span |
| Dev Var Sensor Serial No |

| Upper Sensor Limit |
| Lower Sensor Limit |
| Upper User Limit |
| Lower User Limit |
| Set Range Lower |
| Set Range Upper |

| PV Unit |
| Alarm Direction |
| Transfer |
| Dev Var Damp |
| Num Of Request Preambles |
| Polling Address |
| Write Protect |
| [Sensor Information] |
| [User Range] |
| [Device Information] |

| Tag |
| Date |
| Descriptor |
| Message |
| Assembly Number |

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