SYRD245-1N-PW 2.45 GHz RFID Network Reader User Manual



Version 2.00 2020/10/21



I . Product Specification

Communication	2.45 GHz Support read and write
Frequency	2.40~2.48 GHz
Channel	316
RSSI	0-255
LQI	0-255
Programmable	Set Parameter
LED	Multi-LED visual indication
Wi-Fi	802.11 b/g/n
Ethernet	10/100 base-T Ethernet (RJ-45)
RS-232	RX, TX
DI/DO	4 digital input point and 2 relay output
Operation mode	TCP(Server/Client), UDP
Baud Rate	2,400 bps ~ 115,200 bps
Power Input	7 VDC ~ 15 VDC / 1W ~ 6W
POE (option)	IEEE802.3af compliant
Operating Temperature	-20 °C to 65 °C, 5 to 95%RH
Storage Temperature	-30 °C to 85 °C, 5 to 95%RH
Dimension	107W x 138H x 30D (mm)

${\rm I\hspace{-1.5mm}I}$. The Diagram of the System Connection

SYRD245-1N-PW Network Reader can connect with 4 different interfaces : Wi-Fi, Ethernet, RS-485 or RS-232.

Ⅲ. Network Parameter Setting

1. Execute "NET_Discover_V0110.exe" and press

to search SYRD245-1N series product.

2. Factory default IP is "DHCP" or "192.168.1.101". User can check the MAC address from product sticker with IP to confirm the device.

MUM	IP	MAC	INFO	Discov
	192.168.1.191	AC:A2:13:B6:14:35	HLK-RM04(V1.78(Jul 23 2013))	
	192.168.1.192	AC:A2:13:B5:4B:C1	HLK-RM04(V1.78(Jul 23 2013))	
	192.168.1.45	20:F4:1B:92:A5:D9	HLK-RM04(V1.78(Jul 23 2013))	
	192.168.1.224	E2:B9:4D:07:29:BC	HLK-RM08K V1.48(Oct 25 2016)(MA	
	192.168.1.221	2A:F3:66:0A:B7:E4	HLK-RM08K V1.38(Jan 11 2016)(MA	-
	192, 168, 1, 100	00:22:80:40:A9:FD	HLK-RM08K V1.38(Jan 11 2016)(MA	

3. Double click IP to open the web configure page (ex.<u>http://192.168.1.101</u>)

Default login ID / Password : admin / admin

4. Default network mode as the following.

Settings Network	Serial 0 Serial 1	
	Current	Updated
Network Mode	ETH	ETH V
IP Type	Static	Static 👻
IP Addr	192.168.1.101	192.168.1.101
Mask	255.255.255.0	255-255.255.0
Gateway	192.168.1.254	192.168.1.254
Dins	8.8.8.8	6.8.8.8
		Apply Cancel
Settings Network	Serial 0 Serial 1	
Settings Network	Serial 0 Serial 1 Current	Updated
Settings Network Baudrate	Serial 0 Serial 1 Current 115200	Updated 115200
Settings Network Baudrate Data Width	Serial 0 Serial 1 Current 115200 8	Updated 115200 8 V
Settings Network Baudrate Data Width Parity	Serial 0 Serial 1 Current 115200 8 NONE	Updated 115200 8 V NONE V
Settings Network Baudrate Data Width Parity Stop Bit	Serial 0 Serial 1 Current 115200 8 NONE 1	Updated 115200 8 ~ NONE ~ 1 ~
Settings Network Baudrate Data Width Parity Stop Bit Flow Control	Serial 0 Serial 1 Current 115200 8 NONE 1 Disable	Updated 115200 8 V NONE V 1 V Disable V
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type	Serial 0 Serial 1 Current 115200 8 NONE 1 Disable Tcp Server	Updated 115200 a v NONE v 1 v Disable v Tcp Server v
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port	Serial 0 Serial 1 Current 115200 8 NONE 1 1 Disable Tcp Server 4001	Updated 115200 8 ~ NONE ~ 1 ~ Disable ~ Top Server ~ 4001
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port Packet Framing Lenth	Serial 0 Serial 1 Current Current Serial 1 Seria	Updated 115200 8 ~ NONE ~ 1 ~ Disable ~ Top Server ~ 4001 1050
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port Packet Framing Lenth Packet Framing Timeout	Serial 0 Serial 1 Current 115200 8 NONE 1 Disable Top Server 4001 1050 10	Updated 115200 8 ~ NONE ~ 1 ~ Disable ~ Top Server ~ 4001 1050 10
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port Packet Framing Lenth Packet Framing Timeout Packet Framing Interval	Serial 0 Serial 1 Current Current 115200 8 NONE 1 Disable Top Server 4001 1050 10 10 10 10 10 10 10 10	Updated 115200 a ~ NONE ~ 1 ~ Disable ~ Top Server ~ 4001 1050 10
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port Packet Framing Lenth Packet Framing Interval TCP Timeout	Serial 0 Serial 1 Current Current Current Serial 1 Current C	Updated
Settings Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port Packet Framing Lenth Packet Framing Interval TCP Timeout Reconnect Interval	Serial 0 Serial 1 Current 115200 8 NONE 1 Disable Top Server 4001 1050 10 0 200	Updated 115200 8 ~ NONE ~ 1 ~ Disable ~ Top Server ~ 4001 10 10 10 10 200
Returns Network Baudrate Data Width Parity Stop Bit Flow Control Socket Protocol Type Locale Port Packet Framing Lenth Packet Framing Interval TCP Timeout Reconnect Interval TCP Keep Alive	Serial 0 Serial 1 Current Current 115200 8 NONE 8 NONE 1 Disable 1 Disable 10 0 10 0 200 10 10 10 10 10 10 10 10 10 10 10 10 1	Updated 115200 a ✓ NONE ✓ 1 ✓ Disable ✓ Top Server ✓ 4001 10 10 10 10 10 10 10 10 10

Communication Parameters	Factory Default
Serial Configure	115200,8,n,1
Serial Framing Length	1050
Locale/Remote Port Number	4001

IV. Switch Network Mode

SYRD245-1N-PW support 4 network modes: Default < ETH(Ethernet) < Wi-Fi STA < Wi-Fi AP.

Default	Ethernet (DHCP) +Wi-Fi AP mode(for setting)
ETH	Ethernet only (Factory default)
WIFI(STA)	Wi-Fi client mode
WIFI(AP)	Wi-Fi AP mode(for setting)

1. ETH : Standard TCP/IP Reader



When user modify the IP and click on Apply button, device will reboot and apply the setting after 10 seconds.

2. Wi-Fi (STA) : SYRD245-1N-PW can set to communicate via Wireless AP without Ethernet.



Settings Network	Serial 0 Serial 1	
	Current	Updated
Network Mode	ETH	WIFI(STA) 🗸
STA SSID	Delta-loT	Test
STA EncType	Open	WPAWPAZAES 🛩
STA Passwd		12345678
IP Type	Static	DHCP ~

STA SSID: Enter the correct AP's SSID.

STA EncType : Select Encrypt type for AP connection.

STA Passwd: Enter correct AP's password.

IP Type: Default is DHCP mode. If user needs to setup a static IP, please select Static.

 Wi-Fi AP mode : Setup SYRD245-1N-PW as AP (Wireless Access Point) for client device to communicate. This mode is usually for setting device.



AP SSID: Setup SYRD245-1N-PW's SSID.

AP EncType : Select Encrypt Type for the AP.

AP Passwd: Setting SYRD245-1N-PW's Wi-Fi password.

LAN IP Adder: Setting SYRD245-1N-PW's Wi-Fi IP address.

LAN Mask: Setting SYRD245-1N-PW's Wi-Fi subnet mask.

Default mode : Ethernet (DHCP) +Wi-Fi AP mode.
 It's Dual-Mode (Ethernet and Wi-Fi AP · but Ethernet only support DHCP.)



Default SSID: SerialWIFI_C57C (C57C is depends on MAC address) Default Password: 12345678

V. Reset network to Default.

1. Open the side cover of reader with coin or flat head screwdriver.



2. Screw the lid of Reader by the proper screwdriver.





3. Press initial button for 10 seconds and wait reader to reboot.



Communication Parameters	Factory Default
IP address	192.168.1.101
Serial Configure	115200,8,n,1
Serial Framing Length	1050
Locale/Remote Port Number	4001

VI. TCP Server Mode

In TCP Server mode, SYRD245-1N reader provides a unique IP:Port address on a TCP/IP network. SYRD245-1N reader wait passively to be contacted by the host computer, allowing the host computer to establish a connection with and get data from the serial device.



1. Setting Operating Mode

Settings	Network	Serial 0	Serial 1	
			Current	Updated
Baudrate			115200	115200
Data Widt	ı		8	8 🗸
Parity			NONE	NONE 🗸
Stop Bit			1	1 🗸
Flow Contr	ol		Disable	Disable 🗸
Socket Pro	tocol Type		Tcp Server	Tcp Server 🗸
Locale Por	t		4001	4001
Packet Fra	ming Lenth		1050	1050

2. When you finished change operating mode, you can execute SYRIS Xtive utility to read TAG.

iew All TAG	liew Select TAC	5]					со	M UDP T	CP Serve	TCF	P Client
o. UID	RSSI	LOI	DI	11	T2	Count	-	192.168.1.21	<u>,</u> г	192.1	168.1.101
							Г	192.168.1.103	2 [192.1	168.1.102
							Г	192.168.1.103	3 Г	192.1	168.1.103
							E	192.168.1.10	4 F	192.1	168.1.104
							Г	192.168.1.10	5 17	192.1	168.1.105
							E	192.168.1.10	6 1	192.1	168.1.106
							Г	192.168.1.10		192.1	168.1.107
							Г	192.168.1.10	B	192.1	168.1.108
							E	192.168.1.10	9 17	192.1	168.1.109
							F	192.168.1.110		192.1	168.1.110
								Destina	tion Port	; 4001	
							T	Destina AG Count:	tion Port : 0	; 4001	Set T
			₩ Standard Ta	AG	I ² One Temperature		T/ R:	Destina NG Count: TAG ID: 00	tion Port : 0 00000000	; 4001	Set T
Tag ID Filter	2		IF Standard Ti Fr Temperatur	AG e & Hernidity	I⊽ One Temperature I⊽ Two Temperature		T/ R!	Destina NG Count: TAG ID: 00	tion Port : 0 00000000 0	; 4001	Set T
Tag ID Filter	2 Jouble Click)		부 Standard Ti F Temperatur	AG e & Hernidity	I ² One Temperature I⊽ Two Temperature		T/ R:	Destina KG Count: TAG ID: 00 SSI Filter:	tion Port : 0 000000000	000000	Set Ti
Tag ID Filter elect TAG ID (2 Souble Click)		I ²⁷ Standard To IF Temperatur	AG e & Hemidity	I⊽ One Temperature I⊽ Two Temperature		R:	Destina NG Count: 00 TAG ID: 00 SSI Filter: 0	tion Port	1000000	Set Ti
Tag ID Filter elect TAG ID (: [Double Click)		IF Standard Ta F Tamperatur	AG te & Hurnidity	I⊽ One Temperature I⊽ Two Temperature		R:	Destina KG Count: TAG ID: 00 SSI Filter: Star	tion Port	100000	Set T

(SYRIS Xtive DVD-ROM\SYRD245-1\Utility\Xtive.exe)

3. Select and modify correct IP address to communicate with Reader.

(You can communicate multi-reader at the same time)

o. UID	RSS	LQI	DI	11	12	Count	Connected:192.168.1.219 Port:4001
0001000115050	040 128	215				1	
0001000110450	042 102	211	*	•	-	1	
0001000115510	132 138	227				2	
0601000114275	002 138	217	(EAT=09)	2	0000	2	
0001000116260	006 115	221	[BAT=08]		0000	1	
0001000111070	008 120	219	1	25.40	47.98%	1	
0001000115310	027 138	233	[BAT=09]	- 1	0000	1	
0001000112420	049 099	211	-	24.33 C / 75.79 F	32.63 C / 90.73 F	1	
0001000107461	254 107	225	1	- Sec	the second	1	
0001000115130	007 104	223		22.27	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
the second s				12.31	56.04%	1	
000100010720	017 <mark>10</mark> 6	211		-	56.04%	1	
_000100010720	017 106	211			-	1	TAG Count: 11 TAG ID: 0001000114279002 Set 1
000100010720-	017 106	211	Standard TA	G F On	e Temperature	1	TAG Count: 11 TAG ID: 0001000114279002 Set 1 RSSI Filter: 0
Tag ID Filter :	017 106	211	⊽ Standard TA	G F On & Humidity F Tw	e Temperature o Temperature	1	TAG Count: 11 TAG ID: 0001000114279002 Set 1 RSSI Filter: 1
Tag ID Filter : [elect TAG ID (De	uble Click)	211	₽ Standard TA ₽ Temperature	G F On & Humidity F Tw	e Temperature o Temperature	1	TAG Count: 11 TAG ID: 0001000114279002 Set 1 RSSI Filter: 0
Tag ID Filler : elect TAG I0 (De 001000107204017 001000107204017 0010001045254 0010001104700 001000114200 0010001124200	uble Click) 000100011 000100011 000100013 000100013 00010001	211 50500 51300 55101 55101	Standard TA	G F On & Humidity F Tw	e Temperature o Temperature		TAG Count: 11 TAG ID: 0001000114279002 Set T RSSI Filter: 0 + Stop Set N Clear

Starting read TAG will receive Tag information from reader.

- 4. Field Introduction:
 - a. UID: Tag's identification number.
 - b. RSSI: Received Signal Strength Indication (0-255). Reading range and RSSI are inverse proportion.
 - c. LQI: Link quality indicator (0-255).
 - d. DI: TAG status and indicator.

[BAT] means TAG battery voltage level.(0~15, 15 is full voltage)

[SW] means TAG call button was clicked.

[SENSOR] means light sensor have detect light. (Only for Wristband TAG)

[START] means TAG reboot.

- e. T1: Ambient temperature sensor (Only for Wristband TAG)
- f. T2: Skin temperature sensor (Only for Wristband TAG)

Note: T1 / T2 / SENSOR use for anti-tamper capability.

5. Select TAG ID to sift the target TAG from left window to right window.

-Select TAG ID (DblClick)-

0001000106230100	0001000106480296	0001000106361183
0001000106361090	0001000107063187	0001000107063192
0001000106361183	0001000107063192	0001000107081173
0001000106400168	0001000107063194	
0001000106480261	0001000107081173	
0001000106480295	0001000107101286	
	<u> </u>	

6. Select "View Select TAG" tab to get target TAG information.

0.	aıu	RSSI	LQI	Di	11	1	2	Connected:192.168.1.219 Port:4001
	0001000107461254	93	205			-	9. 	
								TAG Count 15 TAG ID: 0001000115250006 Set TA
								TAG Count 15 TAG ID: 0001000116260006 Set TA RSSI Filter: 0
								TAG Count: 15 TAG ID: 0001000115250005 Set TA RSSI Filter: 0 1
				_				TAG Count: 15 TAG ID: 0001000116250006 Set TZ RSSI Filter: 0 1 Stop T Set NE
	2	Number: 1		≓ Auto	save To File	← All Tags		TAG Count: 35 TAG ID: 0001000116260006 Set T/ RSSI Filter: 0 1 Stop [" Set NE Clear

VII. TCP Client Mode

In TCP Client mode, SYRD245-1N-PW reader can actively establish a TCP connection to a pre-defined host computer when serial data arrives.

1. Setting Operating Mode

Socket Protocol Type	1	Tcp Client 🔻	
Remote Domain	192.168.16.100	192.168.1.125	
Remote Port	0	5001	

Change operating mode to "TCP Client" and "Remote Domain" IP address and Port.

2. When you finished change operating mode, you can execute SYRIS Xtive utility to read TAG.

	ļ				- 🗆 X
et Reader Read TAG					
View All TAG View Select TA No. 110 RSSI	G OF	Π	12	Count	Local Listen Port : 4001
					TAG Count:
	- P Standar	d TAG	P One Temperature		RSSI Filter:
Tag ID Filter :	17 Temper	ature a numicity	I wo remperature		•
Tag ID Filter : Select TAG ID (Double Click)	I⊽ Temper	0001000107204 0001000107204 0001000107461 0001000112030	1017 1254 10		Start I Set NET





3. Select "TCP Client" Tab and starting read TAG will receive Tag information from reader.

4O.	UID	RSSI	IO	01	It	112	Count	192.168.1.219:4001		
	0001000115130007	122	211		22,39	55.98%	2			
Ŧ.	0001000111070008	121	219	2	25.43	48.21%	2			
ŝ	0001000107461254	108	221				4			
1	0001000114279002	143	217	BAT-091	11	0000	5			
	0001000116260006	132	211	(BAT-08)	4	0000	4			
1	0001000116040292	156	777				3			
1	0001000107204017	106	219	-	14	1.	2			
1	0001000115310027	128	215	[BAT-09]	+	0000	4			
į.	0001000110450042	124	231	and the second second	3Q	+	3			
Ĩ	0001000115510132	142	Z31	4		1	3			
1	0001000112420049	099	191	-	24.33 C / 75.79 F	32.63 C / 90.73 F	3			
ł	0001000112030045	100	211	-	21.63	59.46%	1			
ĺ.	0001000115050040	126	217	12	+	+	2			
								TAG Count:	13	Set TA
				ET Standard TA		Tananashina		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002	Set TA
	Tag ID Filter :			₽ Standard TA	G P On	a Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set TA
	Tag ID Filter :	Click		년 전 Standard TA	G F Om & Humidity F Tw	a Temperature o Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set TA
8	Tag ID Filter :	Click)	2700	문 Standard TA 문 Temperature	G POm & Humidity PTw	n Temperature o Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set T/
	Tag ID Filter : lact TAG ID (Double 1000107204017 000 10000174524 000 100001740500 000	Click) 1000114 1000115	2790 0500 1300	₩ Standard TA ₩ Temperature 0001000116260 0 0 0	G F On & Humidity F Tw 001000107204017 001000107261254 0010001120300	e Temperature o Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set T/
	Tag ID Filter : lact TAG ID (Double 1900107204017 000 1900107461254 000 19001110700 000	Click) 01000114 01000115 01000115	2790 0500 1300 3100	F Standard TA F Temperature 0001000116260 0 0 0	G P On & Humidity P Tw 001000107204017 001000107461254 0010001120300	n Temperature o Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set T/
Se 000000000000000000000000000000000000	Tag ID Filter :	Click) 01000115 01000115 01000115 01000115	2790 (0500 1300 3100 5101	F Standard TA F Temperature 0001000116250 0 0 0 0 0 0 0 0 0 0 0	G IZ On 8 Humidity IZ Tw 001000107204017 001000107461254 0010001120300	e Temperature o Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set TA
ie 000000000000000000000000000000000000	Tag ID Filter : lact TAG ID (Double 1000107261254 000 10001104500 000 100011120300 000 10001120300 000	Click) 01000114 01000115 01000115 01000115 01000115	2790 (0500 1300 5101 5101	I7 Standard TA I7 Temperature 0001000116260 0 0 0 0 0 0 0 0	G I7 On 8 Humidity I7 Tw 001000107204017 001000107461254 0010001120300	e Temperature o Temperature		TAG Count: TAG ID: 000100 RSSI Filter:	13 10114279002 0	Set TA