

USER MANUAL SmartGate



www.indatech.it

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1. Introduction

1.1. Overview

SmartGate is a high-performance and scalable Edge IoT gateway. This device integrates edge collection, data calculation, data reading and writing, active reporting, linkage control, IO collection and control and other functions. The collection protocol includes standard Modbus protocol and a variety of common PLC protocols, as well as industry-specific protocols. At the same time, the product also has routing and VPN as well as graphical programming functions to ensure data transmission security. Using graphical programming, users can develop independently to achieve the required functions.

SmartGate is embedded in Linux kernel, with a main frequency of up to 1.2Ghz. It can access the Internet via Ethernet port and LTE cat4 cellular network to achieve easy network deployment.

It is widely used in various industrial intelligent solutions such as industrial robot, smart factories, smart agriculture, smart water management system etc.

1.2. Features

- Dual-core professor with ultra-high performance, the main frequency is up to 1.2Ghz, providing high performance processing resources for edge computing.
- Supports Python development, for developing user custom applications.
- Supports graphical programming to facilitate user development.
- LTE 4G and Ethernet network serve as backups for each other to ensure stable network transmission without downtime.
- Integrated 1*WAN/LAN and 1*LAN Ethernet port, VPN and firewall protection to ensure safe data transmission.
- Integrated 2 serial ports: 1*RS232/485, 1*RS485, which can transform traditional serial devices into IoT devices.
- Comes with IO interface: 2*DI, 2*DO, 2*AI, flexible expandable IO module is supported.
- Powerful edge gateway function: supports edge collection, edge computing, group reporting, and supports real-time collection of up to 2000 points.
- Supports major industrial protocols including Modbus TCP/RTU, PLC protocols and OPC UA Server.
- Support 2 socket channels, each channel supports TCP(SS)/UDP, MQTT(S) protocols.
- Cloud support: MQTT via AWS IOT, Alibaba Cloud, and INDATECH Cloud.

2. Get Started

2.1. Hardware connection

Preparation:

Power adapter 12V/1A * 1 Network cable * 1

The hardware connection diagram is like the following:







2.2. Login Gateway

Power on the **SmartGate**, connect PC to **SmartGate** via LAN port, users can login the gateway via Chrome or the other browser. The default network parameters are shown in the following table:

LAN IP:	192.168.1.1
Username:	admin
Password:	admin

Open the browser, enter 192.168.1.1 in the URL blank, and press Enter, it will navigate to the following webpage.

After entering the login password, clicking login, the web page will show configuration page of **SmartGate**.

 ♥ 192.168.1.1/#/login × + 		- 🗆 ×
← → C (▲ Non sicuro 192.168.1.1/#/login		∞ ☆ ● :
	Welcome to Login	
	Account	
	Please enter account name	
	Password	
	Please enter password	
	Login	

Figure 1. Login webpage



2.3. Brief introduction of the webpage

There are several tabs on the top of the webpage, users can set parameters of **SmartGate** on the tab pages.

Overview: On this page, users can quickly learn about the running status of the gateway, like system information, device status, cellular information and etc.

Network: In this interface, there are many categories related to network connection. Users can set parameters such as WAN port, LAN port and cellular network.

Edge Computing: With this functionality, the **SmartGate** gateway serves as host and actively sends the polling acquisition command to periodically obtain the point data of the serial and Ethernet devices and the data collected by the I/O interface.

System Management: In this webpage, users can check the log information, and set the system time and so on.

Python Application: With this functionality, users can deploy Python applications.

3. Overview Information

In this page, it includes system information, device status, cellular information, flow usage monitoring and performance of processor chipset.

DATEC	H° 💽 Overview	[·] Network	Edge Computing	C System Manageme	int					🚯 🖩#+2 🧑
System Info	rmation					Settings	Flow Usage Monitoring	Settings P	erformance	
Name:	INDATECH SmartGate	IMEI:	869387060515005	Edge Gateway:	ON		Data Usage(Day):	0.00MB CF	U: (49)	
Model:	SmartGate G	MAC-1:	D4 AD 20 9E 5A 36	Graph:	OFF		Alarm value(Day):	OMB		
Version:	V1.2.06.033656.0002	MAC-2:	D4:AD:20:9E:5A:37	Link-1:	Disconnected		Data Usage(Month):	0.00MB	mory: (539)	
OS:	Linux	Device Time:	2024-09-10 15 46 06	Link-2:	Disconnected		Alarm value(Month):	0MB Fla	sh: 👌	
SN:	02800724072300006941	Operation Time:	00:02:52					RC	M: 0%	
Device Stat	us	Settings	Ethernet Port 1		Settings			Cellular		Settings
	21/22		-				10 01			
Mode:	DHCP		Mode:	WAN			💿 🥝 🔚 🗄 –	Status:	Networking success	
WAN IP:			Status:	Disconnected				Mode:	sim mist	
Colourask:			Ethernet Port 2				HERE A DATA	Network Type:	PDD-LTE(4G)	
Cateway:							Shartoate	Signal Level:	60.4P	
DNS-1:			Mode:	LAN			Z C C	Signal:	-090Bm	
DN3-2.			Status:	Connected			- 201 - 202	ICCID:	89390100002627533236	e
LAN		Settings	Location					IP Address:	10 62 131 201	
	102.152.1.1							Netmask:	255 255 255 252	
LAN ID.	192.166.1.1		Longitude:					DNS-1:	217 200 201 160	
LAN IP:	255 255 255 4						100			
LAN IP: Netmask:	255.255.255.0		Latitude:					DNS-2:	217 200 201 161	
LAN IP: Netmask: DHCP Service	255.255.255 0 a: ON		Latitude: Status:	**				DNS-2:	217.200.201.161 471A	

Figure 2. Status / Overview webpage



4. Network

4.1. Network switching

On this page, users can select the Internet connectivity priority, and can also set the information of PING detection.

INDATECH	Overview	Network	[·] Edge Computing	🕞 System Management	🚯 簡体中文 👧 admin
Network Switching	> Network \$	Switching			
Cellular	Network	Switching			
Ethernet Port	* Network pr	riority: Ethernet Firs	, v		
WAN	* Ping Inte	rface: Custom	~		
LAN	* Ping Se	over1: 1111			
Routing	Ping Se	rver2 8888			
VPN	* Ping Int	terval: 10	e		
Diagnostics	* Ping package	size: 32	byte		
Firewall	• Ping Tim	neout: 2000	ms		
	apply				
V1.1.78.033656.000	1				

Figure 3. Network Switching

4.2. Cellular

On this page, users can check the cellular information like the signal strength, IP address and so on. The APN information can be set in this page also.

INDATECH	Overview	[·] Network [·] Edge Cor	mputing 🖯] System Management					🚯 論錄中文 🛛 🧔 admir
Network Switching	Cellular								
Cellular	Cellular								
Ethernet Port	Status	connected							
WAN	Active SIM:	SIM1		Signal:	24(-65dBm)		IP Address:	10.62.131.201	
LAN	ICCID:	89390100002627533239		Network Status:	Connected		Netmask:	255.255.255.252	
	CIMI:	222014005403091		LAC:	471A		Gateway:	10.62.131.202	
Routing	Operator:	ITIM		Cell ID:	C36C121		DNS:	217.200.201.160	
VPN	Network Type	FDD-LTE(4G)		Connection Time:	00:03:59		Module ver	sion: EG25GLGDR07A02M1	G
Diagnostics									
	Configu	ration							
Firewall	Enable Ce	llular 💽							
	Netwo	rk							
			* SIM Mode:	SIM1 First	~	* Maximum of	3		
						dials:			
			* DNS Mode:	Auto	~	* Detection	SIM1&SIM2	~	
						Interface:			
			DNS1:	119.29.29.29		* Detection	10	s	
						Interval:			
			DNS2:			* Max Ping Tries:	4		
V1.1.78.033656.000	1		* MTU:	1500		 Ping Timeout: 	5	S	
				Figure 4. C	ellular				



4.3. Ethernet Port

On this page, users can change the work mode of Ethernet Port1. This port is WAN mode by default. And it can be changed to LAN mode. Then the users can get 2 Ethernet ports.

INDATECH	Overview 💽 Network	🔁 Edge Computing 🛛 💽 System Management	6) 200492 🧑 admin
Network Switching	> Ethernet Port		
Cellular	Ethernet Port		
Ethernet Port	Ethernet Port 1	Ethernet Port 2	
WAN	Work Mode	WAN Work Mode	IAN
LAN			
Routing			
VPN			
Diagnostics	apply		
Firewall			
V1.1.78.033656.0	001		
		Figure E. Ethe	rnat Darta

Figure 5. Ethernet Ports

4.4. WAN Interface

User can set the parameters of WAN port like network mode, DNS mode and MTU.

INDATECH	• Overview	[·] Network	C Edge Computing] System Man	agement						日本中文 日本中文 日本中文 日本 日本 日文 日本 日	og admin
Network Switching	> WAN											
Cellular	WAN											
Ethernet Port	Status con	nnected										
WAN	Network Type:	dhcp	WAN II	P: 192.1	168.1.118	G	Gateway IP:	192.168.1.1	MAC:	D4:AD:20:9E:5A:36		
LAN	Netwask:	255.255.255.0	DNS:	119.2	29.29.29	R	Receive:	4.4 KB(59)	Send:	1.9 KB(17)		
Routing	Connection 1 ime:	00.00.11										
VPN	Configure											
Diagnostics												
Firewall			* Network Mode	DHCP	~							
			* DNS Mode	: Manual	~							
			DNS	2 8888								
			* MTU	1500								
	apple											
	appy											
V1.1.78.033656.0001												

Figure 6. WAN



4.5. LAN Interface

Users can set the basic information of LAN port like IP address, netmask and DHCP service. When the **SmartGate** enables the DHCP service, it can assign IP address to the terminal device connected to **SmartGate** via LAN port.

INDATECH	C Overview	[·] Network	[·] Edge Computing	💽 Syst	em Management					🚯 醫体中文 👰 admin
Network Switching	> LAN									
Cellular	LAN									
Ethernet Port	Status	connected								
WAN	IP:	192.168.1.1	1	Netmask:	255.255.255.0		MAC:	D4:AD:20:9E:5A:37	Connection Time: 00:11:32	
LAN	Send:	356.8 KB(1506)	1	Receive:	433.6 KB(2001)					
Routing	Configure	DHCP Serve	r List							
Diagnostics			۰u	AN IP: 192.1	68.1.1					
Firewall			* Ne	tmask 255.2	55.255.0					
			* DHCP S	ervice 👥						
			* Starting Ad	Idress 192.1	68.1.2					
			* Ending Ad	Idress 192.1	68.1.100					
			* Lease	Time 1440		min				
				DNS 8.8.8.	8					
V1.1.78.033656.00	01									

Figure 7. LAN

4.6. Routing

On this page, users can check the routing table and add needed static routing to **SmartGate**.

INDATECH	• Overview	[·] Network	🕑 Edge Computing	: System Management					s 👼 🐽 🕫
Network Switching	> Routing								
Cellular	Routing								
Ethernet Port	Routing	table							
WAN									
LAN		Target	Gateway	Netmask	Flag	Metric	Ref	Use	Interface
Routing		0.0.0.0	10.62.131.202	0.0.0	UG	0	0	0	usb0
VDN		0.0.0.0	192.168.1.1	0.0.0.0	UG	5	0	0	wan
111		0.0.0.0	10.62.131.202	0.0.0	UG	10	0	0	usb0
Diagnostics	10.	62.131.200	0.0.0.0	255.255.255.252	U	0	0	0	usb0
Firewall	15	92.168.1.0	0.0.0.0	255.255.255.0	U	0	0	0	br-lan
	19	92.168.1.0	0.0.0.0	255.255.255.0	U	0	0	0	wan
	Static IF	Pv4 Routes							Add Delete
		Interfa	C0	Object	IPv4-Netmask		IPv4-Gateway	Metric	Operation
					No dat	ta yet			
V1.1.78.033656.00	001								

Figure 8. Routing



4.7. VPN

On this page users can configure PPTP, L2TP and OpenVPN.

INDATECH	[·] Overview	[·] Network	Edge Computing	💽 System Managemer	t		🚯 醫体中文 🛛 🁼 admin
Network Switching	> VPN						
Cellular	VPN						
Ethernet Port	PPT	•	OpenVPN 💽				*
WAN	121						
LAN	OpenV	PN	Status				
Routing			IP Address: Connection Time: 00:00:0	0	Netmask:	Gateway:	
VPN							
Diagnostics			Configure				
Firewall				* Enable Config file:	On Off		
				* Protocol Select:	UDP v		
				" IP of the remote host:	192.168.1.102		
		-		* Port:	1194		
				* Authentication type:	SSL/TLS V		
				* TUN/TAP:	TUN ~		
				* Topology:	Subnet V		
				Interface:	Auto		
V1.1.78.033656.000	н			redirect Gateway:			•

Figure 9. VPN

4.8. Diagnostics

On this page, users can perform network diagnostics such as Ping and Traceroute to a specific IP/HOST.

INDATECH	Overview	• Network	C Edge Computing	• System Management				S 104-
Network Switching	> Diagno	stics						
Cellular	Diagnos	tics						
Ethernet Port	Ping	Traceroute						
WAN								
LAN					_			
Routing	Medicin	- Baavilt			Send	i		
VPN	Medicin	ig Kesult						
Diagnostics								
Firewall								
V1.1.78.033656.00	01							

Figure 10. Network Diagnostics



4.9. Firewall

On this page, users can configure the firewall on **SmartGate**, including settings for port filtering, port mapping, port forwarding, and DMZ.

INDATECH	(·) Overview	[·] Network	() Ed	ge Computing	💽 System Manag	gement						🔇 1868中文 👰 admir
Network Switching	> Firewal	1										
Cellular	Firewall											
Ethernet Port	P-10	A	Port fi	Itering 💽								
WAN	Port fil	tering	Default poli	cy O Accept	O Drop							
LAN	Port Ma	apping	Port fi	Itering rule							Add	Delete
Routing	Port for	varding 1Z		MAC	Source IP	Destination IP	Protocol	Source port range	Destination port ran ge	Policy	Description	Action
VPN			_					No data yet				
Diagnostics			_									
Firewall			apply									
		-										
V1.1.78.033656.0	001											
					Figure	e 11. Firew	all					

5. Edge Computing



Figure 12. Wizard Edge Computing

5.1. Edge Mode

The edge mode is edge gateway by default. User can change the mode to Graphical Programming mode. The Graphical Programming is based on Node RED, in this mode, user can develop the application about the edge computing that they need.

INDATECH"	🕑 Overview 🔄 Network 🔂 Edge	Computing 🕞 System Management		🚯 🎘 💭 admin
Wizard	> Edge Mode			
Edge Mode	Edge Mode			
Extension IO	Edge Computing: Nodered+Edge ~			
IO Module $~\sim$	Design Flags		-	
Data Point	Enable Graphical Design, it can be u	used normally after the device restarts 2 minutes.		
Protocol	Edge_running_mode_management.p	password_and_user_tips		
Edge Gateway \lor	Apply			
V1.1.78.033656.0001				

Figure 13. Edge Mode

Note: This setting needs to reboot the **SmartGate**. Waiting another 2 minutes after the SMARGATE starting, then the Graphical Design page can be opened.



Figure 14. Node-RED

5.2. Extension IO

The **SmartGate** can work with extendable IO (**INDATECH SmartIOs**) module to extend the IO numbers. If the extendable IO modules are connected to **SmartGate**, users need to preset the IO modules on webpage. The IO modules sequence should be kept the same with the actual hardware sequence. If the sequence on webpage is different from the hardware sequence of extendable IO modules, the work indicators on **SmartGate** will fast blink, and the work indicators on IO extendable modules will blink 4 times/s, then keep off for 2s.

INDATECH	\odot	Overview 💽 Network	💽 Edge Computing	🕑 System Management			🚯 副体中文 🧔 admir
Wizard		> Extension IO					
Edge Mode		Extension IO					
Extension IO		Expansion machine ac	cess preset				Expansion machine access
IO Module	~						preset
Data Point			Expansion number		Detected modules	Config mod	el
Protocol			1		8DI	8DI	~
Edge Gateway	ř		2		8D0	SDO	×
			3		4DI+4DO	4D(+4DO	~
			4		NONE	NONE	~
			5		NONE	NONE	~
			6		NONE	NONE	×
V1.1.78.033656.0	0001						

Figure 15. Extension IO

5.3. IO Module

There are 2 parts in this function, the detail information and the status of IO modules.

5.3.1. DI Interface

On this page, users can check the settings of digital input interfaces, and can also set the work mode of DI interfaces.

DI01: It means the first DI interface of SmartGate

DI22: It means the second DI input of the second extendable IO module.

DI27: It means the seventh DI input of the second extendable IO module.

	Edge Computing -> 10 Module -> Fil	nction								
fode ion IO	 DI									
ule ^ ion a int 1 ateway ~	DI01 DI01 DI Mode: Filter time; Counter Mode: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop 2 Edt	DI02 DI02 DI Mode: Filter Time: Count Frequency: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop 2 Edit	D111 D1Mode: Filter time: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop de Edit	D112 D13 D1Mode: Filter time: Count Frequency: Count Frequency: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop 2 Edt	D113 D13 D1Mode: Filter Time: Count Frequency: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Raing adge 6ma 10000 kop c2 Edt
	D114 D14 D14D00e: Filter time: Counter Mode: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop d Edit	D115 D15 D1 Mode: Filter time: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop d Edit	D116 D16 D1 Mode: Filter time: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop de Edit	D117 D17 D1 Mode: Filter time: Count Frequency: Count Frequency: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop & Eds	D118 D18 D1 Mode: Filter time: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Pasng edge 5ma 10000 koop c2 Eat
V1.1.78.033656.0001	DI31 DI31	Divital Invet	DI32 DI32	Diata Insut	DI33 DI33 DI Mode	Digital Invet	DI34 DI34	Diaital Innet		

Figure 16. IO Module - Function

The default DI mode is Digital Input, users can click "Edit" to modify the settings.

INDATECH 2] Overview [·] Network	[+] Edge Go	omputing 🔄 System Ma	inagement							() ENDEX 👩 admin
Wizerd	Edge Computing (> 10 Modum (> Fit	unction									
Extension IO	DI		D102	Edit			×		DI13		
Function Status	Di Mode: Filter time:	Digital Input 50 ms	DI Mode: Filter time:	* Di Mode: * Counter Mode:	Digital Input Count Rising edge Falling	edge	t Nec	Digital Input 50 ms	DI 13 DI Mode: Filter time:	Digital Input	
Protocol Edge Gateway	Counter Mode: Count Frequency: Maximum range:	Rising edge 5ms 10000	Counter Mode: Count Frequency: Maximum range:	* Maximum range.	10000 o loop O Stop		Mode: requency: m range:	Rising edge Sms 10000	Counter Mode: Count Frequency: Maximum range:	Rising edge Sms 10000	
	Exceeds maximum range:	Edit	Exceeds Maximum range:	ange		cancel	surp	100p 12. Ed8	Exceeds Matanum range:	el. Edit	
	DI14		DI15		DI16		DI17		DI18		
	D14 Di Mode: Filler line: Counter Mode: Count Frequency: Makiman range: Exceeds Maximum range:	Digital Input 50 ms Rising edge 5ms 10000 Ioop 20 Edit	D15 DI Mode: Filter time: Counter Moder: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input S0 ms Rating edge Sma 10000 Ioop d: Entit	D15 DI Mode: Filter time: Counter Mode: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Riting edge 5ms 10000 Isop C Edit	Di 17 Di Mode: Fillet films: Counte Mode: Count Frequency: Maximum range: Exceeds Maximum range:	Digital Input 50 ms Riting edge 5ms 10000 Iaop 2 Ear	Diriš Di Mode: Filler time: Counter Mode: Count Frequency: Maximum range: Exceeds Maximum range:	Digital input 50 ms Rising edge 5ms 10000 Ioop & Edit	
V1.178.033656.0001	DI31 DI31 DI Mode:	Digital Input	DI32 DI32 DI Mode:	Digital Input	DI33 DI33 DI Mode:	Digital Input	D134 D134 D1 Mode:	Digital Input			

Figure 17. IO Module - Edit

Restart Hold of DO. This function is closed by default.

If the Restart Hold function is enabled, when we restart the **SmartGate**, the DO will remain in the state before the power outage.

DO		apply
Restart hold Open	© Close	

Figure 18. DO – Restart Hold

5.3.2. Status of IO modules

On this page, users can check the status of IO interface. And can also control the DO interface. Click the DO button, the indicators of DO will turn on or turn off.



Figure 19. IO Status

5.4. Data Point

Data Point Table is the core database of the edge computing gateway. The data and data-related information used by the edge gateway for acquisition, reporting, data reading and writing, protocol conversion and linkage control are all obtained from this point table. Therefore, during use, it is very important to add the data point table correctly and in detail.

The data point table contains two main elements: slaves and data points. Up to 20 slaves can be added, IO slaves and virtual slaves are fixed. The remaining 18 Slaves can be added as needed. Corresponding data points can be added to each slave. Except for the virtual slave, the total number of data points of all other slaves is up to 2000. The data points of each slave are actively polled and collected from the corresponding interface according to the protocol specified when adding the slave, and the collected data is correspondingly stored in the virtual register in the product.

For virtual slaves, up to 500 points can be added.

Supported Downlink Protocols:

- Modbus TCP
- Modbus RTU
- DVP_RTU
- DLT-645-2007
- FATEK
- FINS-COM
- FINS-TCP
- FX1S
- FX2N(1N)

- FX3U
- FX5U
- S7-200 Smart
- S7-200 PPI
- S7-300
- S7-400
- S7-1200
- S7-1500

NDATECH	[·] Overvie	w (-)	Network	Edge Computing	💽 System Mar	nagement								384 (2) 384 (2)
Wizard	> Da	ta Point												
Edge Mode	Data	Point												
Extension IO	Slav	re											Add Inviport	L Export
Module ^	Version	: 16808448	196											
Status Pata Point	La 10	Slave		online	Slave_Status Slave Status 0:offline 1:abnormal :	effii 2:online 3:stop	ne							
rotocol	pr	otocol: Lo	cal_IO		protocol: Slave Status									
dge Gateway 🗸														
	List	of slave	e points											
		ID	Node name	Data Type	Decimal Number	Address	Read Write Status	Priority	Timeout(ms)	Data	Acquisition formula	Control formula	Node desc	Operation
		ID 1	Node name DO34	Data Type Bit	Decimal Number 0	Address DO 34	Read Write Status Read/Write	Priority Level 1	Timeout(ms) 2000	Data 0	Acquisition formula	Control formula	Node desc	Operation Edit Delete
		ID 1 2	Node name DO34 DO33	Data Type Bit Bit	Decimal Number 0 0	Address DO 34 DO 33	Read Write Status Read/Write Read/Write	Priority Level 1 Level 1	Timeout(ms) 2000 2000	Data 0 0	Acquisition formula	Control formula	Node desc	Operation Edit Delete
		ID 1 2 3	Node name DO34 DO33 DO32	Data Type Bit Bit Bit	Decimal Number 0 0 0	Address D0 34 D0 33 D0 32	Read Write Status Read/Write Read/Write Read/Write	Priority Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000	Data 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4	Node name DO34 DO33 DO32 DO31	Data Type Bit Bit Bit Bit Bit	Decimal Number 0 0 0 0	Address DO 34 DO 33 DO 32 DO 31	Read Write Status Read/Write Read/Write Read/Write Read/Write	Priority Level 1 Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000 2000 2000	Data 0 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4 5	Node name DO34 DO33 DO32 DO31 DI34	Data Type Bit Bit Bit Bit Bit Bit	Decimal Number 0 0 0 0 0 0	Address D0 34 D0 33 D0 32 D0 31 D1 34	Read Write Status Read/Write Read/Write Read/Write Read/Write Only Read	Priority Level 1 Level 1 Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000 2000 2000	Data 0 0 0 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4 5 6	Node name D034 D033 D032 D031 D032 D031 D033 D033	Data Type Bit Bit Bit Bit Bit Bit Bit	Decimal Number 0 0 0 0 0 0 0	Address D0 34 D0 33 D0 32 D0 31 D1 34 D1 33	Read Write Status Read/Write Read/Write Read/Write Only Read Only Read	Priority Level 1 Level 1 Level 1 Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	Data 0 0 0 0 0 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4 5 6 7	Node name D034 D033 D032 D031 D032 D033 D033 D034 D035 D036 D037	Data Type Bit	Decimal Number 0 0 0 0 0 0 0 0	Address D0 34 D0 33 D0 32 D0 31 D1 34 D1 33 D1 32	Read Write Status Read/Write Read/Write Read/Write Read/Write Only Read Only Read Only Read Only Read	Priority Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	Data 0 0 0 0 0 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4 5 6 7 8	Node name D034 D033 D032 D031 D032 D031 D134 D132 D132 D132 D132 D131	Data Type Bit Bit Bit Bit Bit Bit Bit Bit Bit Bit	Decimal Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Address Do 34 Do 33 Do 32 Do 31 Di 34 Di 33 Di 32 Di 32	Read/Wite Status Read/Wite Read/Wite Read/Wite Read/Wite Cnly Read Only Read Only Read Only Read Only Read	Priority Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1	Timeout(ins) 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	Data 0 0 0 0 0 0 0 0	Acquisition formula 	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4 5 6 7 7 8 9	Node name D034 D033 D032 D031 D134 D133 D132 D131	Deta Type BR BR BR BR BR BR BR BR BR BR	Decimal Number 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Address Do 34 Do 33 Do 32 Do 31 Di 34 Di 33 Di 32 Di 32 Di 32 Di 32 Di 31 Di 31	Read White Status Read/White Read/White Read/White Read/White Croly Read	Priority Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	Data 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete
		ID 1 2 3 4 5 6 7 8 9 9	Node name D034 D033 D032 D031 D134 D132 D131	Deta Type BR	Decimal Number 0	Address DO 34 DO 32 DO 32 DO 31 DI 34 DI 32 DI 31 DI 32	Read/Wite Status Read/Wite Read/Wite Read/Wite Read/Wite Read/Wite Croly Read Croly Read Croly Read Croly Read Croly Read Croly Read Read/Wite Rea	Priority Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1 Level 1	Timeout(ms) 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	Data 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Acquisition formula	Control formula	Node desc 	Operation Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete Edit Delete

Let's add a first slave as an example, in this case the Modbus TCP protocol is used.

INDATECH [®] 3		w D	Network] Edge Comput	ting 🔃 System N	lanagement								⑦ 器44弦	() **
Wizard	> Da	ta Point													
Edge Mode	Data	Point													
Extension IO	Slav	· .				Add			×				vdd invoort	Export	
IO Module	Veries		0.02									_			
Function	version:	: 1000044	090			 Slave Name: 	Modbus TCP								
Status	10	Slave		online	Slave_Status Slave Status	Slave Descriptio	Please enter								
Data Point					0:offline 1:abnorm	Acquisition prot	Modbus_TCP	~							
Protocol	pro	otocol: Lo	ocal_IO		protocol: Slave Statu	ocol									
Edge Gateway 🗸 🗸						* Polling interval:	0	ms							
	List	ofslav	e points			Merge acquisiti on:	Open Close								
		ID	Node name	Data Type	Decimal Number	* Data_Point.Sla				Data	Acquisition formula	Control formula	Node desc	Operation	
		1	DO34	Bit	0	ve_switch:				0				Edit Delete	
		2	DO33	Bit	0	* IP	192.168.1.34			0				Edit Delete	
		3	DO32	Bit	0	* Port	102			0				Edit Delete	
		4	D031	Bit	0	* Salve Address	1			0				Edit Delete	
		5	DI34	Bit	0					0				Edit Delete	
		6	DI33	Bit	0			cancel	sure	0				Edit Delete	
		7	D132	Bit	0	DI 32	Uniy Kead	Level 1	2000	0				Edit Delete	
		8	Di31	Bit	0	DI 31	Only Read	Level 1	2000	0					
		9	DO28	Bit	0	DO 28	Read/Write	Level 1	2000	0					
V1.1.78.033656.0001		10	D027	BI	0	DO 27	Read/Write	Level 1	2000	0					

Figure 21. Data Point - Add Slave

Then add the data points of the Modbus TCP slave:

- 1. Click the Modbus TCP Slave
- 2. If we didn't add the data points before, the list of slave points is blank. Click the "Add" button to enter the point information.

INDATECH [®] 3] Overvie	n 0	·] Network] Edge Comput	ing 🔃 System N	lanagement										🚯 1840+12 🜘 admir
Wizard	> Da	ta Point			The paramete the gateway a	rs you modify take effe fter all Settings are con	t only after you re	eboot the gatew	ray. To avoid repea	ed reboot, reboot	reboot	×				
Edge Mode	Data	Point														
Extension IO	Slav	•				Edit				×				_	Add Introport	Export
IO Module	Varcion	1729901	120													
Function				- anima	Slave Status	Node desc	Humidity									
Status Data Point	10	Slave		Citates	Slave Status	Register	4	v 1	40001(ushort)							
Protocol		tocol: Lo			0:offline 1:abnorm											
Edge Gateway 🗸 🗸	pro	ROCOI: EC			protocol: Slave State	* Data Type	16 Bit Unsigned	i v								
						Decimal Number	0	_	~							
	List	of slav	e points			* Read Write Stat	Only Read	Read/W	hite 🕕 Only V	hite					Add	Delete
		ID	Node name	Data Type	Decimal Number	* Priority	Level 0		\sim			Data	Acquisition formula	Control formula	Node desc	Operation
		1	Hum	16 Bit Unsign	ed 0	Acquisition for	Please enter								Humidity	Edit Delete
		2	Temp	16 Bit Unsign	ed 0	mula									Temperature	
						Control formul a	Please enter						Total 2	15/page ~ La	1 1	Go to 1
						* Timeout	2000		ms							
						Unit	Please enter									
									cancel	sure						
V1.1.78.033656.0001																

Figure 22. Add Slave points

3. Added slave and data points:

INDATECH	(·) Ov	erview	ب ا	Network	💽 Edge Computi	ng 🔃 System Ma	nagement								🚯 😹 🕸 🏟 admin
Wizard		> Data	a Point			The parameters the gateway after	you modify take effect only r all Settings are complete.	after you reboot the gat	eway. To avoid repeated	I reboot, reboot	eboot ×				
Edge Mode	c	Data F	Point												
Extension IO	1	Slave	•											Add Interpor	Export
IO Module		/ersion:	17289012	235											
Function		Lo	cal_IO		online	Slave_Status	🔴 offline	Modbus	ТСР	offine					
Data Point		10 \$	Slave			Slave Status	2:online 3:stop	Data Source	nee 102 168 1 24-10	12					
Protocol		prot	tocol: Lo	cal_IO		protocol: Slave Status	21011110 515109	protocol: N	Aodbus_TCP	~					
Edge Gateway	. 1								∠Edit BDelete						
	1	List	of slav	e points										Add	Delete
			ID	Node name	Data Type	Decimal Number	Address	Read Write Status	Priority	Timeout(ms)	Data	Acquisition formula	Control formula	Node desc	Operation
			1	Hum	16 Bit Unsigne	d 0	4 0001	Read/Write	Level 0	2000	-			Humidity	Edit Delete
			2	Temp	to Bit Unsigne	u 0	4 0001	Readronite	Level 1	2000				Temperature	Edit Delete
												Total 2	15/page v La	d d d	Go to 1
V1.1.78.033656.0	001														

Figure 23. Data Points and Slaves

4. After all the slave and data points are added, and other settings are ok, please reboot the **SmartGate** to make the changed parameters take effect.

The parameters you modify take effect only after you reboot the gateway. To avoid repeated reboot, reboot reboot the gateway after all Settings are complete.

Figure 24. Reboot popup

5. Check the collected data.

5.5. Protocol

SmartGate supports mutual conversion between different protocols, such as Modbus RTU/TCP, OPC UA, Json and BACnet.

More protocol conversions are in development.

With this function, users no need to worry about being unable to communicate due to different protocols between the terminal device and the server, because the **SmartGate** will convert the point data of all slave devices into a unified protocol format, making it easier for the server to issue and collect data using a unified protocol.

INDATECH	🕞 Overview 🛛 🕃 Networ	rk 🕑 Edge Computing 🛞 System Management	🚯 🗱 🕸 🔅 👰 admir
Wizard	> Protocol		
Edge Mode	Protocol		
Extension IO	Modbus RTU	Modbus RTU 🕥	
IO Module	Modbus TCP		
Function Status	OPC UA		
Data Point	Json		
Protocol	BACnet		
Edge Gateway	~		
		Punction Close Open	
		and the second se	
V1.1.78.033656.0	001		

Figure 25. Uplink Protocols

We have added Modbus TCP slave in section 5.4. In this section, will convert Modbus RTU to Modbus TCP using the protocol conversion function.

Basic settings:

- 1. Enable Modbus RTU function,
- 2. Set protocol and local port, in this case, keep them the default parameters
- 3. Set the Slave address to 5, we add the 16-bit points in Section 5.4, so keep the 32-bit data the default parameters.
- 4. Click "Apply", then the window will pop up prompting you to reboot **SmartGate** device. We can reboot device after setting all parameters. Then continue to set mapping point table parameters.

	🕑 Overview 🛛 💽 Networ	🕑 Edge Computing 🕑 System Management			🚯 🗱 💭 🔅 👘
Wizard	> Protocol				
Edge Mode	Protocol				
Extension IO	Modbus RTU	Modbus RTU			
Data Point	Modbus TCP	Basic settings			
Protocol	OPC UA	Connection Config	Pentanal: YOB Samar	Local Port 602	
Edge Gateway 🗸 🗸	BACnet	"Maximum of Client: 2		LOCHT OIL JOS	
		Slave Configuration * Slave Address: 5 64 bit integer byte: ABCDEFOH ordet: *	* 32 bit integer byte AB CD \checkmark order:	* 32 bit float byte order: AB CD v	
		Node mapping table			Add Delete
		ID Position Name	Source(slave) Data Type	Mapping Address Read Write St	atus Operation
			No data yet		
V1.1.78.033656.0001					
		Figure 26. Modbus RTU	J Protocol configuration		

Node mapping table:

- 1. Click "Add" button,
- 2. Select the register type and enter the initial register address,
- 3. Click "Add points",
- 4. Select the slave just added: Modbus TCP,
- 5. Select the needed data points,
- 6. Click "Sure"
- 7. Reboot SmartGate

INDATECH	🔄 Overview 🔤 💽 Network	Edge Computing	💽 System Managemen	nt					② 器44次	👰 admin
Wizard	> Protocol		The parameters you modify the gateway after all Setting	take effect only after you reboot t is are complete.	he gateway. To avoid repeated reb	oot, reboot				
Edge Mode	Protocol									
Extension IO	Modbus RTU	Add						×		Î
Data Point	Modbus TCP	Mapping the initial address: 4X ~	1							
Protocol	Json	Point selection: Add points								
Edge Gateway ~	BACnet	ID	Position Name	Slave	Mapping Address	Data Type	Read Write Status	^		
				No da	la yet			V Read Work Kar	Add Dates n Operation	
							cancel			
V1.1.78.033656.0001										

Figure 27. Add Slave - Data Point, part 1

INDATECH®												🍙 admin
Wizard	> Protocol			The parameters the gateway after	you modify take effect only after you rebool all Settings are complete.	the gateway. To avoid repeated reboot, reboot	reboot					
Edge Mode	Protocol											
Extension IO		Add	Point select	tion				×				Î
IO Module	Modbus T	CP Mappir	g the Select Sal	VE: Modbus TCP	✓ Please enter	Query		- 1				
Data Point	OPC U/	4		Node Name	Slave	Data Type	Read Write Status	-				
Protocol	Json	Point s	elect	Temp	Modbus TCP	16 Bit Unsigned V	Read/Write					
Edge Gateway ~	BACnet		8	Hum	Modbus TCP	16 Bit Unsigned V	Read/Write		^			
										Add	Delete	
							cancel	ue	-	Read Write Status	Operation	
							cance	s	ле			-
V1.1.78.033656.00	001											

Figure 28. Add Slave - Data Point, part 2

5.6. Edge Gateway

5.6.1. Serial Port

On this page, users can set the basic parameters of UART, like baud rate, data bit, stop bit and parity bit.

For UART2, it has one more parameter: Serial Function. The default is "Downlink".

Downlink: The device connected to the serial port is Slave device, **Uplink**: The device connected to the serial port is Master device.

INDATECH	[·] Overview	[·] Network	💽 Edge Computing	🛞 System Management 💿 🕸 🕸 🚳
Wizard	Edge Comput	ing 🔿 Edge Gateway 🗦	Serial Port	
Edge Mode	Serial P	ort		
Extension IO	114	PT01	UART02	
IO Module ~	UA	RT02	Basic setting	15
Data Point			* Baud Rate:	9600 🗸
Protocol			* Data Bit:	8 v
Edge Gateway ^			* Stop Bit:	t v
Serial Port Links			* Parity Bit:	NONE V
Reporting			* Serial Function:	Upink v
Linkage Control			apply	
		~		
V1.1.78.033656.00	1			

Figure 29. UART2 - Serial Function - Downlink/Uplink



5.6.2. Links

SmartGate supports 2 independent communication channels, Links. It provides multiple communication modes like TCP client/TCP server/UDP/MQTT client/http client. It has the AWS cloud built-in; users can use it conveniently. In this case, we set the communication parameters like the following picture.

INDATECH [®]	\odot	Overview	[+] Network	• Edge Computing	💽 System Management		武法中文 南 和min 和min
Wizard		Edge Computin	ng ⇒ Edge Gateway ⇒ I	Links			
Edge Mode		Links					
Extension IO		Lin	ik-1	Link-1 💽			
IO Module		Lir	ik-2	Basic settings			
Protocol				Communication Pro	tocol: TCP Client	~	
Edge Gateway				* Remote Server Add	fress: 192.168.1.94		
Serial Port Links				" Local	Port: 0		
Reporting				* Remote	Port: 8234		
Linkage Control				* Connection regist	Disable	~	
					data:		
			÷	* SSL Pro	tocol: Disable	~	
				* Report Cache	Data: 🗾		
				apply			
V1.1.78.033656.00	001						

Figure 30. Links - communication channels

5.6.3. Data Query/Control

With this function, users can query and control data points via Json format. Click "Add" to add link channel, in this case, we choose the Link1.

The Json command format is like the following:

{ "rw_prot": { "Ver": "Protocol Version", "dir": "Data Direction", "id": "Information ID", "r_data": [{ "name": "Node Name"}], "w_data": [{ "name": "Node Name", "value": "data"}] } }

Description of items:

Field Name	Description
rw_prot	Protocol Header
Ver	Protocol Version
dir	Data Direction
id	User defined parameter. The id is same in query/control and response data.
	Sometimes, the query/control data is high frequency, the response data may
	be disordered. The program in network can confirm the relevant response
	data by the id.

r_data	The data load for querying data
w_data	The data load for controlling data
name	The node name descripted on section 5.4
value	Means the data need to be sent to the data points described

In section 5.4, the added data points have data already, now we can collect the data to the server. Set the Network Assistant as TCP server, the local port is 8234, **SmartGate** work as TCP client to connect the TCP server.

Then send Json command to collect the temperature and Humidity data, to control the level data at the same time. User can copy the Json command sample and change the query and control command based on the sample.

5.6.4. Data Reporting

The data reporting function will report the collected data on data point page to server actively. Users can send the data in different methods.

The Reporting Template will be introduced later.

Then add the data points that need to be reported.

INDATECH* 🖸 Overview 😳 Network 🛞 Edge Computing	🎰 🧔 文中4월 (9
Create data reporting groups	
Wizard Exp. Computing > Exp. Computing Part Information	
Edge Mode Reporting Group name Reporting Text	
Extremice 10 *Up channel Las-1 v	
No Pool Egot Egot Data Reporting rules	
interval reporti	
Date Foret ng	
Protectal periodic report	
Edge Gatemay ^	
Senal Poet "Repairing cycle 1 3 a	
Lieks	
Reporting DMa change DMa change	
Linkage Costrol Reporting	
report regular	
Reporting data for 🛛 Primitre data type 🗸 🤟	
Reporting Templat ("Current":node/0101";"Nollage"":node/0102")	
•	
VI: 178 823656 6001	

Figure 31. Data reporting - part 1

INDATECH										
Wizard	Now	mport Export	Reporting 1	Test The parameters you the gateway after all	modify take effect only after you reboot t Settings are complete.	the gateway. To avoid repeated reboot, reboo	st reboot ×			Delete
Edge Mode		ing Test	Data Rep	orting rules						Edt
Extension IO			Select r	node				×		
IO Module			Selec	Slave: Modilus TCP	Y Please enter	query				
Data Point			-	Notice Providence	Presso trinta	quay	-			
Protocol				Node name	Slave Modeus TCP	16 Dillosioned	Read Write Status			
Edge Gateway				Hum	Modbus TCP	16 Bit Unsigned	Read/Write			
Serial Port				1 Million	100000101	TO DIL OTTAGINO	100000111100			
Links										
Reporting										
Linkage Control										
		÷								
								Ψ.		
			1							
			No				cancer	ure		Add Delete
			ID	Node name		Slave Name	Data Type		Read Write Status	Operation
						No data y	ret			
								Total 0	10/page ~ Last 1	Next Go to 1
V1.1.78.033656.0	0001									

Figure 32. Data reporting - part 2

Json Template:

The data reporting function will upload point data to the server in Json format. Customers can customize the Json template according to the server's requirements to ensure that the uploaded data format meets the server's parsing requirements. The actual data points can be defined in the Json template.

In addition to data points, the Json template can also add some specific identifiers, such as the product's firmware version, SN, MAC and other parameters. These parameters can be processed as the unique identifier of the device. Directly add the relevant identification name in the value position of the Json template. During the reporting process, the device will substitute the data corresponding to the identification name and report it. For example, to report timestamp, set the Json template to {"time":"sys_local_time"},

Items	Description	Example
sys_ver	Firmware version	V1.2.06.033656.0002
sys_imei	IMEI	869387060515005
sys_sn	SN	02800724072300006941
sys_mac	MAC	XX:XX:XX:XX:XX:XX
sys_iccid	ICCID	89390100002627533239
sys_local_time	Local time	2024-10-15 23:22:31
sys_utc_time	UTC time	2024-10-15 23:22:31
sys_unix_time	Timestamp	1234567890

Reporting Test		Detele
Data Reporting rules Basic information	Up channel: Public topic:	Edit Link-1 (null)
Action	interval reporting: periodic reporting: Reporting cycle time : Data change Reporting: report regularly:	2 2 3
	Reporting data format: Reporting Template:	Primitive data type ("Current""node0101", "Voltage"."node0102")

Figure 33. Json Reporting Template

The test result: **SmartGate** reports the collected data according to the period cycle time and the content of the Json template.

5.6.5. Linkage Control

The linkage function is mainly used to realize local closed-loop management, rapid alarm and emergency applications. The product can support 50 linkage events internally.

INDATECH®		[·] Edge Computing	C2 Purton Management (§ 1804	nt 👩 🖬
		Add	dd Linkage Event ×	
Wizard	Edge Computing > Edge Gateway >	Linkage Control		
Edge Mode	Linkage Control		event name High temperature	
Extension IO			"Enable 💽	
	New Import Export	* Min	Minus Trigger Int 1000 ms	
10 Module			eval	
Data Point		* Trig	Trigger condition() > V	
Protocol			* Trigger Event Select point Temp ×	
Edge Gateway				
Serial Port		•1	*Trigger mode: All point match the conditions	
Links		Uppe	isper Timehold L 0	
Reporting			int.	
Linkage Control		* Lov	Lower Threshold 0	
			Lint	
			Execution Action:	
			■ D0 Action D001 v OFF Switch	
	*			
			U Write bit	
			C Reporting	
			SMS * Phone Number: Please enter	
			* Message Text High Temperature	
V1.1.78.033656.0001				

Figure 34. Linkage Control

Items	Description	Default Parameter
Event Name		None
Enable	Weather to enable the linkage control	Off
Minus Trigger Interval	When the trigger condition is met for several times in a	None
	short period, the trigger takes effect only when the	
	interval between two triggers is greater than the set	
	value.	
Trigger condition	The action can be executed if the conditions are met, A	None
	total of 10 conditions are supported.	
Trigger Event	Select the data point to start the trigger event.	None
Trigger mode	All points match the conditions,	None
	Any point matches the conditions	
Upper Threshold	The value range: 0~20000	None
Limit		
Lower Threshold	The value range: 0~20000	
Limit		

Description of trigger condition:

Trigger condition	Description	Extro
Forward Follow	If DI is high level, DO outputs high level.	Only available for coil value.
	If DI is low level, DO outputs low level.	
Reverse Follow	If DI is high level, DO outputs low level. If	Only available for coil value.
	DI is low level, DO outputs high level.	
Greater than	The collected value exceeds the	Only the lower of the
	threshold, an action is triggered.	thresholds need be set.
Equal or greater than	The collected value is greater than or	Only the lower of the
	equal to the threshold, an action is	thresholds need be set.
	triggered.	
Less than	The collected value is less than the	Only the upper of the
	threshold, an action is triggered.	thresholds need be set.
Equal or less than	The collected value is less than or equal	Only the upper of the
	to the threshold, an action is triggered.	thresholds need be set.
In the Range (Including	An action is triggered when the collected	Upper and lower limits of the
boundary data)	value is within the threshold range, and	thresholds need be set.
	an action is triggered each time the	
	collected value is within the range.	
In the Range (Excluding	An action is triggered when the collected	Upper and lower limits of the
boundary data)	value is within the threshold range, and	thresholds need be set.
	an action is triggered each time the	
	collected value is within the range.	
Out of the Range (including	An action is triggered when the collected	Upper and lower limits of the
boundary data)	value is outside the threshold range, and	thresholds need be set.
	an action is triggered each time the	
	collected value is outside the range.	
Out of the Range (excluding	An action is triggered when the collected	Upper and lower limits of the
boundary data)	value is outside the threshold range, and	thresholds need be set.
	an action is triggered each time the	
	collected value is outside the range.	



In this case, we add 2 events: High Temperature and Normal temperature,

In High Temperature, if the value of temperature is higher than 45, then turn on DO1.

INDATECH [®]) Overview [-] Network	[+] Edge Computing	n Management () (24-33 (2)
	_	Edit Linkage E	vent ×
Wizard	Edge Computing > Edge Gateway >	Linkage Control	
Edge Mode	Linkage Control	Eventivan	ngo responsare
Extension IO		* Enabl	
IO Madula Y	New Import Export	* Minus Trigger In	t 1000 ms
10 100000	Hinh Temperature	Event Info	Edit
Data Point		* Trigger conditio	
Protocol	Normal Temperature	* Trigger Even	t Select point Temp ×
Edge Gateway			
Serial Port		* Trigger mode	Al point match the conditions
Links		Upper Threshold	
Reporting		im	
Linkage Control		* Lower Threshol	4 45
		Lim	
		Execution Ac	ution Action:
			Vite bit
			Reporting
			SMS
V1.1.78.033656.0001			
			cancel sure

Figure 35. Linkage Control example - High Temperature

In Normal temperature, if the value of temperature is lower than 45, then turn off DO1.

	🕑 Overview 🛛 🖯 Network	[+] Edge Computing	🕑 System Management	 () 開始市文 () 合
Wizard	Edge Computing > Edge Gateway > 1	Linkage Control	Add Linkage Event ×	
Edge Mode	Linkage Control		* Event Name Normal Temperature	
Extension IO	New Import Export	High Temperat	* Enable 💽	Delote
IO Module ~		Event Info	* Minus Trigger Int 1000 ms	Edit
Data Point			eval	
Protocol			Trigger Event Select point Temp ×	
Edge Gateway O				
Links			* Inger Treshald 45	
Reporting			Limit	
Linkage Control			Lower Threshold L 0	
		Execution Ac		
			Execution Action:	
	*		DO Action DOO1 V ON OFF Suitch	
			Write bit	
			Reporting	
			SMS	
1/1 / 70 000555 0004				
**.1.78.033050.0001				

Figure 36. Linkage Control example - Normale Temperature



6. System Management

6.1. System Time

On this page, users can select Time Zone or set time manual. And can also set the NTP server.

INDATECH [®]	(·) Overview	💽 Network	Edge Computing	[•] System Management	6) 83452 👰 almin
System Time	> System Tim	ie			
LOG	System Tin	ne			
System	Time Zone	UTC +2	Ŷ	Modify	
Access Tools	Device Tin	ne: 2024-10-15 1	17:37:17	Sync With Browser	
Location	Set Time	Please select	Please select	Set	
	NTP 💽				
		NTP Server_1:	time1.google.com		
		NTP Server_2:	ntp1.inrim.it		
	Apply				
V1.1.78.033656.00	01				
				Figure	37. System Time

6.2. Log

Users can check and download log information on this page.

INDATECH	(·) Overview	[·] Network	[+] Edge Computing	💽 System Management	6) R349% 🇔 som
System Time	> LOG				
LOG	LOG				
System ~					
INDATECH Cloud					
Access Tools	ID	Time	Level		Log
	1	00027.399	Warning		[ucloud_mqtt][ucloud_trans_hub.c][68]:hub send en1
Location	2	00015.237	Warning		[USR_OWP][main.cl[852] Ovp_Configinit exit.
	3	00015.884	Error		[netservice][net_switch.c][450]:interface: [00015.884]<4
	4	00016.136	Warning		[netservice][net_switch.c][576] get config fail
	5	00016.333	Warning		[netservice][net_phy.c][517] wan dhcp
	6	00017.393	Warning		[system_lask][ntp.c][217].ntp.enf
	7	00017.588	Error		[netservice][net_exitch.c][450] interface: [00017.588] <4
	8	00017.588	Warning		[netservice][net_switch.c][576] get config fail
	9	00021.125	Warning		[netsenvice][net_switch.c]] 153] #### add metric 5 dev wan route
	10	00021.507	Warning		[netservice][net_switch.cj]249] #####add default dev wan route
	11	00021.524	Error		[netservice][net_switch c][450] interface wan
	12	00027.001	Warning		[netservice][net_switch.c][576] get config fail
	13	00027.128	Error		[netservice][net_switch.c][450];interface.wan
	14	00028.521	Warning		(mcu_cti](extender_io.cj] 1653) extender recv err
	15	00029.243	Warning		(mcu_ctf][extender_io.c] 1661) extender recv err
	16	00034.300	Warning		[netservice][net_switch.c][576] get config fail
	17	00034.431	Warning		[netsen/cc][net_switch c][153] #### add metric 10 dev usb0 route
V1.1.78.033656.000	18	00034.720	Error		[netservice][net_switch c][450] interface wan [00041.806]<4
				Fi	gure 38. Logs



6.3. System

6.3.1. Configuration Management

System Config

This function mainly includes parameter export, import, and restore to factory settings. Using this function, users can quickly copy product parameters.

Edge Computing Config

The export point table will synchronously export the data point table, protocol conversion data point table, linkage control event table, and data reporting group table, and will be updated synchronously after importing.

INDATECH	[+] Overview [+] Network	[·] Edge Computing	💽 System Management			\$144 8	() admin
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LOG	Configuration Manag	ement					
System Configuration Man Configuration Man Firmware Upgrade Urer Management Reboot INDATECH Cloud Access Tools Location	System Config Export Import Retore Factory Edge Computing Config Export Import Note: The Infrage co	Expert Config Import Config Restore Factory Expert Config Import Config Import Config Import Config Import Config	export the data poet table, protocol conver group table, and will be updated synchronic	nion data point babe, sidy after importing			
V1.1.76.033656.000							

Figure 39. Configuration Management

6.3.2. Firmware Upgrade

On this page, the current firmware version is displayed, and it provides firmware upgrade operations. Select a valid firmware and click Start Upgrade to wait for the automatic upgrade of the product.

6.3.3. User Management

This function is mainly to set the username and password for logging in to the built-in web page. The username supports 4-30 characters, and the password supports 1-30 characters.

6.3.4. Reboot

Users can restart the device immediately or add a scheduled restart task and set the restart time on the same day. Restart tasks can be performed in 24 hours, accurate to the minute.

6.4. INDATECH Cloud Service - Coming Soon

This function is to facilitate customers to quickly connect to the public INDATECH platform, through which equipment maintenance can be carried out. If it is a private deployed INDATECH platform, users can enable the private deployment button and fill in the private IP address and port to connect.

Image:	INDATECH	(·) Overview	[·] Network	Edge Computing	💽 System Management	्री ह्यान दे	🏟 atmin
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V1 1.78 033665 0001	Access Tools Location		•				
	V1.1.78.033656.00	01					

Figure 40. INDATECH Cloud service

6.5. Location

SmartGate supports both LBS location and GPS location. The location function is not enabled by default. Users can enable the LBS location or GPS location manually.

6.5.1. GNSS

Satellite: The number of satellites simultaneously observed by GPS system. Status: "A" means successful GPS positioning,

"V" means GPS positioning failure. Longitude: The longitude of the device's location. Latitude: The latitude of the device's location.

Users can also send the GPS information to remote servers to achieve real-time monitoring of the **SmartGate** device.



7. Contact Us

Address: Official website: Email: Technical support Email: Tel: Fax:

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