

Connecting Customized Modbus Devices



Huawei Technologies Co. Ltd.

Version	Created by	Date	Remarks
01	Huawei e84081311	24.10.2018	Smartlogger2000

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The SmartLogger supports third-party devices that comply with the MODBUS-RTU protocol, such as box-type transformers and inverters. Different vendors may use different Modbus points. You can import a configuration file that specifies Modbus points into the SmartLogger to enable the SmartLogger to connect to thirdparty Modbus devices. To generate a configuration file, configure the SmartLogger Equip Config Tool and generate a configuration file.

Note:

-You can provide a Modbus point list of third-party devices to Huawei R&D personnel. They then create a cfg configuration file according to the list for you.

-The SmartLogger cannot automatically search for customized devices. You must add them manually.

-The SmartLogger supports a maximum of five types of customized devices and can connect to multiple devices of the same type.

-The configuration file of customized devices is named **modbus_equip_custom_x.cfg**, where *x* ranges from 1 to 5 that correspond to five device types. Use the numbers to correctly indicate the device types when adding devices.

-Before adding customized devices, import a configuration file.

Step 1 Connect to customized devices.

Using the mobile phone app:

Login to the mobile phone app as an advanced user or a special user and connect the app to the SmartLogger. Choose **More** > **Device Management**, tap in the upperright corner, select **Import Config**, and select a configuration file from the mobile phone.

The message indicating that loading is in progress is displayed:





On the **Device Management** screen, tap **Add Device**, select the corresponding customized device, and tap **OK**.

Using the WebUI:

Because of permission limits, you must log in to the embedded WebUI as an advanced user or a special user. On the **Maintenance** tab page, choose **Device Mgmt.** > **Connect Device**.

Click **Import Config.**, and import a customized device configuration file in the displayed dialog box.

Step 1 for connecting to customized devices on the WebUI:



Enspire		Over	View Monito	oring Query	Settings Mainter	ance			English	
Firmware Upgrade	Total De	evice Qty.	:12							000
Product Information	Conne	ct Device								
Security Settings				Built-in	PLC Enable	•				
System Maint			1	Device disconnection	time 5	min(5-30)				
- Desides Loss						Submit				
Device Log		No.	Device			Port-Comm Addr./IP	address	SN	Device status	
Onsite Test	8	1	EMI(COM0-1)			0-1		EM02311H/B01G8000313	•	
License Management		2	PLC(COM0-24	19)		0-249		PLC002311HJBG8000313	•	
- Device Mgmt.	8	3	4.95KTL-JP(CC	DM1-1)		1-1		INVSUN2000V3R1C00001	•	
Concert Device		4	4.95KTL-JP(CC	DM1-2)		1-2		INVSUN2000V3R1C00002	•	
Connect Device		5	20KTL(COM1-	-3)		1-3		INVSUN2000V1R1C00003	•	
Device List		6	20KTL(COM1-	-4)		1-4		INVSUN2000V1R1C00004	•	
Export Param.	0	7	40KTL-JP(COM	v11-5)		1-5		INVSUN2000V2R2C01005	•	
Alarm Reset	0	8	40KTL-JP(CON	v11-6)		1-6		INVSUN2000V2R2C01006	•	
Collect Perf. Data	0	9	30KTL-US(CO	M1-7)		1-7		INVSUN2000V2R1C02007	•	
Adjust total energy yield	0	10	PLC(COM1-24	19)		1-249		SOUTHDEVICEPLC000249		
		11	EMI(COM3-1)			3-1		EM02311HJB00G8000313	0	
	0	12	Meter(COM4-	-1)		4-1		DT02311HJB00G8000313	0	
	Auto.	Search	Add Devices	Remove Devices	Auto Assign Address	Import Config. E	Sport Config			
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Step 2 for connecting to customized devices on the WebUI:

Enspire		Over	View Monitoring	Query Settir	ngs Mainten	ance		English	
Firmware Upgrade	Total D	Device Qty.:	12						000
Product Information	Conn	ect Device							
				Bulit-In PLC	Enable	*			
System Maint.	_		Device disc	onnection time	5	min(5+30)			
						Submit			
- wernes any	10	No.	Device			Port-Comm Addr./IP address	SN	Device status	
Onsite Test	0	1	EMI(COM0-1)			0-1	EM02311HJB01G8000313	0	
License Management		2	PLC(COMD-249)			0-249	PLC002311HJBG8000313		
- Device Mgmt.	6	3	4.95KTL-JP(COM1-1)			1-1	INVSUN2000V3R1C00001	•	
Consultation in the	8	-4	4.95KTL-JP(COM1-2)			1-2	INVSUN2000V3R1C00002		
Connect Orvice	0	5	20KTL(COM1-3)					6 •	
		6	20KTL(COM1-4)	Import Custome	r Device Config Fi				
Export Param.	8	7	40KTL-JP(COM1-5)					•	
	-0	8	40KTL-JP(COM1-6)		Device conf	ig, file: 选择文件 未选择任何文件	Import	0	
	8	9	30KTL-US(COM1-7)			•			
	0	10	PLC(COM1-249)			•			
	8	11	EMI(COM3-1)			Close		0	
	0	12	Meter(COM4-1)			4-1	DT02311HJB00G8000313		
	Auto	Search	Add Devices Remove	Devices 🛔 Auto	9 Assign Address	Import Config. Export Config			
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Click Browse, select the configuration file, and click Import.

Step 3 for connecting to customized devices on the WebUI:

Enspire		Over	View Monitoring Query Set	ttings Mainter	nance			English	
Firmware Upgrade	Total D	levice Qty.	12						000
Product Information	Conn	ect Device							
 Security Settings 			Built-In PLC	Enable	,				
• Surton Maint			Device disconnection time	5					
System Maint.					Submit				
Device Log	13	No.	Device		Port-Com	m Addr./IP address	SN	Device status	
Consite Test	0	1	EMI/COM0-1)				EM02311HJB01G8000313	•	
License Management		2	PLC(COM0-249)		0-249		PLC002311H/BG8000313		
= Device Mamt.	0	3	4.95KTL-JP(COM1-1)		1-1		INVSUN2000V3R1C00001		
	8	4	4.95KTL-JP(COM1-2)		1-2		INVSUN2000V3R1C00002		
Connect Device	12	5	20KTL(COM1-3)		1-3		INVSUN2000V1R1C00003	•	
Device List		6	20KTL(COM1-4)		1-4		INVSUN2000V1R1C00004	0	
Export Param.	. 0	7	40KTL-JP(COM1-5)		1-5		INVSUN2000V2R2C01005	•	
Alarm Reset	2	8	40KTL-JP(COM1-6)		1-6		VSUN2000V2R2C01006	•	
Collect Perf. Data	12	9	BOKTL-US(COM1-7)		1-7	Imported successfully.	VSUN2000V2R1C02007	•	
Adjust total energy yield	0	10	PLC(COM1-249)		1-249	Confirm	UTHDEVICEPLC000249	•	
	8	11	EMI(COM3-1)		3-1		LM02311HJB00GB000313		
	10	12	Meter(COM4-1)		4-1		DT02311HJ800G8000313		
	Auto	Search	Add Devices Remove Devices A	uto Assign Address	Import 0	onlig. 👔 Export Config 👔			
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Click OK. The Connect Device page is displayed. Click Add Devices. In the displayed Add Devices dialog box, select Custom Device and click Add Devices. For example, if the file name is modbus_equip_custom_1.cfg, set Device Type to Custom Device1.

Step 4 for connecting to customized devices on the WebUI:



Enspire		Over	liew Monitoring Query Sett	ings Maintenance)				English			
Firmware Upgrade	Total D	evice Qty.:	12							000		
Product Information	Conn	Connect Device										
Security Settings			Built-in PLC	Enable								
System Maint.			Device disconnection time	5								
Design from				50	bmit							
_ Device Log	0	No.	Device	Por	t-Comm Addr./IP addre	155	SN		Device status			
Onsite Test	8	1	EMI(COM0-1)	0-1			EM02311HJB0	1G8000313				
License Management		2	PLC(COM0-249)					1 3	0			
- Device Mgmt.	0.	3	4.95KTL-JP(COM1-1)	Add Devices				00001	•			
	0	4	4.95KTL-JP(COM1-2)	Device Type	Custom Device1	•		00002	•			
Confract Device	Ð	5	20KTL(COM1-3)	Comm. Protocal	Modbus-RTU			20003	•	_		
Device Ust	10	6	20KTL(COM1-4)	Port number	1	•		00004	•			
Export Param.		7	40KTL-JP(COM1-5)	Address	1	(1~24	7)	01.00S				
Alarm Reset	0	8	40KTL-JP(COM1-6)					01006	0			
Collect Perf. Data	Ð	9	30KTL-US(COM1-7)					22007	•			
Adjust total energy yield	8	10	PLC(COM1-249)					0249	•			
	0	11	EMI(COM3-1)					0313				
	0	12	Meter(COM4-1)					0313				
					Add Devices CI	ose						
	Auto	Search	Add Devices Remove Devices Au	to Assign Address	port Config. Export	Config						
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Step 2 Configure information points on the NMS.

Refer to the SmartLogger Equip Config Tool used when configuring a customized device to check the definitions of information points. Each configuration table contains four sheets:

teleindication, telemetry, telecontrol, and teleadjust. The first column in each sheet defines a unique sequence number. The register addresses of each information point are based on the start addresses of teleindication, telemetry, telecontrol, and teleadjust, as well as the sequence number of this information point. The start addresses are defined as follows:

-Start address for teleindication: 0x1001//each occupying a register

-Start address for telemetry: 0x2001//each occupying two registers

-Start address for telecontrol: 0x3001//each occupying a register

-Start address for teleadjust: 0x4001//each occupying two registers

Therefore, calculate the register addresses as follows:

-Register address for teleindication: 0x1001 + (Sequence number - 1)

-Register address for telemetry: 0x2001 + [(Sequence number – 1) x 2]

-Register address for telecontrol: 0x3001 + (Sequence number - 1)

-Register address for teleadjust: 0x4001 + [(Sequence number – 1) x 2]