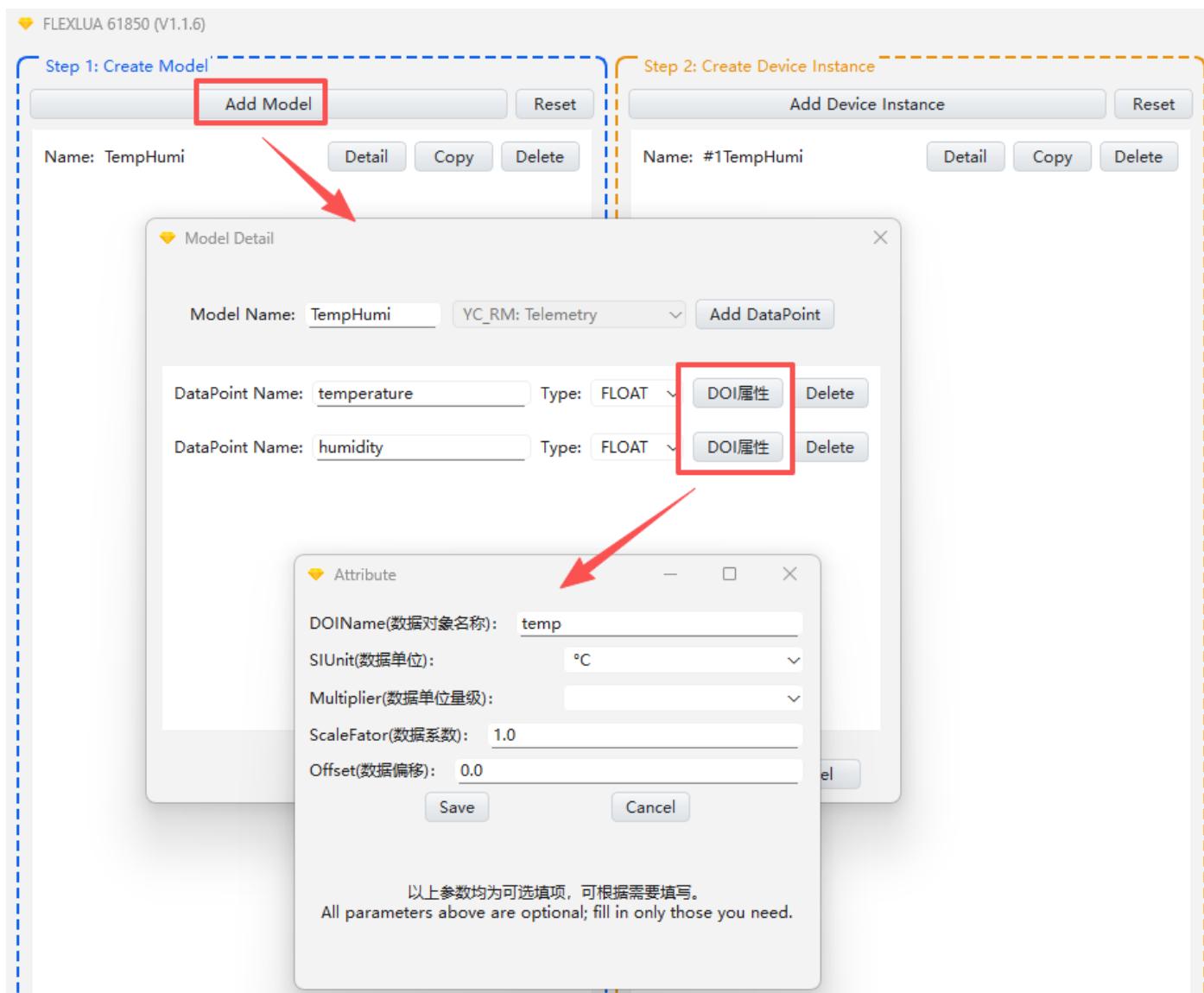


How to Add DOI Name, Unit, and Coefficient for Data Points

(1) We only need to configure the `DOI attribute` parameter value for each data point when creating the device 61850 model (as shown in the figure below) to set the DOI name, measurement unit, coefficient, and offset information for that data point. If users don't need these configuration information in the project, they can ignore it.



(2) After completing the configuration as described above, we can see in the generated rtu.cid file that the following information has been added to each data point DOI instance:

```

<LN desc="#1TempHumi" lnClass="GGIO" lnType="GGIO_TYPE_1" inst="1">
    <DOI name="temp">
        <SDI name="mag">
            <DAI name="f" desc="temperature"/>
        </SDI>
        <DAI name="dU">
            <Val>temperature</Val>
        </DAI>
        <SDI name="sVC">
            <DAI name="scaleFactor">
                <Val>1.0</Val>
            </DAI>
            <DAI name="offset">
                <Val>0.0</Val>
            </DAI>
        </SDI>
        <SDI name="units">
            <DAI name="SIUnit">
                <Val>°C</Val>
            </DAI>
        </SDI>
    </DOI>
    <DOI name="humi">
        <SDI name="mag">
            <DAI name="f" desc="humidity"/>
        </SDI>
        <DAI name="dU">
            <Val>humidity</Val>
        </DAI>
        <SDI name="sVC">
            <DAI name="scaleFactor">
                <Val>1.0</Val>
            </DAI>
            <DAI name="offset">
                <Val>0.0</Val>
            </DAI>
        </SDI>
        <SDI name="units">
            <DAI name="SIUnit">
                <Val>H</Val>
            </DAI>
        </SDI>
    </DOI>
</LN>

```

The diagram illustrates the XML structure with several sections highlighted by red boxes:

- Temperature Section:** Contains the `<SDI name="sVC">` block for the `<DOI name="temp">` block.
- Temperature Units:** Contains the `<SDI name="units">` block for the `<DOI name="temp">` block.
- Humidity Section:** Contains the `<SDI name="sVC">` block for the `<DOI name="humi">` block.
- Humidity Units:** Contains the `<SDI name="units">` block for the `<DOI name="humi">` block.

(3) Finally, after placing the main.lua file and model.cfg file into the protocol converter and running them, these information can be read through the IEDScout debugging software as shown in the figure below:

IEDScout licensed to

File Browser Simulator Sniffer

IED properties Online IED

Subcribe GOOSE Read Read all Write Control Clear indications

Enable GI DS+ SG Setting Groups Copy GOOSE Services

Navigation Details
Monitor Descriptions

Default layout Browse layout Show

IEDs

RtuD IP address: 192.168.0.111

GOOSE Reports LD evRTU LN LLNO R YC_RM01

Setting Groups

Files DataSets Data Model LD evRTU LN LLNO LN GGPIO1

RtuD • Data Model • evRTU • GGPIO1

Name	Value
DO Mod	0
DO Beh	0
DO Health	0
DO NamPlt	
DA temp	24.4 °C
DA mag	[MX] 24.4 °C
DA q	[MX] good
DA t	[MX] 1970/1/1 8:00:00.000
DA sVC	[CF]
DA scaleFactor	[CF] 1
DA offset	[CF] 0 °C
DA units	[CF] °C
DA dU	[DC] temperature
DA humi	62.5 H
DA mag	[MX] 62.5 H
DA q	[MX] good
DA t	[MX] 1970/1/1 8:00:00.000
DA sVC	[CF]
DA scaleFactor	[CF] 1
DA offset	[CF] 0 H
DA units	[CF] H
DA dU	[DC] humidity

Activity Monitor

RtuDevRTU/LLN0.YC_RM01

24.4 62.5

DA ...U/GGPIO1.temp.mag.f DA ...U/GGPIO1.humi.mag.f

Polling: 1 s 100%