

## **ACT20P**

### **Using Tool Pack Configurator for ACT20P (V2.3) signal converters**

#### **Abstract:**

This document shows how to use the ACT20P (V2.3) Tool Pack Configurator.

#### Hardware reference

| No. | Component name            | Article No.                | MINI USB Adapter required |
|-----|---------------------------|----------------------------|---------------------------|
| 1   | ACT20P-RTI-AO             | <a href="#">7760054233</a> | X                         |
| 2   | ACT20P-TCI-AO             | <a href="#">7760054234</a> | X                         |
| 3   | ACT20P-TCI-2AO            | <a href="#">7760054237</a> | X                         |
| 5   | ACT20P-RTI-2AO            | <a href="#">7760054236</a> | X                         |
| 6   | ACT20P-TMR-RTI            | <a href="#">7760054352</a> |                           |
| 7   | ACT20P-VM-AO              | <a href="#">7760054360</a> |                           |
|     |                           |                            |                           |
| 8   | CBX200-USB                | <a href="#">8978580000</a> |                           |
| 9   | ADAPTER CBX200 - MINI USB | <a href="#">2907490000</a> |                           |

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# 1 Warning and Disclaimer

## Warning

Controls may fail in unsafe operating conditions, causing uncontrolled operation of the controlled devices. Such hazardous events can result in death and / or serious injury and / or property damage. Therefore, there must be safety equipment provided / electrical safety design or other redundant safety features that are independent from the automation system.

## Disclaimer

This Application Note / Quick Start Guide / Example Program does not relieve you of the obligation to handle it safely during use, installation, operation and maintenance. Each user is responsible for the correct operation of his control system. By using this Application Note / Quick Start Guide / Example Program prepared by Weidmüller, you accept that Weidmüller cannot be held liable for any damage to property and / or personal injury that may occur because of the use.

## Note

The given descriptions and examples do not represent any customer-specific solutions, they are simply intended to help for typical tasks. The user is responsible for the proper operation of the described products. Application notes / Quick Start Guides / Example Programs are not binding and do not claim to be complete in terms of configuration as well as any contingencies. By using this Application Note / Quick Start Guide / Example Program, you acknowledge that we cannot be held liable for any damages beyond the described liability regime. We reserve the right to make changes to this application note / quick start guide / example at any time without notice. In case of discrepancies between the proposals Application Notes / Quick Start Guides / Program Examples and other Weidmüller publications, like manuals, such contents have always more priority to the examples. We assume no liability for the information contained in this document. Our liability, for whatever legal reason, for damages caused using the examples, instructions, programs, project planning and performance data, etc. described in this Application Note / Quick Start Guide / Example is excluded.

## Security notes

In order to protect equipment, systems, machines and networks against cyber threats, it is necessary to implement (and maintain) a complete state-of-the-art industrial security concept. The customer is responsible for preventing unauthorized access to his equipment, systems, machines and networks. Systems, machines and components should only be connected to the corporate network or the Internet if necessary and appropriate safeguards (such as firewalls and network segmentation) have been taken.

## 2 Configuration ACT20P with TOOL PACK

### Device Configuration (Example ACT20-RTI-AO-S)

#### 2.1 Select Device and COM-Port

- Select the desired device (here: **ACT20-RTI-AO-S**).
- Choose the connected **COM port** on your computer.

⚠ Please note: Only one software application can access the serial interface at a time – otherwise, the connection will not work.

#### 2.2 Start Configuration

- Click the “**Start Config**” button to establish a connection with the device.

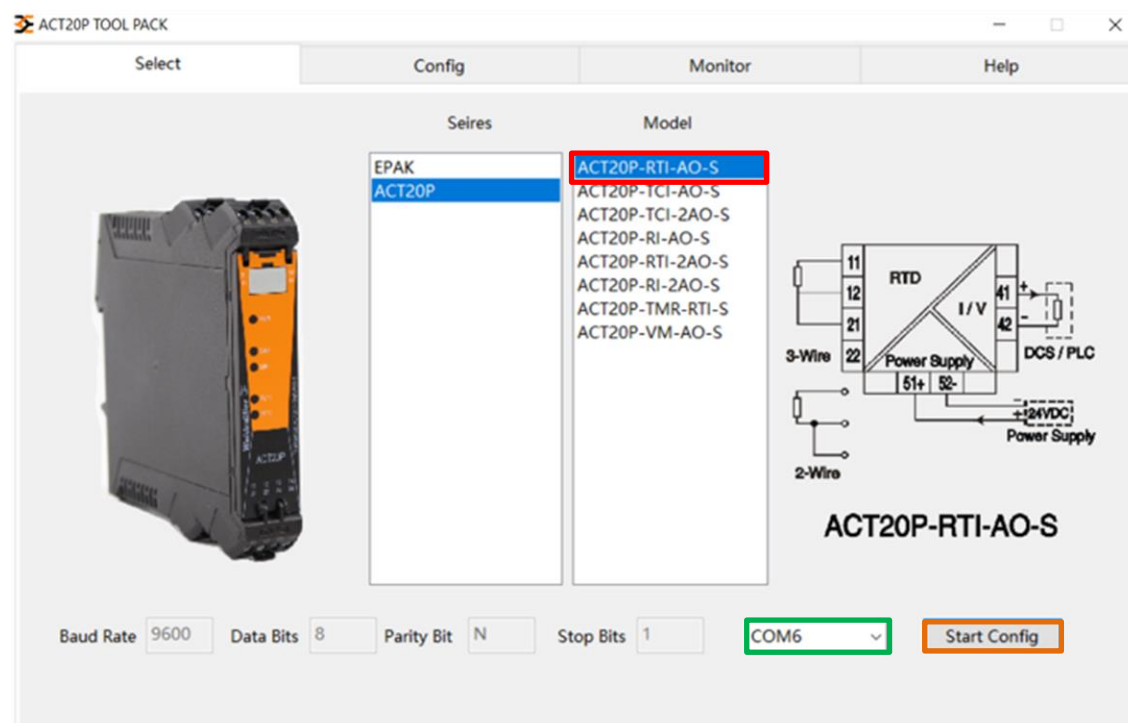


Figure 1: Starting Screen

### 2.3 Upload the device data to apply changes

- Click **“Upload”**.
- If the adapter is **not connected properly**, an error image will appear.
  - ☒ **Solution:** Make sure, that the pugs of adapter and CBX200 are fully inserted into its counterpart sockets.

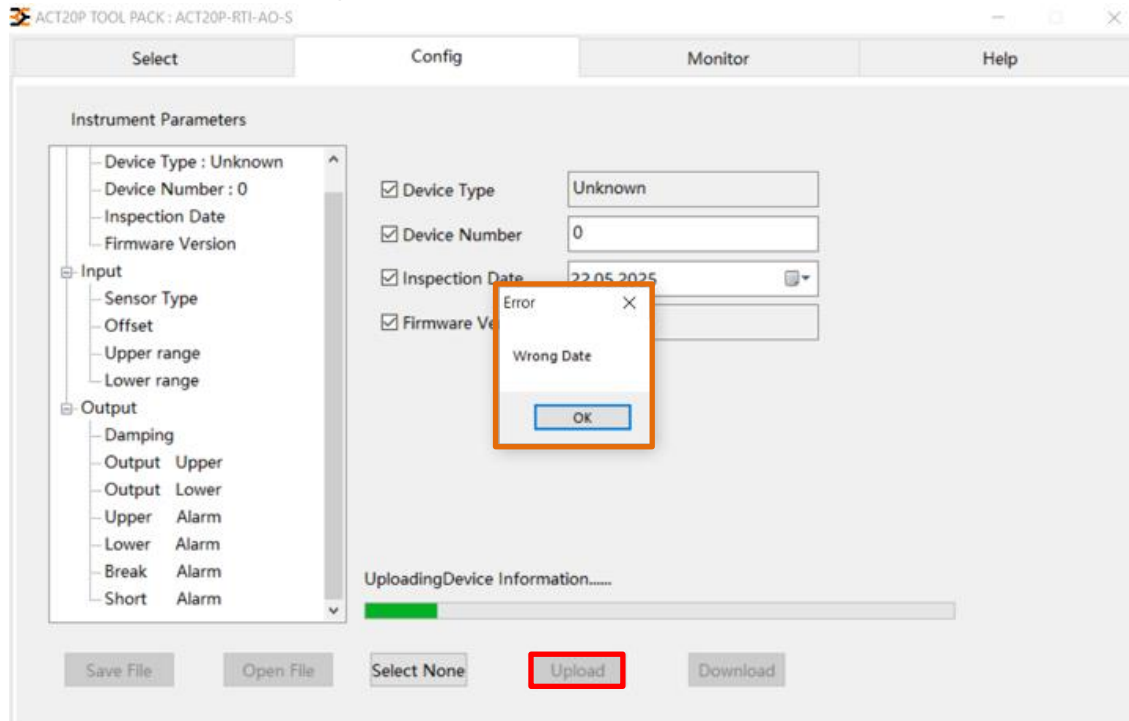


Figure 2: Configuration Screen



Figure 3: Coupling Adapter

## Using Tool Pack Configurator for ACT20P signal converters

- If the adapter is connected correctly, the previously saved parameters will be displayed.

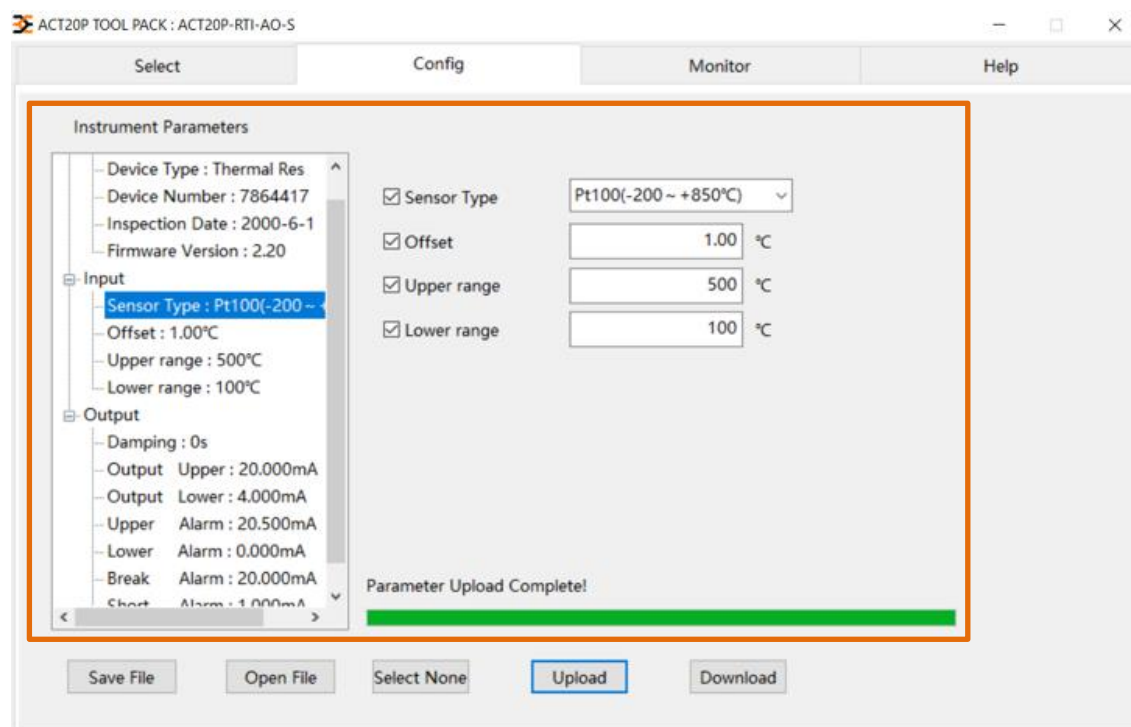
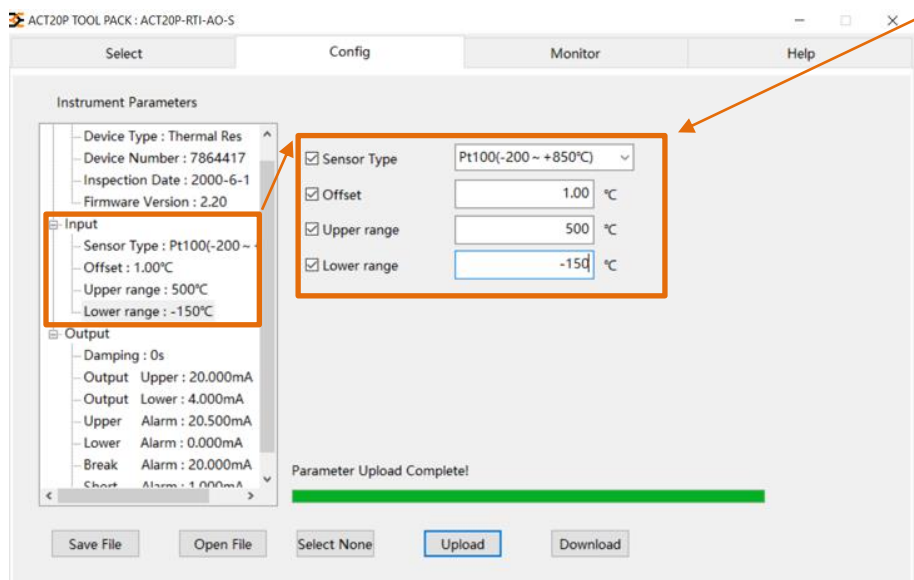


Figure 4: Configuration Screen/ Input

### 2.4 Enter New Parameters (Example)



| Parameter   | Value                  |
|-------------|------------------------|
| Sensor Type | PT100 (-200 to 850 °C) |
| Upper Range | 500 °C                 |
| Lower Range | -150 °C                |
| Offset      | (optional)             |

Figure 5: Configuration Screen/ Set Input Parameters

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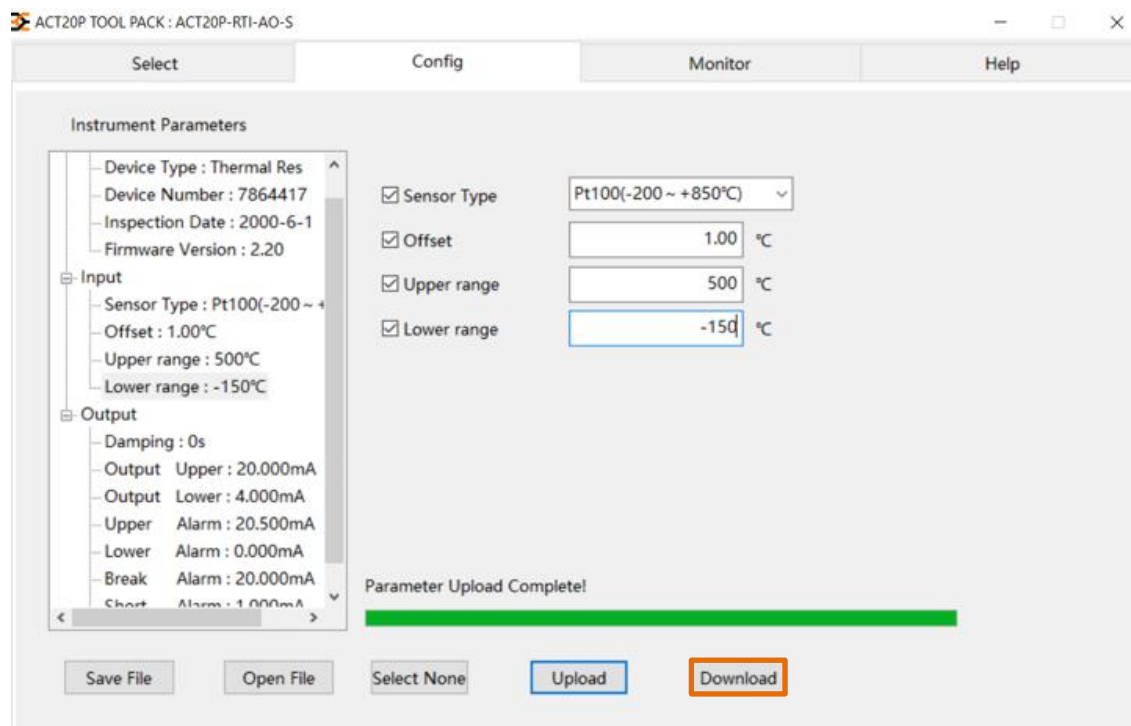


Figure 6: Configuration Screen/ Input

### 2.5 Write Parameters to the Device

- Click **“Download”** to write all parameters to the device.

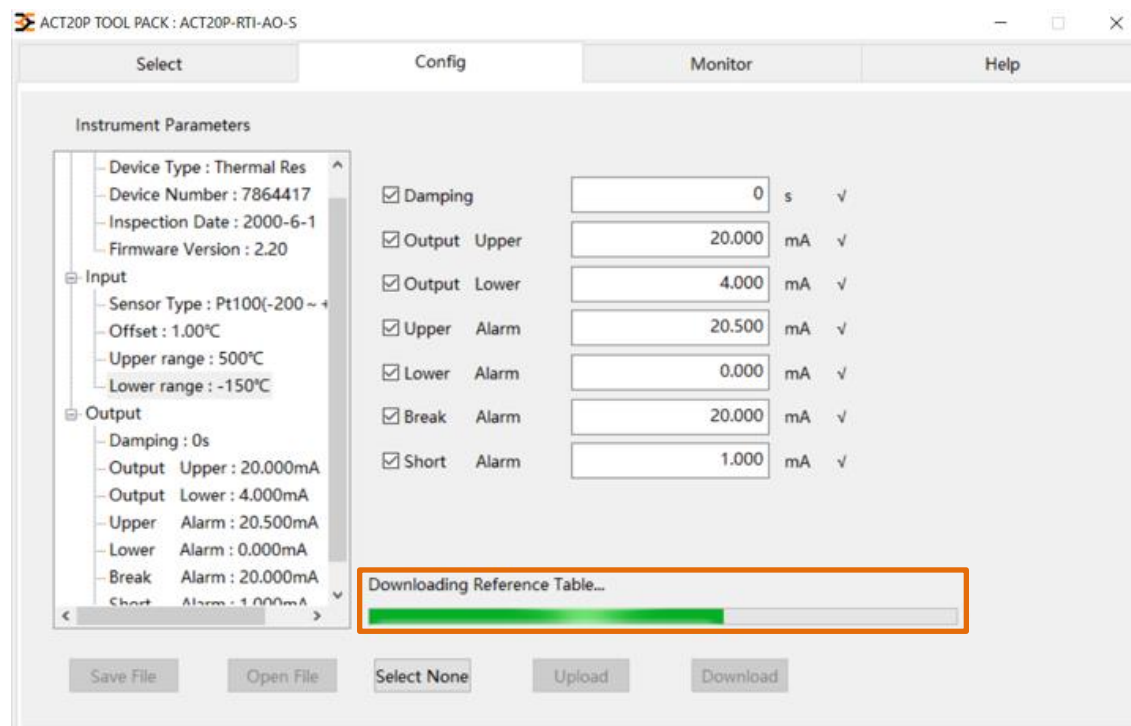


Figure 7: Configuration Screen/ Input



## Using Tool Pack Configurator for ACT20P signal converters

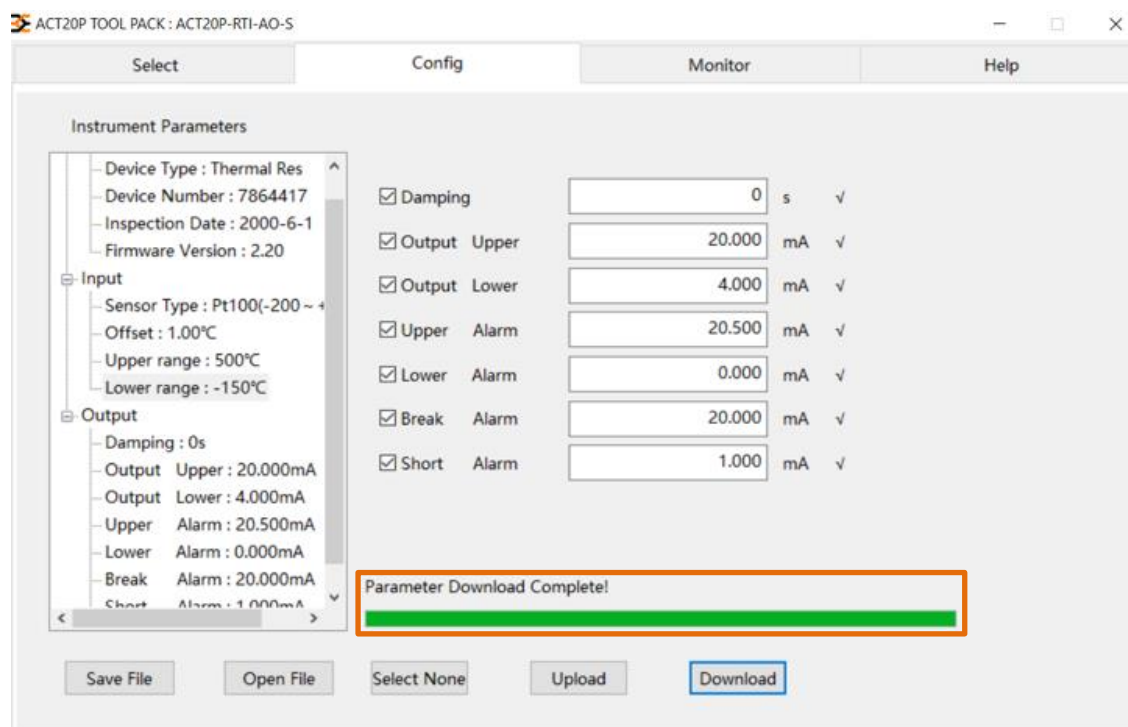


Figure 8: Configuration Screen/ Output

| Parameter           | Simple explanation                                                        | Practical example (PT100 → 4–20 mA)                                                                            |
|---------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Damping</b>      | Smooths rapid fluctuations in the input signal                            | If the temperature briefly changes due to airflow, the output responds more slowly and displays a stable value |
| <b>Output Upper</b> | Maximum limit for the output signal                                       | Limitation to 20 mA, regardless of whether the sensor would briefly demand 21 mA                               |
| <b>Output Lower</b> | Minimum limit for the output signal                                       | Minimum value of 4 mA, even if the calculated temperature falls below this                                     |
| <b>Upper Alarm</b>  | Alarm when the input value becomes too high                               | Alarm at >120 °C, e.g., in case of overheating of a system                                                     |
| <b>Lower Alarm</b>  | Alarm when the input value becomes too low                                | Trigger alarm if temperature drops below 10 °C, e.g., to prevent tank freezing                                 |
| <b>Break Alarm</b>  | Reports when the input is interrupted                                     | If the PT100 is disconnected or the cable is broken, the device reports a 'sensor error'                       |
| <b>Short Alarm</b>  | Triggers an alert if a short circuit occurs in the input or cable circuit | PT100 connection short-circuited: device detects this and triggers an alarm                                    |

## 2.6 Verify Saved Parameters

- For testing, change the lower range temporarily to **50 °C**.

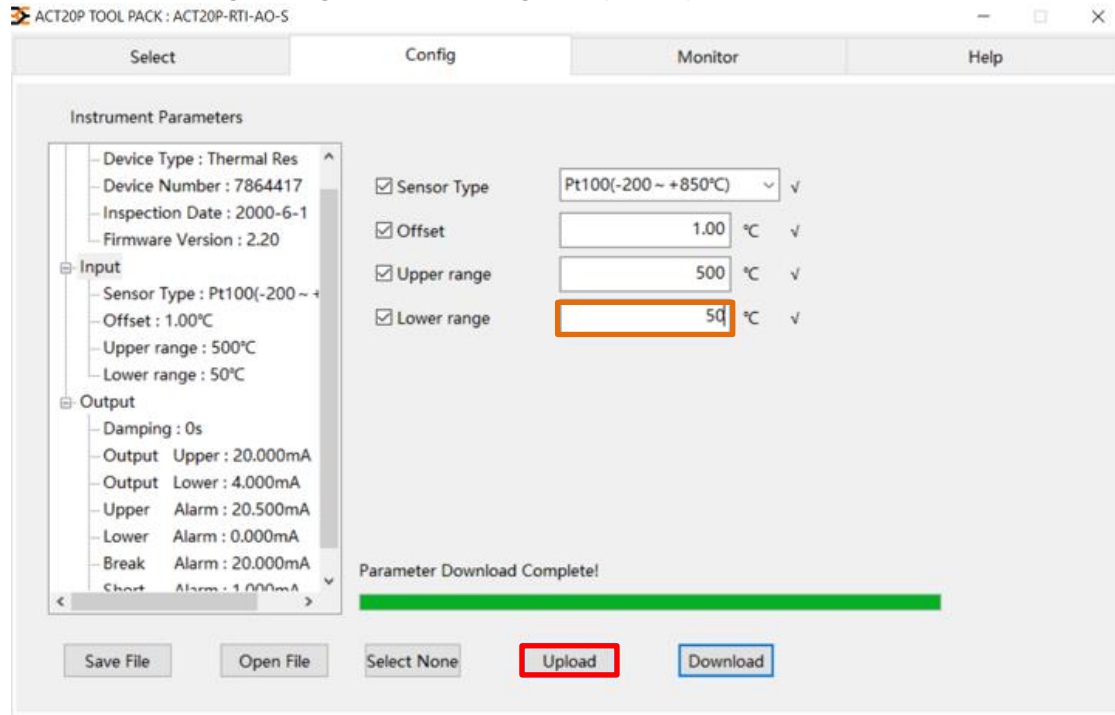


Figure 9: Configuration Screen/ Input

- Click **“Upload”** again.
  - If the previously saved values (e.g. **-150 °C**) are displayed, the parameters were successfully saved.

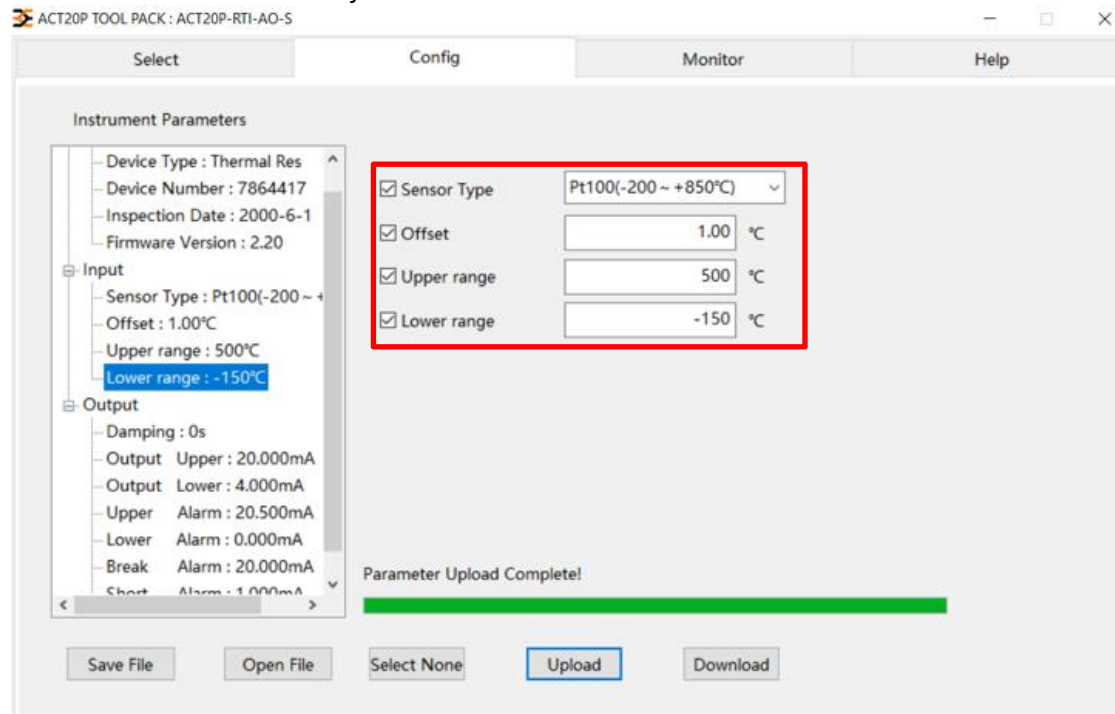


Figure 10: Configuration Screen/ Input

## 3 Monitor current values

### 3.1 Data Monitor

Live values can be monitored under the 'Monitor' tab:

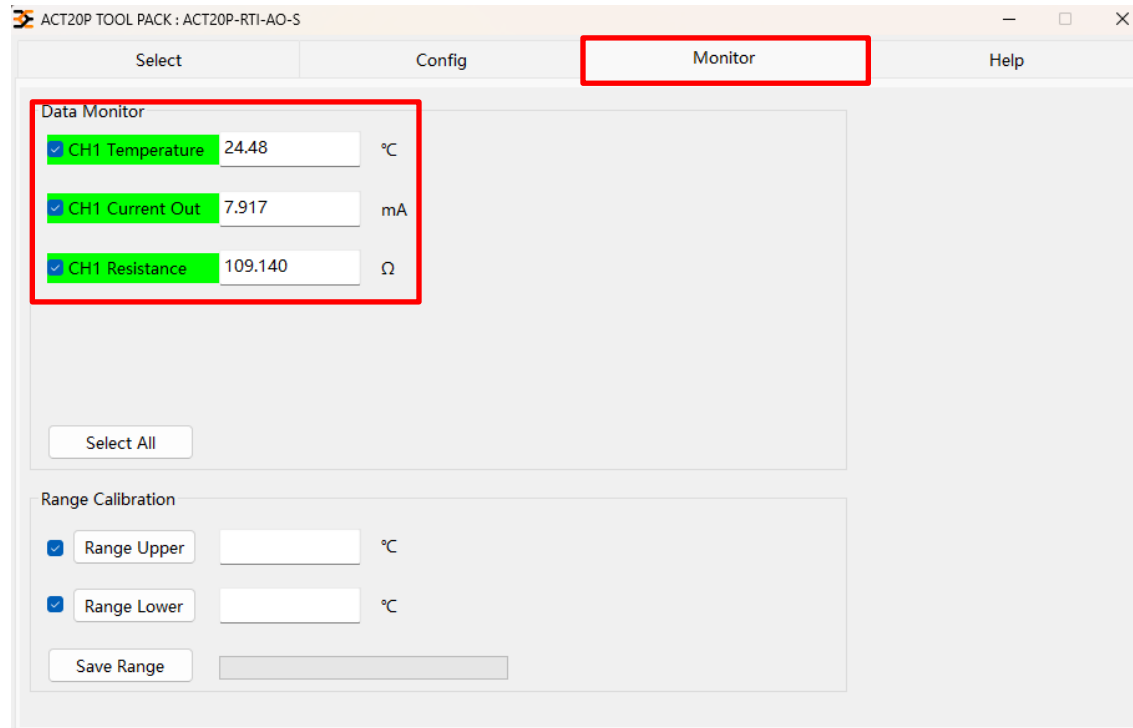


Figure 11: Monitor Screen

- To display the values, simply check the checkbox

### 3.2 Range Calibration

Warning! Using this function will change the configuration.

- **Range Upper**
  - Enter the maximum allowable temperature (in °C).
  - The system will use this value as the upper limit for calibration or monitoring.
- **Range Lower**
  - Enter the minimum allowable temperature (in °C).
  - The system will use this value as the lower limit for calibration or monitoring.
- **Save Range**
  - After entering the upper and lower limits, click Save Range to store the new calibration values. The system will apply these settings for all subsequent measurements.