

# XU Programming Kit Fundamentals and Demonstration

# Content

- What is it & what's in the box?
- What products are programmed by it
- Connecting with correct software
- Connecting & Programming the XU2
- Connecting & Programming the IN-uP4
- Questions

## What is it & Whats in the Box?



The XU Programming kit is an adapter cable set made to work with a “free to download” software to communicate with a number of Intech transmitters  
And a Microsoft PC.

In the box is the adaptor, 2 x leads, a USB extension lead & Instruction manual

# What products are programmed by it?

uP4



2400-A16



XU4



uP4-Din



Z-2400-A210



XU2HN



XU2HI



XU2

# Connecting with the correct software

3 Software downloads Available:

- XU – Works with XU2, XU4, XU2HN & XU2HI



- uP Configure – Works with uP4, uP4-Din & Z-2400-A2IO



- Intech Micro Station Programmer – Works with 2400A16 Multiplexer

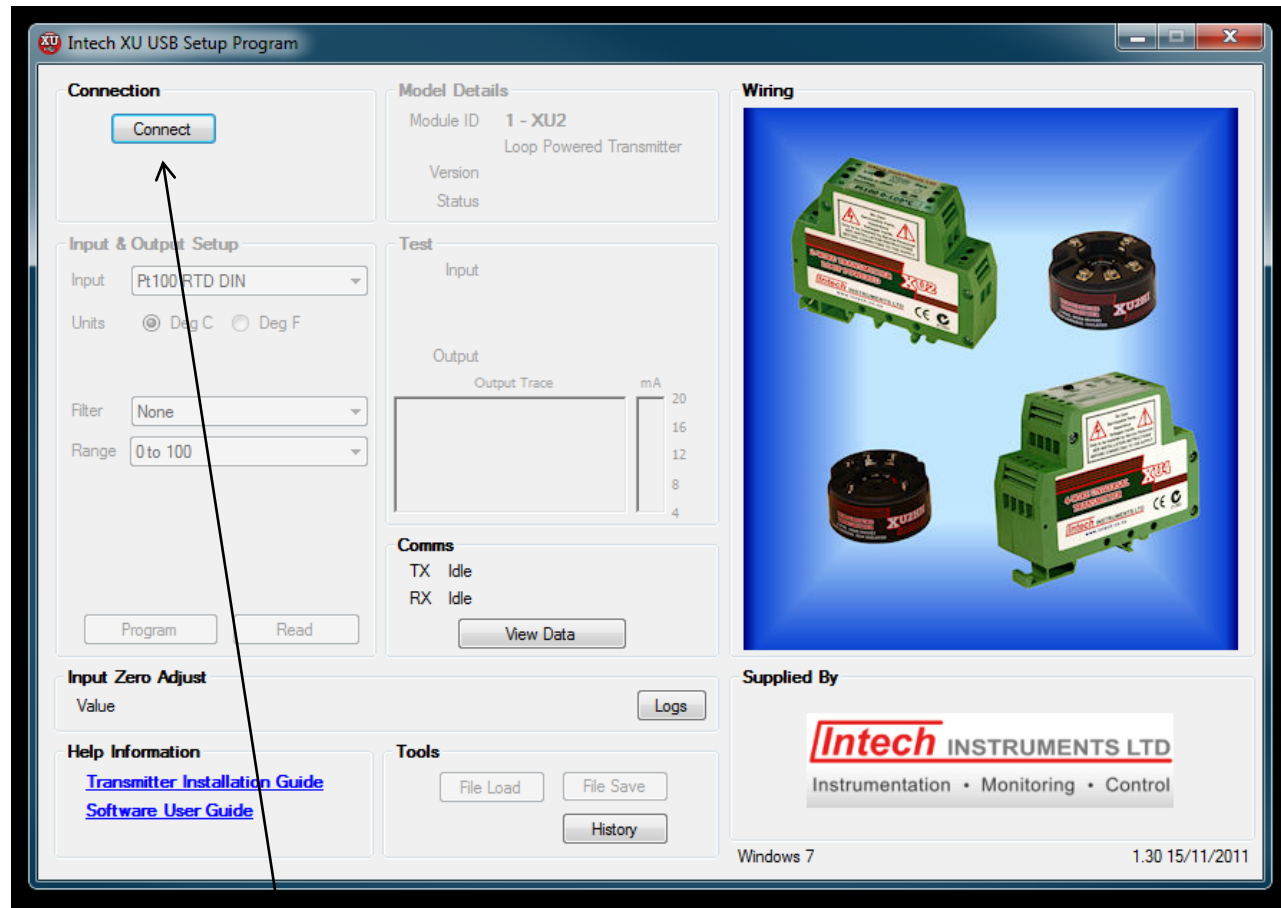


# Connecting the XU2



Connect to PC and start up XU software

# Programming the XU2



Press Connect



# Programming the XU2

The screenshot displays the 'Intech XU USB Setup Program' window. The interface is divided into several sections:

- Connection:** Shows 'Connect' and 'Disconnect' buttons. Below them, it states 'Connected on COM8'.
- Model Details:** Lists 'Module ID 1 - XU2', 'Loop Powered Transmitter', 'Version 1.8', and 'Status NO LOOP'.
- Input & Output Setup:** Features a dropdown menu for 'Input' (set to 'Pt100 RTD DIN'), 'Units' (radio buttons for 'Deg C' and 'Deg F'), 'Sensor Fail' (set to 'High (US)'), 'Filter' (set to 'None'), and 'Range' (set to '0 to 100'). Below these are 'Cal Output', 'Program', and 'Read' buttons.
- Test:** Shows 'Scaled Input 1802.6°C' and 'Output 21.00 mA Disconnected'. It includes an 'Output Trace' graph with a vertical axis labeled 'mA' ranging from 4 to 20.
- Comms:** Displays 'TX OK, 717 Messages' and 'RX OK, 716 Messages', with a 'View Data' button.
- Input Zero Adjust:** A section with the text 'Calibration Not Available in this transmitter version' and a 'Logs' button.
- Help Information:** Contains links for 'Transmitter Installation Guide' and 'Software User Guide'.
- Tools:** Includes 'File Load', 'File Save', and 'History' buttons.
- Wiring:** A diagram showing the physical module with terminal blocks. It details the 'INPUT' (3-wire RTD) and 'OUTPUT' (4~20mA LOOP) connections. A '3750V isolation barrier' is indicated between the input and output sections. A warning box states 'INCORRECT POLARITY MAY CAUSE DAMAGE!'. A 'KEY' identifies symbols for 'A: USB', 'B: Zero', and 'C: LED'.
- Supplied By:** The Intech INSTRUMENTS LTD logo and tagline 'Instrumentation • Monitoring • Control'.

At the bottom right, it shows 'Windows 7' and the date '1.30 15/11/2011'.

Choose Input and Range



# Programming the XU2

**Connection**  
Connect Disconnect  
Connected on COM8

**Model Details**  
Module ID 1 - XU2  
Loop Powered Transmitter  
Version 1.8  
Status NO LOOP

**Input & Output Setup**  
Input Pt100 RTD DIN  
Units  Deg C  Deg F  
Sensor Fail High (US)  
Filter None  
Range 0 to 100

**Test**  
Scaled Input 1802.6°C  
Output 21.00 mA Disconnected  
Output Trace mA

**Comms**  
TX OK, 717 Messages  
RX OK, 716 Messages  
View Data

**Wiring**  
INPUT 3-wire RTD  
KEY: A: USB, B: Zero, C: LED  
3750V isolation barrier  
OUTPUT 4~20mA LOOP  
INCORRECT POLARITY MAY CAUSE DAMAGE!  
Power supply Typically 24Vdc  
Loop indicator 4~20mA input

**Input Zero Adjust**  
Calibration Not Available in this transmitter version  
Logs

**Help Information**  
[Transmitter Installation Guide](#)  
[Software User Guide](#)

**Tools**  
File Load File Save  
History

**Supplied By**  
**Intech INSTRUMENTS LTD**  
Instrumentation • Monitoring • Control

Windows 7 1.30 15/11/2011

Press Program

# Disconnecting the XU2

The screenshot shows the Intech XU USB Setup Program interface. The 'Connection' section is active, showing 'Connected on COM8' and a 'Disconnect' button. The 'Model Details' section shows 'Module ID 1 - XU2', 'Loop Powered Transmitter', 'Version 1.8', and 'Status NO LOOP'. The 'Input & Output Setup' section shows 'Input Pt100 RTD DIN', 'Units Deg C', 'Sensor Fail High (US)', 'Filter None', and 'Range 0 to 100'. The 'Test' section shows 'Scaled Input 1802.6°C' and 'Output 21.00 mA Disconnected'. The 'Comms' section shows 'TX OK, 717 Messages' and 'RX OK, 716 Messages'. The 'Wiring' section shows a diagram of the XU2 module with terminals 1-8 and a 3750V isolation barrier. A red arrow points from the 'Disconnect' button to the 'INPUT' section of the wiring diagram. The 'OUTPUT' section shows a 4~20mA LOOP with a 'Power supply Typically 24Vdc' and a 'Loop indicator 4~20mA input'. A warning box says 'INCORRECT POLARITY MAY CAUSE DAMAGE!'. The 'Supplied By' section shows 'Intech INSTRUMENTS LTD' and 'Instrumentation • Monitoring • Control'. The bottom right corner shows 'Windows 7' and '1.30 15/11/2011'.

Press Disconnect , then unplug XU2 and label it to your settings.

# Connecting the IN-uP4



# Programming the IN-uP4

Press  
Connect

uP Configure

**Intech** INSTRUMENTS LTD

Connect Simulator About

Plug your compatible device in to your computer's USB port, and then click 'Connect'.

**Connect**

Compatible Devices Power required

- IN-uP4
- uP4-Din
- Z-2400-A2IO

Intech  
uP Configure

Welcome to uP Configure!  
You are only seconds away from setting up your device...

- 1 Power up your device, [if required](#)
- 2 Connect a compatible device to your computer using the USB programming key and supplied cable(s).
- 3 Click the green 'Connect' button. The software will automatically scan your computer for connected devices. [Problems connecting?](#)
- 4 Start configuring!

Device

USB Programmer PC

# Programming the IN-uP4

Choose  
your  
input  
settings

The screenshot displays the 'uP Configure' software interface for the IN-uP4 device. The window title is 'uP Configure' and the company name 'Intech INSTRUMENTS LTD' is visible. The status bar indicates 'Connected: COM8' with a green checkmark and a 'Disconnect' button. The main interface has three tabs: 'Input/Output', 'Setpoints', and 'Advanced'. The 'Input/Output' tab is active, showing the following settings:

- Input Mode:** Temperature
- Input Type:** RTD
- Sensor Type:** Pt100 - 0.1 resolution
- Temp. Scale:** °C
- Offset Adjust:** 0.0
- Filter Time:** 0 seconds
- Display Brightness:** A slider is positioned at approximately 25%.

The 'Output (Retransmission)' section shows:

- Output Value:** 3.984 mA
- Display Value Of:** 0.0 (range 0.0 to 4.000) mA Output
- Display Value Of:** 100.0 (range 100.0 to 20.000) mA Output

A 'Live Trace' graph is visible at the bottom left, showing a stable horizontal line at approximately 3,276.7 on the y-axis. The graph has 'Input' and 'Output' buttons above it.

On the right side, the 'Input Mode & Type/Range' section features a physical connection diagram of the device. It shows terminals for 'SETPOINTS' (SP 1, SP 2), 'USER INPUT' (UI), 'ANALOG OUTPUT 4-20mA', 'RTD 3 Wire PT100/1000', and 'HV POWER 85-265V AC 100-300V DC'. A 'USB PROG.' port is also indicated.

Below the diagram, a text box titled 'Temperature (RTD)' provides information: 'The RTD (standing for Resistance Temperature Device) is fast becoming the most popular temperature sensor in industry. It is highly stable and accurate. Often referred to as Pt100 and Pt1000: the Pt represents platinum (the dominant metal in its construction), and 100 or 1000 indicates the resistance in ohms at 0°C.'

# Programming the IN-uP4

The screenshot shows the 'uP Configure' software interface. At the top, it says 'Connected: COM8' with a green checkmark and a 'Disconnect' button. The main window has three tabs: 'Input/Output', 'Setpoints', and 'Advanced'. The 'Input/Output' tab is active.

**Input Mode & Type/Range**

Input Mode: Temperature  
 Input Type: RTD  
 Sensor Type: Pt100 - 0.1 resolution  
 Temp Scale: °C  
 Offset Adjust: 0.0  
 Filter Time: 0 seconds

**Output (Retransmission)**

Output Value: 3.984 mA  
 Display Value Of: 0.0 = 4.000 mA Output  
 Display Value Of: 100.0 = 20.000 mA Output

**Live Trace**

Input: 3,276.9  
 Output: 3,276.8  
 3,276.7  
 3,276.6  
 3,276.5

**Input Mode & Type/Range Diagram**

The diagram shows the physical connections for the device. It includes terminals for SETPOINTS (SP 1, SP 2), USER INPUT (U/I), ANALOG OUTPUT (4-20mA), RTD 3 Wire (PT100/1000), and HV POWER (85-265V AC, 100-300V DC). A USB PROG. port is also shown.

**Temperature (RTD)**

The RTD (standing for Resistance Temperature Device) is fast becoming the most popular temperature sensor in industry. It is highly stable and accurate.

Often referred to as Pt100 and Pt1000: the Pt represents platinum (the dominant metal in its construction), and 100 or 1000 indicates the resistance in ohms at 0°C.

Choose Output scaling (if Retrans is on the model)



# Programming the IN-uP4

Choose Relay  
output  
settings  
(If Required)

Apply the settings

The screenshot shows the 'uP Configure' software interface. At the top, it says 'Connected: COM8' with a green checkmark and a 'Disconnect' button. A digital display shows 'SP1 SP2 58.5'. The main menu has 'Input/Output', 'Setpoints', and 'Advanced' tabs. The 'Setpoints' tab is active, showing 'Setpoint 1' configuration. The 'Mode' is set to 'Alarm', 'Function' to 'Above with Hysteresis', 'Trip Value' to 11.0, and 'Hysteresis' to 10.9. There are also 'Make Delay' and 'Break Delay' fields set to 0.0, and checkboxes for 'Startup Inhibit' and 'Manual Relay Reset'. A green bar at the bottom indicates 'Your configuration has unapplied changes' and an 'Apply' button. On the right, a 'Setpoints' section explains that 'Alarm' modes are for tripping alarms and 'Control' modes are for controlling equipment. Below this is a 'Control Modes' section with a graph titled 'On/Off Energised Below'. The graph shows a curve that rises above a horizontal 'Off value' line and then falls below a horizontal 'On value' line. Below the graph is a square wave diagram labeled 'SP'.



# Disconnecting the IN-uP4

Press Disconnect  
& Unplug the UP4

The screenshot shows the 'uP Configure' software interface. At the top right, it indicates 'Connected: COM8' with a green checkmark and a 'Disconnect' button. The main window is divided into 'Input/Output', 'Setpoints', and 'Advanced' tabs. The 'Input' section is active, showing 'Input Mode' set to 'Temperature', 'Input Type' as 'RTD', and 'Sensor Type' as 'Pt100 - 0.1 resolution'. The 'Output (Retransmission)' section shows an 'Output Value' of 3.984 mA. A 'Live Trace' graph at the bottom left shows a stable reading of 3,276.7. On the right, the 'Input Mode & Type/Range' section features a detailed diagram of the hardware connections. The diagram shows a black PCB with several connectors: 'SETPOINTS' (SP 1, SP 2), 'USER INPUT' (UI T, COM), 'ANALOG OUTPUT' (4-20mA), 'RTD 3 Wire PT100/1000' (pins 1, 2, 3, 4, 5, 6), and 'HV POWER' (85-265V AC, 100-300V DC). Below the diagram, a text box explains that an RTD (Resistance Temperature Device) is a popular, stable, and accurate sensor, often referred to as Pt100 or Pt1000, where Pt is platinum and the numbers indicate resistance in ohms at 0°C.

**THANK YOU!**

**Questions?**

**Contact us:**

**INTECH INSTRUMENTS LTD.**

Christchurch: 03 343 0646

Auckland: 09 827 1930

[sales@intech.co.nz](mailto:sales@intech.co.nz)

[www.intech.co.nz](http://www.intech.co.nz)