Instruction Manual

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1.   Features

This application can produce a graph in real-time from the data transmitted from A&D GX-A/GF-A series balances

with the flow measurement function
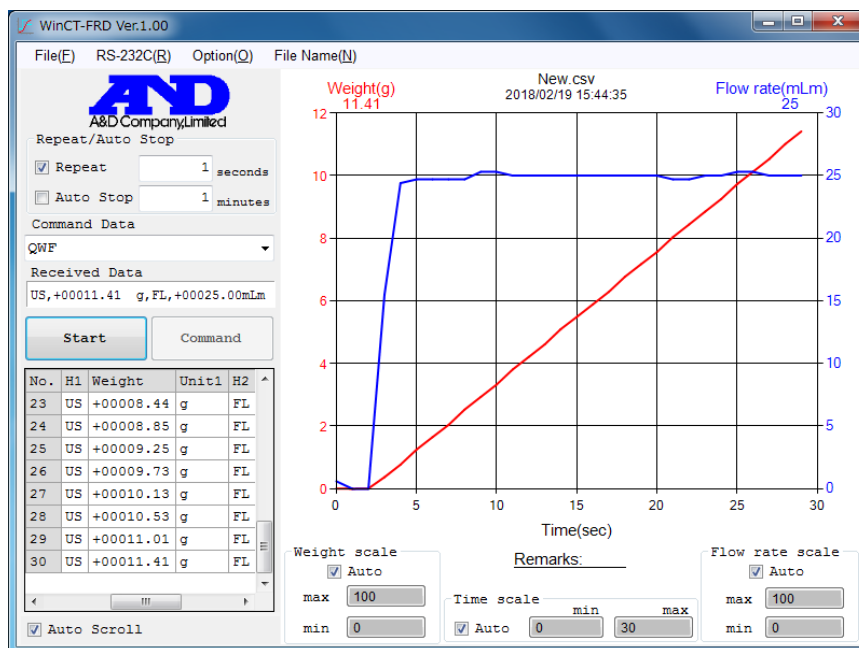
- The weight and flow rate values transmitted from the balance can be simultaneously displayed on a two axis

graph on the monitor.

- You can check changes in weight and flow rate simultaneously in real time.

- The axis scale of a graph automatically changes according to the data. It can be also changed manually.

- The graph can be printed out using a printer or saved as an image file.

- The recorded data can be saved in CSV or TXT format.

- To graph both weight and flow rate, please set the application mode of the balance to Flow Measurement Mode.

Refer to the GX-A/GF-A series manual for information on setting up the balance.

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2. Operation


Step 1   Launch WinCT-FRD

Open the start menu and run WinCT-FRD.

The default location is [Start] → [Program] → [A&D WinCT-FRD] → [WinCT-FRD].
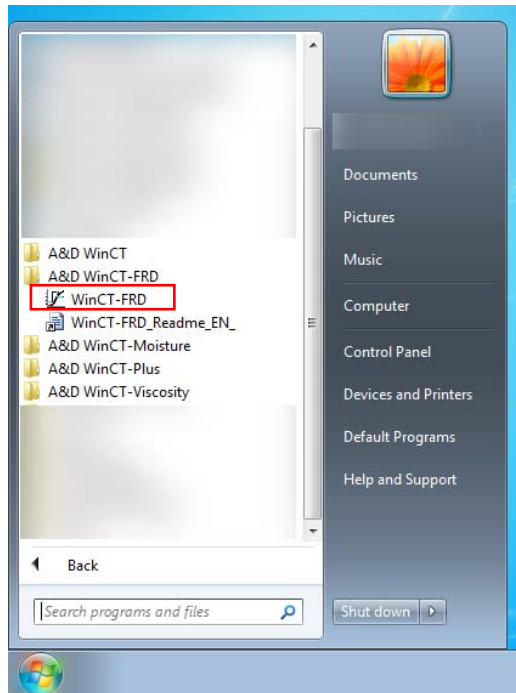
Step 2   RS-232C Setup

Use the RS-232C parameters that match the balance's parameters. Refer to 3. Functions for details of

parameters. (The default settings for WinCT-FRD communication parameters are the same as the factory

settings for A&D`s balances.)
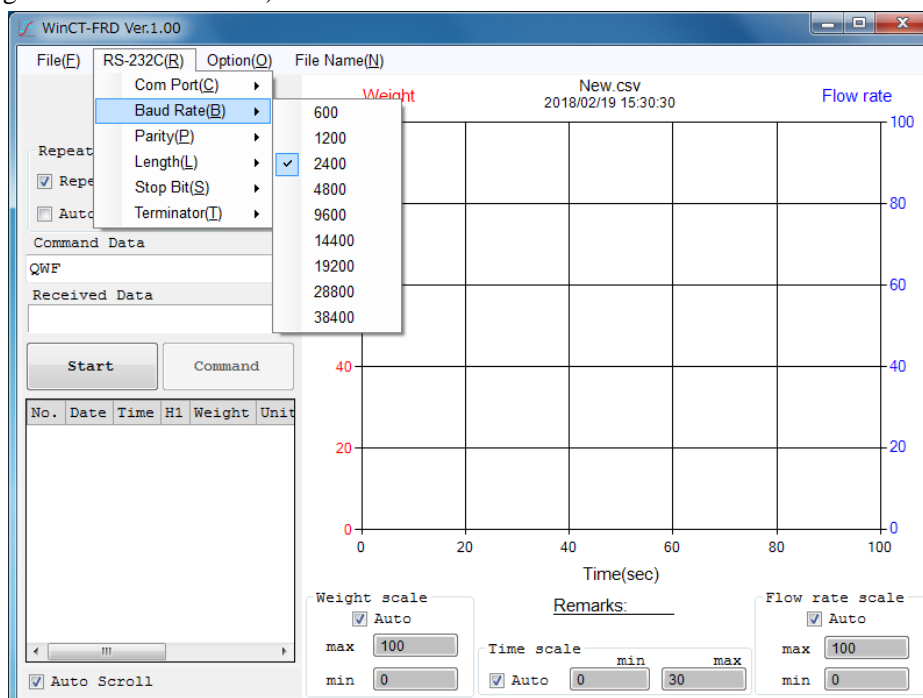
Step3   Balance setup (GX-A / GF-A series)

Ensure the application mode of the balance is in Flow Measurement Mode.

When the balance is in Flow Measurement Mode, "Frd" or one of "$F01$" to "$F10$" is displayed on the upper left of the display.

Check that the data output mode is set to Key Mode and the data format is set to A&D standard format.

Step 4   Starting Transmission

To use the Repeat function, check the Repeat checkbox and set the time. Refer to 3. Functions for details of the Repeat function.

Press [Start]. The "o" mark on the upper left of the window will start blinking to indicate that WinCT-FRD is ready to start data transmission, and [Start] turns to [Stop].
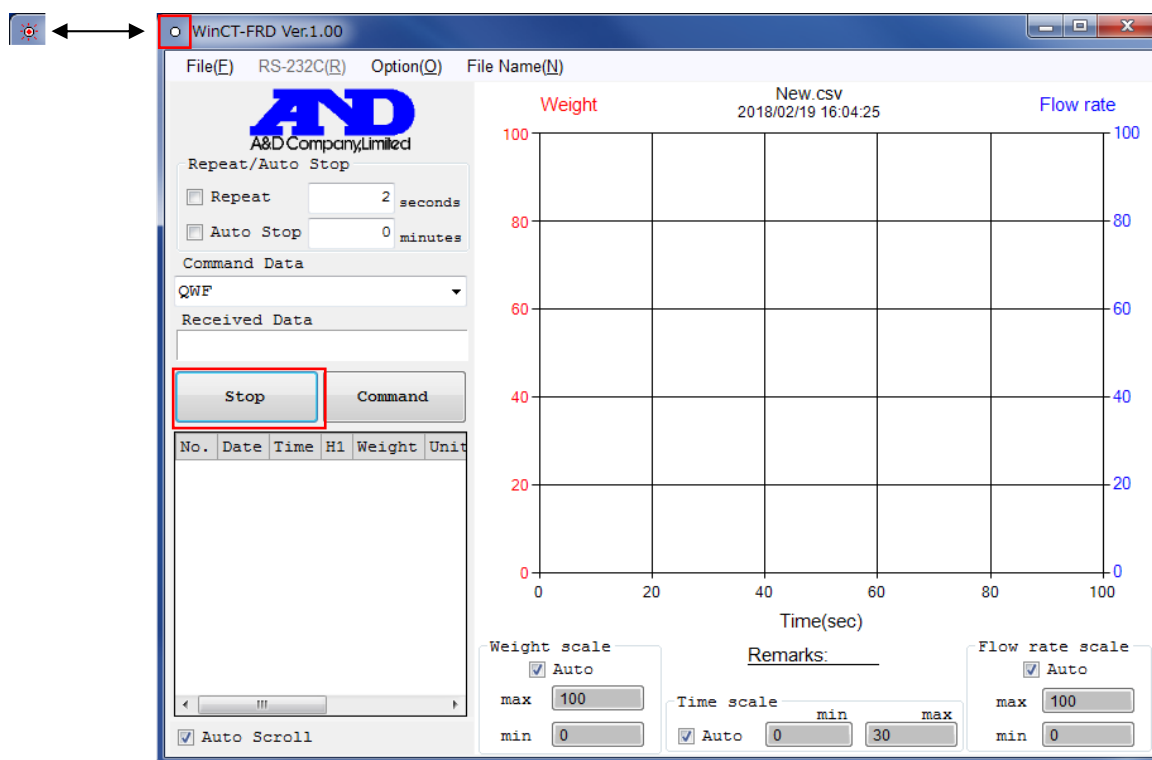
Step 5   Acquiring data from the Balance

When using the Repeat function: Press [Start], and data is acquired automatically at the preset interval.
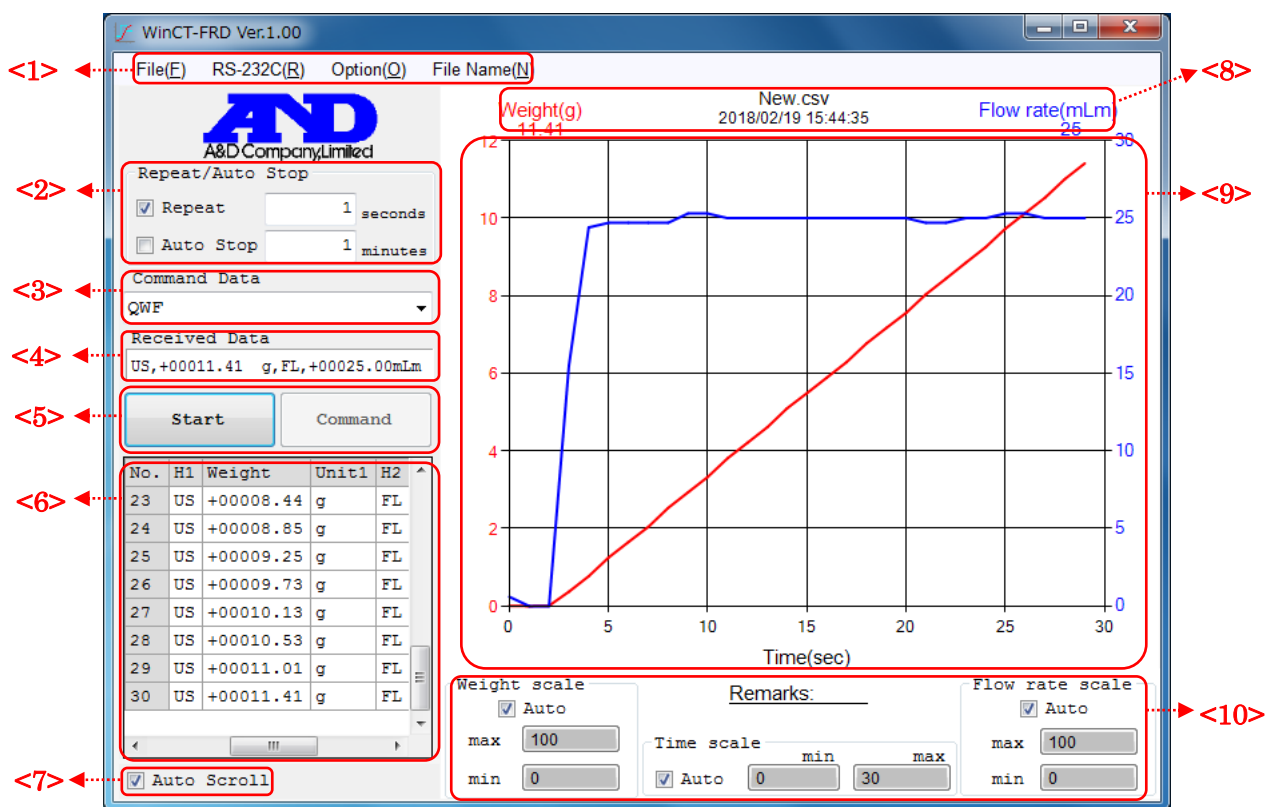
If you do not use the Repeat function: Select [QWF] from [Command Data] and press [Command] to send the command to the balance.
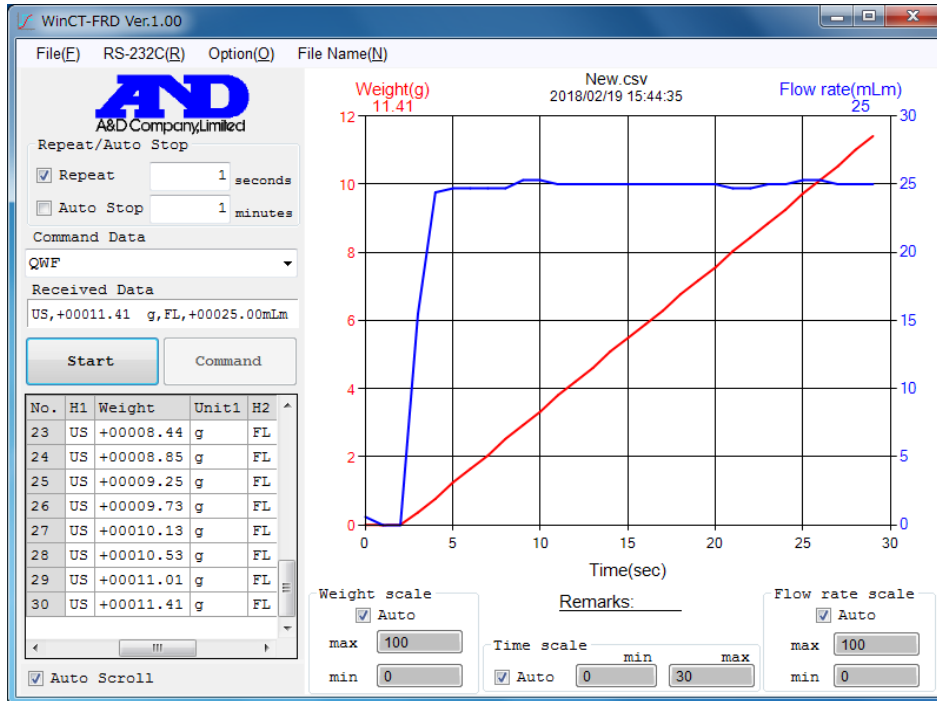
Step 6   Stopping a Measurement

Press [Stop] to terminate the measurement.

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3. Functions

<1> [Menu]   (The asterisk "*" indicates the default setting.)

    [File]   File operation

      [New]   Clears the data.

      [Open]   Opens the file.

      [Save]

         [Data Save]

            Table data is saved in a file. File type can be chosen from CSV or TXT.

            Choosing the sample material or conditions as the file name is the simplest method.

            Please note that when the file name is entered here it automatically appears in the graph title at

            the top of the graph.

         [Chart Save]

            The graph can be saved as an image file.

            File type can be chosen from JPEG or BMP.

      [Print]   Outputs to a printer.

      [End]   Shuts down the software.

[RS-232C]   RS-232C interface parameters

   (The default setting for communication parameters are the same as the factory settings for

   A&D's balances.)

   [Com Port]   Com port

   [Baud Rate]   Baud Rate

                        (600, 1200, *2400, 4800, 9600, 14400, 19200, 28800, 38400)

   [Parity]   Parity (None, Odd, *Even)

   [Length]   Data length (*7, 8)

   [Stop Bit]   Stop bit (*1, 1.5, 2)

   [Terminator]   Terminator (*CR/LF, CR)

[Option]   Various settings

   [Line drawing]   Sets the line thickness on the graph. (1: Standard, *2: Heavy line)

   [Marker]   Sets the marker on the graph (*0: No, 1: Yes)

   [Decimal Point]   Sets decimal point. (*Dot, Comma)

   [Time -Axis]   Sets time axis unit. (*Second, Minute, Hour)

   [Beep]   Beeps when receiving data.

                     Depending on your PC there may not be sound.

   [Weight - Scale Line]   Set the scale line of the first Y axis. (*Solid line, Dash line, Off)

   [Flow rate - Scale Line]   Set the scale line of the second Y axis. (Solid line, *Dash line, Off)

[File Name]   File name settings

   Sets the file name for saving data (sets by pressing the Enter key).

   The graph title changes as well at this time.

<2> [Repeat/Auto Stop]

   When the Repeat checkbox is checked, commands are transmitted automatically at the preset interval.

   The repeat interval can be set in seconds. Use values of 1 second or more. Values less than 1 second will

   automatically change to 1 second.

   Note:

      To acquire data at intervals less than 1 second, we recommend setting the data output setting of the

      balance to Stream Mode and acquiring data as the display is refreshed.

   When the Repeat checkbox is not checked, commands are transmitted each time [Command] is clicked.

   When both the Repeat and Auto Stop checkboxes are checked, the measurement terminates automatically in

   a set period (set in units of minute).   (For one set period, data should not exceed 10,000 in total.)

<3> [Command Data]

Sets a command to transmit.

To query for both weight and flow rate data, select "QWF".

To query for the data being displayed on the balance, select "Q".

To query for weighing data regardless of what is actually displayed on the balance, select "QW", and to query for flow rate data, select "QF".

※The "QWF" and "QF" commands can only be used when the balance is in Flow Measurement Mode.

<4> [Received Data]

Displays received data on the monitor.

<5> [Start/Stop], [Command]

[Start]　　　　Starts a measurement (opens the COM port).

[Stop]　　　　Stops the measurement (closes the COM port).

[Command]　Transmits a command.

<6> [Table]

Records received data.

[No.]　　　　Data number

[Date]　　　　Date of measurement

[Time]　　　　Time of measurement

[H1]　　　　Weight header

[Weight]　　　Weight value or Flow rate value

[Unit1]　　　Weight unit

[H2]　　　　Flow rate header

[Flow rate]　Flow rate value

[Unit2]　　　Flow rate unit

Double-click the table to change the values. (Except [Date] [Time])

<7> [Auto Scroll]

When the Auto Scroll checkbox is checked, the data grid display automatically scrolls to the bottom so the most recent data can be viewed at all times.

<8> [Graph title, Unit, Final value]

- The title of the graph (New.csv) can be changed by the File Name option in the menu.

- When acquiring data, units are shown on the right side of Weight and Flow rate.

　* If mL/s, mL/m or mL/h is selected as the flow rate unit, forward slashes will not output.

- The acquired value (Final Value) is shown below Weight and Flow rate.

<9> [Graph]
- Creates a graph from received data
- The weight data is plotted on the first Y axis (left axis) and the flow rate data is plotted on the second Y axis (right axis).
- You can open a file by dragging and dropping a file saved in CSV or TXT format onto the graph.

<10> [Remarks], [Scale]

[Remarks]   Remarks can be edited by double-clicking "Remarks:_____".
                   (It is advisable to type a sample name, measurement condition, etc. here.)

[scale]

[auto]   The scales of checked axes (Time scale, Weight scale, Flow rate scale) are automatically changed to match the data (auto scaling function)

[min/max]   You can change the maximum and minimum values of each axis by clicking the values
               Time scale
               [min] The minimum value on the X-axis (time).
               [max] The maximum value on the X-axis (time).

               Weight scale
               [min] The minimum value on the Y1-axis (weight value).
               [max] The maximum value on the Y1-axis (weight value).

               Flow rate scale
               [min] The minimum value on the Y2-axis (flow rate value).
               [max] The maximum value on the Y2-axis (flow rate value).
               * min > max values cannot be inputted.

* When measuring in stream mode on the balance, all data may not be able to be imported, depending on the baud rate. Also, when there are many measurement data entries, the graph display may refresh slowly (about 1 time per second). When you wish to import all measurement data in stream mode, please use RsCom in WinCT.

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A&D