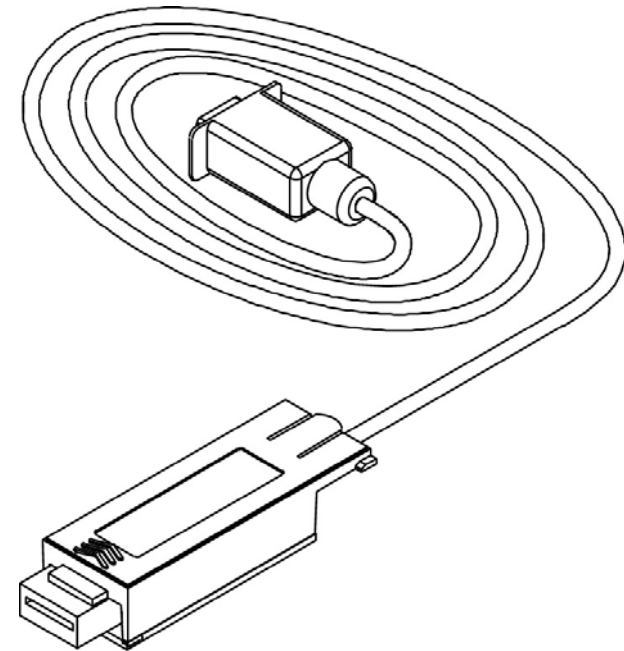


RS232 Interface Kit

INSTRUCTION MANUAL

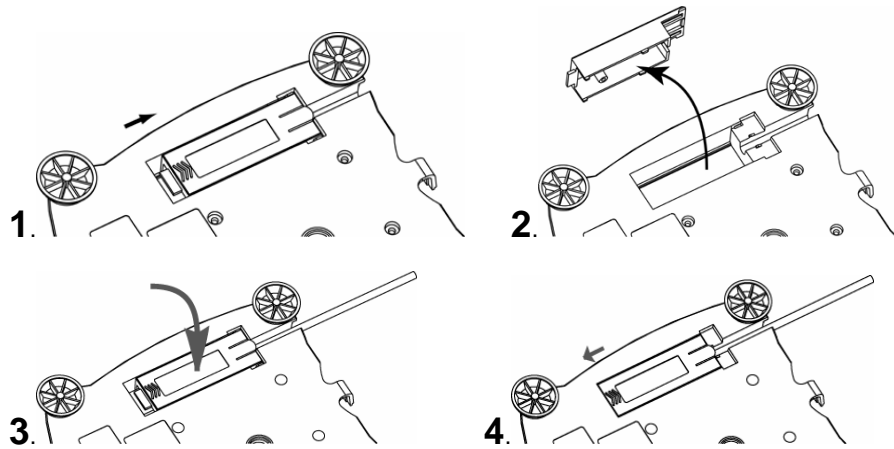


P/N 80251730

Printed in China

This Interface Kit is for use only with the balance it was intended for.
This accessory has been tested and complies with the approvals listed
in the Instruction Manual of the balance.

1. INTERFACE INSTALLATION



Note: The interface module must be slid fully forward until it snaps into place.

2. RS232 CONNECTION

The RS232 Interface Kit cable terminates with a 9 pin Sub-D female connector.

The active pins on the connector end are:

Pin 2 = TXD

Pin 3 = RXD

Pin 4 = Connected to pin 6 for external hardware handshake

Pin 5 = Ground

Pin 6 = Connected to pin 4 for external hardware handshake

Pin 7 = CTS

Pin 8 = RTS

The Interface cable allows direct connection to a computer or compatible printer. Some applications may require a 9 to 25 pin adapter which may be purchased from your local dealer.

RS232 Input

The balance will respond to various commands sent via the interface adapter. The balance will respond only to the following commands when terminated with a CR or CRLF.

?	Prints current weighing unit
0A	Turns Auto-Print off
SA	Auto-Print on stability
CA	Continuous Auto-Print
(n)A	Auto-Print on 1 to 3600 second intervals (n = 1 to 3600)
C	Initiates Span calibration
L	Initiates Linearity calibration
0M	Switch to gram weighing unit
(n)M	Switch to another weighing unit (n = sequence number of unit)*
T	Same as pressing ON-ZERO
V	Print software version
P	Same function as pressing the PRINT key
LE	Prints last error code (e.g. Err 2)
0S	Print unstable data
1S	Print stable data only

*Some balance models have a limited number of available weighing units. Refer to the user manual of the balance. Attempting to select a weighing unit that is disabled or unavailable may return an Error message.

3. BALANCE SETUP

The balance's interface is preset to communicate using the following settings:

2400 baud, 7 bit, no parity, no handshake

If different settings are desired, it will be necessary to change the settings in the balance, computer, or printer to match.

Menu Structure

Upon installation and power up the balance will recognize the RS232 interface and add the PRINT and RS232 headings to the menu structure. Configure the balance to operate as desired. Refer to the User Manual of the balance for assistance in using the menus.

The two supplemental menus are shown below. Some balances may have additional menu items. Refer to the User Manual of the balance for further information. Default menu settings are shown in **bold**.

<u>PRINT</u>	<u>RS232</u>
Stable	On-Off
- On	- On
- Off	- Off
A-Print	Baud
- Cont	- 600
- On.stbl	- 1200
- 5sec	- 2400
- 15sec	- 4800
- 30sec	- 9600
- 60sec	- 19200
- Off	
End	Parity
- Yes	- 7-even
- No	- 7-odd
	- 7-none
	- 8-none
	Handshake
	- None
	- Xon-Xoff
	- RTS-CTS
	End
	- Yes
	- No

Setup Definitions

PRINT menu:

- Stable - OnOnly stable data is output
- Auto Print - ContinuousData is output continuously
- Auto Print - On StableData is automatically output upon stability
- Auto Print - (xx) sec.....Data is output every (xx) seconds
- Auto Print - Off.....Data is only output when PRINT button on balance is pressed

RS232 menu:

- USB - OffTurns interface off
- Baud, Parity, HandshakeSet parameters to match printer or computer

4. OPERATION

RS232 Output

With the interface installed the balance will operate in one of the following three ways:

- RS232 = on, Auto Print = off, Stable = on or off
Pressing PRINT will send the display data. If Stable is set to On, the balance will wait for a stable reading before sending data.
- RS232 = on, Auto Print = on, Stable = on or off
The balance will automatically send data based on the settings in the Menu. If Stable is set to On, only stable will be sent.
- RS232 = off
The interface is turned off. During battery operation, turning the RS232 Interface off saves significant power.

Auto-Print (A-Print) Operation

Once Auto-Print is enabled the balance will continue to send data as required. To temporarily stop Auto-Printing, press the PRINT key. A second press will resume Auto-Printing.

Data sent from the balance is in standard ASCII format terminated with a CRLF (carriage return-line feed). The Output string is as follows:

[weight]	11 characters (right justified, includes – sign if needed)
[space]	1 character
[unit]	5 characters max (left justified)
[space]	1 character
[stability ind.]	1 character: “?” when unstable, blank when stable
[space]	1 character
[legend]	10 characters max: hh:mm:ss (when interval printing).
[CR]	1 character
[LF]	1 character

Output examples: (Note: * and _ indicate spaces)

*****192.21_g	- Manual, Continuous or On-Stable printing
*****0.01_g_?	- Unstable reading
*****0.01_g__00:00:00	- Interval Printing (15 sec intervals)
*****176.30_g_?_00:00:15	- Unstable reading at 15 seconds
*****192.08_g__00:00:30	- Stable reading at 30 seconds