SIL®

Raise-Lower / Ramp Generator

Type C16-65

Programming Guide

Document Ref: PGC16-65_Programming guide.vp Rev 0

Minimum requirements

PROG-65 Programming Kit containing RS232 to male jack connection lead and software CD.

PC with vacant RS232 or USB port

NB using a USB port will require the optional USB to RS232 Adaptor accessory Part no USB-2-COM

The software is Windows™ 98/NT/ME/2000/XP/7, etc. compatible.

Installing the software

C16-65 Programming software

1. Locate the C16-65 programmer files in the 'Configuration Software' folder on the Programming Kit CD.

   NB the software may be downloaded from www.sil.co.uk/software.htm

2. Open the 'C16-65' folder and run 'C16-65_install.exe'
2. Double-click the 'F-to-A-Config' folder.
3. Double-click 'setup.exe' to install

USB to RS232 adapter software

Please refer to the instructions supplied with this accessory.

Using the programmer

The C16-65 is supplied pre-configured as a Raise Lower unit with the default settings as shown in *'Specifications'* in the C16-65 Installation Guide

Overview

Figures 1 to 4 illustrate the general procedure for using the software. The numbered 'callouts' are cross-referenced with the 'General procedure' below. The settings available will depend on the mode of operation (Raise-Lower or Ramp Generator) selected. For detailed information on the mode specific settings, refer to 'Ramp Generator mode settings' and Raise Lower mode settings'.

Front panel indicator

During communications with the programmer, the LED will be turned off. In normal operation, the front panel indicator will flash, speeding up to a rapid rate when any input is active.

NOTE: Tool tips - hovering the mouse pointer over some settings provides information.

General procedure

1. Run the 'SIL Unit Configuration Software' and select an available COM port from the drop down menu.
2. Click 'Identify Unit', the unit's configuration data is retrieved and information about the mode programmed is displayed.
3. Click the 'Configuration' tab to open the 'Inputs Configuration' window.
4. Select the mode (Raise-Lower or Ramp Generator) from the drop down list.
5. Configure the 'Simultaneous Inputs Action' and 'Input Polarity' for each input. NB 'Normal' is signal active when a voltage signal is 'high' or volt-free contact closed or open collector active.
6. Click the 'Outputs' tab to proceed to 'Outputs Configuration' window.

NOTE: The contents of the 'Outputs Configuration' window will differ depending on whether the mode set is a Raise-Lower or Ramp Generator. Functions not applicable to a particular mode will be 'greyed' out.

7. Configure the output settings as required.
8. Click 'Program Unit'

Software reset

[Ref. Figure 4] The 'Program Unit' screen provides the option 'Reset to default configuration'. The following settings will be programmed.

   'Signal maximum': 100%
   'Signal minimum': 0%
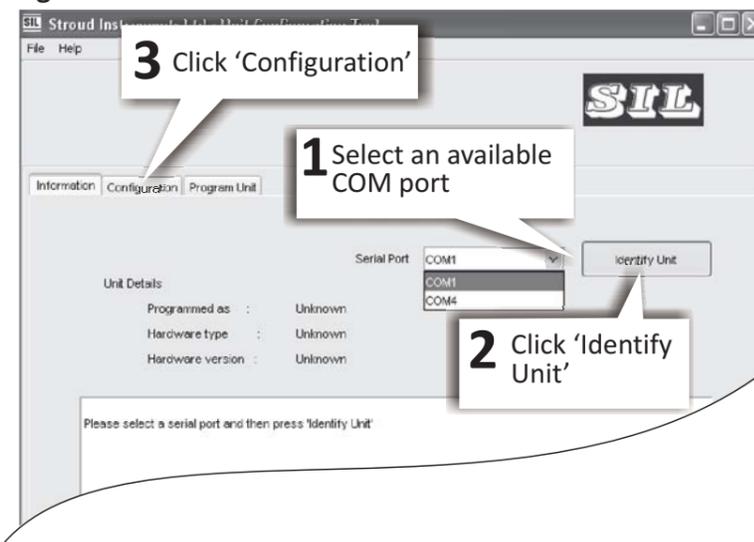   'Initial value to equal last output': No
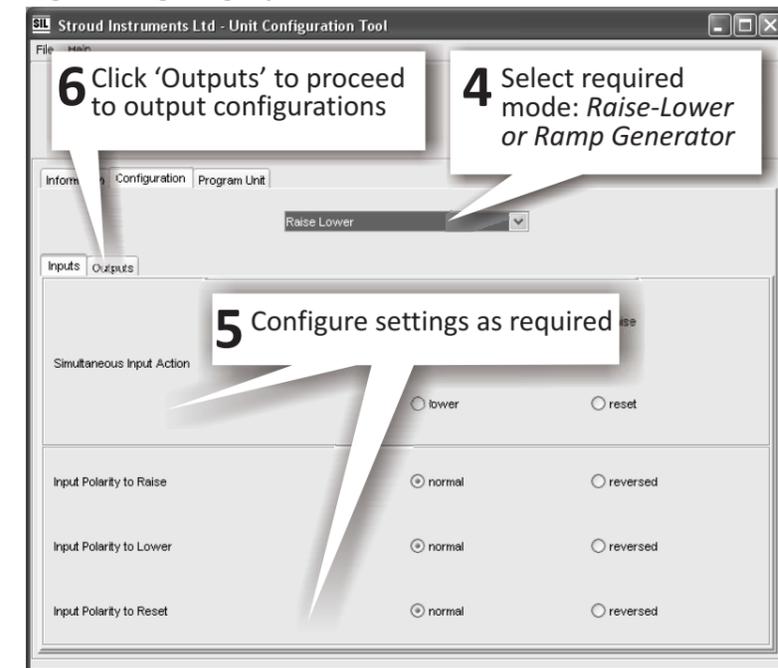
Fig 1 Initial window

3 Click 'Configuration'

1 Select an available COM port

2 Click 'Identify Unit'

Fig 2 Configuring inputs

6 Click 'Outputs' to proceed to output configurations

4 Select required mode: *Raise-Lower or Ramp Generator*

5 Configure settings as required

Fig 3 Configuring outputs
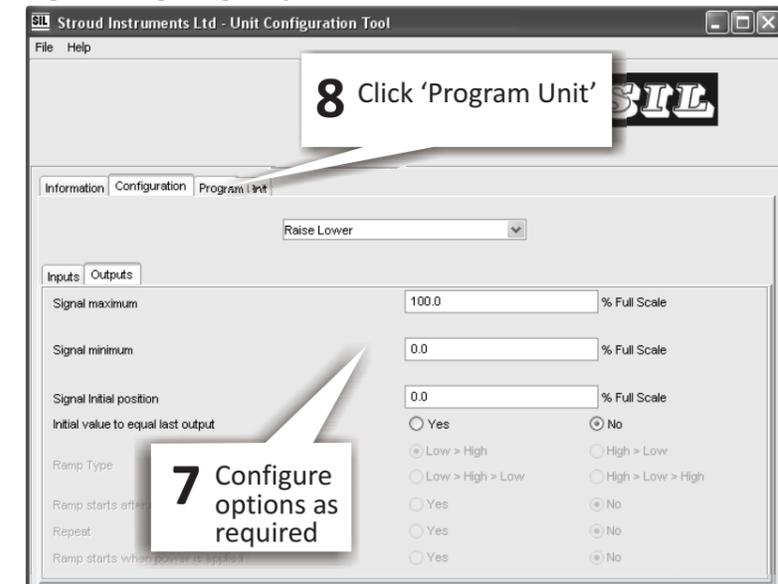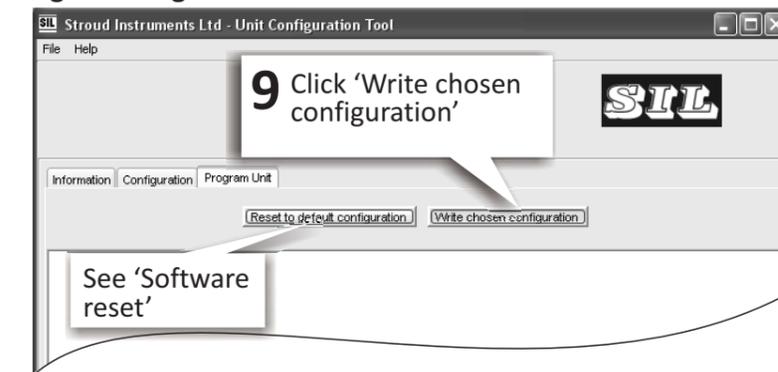
8 Click 'Program Unit'

7 Configure options as required

Fig 4 Writing to unit

9 Click 'Write chosen configuration'

See 'Software reset'

Ramp Generator mode settings

1. Simultaneous inputs action

Responses to simultaneous signals on Inputs 1 (Start) and Input 3 (Stop):

☐ No change

☐ Start the ramp from the last value output

☐ Stop the ramp and hold at the current value

☐ Reset the ramp - subsequent action depends on the 'Ramp starts after reset' output option setting.

2. Input polarity (active state)

The active state of the Start, Stop and Reset inputs may be individually set for either:-

☐ Normal *(a voltage in the range >5V <50V for a voltage signal input, contact closed for a volt-free contact input, transistor 'ON' for npn open collector input)*

☐ Reversed *(active state is the opposite to 'Normal')*

3. Output signal settings

☐ Output signal maximum

☐ Output Signal minimum

The output from the ramp generator may be set to range between 0 - 102.3% of the nominal output signal. For an output signal type of 0-10 V, the output signal may, for example, be set to range from 2 to 10.23 volts or 1 to 9 volts.

NOTE: The software prevents entry of erroneous data e.g. maximum values less than minimum values, etc.

4. Ramp type

The form of the output signal is set with a combination of this and the Repeat setting. Ramp type options are:

☐ Low to High

☐ High to Low

☐ Low to High to Low

☐ High to Low to High

5. Repeat

Options are:

☐ 'Yes' - the ramp continually repeats

☐ 'No' - the output ramps for a single period.

This function, when used with the Ramp type function will enable generation of sawtooth or triangular waveforms.

6. Ramp starts after reset

Options are:

☐ 'Yes' - the ramp is started from the output signal minimum value.

☐ 'No' - the output remains set at the output minimum value until a Start signal is received.

7. Ramp starts when power is applied

Options are:

☐ 'Yes' - the ramp is started when power to the unit is switched on

☐ 'No' - the output remains set at the output minimum value until a Start signal is received

Raise -Lower mode settings

1. Simultaneous inputs action

Responses to simultaneous signals on Inputs 1 (Raise) and Input 3 (Lower):

☐ No change

☐ Raise the output signal

☐ Lower the output signal

☐ Reset the output - the output value depends on the Output signal '*Initial position*' and '*Initial value to equal last output*' setting.

2. Input polarity (active state)

The active state of the Start, Stop and Reset inputs may be individually set for either:-

☐ Normal *(a voltage in the range >5V <50V for a voltage signal input, contact closed for a volt-free contact input, transistor 'ON' for npn open collector input)*

☐ Reversed *(active state is the inverse of 'Normal')*

3. Output signal settings

☐ Output signal maximum

☐ Output Signal minimum

The output from the ramp generator may be set to range between 0 - 102.3% of the nominal output signal. For an output signal type of 0-10 V, the output signal may, for example, be set to range from 2 to 10.23 volts or 1 to 9 volts.

NOTE: The software prevents entry of erroneous data e.g. maximum values less than minimum values, etc.

4. Output signal initial position

(i.e. the output signal value present after power up or after reset)- options are:

☐ % Full Scale - this value may be set to any value within the ranges specified by the Output Maximum and Output Minimum values.

5. Initial value equal to last output

☐ 'Yes' - This provides a set-point function which returns the output to the previous value before power down.

☐ 'No' - Not selected