

DM670PM Front Buttons User Guide

This guide is intended for use with the Status Instruments DM670PM range of products. The Windows USB-SpeedLink software will be required to configure the device.

The DM670PM front buttons can be used to report on and control a number of conditions depending on software configuration.

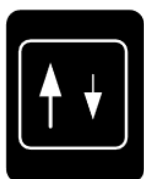
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SECTION 1.0 General.

This document is intended to be read in conjunction with the user guide for the DM670PM and the user is advised to familiarise themselves with the guide before proceeding. The guide is available from www.status.co.uk

The two DM670PM front buttons are shown below and will be referred to as “Arrows Button” and “Relays Button” in this guide.



Arrows (Max/Min) Button.

Used to report maximum and minimum value conditions.

Used to display a rolling average value.

Used to apply / remove the Tare value.



Relays Button.

Used to report relay conditions.

Used to clear latched relays.

The DM670PM has two PCB mounted buttons which are protected by a waterproof cover label that has a “bump” located over each button. The “bump” will only require enough force to flatten it to operate the button below.

SECTION 2.0 USB-SpeedLink

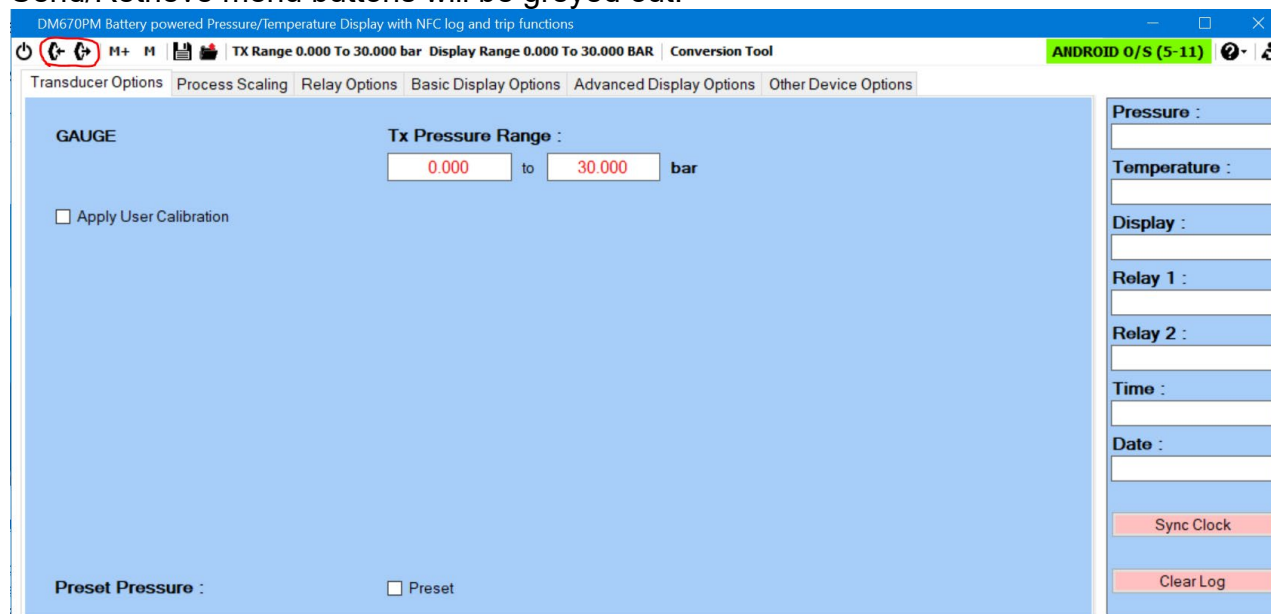
Refer to the user guide for the corresponding model of DM670PM.

Install and run the USB-SpeedLink software.

Configure the display and relay(s) operation as required for the application.

Complete the configuration on the tabs for “Transducer Options”, “Process Scaling”, and “Relay Options” before continuing.

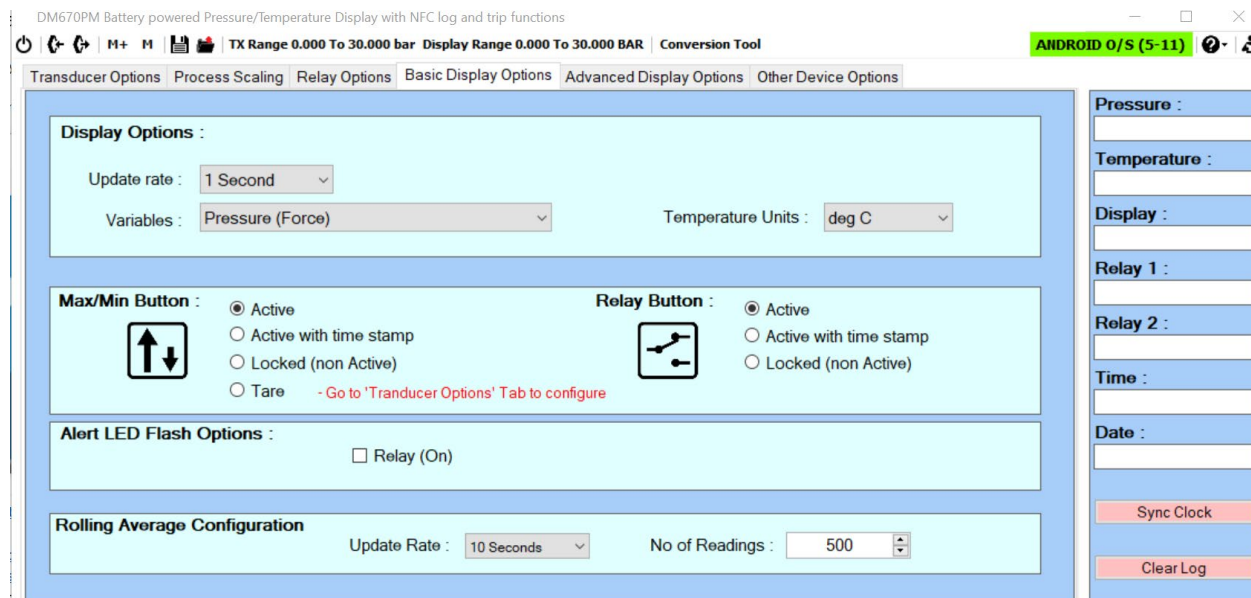
When connected correctly, the “Send configuration” and “Retrieve configuration” menu buttons will be black as shown below (Screen shot 1, ringed in red). If connection has not been made, the Send/Retrieve menu buttons will be greyed out.



Screen shot 1

SECTION 3.0 Arrows (Max/Min) Button

Select the “Basic Display Options” tab as shown below (Screen shot 2).



Screen shot 2

Four modes of operation are available and are selected by use of the “Max/Min” toggle control. After selection, the configuration must be sent to the DM670PM.

3.1 Active mode selected:

A single press on the Arrows button.

Will cause the screen of the DM670PM to display in sequence:

- “MAX” followed by the highest process value recorded, displayed for 2 seconds.
- “MIN” followed by the lowest process value recorded, displayed for 2 seconds.
- The display will then return to normal run-time operation.

A long press on the Arrows button > 5 seconds (hold button pressed until the LED sequence completes).

- Will cause the (!) LED to flash four times.
- The stored maximum and minimum process values will be discarded. New maximum and minimum process values will be recorded again from this point. Allow 5 seconds for the old Max/Min readings to be over-written.
- When the Arrows button is released, the display will return to normal run-time operation.

3.2 Active with time-stamp mode selected:

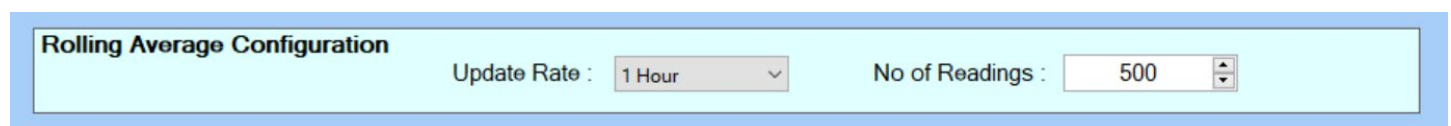
A rolling average will be available with this selection.

The “Rolling Average Configuration” is entered on the “Basic Display Options” tab.

Select the average reading update rate, between 10 seconds and 2 hours, from the “Update rate” drop-down control.

Select the number of readings to be averaged (up to 500) in the “No of Readings” number box.

This should allow for a variety of applications to be catered for, for example average tank level over a number of days or pipe pressure over a few minutes.



Screen shot 3

A single press on the Arrows button.

Will cause the screen of the DM670PM to display in sequence:

- “MAX” followed by the highest process value recorded, displayed for 2 seconds, followed by the date and time the value was recorded.
- “MIN” followed by the lowest process value recorded, displayed for 2 seconds, followed by the date and time the value was recorded.
- “AVG” (Average value) followed by the average process value displayed for 2 seconds, followed by the number of readings/logs taken for the average value and the rate at which the readings were taken.
- “Now” the current process value will be displayed for 2 seconds, followed by the date and time from the DM670PM’s clock.
- The display will then return to normal run-time operation.

A long press on the Arrows button > 5 seconds (hold button pressed until the sequence completes).

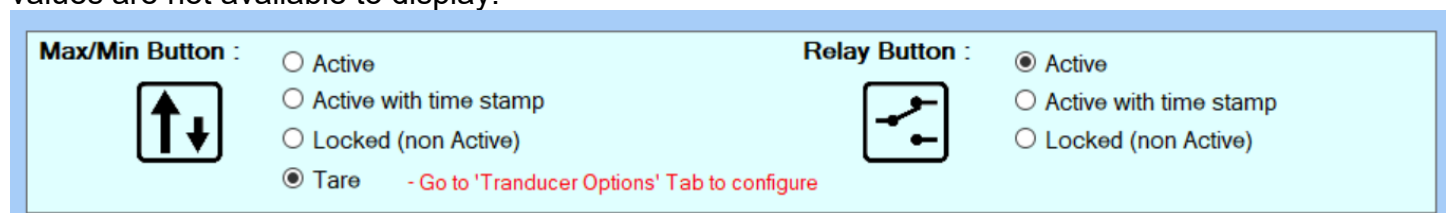
- Will cause the (!) LED to flash four times.
- The stored maximum and minimum process values will be discarded. New maximum and minimum process values will be recorded again from this point.
- The rolling average process value will be discarded. A new rolling average will start to be calculated.
- When the Arrows button is released' the display will return to normal run-time operation. Allow 5 seconds for the old Max/Min readings to be over-written.

3.3 Locked (non Active) mode selected:

Any press on the Arrows button will be ignored by the DM670PM.

3.4 Tare mode selected:

The DM670PM has the option of a Tare operation. In this mode, maximum and minimum process values are not available to display.

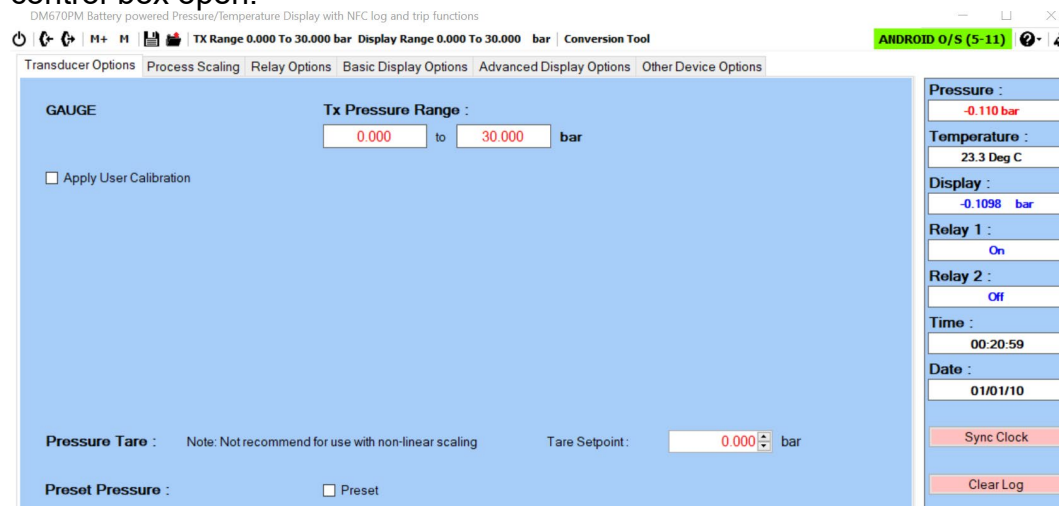


Screen shot 4, Tare mode selected.

After selecting the Tare function from the Arrows (Max/Min) radio button in software, the Tare point must be entered.

The Tare point is the value in bar that will be applied to the measured input value in bar (before any scaling).

The Tare Setpoint is set in the “Transducer Options” tab, which will now have the “Tare Setpoint” control-box open.



Screen shot 5, Note: The Tare value is entered in **bar**.

A single press on the Arrows button.:

Will cause the screen of the DM670PM to display;

- “OFFSET” followed by the display showing the Tare setpoint value.
- An icon showing (●) will show in the top left of the DM670PM display to indicate the Tare value has been applied.
- The display will then return to operation, showing any change in process value to the Tare setpoint.
- Any “Relay Options” or “Advanced Display Options” functions will operate from the display process value.
- Any log data taken will be from the display process value.
- Any further **single presses** on the Arrows button will reset the display to the Tare value.

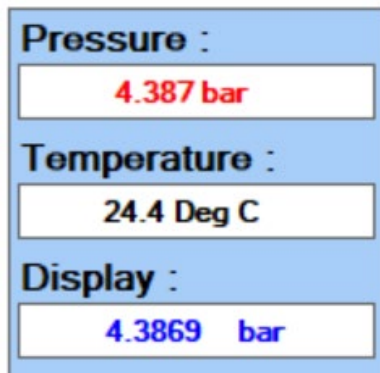
A long press on the Arrows button > 5 seconds (hold button pressed until the sequence completes).

- “OFFSET” will show momentarily on the display.
- The (!) LED will flash four times.
- The icon showing (●) will clear.
- The display will then return to normal run-time operation.

Tare example Using a DM670PM (0 to 30) bar sensor.

In the following example of the Tare function, the amount of pressure a system is increased or reduced by is important. The deviation from the current process value can be displayed.

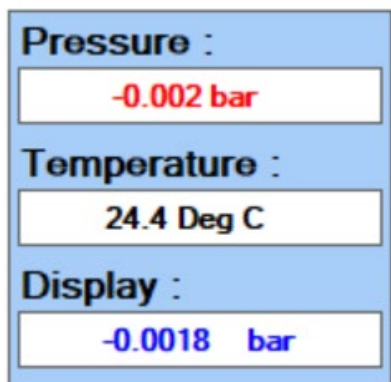
In this example, Tare has been set to 0.000 bar (see Screen shot 4).



A reading using the USB-Speedlink software is taken.
The “Display” box value is duplicated on the display of the DM670PM.
The DM670PM is in normal run-time operation.

Screenshot 6.

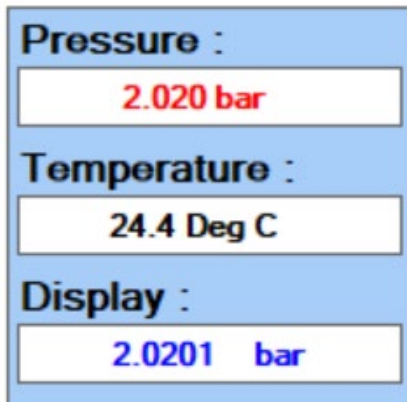
A single press on the Arrows button applies the Tare offset.



A second reading using the USB-SpeedLink software is taken.
The Tare value has been applied.
The (●) icon is displayed.
The “Display” box value is calculated and duplicated on the display of the DM670PM.
The DM670PM is in Tare mode operation.

Screenshot 7.

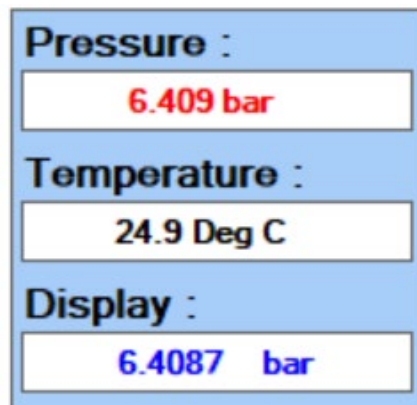
The pressure on the sensor is increased by 2 bar.



A further reading using the USB-SpeedLink software is taken. The change in pressure (increase or decrease) is applied to the Tare value. The (●) icon is displayed. The “Display” box value is calculated and duplicated on the display of the DM670PM. The DM670PM is in Tare mode operation. **A single press** will start another Tare mode operation.

Screenshot 8.

A long press on the Arrows button > 5 seconds.



A Final reading using the USB-SpeedLink software is taken. The Tare value offset has been removed. The (●) icon has been removed. The “Display” box value is duplicated on the display of the DM670PM. The DM670PM is in normal run-time operation. **A single press** will start another Tare mode operation.

Screenshot 9.

SECTION 4.0 Relays Button

Select the “Basic Display Options” tab (as show in Screen shot 2). Three modes of operation are available and are selected by use of the “Relay Button” toggle control. After selection, the configuration must be sent to the DM670PM.

4.1 Active mode selected:

A single press on the Relays button.

Will cause the screen of the DM670PM to display in sequence:

- “RELAY 1” followed by the relay condition ON or OFF
- “ACTION” followed by the alarm type setting.
- The setpoint value(s) for the alarm.
- The sequence will repeat for “RELAY 2”.
- The display will then return to normal run-time operation.

A long press on the Relays button > 5 seconds (keep button pressed until the sequence completes).
Used to clear latched relays.

- The display sequence for **A single press** will start.
- The (!) LED will flash four times.
- Any latched relays will be released. If the alarm input condition is still present, the alarm will immediately re-trigger.
- The display sequence will stop and then return to normal run-time operation.

4.2 Active with time-stamp mode selected:

A single press on the Relays button.

Will cause the screen of the DM670PM to display in sequence:

- “RELAY 1” followed by the relay condition ON or OFF
- “ACTION” followed by the alarm type setting.
- The setpoint value(s) for the alarm.
- “LAST TRIPPED” followed by the date and time of the last ON action for the relay.
- “RST” followed by the date and time of the last OFF action for the relay.
- The sequence will repeat for “RELAY 2”.
- The display will then return to normal run-time operation.

A long press on the Relays button > 5 seconds (keep button pressed until the sequence completes).
Used to clear latched relays.

- The display sequence for **A single press** will start.
- The (!) LED will flash four times.
- Any latched relays will be released. If the alarm input condition is still present, the alarm will immediately re-trigger.
- The display sequence will stop and then return to normal run-time operation.

4.3 Locked (non-Active) mode selected:

Any press on the Relays button will be ignored by the DM670PM.

SECTION 6.0 Trouble Shooting

If any issues are encountered with setting the DM670PM front panel control buttons:

6.1 General

- Ensure the device is configured and working as intended for normal run time operation first, then repeat the set-up for the control buttons.
- Re-read this document to ensure full understanding of the operation of the control buttons.

6.2 For further support contact support@status.co.uk

- Please provide details of the product's full product name/serial number and the version of USB-SpeedLink used for configuration.
- Please provide the full details of any issue you are having, including screen shots of the USB-SpeedLink configuration.