Temposonics®

Absolute, Non-Contact Position Sensors

G-Series Handheld Programmer
for analog sensors

Instruction Manual


Part No. 253 853
(replacement for part no. 253 294)

Operating the G-Series analogue handheld programmer

The G-Series Analogue Output Sensor utilizes one position magnet to provide a linear position output over the sensor's active stroke length. The output values for the beginning of stroke, '**Setpoint 1**', and the end of stroke, '**Setpoint 2**', can be programmed for anywhere along the active stroke length by using the G-Series Analog Handheld Programmer.
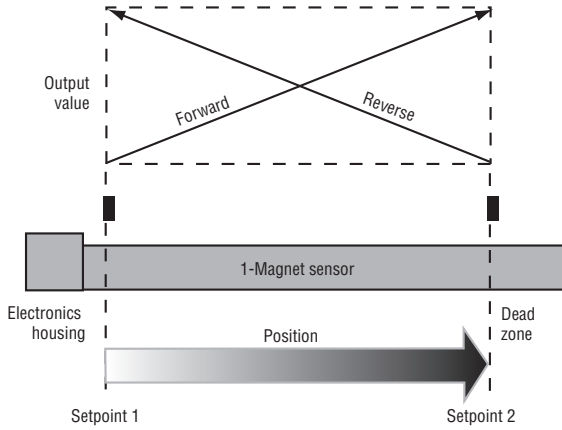
Standard factory settings place '**Setpoint 1**' (Null) and '**Setpoint 2**' (Span) at the limits of the sensor's active stroke range. For example, a sensor ordered with a 4 to 20 mA output, will be factory set to give a 4 mA output at the null "**Setpoint 1**" and a 20 mA output at the span '**Setpoint 2**'.

'**Setpoint 1**' and '**Setpoint 2**' can be re-positioned for the actual measuring range needed anywhere within the active stroke length. These adjustments are easily done, even when the sensor is not directly accessible, by connecting the G-Series Analog Handheld Programmer to the sensor's integral cable or extension cable.

Please observe the following operation guidelines when using the G-Series analog handheld programmer:

1. The cable length from the analog sensor to the handheld programmer must not exceed 45 meters.
2. A minimum of 50 mm is required between '**Setpoint 1**' and '**2**'.
3. The handheld programmer cannot be used for changing the output polarity for switching between forward-acting and reverse-acting output ranges.
4. Refer to '**Notes**' on page 2 for additional information.

The G-Series sensor has (Green & Red) integrated LEDs that indicate sensor status, error diagnostics, and programming modes. The various LED codes are also displayed on the G-Series Analog Handheld Programmer when connected to the sensor. When the programmer is connected and the power is applied, the sensor will enter serial programming mode.

When the sensor is in programming mode (Green **Flashing**, Red **OFF**), LEDs on the programmer will indicate the sensor's functional status. The programmer uses the same status codes as the G-Series sensor except for displaying the programming mode. To successfully re-program the sensor's setpoints, the programmer must indicate no sensor errors by displaying (Green **ON**, Red **OFF**).

Diagnostic LEDs

Green	Red	Diagnostic Description
OFF	OFF	No power to sensor
OFF	ON	Self-diagnostic error
OFF	Flashing	IR programming mode
ON	**OFF**	**Normal sensor function**
ON	ON	Magnet not detected
ON	Flashing	Missing (external) interrogation
Flashing	OFF	Serial programming mode
Flashing	ON	Magnet signal weak
Flashing	Flashing	Power out of range (high or low)

To adjust your programmer settings, perform the following steps:

1. Connect the programmer to the sensor's 6 wires (using an integral cable or extension cable). The 4 connections at the bottom of the programmer are for the 24 Vdc power supply and a multimeter. Switch on the power supply. The sensor will enter serial programming mode, then the sensor's LEDs will display Green **Flashing**, Red **OFF**. The LEDs on the handheld programmer must display Green **ON**, Red **OFF** to continue programming successfully.

2. Move the position magnet to the appropriate '**Setpoint 1**' position. Do not allow the magnet to move until step 4. Use '**Null**' up or '**Null**' down buttons to increase or decrease the output shown on the multimeter, (press and hold the button for at least a half second).

3. The increments by which the value is adjusted can be changed from coarse to fine by pressing the programmers' center button. Coarse mode adjust yields output changes equivalent to 3 - 5 mm steps. Fine mode adjust yields output changes equivalent to 0.35 mm steps for '**Null**' adjustments and 0.7 mm steps for '**Span**' adjustments.

4. Move the position magnet to the **Setpoint 2** position. Do not allow the magnet to move until step 5, Use '**Span**' Up or '**Span**' Down buttons to increase or decrease the output shown on the multimeter. To fine-tune the adjustment, repeat steps 2 and 4. Use the fine mode adjustment feature if necessary. When both '**Setpoint 1**' and '**Setpoint 2**' have the appropriate output values, continue to step 5.

5. After all changes are made, press and hold the programmer's center button for 3 seconds. The programmer will confirm that new settings have been saved by briefly flashing both the Green and Red LEDs. The programmer's LEDs will then change to indicate normal sensor functionality (Green **ON,** Red **OFF**).

red or brown
white
green
yellow
grey
pink

Meter +
Meter -
0 VDC
24 VDC

Cable	Function
pink	Ausgang -
grau	Ausgang +
gelb	RS-485 +
grün	RS-485 -
weiß	Strom 0
rot oder braun	Strom 24

Notes

- G-Series Analogue sensor outputs are adjustable over the entire active stroke length. The minimum adjustment increment is 0.35 mm, and the minimum spacing between **Setpoint 1** and **Setpoint 2** is 50 mm.

- Changing the output polarity for switching between forward-acting and reverse-acting outputs should not be attempted with the Handheld Programmer. Instead, use the G-Series PC Setup Software to program the sensor for a different output range. Due to the G-Series method of proce-sing, (unlike the R-Series Analogue sensor), changing the output polarity by only adjusting the setpoint values will limit the output range or add unnecessary cycle time.

- If the sensor had been previously re-programmed to significantly reduce the distance between setpoints, then it may be necessary to make only small changes when re-programming the sensor again. Since the output values are limited in range, it may be necessary to increase the stroke distance by performing multiple programming cycles. To increase the distance between the setpoints again, use small changes for the new loca-tions of **Setpoint 1** and/or **Setpoint 2**. Perform the steps 2 through 5 to save the new settings. Repeat the whole procedure, as needed, to get additional distance between setpoints.

Deutschland
Temposonics GmbH & Co. KG
Auf dem Schüffel 9
58513 Lüdenscheid, Germany
Tel.: +49-2351-9587-0
Fax: +49-2351-56491
info.de@temposonics.com
www.temposonics.com

USA
Temposonincs, LLC
3001 Sheldon Drive Cary,
NC 27513, USA
Tel.: +1-919-677-0100
Fax: +1-919-677-0200
info.us@temposonics.com
www.temposonics.com