

## Operating Instructions

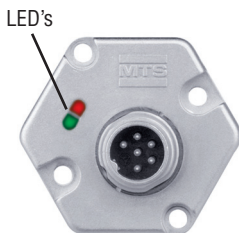
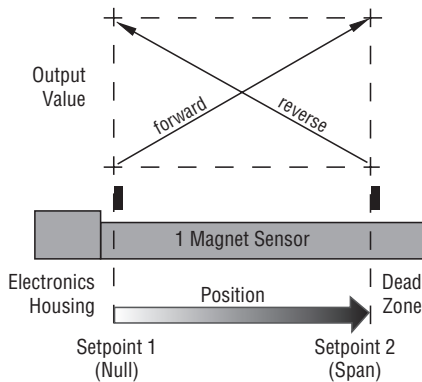


R-Series Analog Hand-held programmer  
Part no. 253124

### Contents

This instruction sheet contains the following two programming procedures:

- Programming your R-Series Model RP and RH Analog sensor with serial numbers up to 90052723.
- Programming your R-Series Model RP and RH Analog sensor with serial numbers 90052724 or higher.



Green	Red	Description
ON	OFF	Normal function
ON	Flashing	Magnet out of setup range
ON	ON	Magnet not detected
Flashing	ON	Programming mode

### R-Series Model RP and RH Analog sensor programming

The R-Series Analog Handheld Programmer (part number 253124) can be used to program the magnet positions for the start of output, (0% = 0 Vdc, -10 Vdc, 4 mA, or 0 mA), and the end of output, (100% = 10 Vdc, or 20 mA), for the single magnet version of the R-Series Analog Sensor.

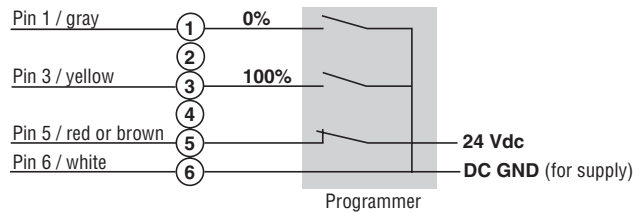
Standard factory settings place the setpoint 1 (null) and setpoint 2 (span) at the limits of the sensor's active stroke range. For example, a sensor ordered with 4 – 20 mA output, (option "A01", i.e. model number ending with "A01"), will be factory set for 4 mA output at the bottom limit of the stroke range at the null position. Likewise, the 20 mA output will be factory set at the top limit of the stroke range at the start of the "dead zone".

Setpoint 1 and setpoint 2 can be re-positioned for the actual measuring range needed anywhere within the active stroke length. (Note: The minimum distance allowed between setpoint 1 and setpoint 2 is 25 mm.) These adjustments are easily performed, even when the sensor is not directly accessible, by connecting the Analog Handheld Programmer to the sensor's integral cable or extension cable.

The R-Series Analog Handheld Programmer can also be used to change the output direction from forward-acting (e.g. 4 – 20 mA output) to reverse-acting (e.g. 20 – 4 mA output), as well as reverse-acting to forward-acting.

Please note that the R-Series Analog Handheld Programmer can only be used to program output values for 0% or 100%. To adjust the output values at setpoints other than 0% or 100%, you must use a personal computer and the R-Series Analog PC Programming Kit.

## Field adjustment with MTS Analog handheld programmer



### Programming Procedure A

Complete the following steps if you sensor serial number is 90052723 or lower:

1. Connect the programmer (see diagram above) and turn on the supply voltage.
2. Activate the programming mode:
  - a. Press and release the **Start** button.
  - b. Within 2 seconds, press the **0%** and **100%** buttons simultaneously and release.
  - c. The Sensor's Green LED slowly flashes and the Red LED is ON to indicate programming mode.
3. Adjust the position for Start of output, (0% = 0 Vdc, -10 Vdc, 4 mA, or 0 mA):
  - a. Move the magnet to the Start position.
  - b. Press and release the **0%** button.
4. Adjust the position for the End of output, (100% = 10 Vdc or 20 mA):
  - a. Move the magnet to the End position.
  - b. Press and release the **100%** button.
5. Save your settings and Exit the programming mode:
  - a. Press and release the **Start** button.
  - b. Turn off the supply voltage and disconnect the programmer.

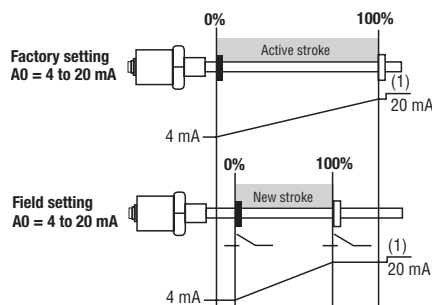
### Programming Procedure B

Complete the following steps if you sensor serial number is 90052724 or higher:

1. Connect the programmer (see diagram above) and turn on the supply voltage.
2. Activate the programming mode:
  - a. Press the **Start** button and **100%** button simultaneously. Release the **Start** button first, wait 1 second and release the **100%** button.
  - b. The Sensor's Green LED slowly flashes and the Red LED is ON to indicate programming mode.
3. Adjust the position for the Start of output, (0% = 0 Vdc, -10 Vdc, 4 mA, or 0 mA):
  - a. Move the magnet to the Start position.
  - b. Press and release the **0%** button.
4. Adjust the position for the End of output (100% = 10 Vdc or 20 mA):
  - a. Move the magnet to the End position.
  - b. Press and release the **100%** button.
5. Save your settings and Exit the programming mode:
  - a. Press and release the **Start** button.
  - b. Turn off the supply voltage and disconnect the programmer.

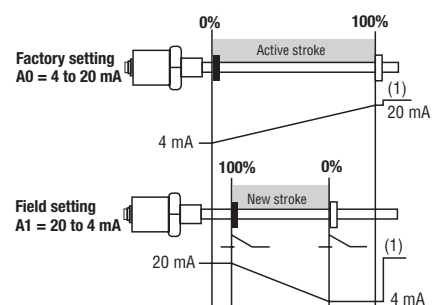
### Sensor setup examples

#### Adjusting Start and End positions



(1) Example: Error output set to 20.7 mA when exceeding Span (Setpoint 2) position

#### Adjusting Start and End positions plus changing to reverse-acting output



Part Number: 02-06 550998 Revision B

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All Temposonics sensors are covered by US patent number 5,545,984. Additional patents are pending.

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