

# RMC-500 Quick Operation Manual

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IMR02G03-E1

Thank you for purchasing the RKC product. In order to achieve maximum performance and ensure proper operation of your new instrument, carefully read all the instructions in this manual. Please place this manual in a convenient location for easy reference.

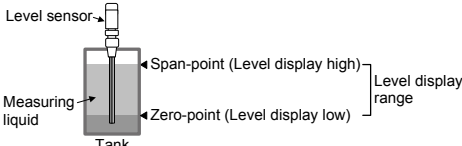
This manual describes the adjustment method of the RMC-500. For installation, parts description, specifications, parameters and communication, please refer to the following separate manuals:

- RMC-500 Installation Manual (IMR02G01-E□): Enclosed with RMC-500
- RMC-500 Parameter List (IMR02G02-E□): Enclosed with RMC-500

These manuals can be downloaded from the official RKC website:  
http://www.rkcinst.com/english/manual\_load.htm.

## 1. OUTLINE

RMC-500 provides the following adjustment functions:

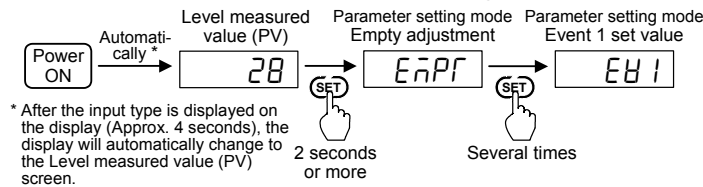
Zero-point adjustment/ Span-point adjustment	<p>Sets the capacitance range for level display; Zero-point adjustment is used to set a value to be displayed at Level display low (SCH). Span-point adjustment is used to set a value to be displayed at Level display high (SCH).</p>  <p>Zero and span points can be adjusted with the following method:</p> <ul style="list-style-type: none"> <li>• Auto-zero and Auto-span (adjustment with actual liquid).</li> </ul>
Empty adjustment	Acquires the capacitance value when the measuring tank is empty. Empty adjustment automatically corrects capacitance value at zero and span points.
Auto-span bias	When attempting the Span point adjustment (Auto-span) with the actual measured liquid level, the liquid level may be too low to reach the Level display high (SCH). This function converts the Level measurement value (PV) of the liquid to be adjusted for Auto-span to percentage.
PV bias	PV bias adds bias to the Level measured value (PV).
Linearizing adjustment	In case of measuring a tank which has a shape that gives non-linear change of the Level measured value (PV) and the capacitance value, more accurate level measurement can be achieved by entering Level measured values (PV) [displayed value] at inflexion points and the Level measured values (PV) [input value] of the actual liquid.

## 2. CHANGING DATA SETTINGS

- To store a new value for the parameter, always press the **SET** key.
- After a new value is displayed on the display by using **^** and **v** keys, if no key operation is performed within 1 minute without pressing **SET** key, this instrument returns to the Level measured value (PV) screen and the set value will not be changed.

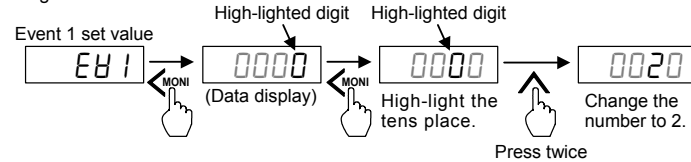
Example: Changing the Event 1 set value (EV1) to 20 %

### 1. Select the Event 1 set value (EV1) of Parameter setting mode

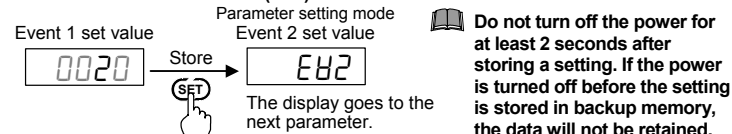


### 2. Change the Event 1 set value (EV1) to 20 %

Pressing the **MONI** key displays the data display. The high-lighted digit indicates which digit can be set.



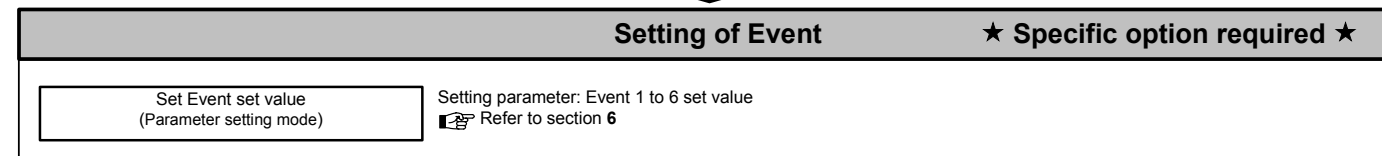
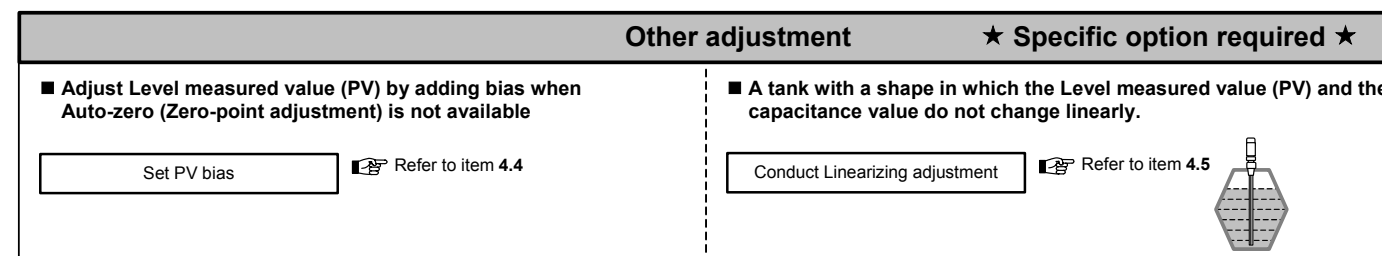
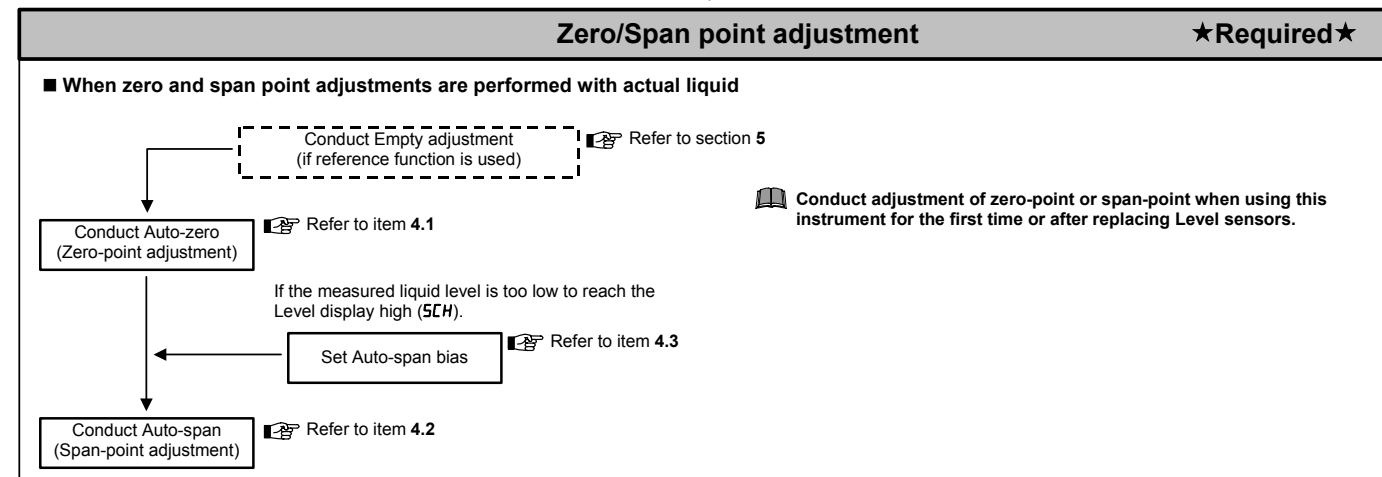
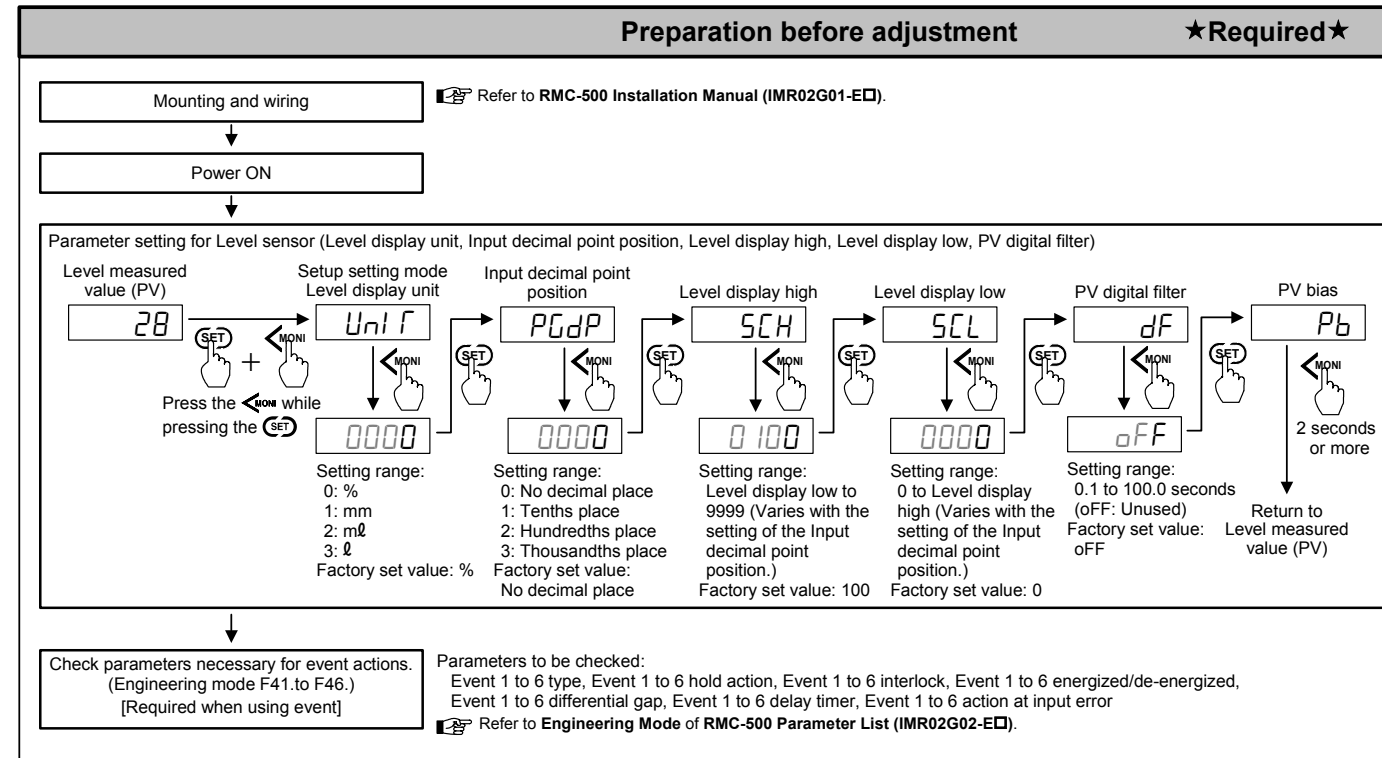
### 3. Store the Event 1 set value (EV1)



Other data can also be set by the same procedures as described in steps 1 to 3.

## 3. SETUP PROCEDURES PRIOR TO RUNNING THE INSTRUMENT

Perform as follows to make setting and adjustment necessary for the operation.



## Operation

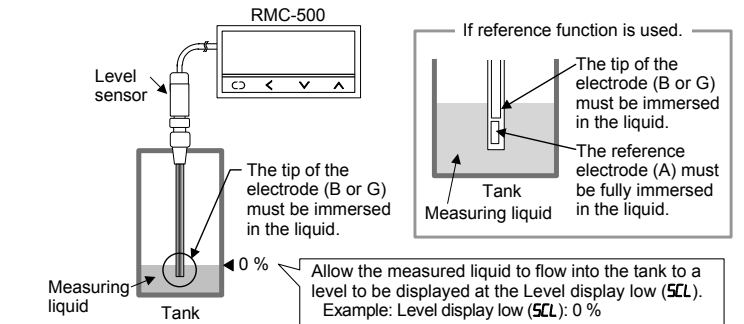
In this section adjustment and event related settings are described. If there is any other parameter to be set, refer to the RMC-500 Parameter List (IMR02G02-E□).

## 4. ADJUSTMENT WITH ACTUAL LIQUID

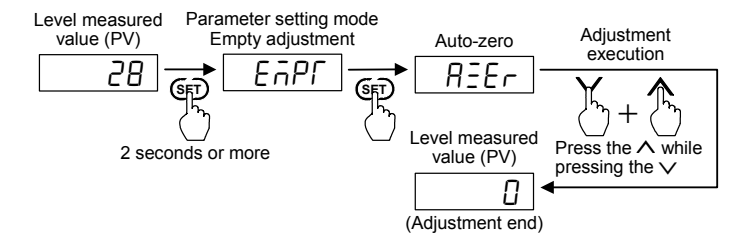
### 4.1 Auto-zero

Auto-zero takes capacitance values displayed at the Level display low (SCH). Auto-zero also resets the PV bias (Pb) to zero.

1. Allow the measured liquid to flow into the tank to a desired level to be displayed at the Level display low (SCH). Make sure that the reference electrode (electrode A) is fully immersed (if reference function is used), and the tip of the measuring electrode (electrode B) or the grounding electrode (electrode G) is immersed in the liquid.



2. Auto-zero is started by pressing the **^** key while pressing the **v** key at Auto-zero screen. If this Auto-zero operation normally ends, the screen returns to the Level measured value (PV) screen.

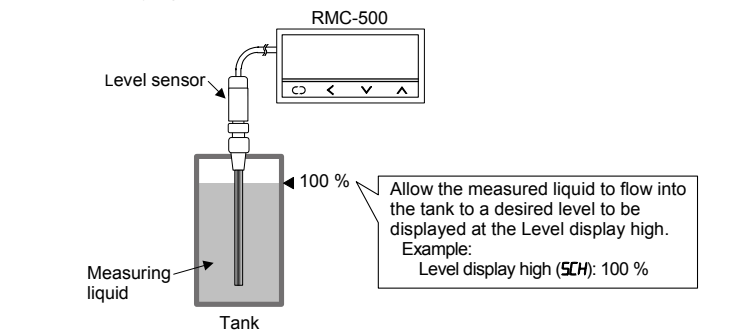


If an error occurs, the "A z E r" and "E r r" are displayed alternately on the PV display unit. Press any of the keys (**MONI**, **SET**, **^**, **v**, **^**) to clear the error and return to the Level measured value (PV) screen. If the Set Lock level (LCP) [Setup setting mode] is set to the Auto-zero lock, the display "A z E r" remains displayed and the Auto-zero is not performed.

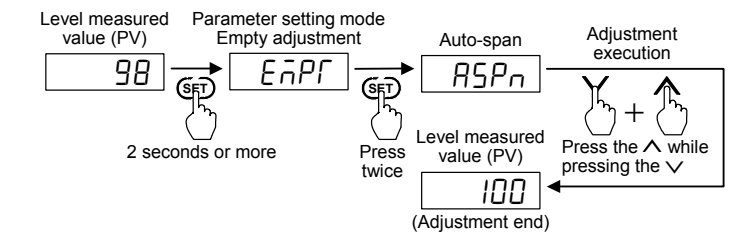
### 4.2 Auto-span

Execution of Auto-span allows the RMC-500 to take capacitance value to be displayed at the Level display high (SCH). Execution of Auto-span also resets the PV bias (Pb) to zero.

1. Allow the measured liquid to flow into the tank to a desired level to be displayed at the Level display high (SCH).



2. Auto-span is started by pressing the **^** key while pressing the **v** key at Auto-span screen. If this Auto-span operation normally ends, the screen returns to the Level measured value (PV) screen.



If an error occurs, the "A S P n" and "E r r" are displayed alternately on the PV display unit. Press any of the keys (**MONI**, **SET**, **^**, **v**, **^**) to clear the error and return to the Level measured value (PV) screen. If the Set lock level (LCP) [Setup setting mode] is set to Auto-span lock, the display "A S P n" remains displayed and Auto-span is not performed.

If the measured liquid level is too low to reach the Level display high (SCH), with the use of the Auto-span bias (SPnb), Auto-span can be performed under such conditions. (Refer to item 4.3)

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