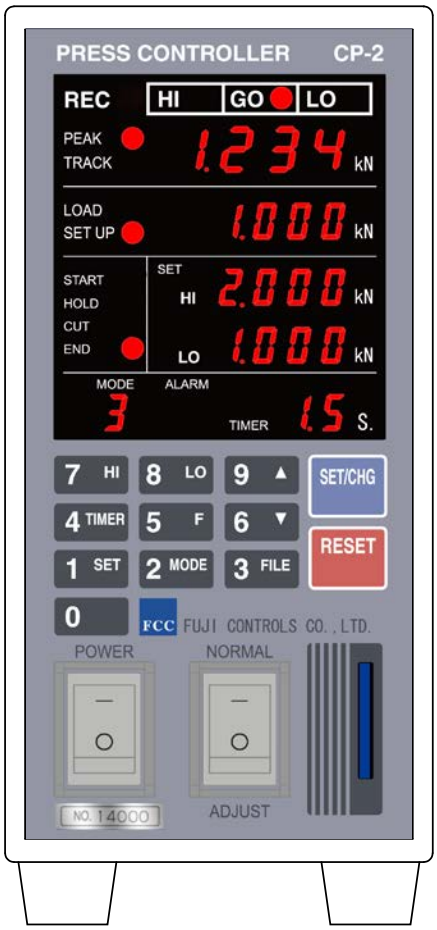
TYPE CP-2 PRESS CONTROLLER

Load Calibration

Calibration by Equivalent Input

（*Ver. 4.01*）



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Load Calibration

In PRESS CONTROLLER CP-2, if existing Load Cell is broken by some reason, the Load Calibration of replacement New Road Cell can be made by the Customer after the installation to this controller. Correct load indication cannot be obtained just replaced/connected to the new load cell. This calibration is enabling us to calibrate the correct load value indication.

This instruction will provide the introduction of **Equivalent Calibration**.

● Equivalent Calibration ●

This is a calibration method which automatically calculates the gain and makes the calibration by inputting the data with key pads for the Load Cell Test Records in the PRESS CONTROLLER without adding the actual load on the Road Cell. This method is easily enabling us to make the calibration in the case that it cannot apply the actual loads. Two kinds of data to be input are “Rated Output of Load Cell” and “Rated Capacity.”

Load Cell Test Records

Sample Name	:	003
Manufacturing No.	:	E0261
Date Tested	:	March 26, 2001
Room Temp.	:	23.0 ℃
Input Resistance	:	349.5 Ω
Output Resistance	:	349.4 Ω
Insulation Resistance	:	1.0 kMΩ or more
Bridge Voltage	:	10.0 DCV
Rated Capacity	:	3000.0 N
Rated Output (R. O.)	:	2.1482 mV/V
Standard Pitch	:	0.3580 mV/V
Non-linearity	:	0.12 % R. O.
Hysteresis	:	0.06 % R. O.
Reproducibility	:	0.00 % R. O.
Creep	:	% R. O.

STD. Load N	Output mV/V	Deviation mV/V	Output mV/V	Deviation mV/V
0.0	0.0000		0.0001	
500.0	0.3564		0.3573	
1000.0	0.7138		0.7147	
1500.0	1.0716		1.0728	
2000.0	1.4300		1.4311	
2500.0	1.7893		1.7899	
3000.0	2.1482			

Details are described as from the next page

As an example, the procedures for installation and calibration of New Load Cell to the Measuring Instrument with the abovementioned Test Record Data at ① Rated Output: 2.148 mV/V, ② Rated Capacity: 3 kN is introduced.

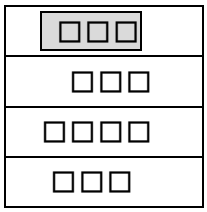
● Load Calibration (Equivalent Calibration) is made by following procedures.

1. Release of the Change Prohibition Lock of Set Value Change of the System Set Value. (Lock Level1) 1
2. Carry out the ZERO Calibration By connecting Load Cell to the Instrument, and set 0 indication at No (0) Load. 2
3. Carry out the Span Calibration This is a calibration by using Load Cell Test Records 3
4. Re-set of the Decimal Point Position Decimal Point is changed when different Rated Capacity Load Cell is installed 5
5. Set-up of the Maximum Load Value By setting/input the maximum load of Load Cell, the alarm is rung to inform excess value is applied to the Load Cell. 6
6. Re-set of the Change Prohibition Lock of Set Value Put back the setting that is unable to change the system set value. (Lock Level 3 or 5) 7

1. Release of the Change Prohibition Lock (Level 1) of Set Value

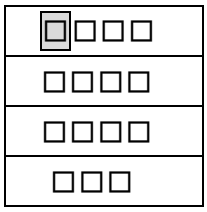
Put the Lock Level into 1 for capable to change the System Set Value. Please carry out following operation after the connection of Load Cell to the Measuring Instrument. **Do not apply the Load to the Load Cell at this state.**

1. Push the Key [3]



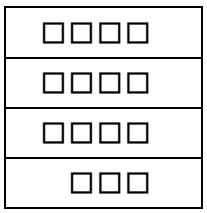
Meshed letters of □□□ are blinked. Please push [Reset] Key, if the letters other than □□□ are came up.

2. Push the [SET/CHG] Key.

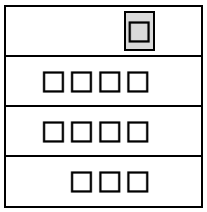


← It becomes the waiting state for the input of Code **No**.

3. Input the Code **No.** with the numeric key like “1252.”

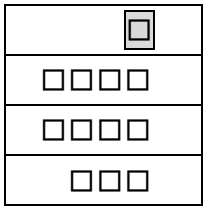


4. Push the [SET/CHG] Key.



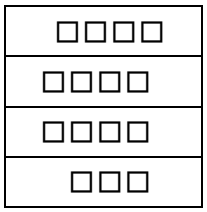
← Current prohibition level of □ or □ is blinking.

5. Input “1” with the numeric key.



← It became the Lock Level 1.

6. Push the [SET/CHG] key.



7. Push the [RESET] key.

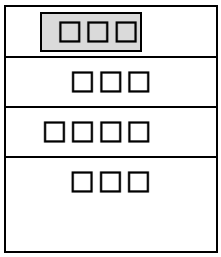
By these procedures, it is possible to change the System Set Value.

If you had a mistake, please repeat the procedures from 1 by pushing [RESET] key up to the procedure 6 by pushing [SET/CHG] key.

2. Carry out the ZERO Calibration

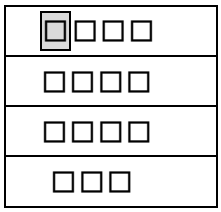
Register the 0 of New Load Cell. **Do not apply the Load to the Load Cell at this state.**

1. Push the key [3]



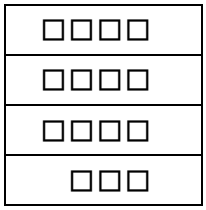
Meshed letters of □□□ are blinked.
Please push [Reset] Key, if the letters other than □□□ are came up.

2. Push the [SET/CHG] key.

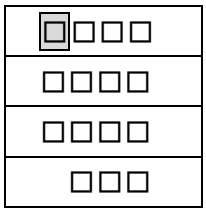


← It becomes the waiting state for the input of Code No.

3. Input the Code No. of “1243” with numeric key.



4. Push the [SET/CHG] key.



← When pushing [SET] key in the current state, it indicates o.

5. Push the [RESET] key.

Calibration of ZERO is completed by these procedures. Next is the SPAN calibration.

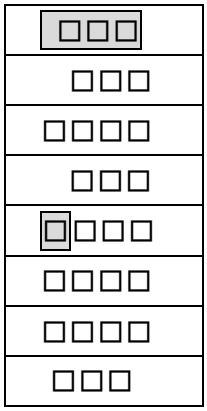
If you had a mistake, please push RESET key. Then, repeat the procedures from item 1.

3. Carry out the Span Calibration

According to the Load Cell Test Records, the Span calibration is carried out.

In this case, the Load Cell has the Rated Capacity of **3 kN** when the Rated Output is **2.148 mV/V**, the operation shall be made as follows.

1. Push the key [3]

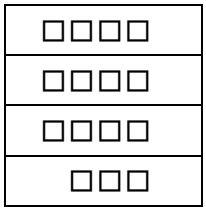


Meshed letters of □□□ are blinked.
Please push [Reset] Key, if the letters other than □□□ are came up.

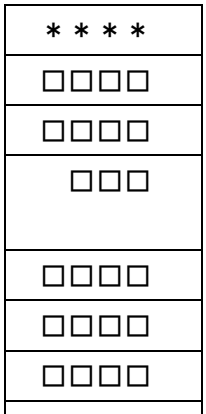
2. Push the [SET/CHG] key.

← It becomes the waiting state for the input of Code No.

3. Input the Code No. of “1241” with numeric key.



4. Push the [SET/CHG] Key.



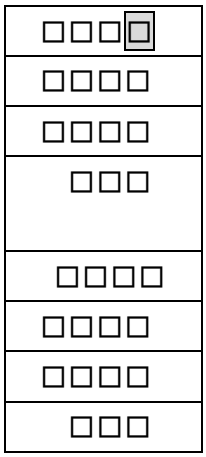
← Previously registered value is indicated at this place.

5. Input the Rated Output of [2][1][4][8].

← Input the Rated Output of new Load Cell.
In this case, it is **2.148 mV/V,** please input 2148 by using numeric key.

6. Push the [SET/CHG] Key.

7. Input the Rated Capacity of [3][0][0][0].



← The next becomes the indication of Rated Capacity.

8. Push the [SET/CHG] key.

9. Push the [RESET] key.

– With these procedures, the Span calibration is completed.–

If you had a mistake, please repeat the procedures from 1 by pushing RESET key up to the procedure 8 by pushing SET/CHG key.

For Reference

■ **In the case that correct value is not indicated even the input of Load Cell calibration value, the rated output is corrected.**

If the indicated value of PRESS CONTROLLER is lower than the load applied to the Load Cell, input the smaller Rated Output. Or if the indicated value is higher, input the larger Rated Output.

Please remind that not to change the Rated Capacity.

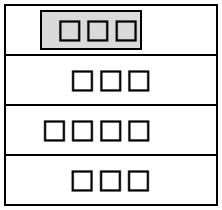
■ **Maximum and Minimum Indication Value of the Rated Capacity of Load Cell**

Type	Rated Capacity	Maximum Indication Value	Minimum Indication Value
003 (Type C, F1, F2, and L are also the same)	3 kN	3000 kN	0.000 kN
03 (Type C, F1, F2, F4, and L are also the same)	30 kN	30.00 kN	0.00 kN
10U (Type F2, and L are also the same)	100 kN	300.0 kN	0.0 kN
20U	200 kN	300.0 kN	0.0 kN
0003 F1 (Type F2, and L are also the same)	300 N	300.0 N	0.0 N
0002	200 N	300.0 N	0.0 N

4. Re-set of the Decimal Point Position

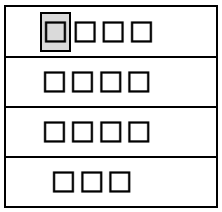
As per Load Cell Rated Capacity, the indication value (Decimal Point Position) is different; the re-setting is carried out in this section. **※ However, in case of replacement or re-calibration by the breakage of Load Cell etc. the change of decimal point position is not required.**

1. Push the key [3]



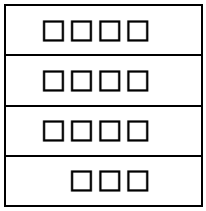
Meshed letters of [□□□] are blinked.
Please push the [RESET] key, if the letters other than [□□□i] are came up.

2. Push the [SET/CHG] key.

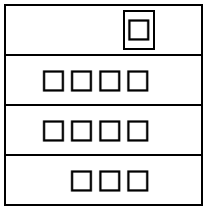


← It becomes the waiting state for the input of Code No.

3. Input the Code No. of "1247" with numeric key.



4. Push the [SET/CHG] key.

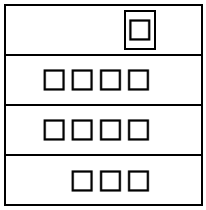


← Current decimal point position information is indicated.

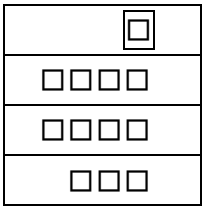
5. Depending on the Rating of Load Cell, the input value is different.

*Refer to ■Load Cell Rated Capacity, and Maximum/Minimum Indication Value in Page 4.

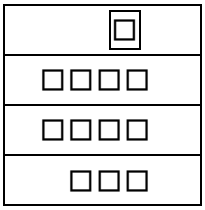
● Input [□] if the rating is 3 kN.



● Input [□] if the rating is 30 kN.

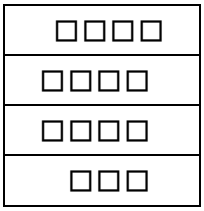


● Input [□] if rating is 100 kN, 200 kN.



6. Push the [SET/CHG] key.

7. Push the [RESET] key.



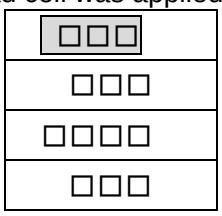
With these procedures, the re-setting of decimal point position is completed.

If you had a mistake, please push RESET key. Then, repeat the procedures from item 1.

5. Set-up of the Maximum Load Value

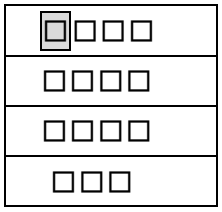
By inputting the Maximum Load Value of the Load Cell, the alarm is rang if the load exceeded the set value and inform us that the load cell was applied the excessive load.

1. Push the key [3]



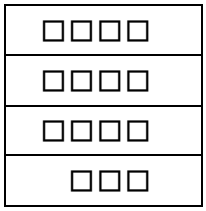
Meshed letters of □□□ are blinked. Please push the [RESET] key, if the letters other than □□□ are came up.

2. Push the [SET/CHG] key.

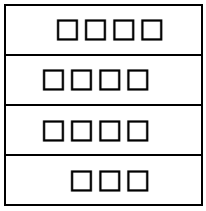


← It becomes the waiting state for the input of Code No.

3. Input the Code No. of “1245” with numeric key.



4. Push the [SET/CHG] key.

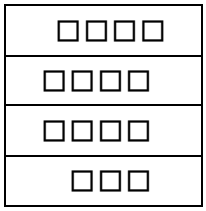


← Current Maximum Load Value Information is indicated.

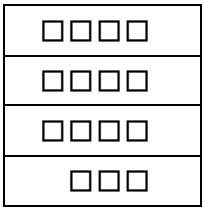
5. Depending on the Rating of Load Cell, the input value is different.

*Refer to ■Load Cell Rated Capacity, and Maximum/Minimum Indication Value in Page 4.

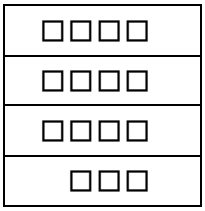
● Input □□□□ if the rating is 3 kN.



● Input □□□□ if the rating is 30 kN.



● Input □□□□ if the Rating is 100 kN, and input □□□□ if the Rating is 200 kN.



6. Push the SET/CHG key.

7. Push the RESET key.

□□□□
□□□□
□□□□
□□□

With these procedures, the re-setting of decimal point position is completed.

If you had a mistake, please push RESET key. Then, repeat the procedures from item 1.

6. Re-set of the Change Prohibition Lock of Set Value

When all calibrations are completed, please securely be re-set the Set Value Change Prohibition Lock to the pervious prohibition set level. For re-setting to the Prohibition Level, input the □ or □ at item 5 in the Page -3 “1. Release of the Change Prohibition Lock (Level 1) of Set Value.”

With these procedures, the Load Calibration (Equivalent Calibration) is completed.

■ **In our company, we will onerously provide the Load Calibration Work if the measuring instruments and load cell are sent to us. For further details please ask to the store purchased or our sales personnel. We are also providing the traceability related documents upon request.**

If there is any question after the look through the instruction, please feel free to contact us at followings.

Inquiries to:

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