TERASAKI
Innovators in Protection Technology

TYPE TNS-3 OCR CHECKER
FOR
ELECTRONIC MCCBs

INSTRUCTION MANUAL

Applicable breaker types : **TemBreak2**
TemBreak

Notice
Please retain this manual for future reference.

KRB-0973

Table of Contents

The TNS-3 OCR checker is a dedicated testing device that can easily test the overcurrent release (OCR) mounted on an electronic circuit breaker (TemBreak2, or TemBreak) onsite.
Before using this product, carefully read this manual to ensure correct use.

1. Safety Notices

Thank you for purchasing a TERASAKI TNS-3 OCR checker.

This chapter contains important safety information. Be sure to carefully read these safety notices, instructions in this manual, and other documents accompanying the TNS-3 OCR checker to familiarize yourself with safe and correct procedures or practices before using the OCR checker. Safety notices in this chapter are categorized as "⚠CAUTION" in terms of the hazard level. A caution notice with this symbol ("⚠CAUTION") indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Note that failure to observe a caution notice with "⚠ CAUTION" could result in serious injury/damage in some situations. Because safety notices contain important information, be sure to read and observe them.

⚠ CAUTION

■ Common to transportation, operations and storage

- ●Do not store the product in a place where it is subject to direct sunlight, high temperatures, high humidity, dusty air, corrosive gases, strong vibration and shock, or other unusual conditions. Maintain the ambient temperature and humidity within the respective ranges shown in Table 1 Ratings and specification 1 of TNS-3 OCR checker (without condensation). Failure to do so may result in malfunction.

■ Transportation

- ●Do not drop or impact the product. Carefully handle the product as this is an electronic device. Failure to do so may result in malfunction.

■ Operations

- ●Make sure that testing with the OCR checker is conducted by a competent person. Before using the OCR checker, familiarize yourself with all device information, safety information, and precautions for the molded-case circuit breaker, OCR, and OCR checker. Careless handling could result in unexpected accidents.
- ●Before testing with the OCR checker, check that main circuit current is not flowing through the circuit breaker.
- ●Before testing the OCR, be sure to prepare for testing as described in "4. Preparation for Testing". Failure to do so may result in nuisance tripping or malfunction.
- ●Before plugging the power plug into or out from the OCR checker or the signal terminal connector into or out from the OCR checker or OCR, be sure to check that the OCR checker is off. Failure to do so may result in malfunction.
- ●Press each switch on the OCR checker with your finger with an operating force of 2N to 4N. Applying an excessive operating force or pressing with a pointed hard projection (or similar object) may result in malfunction.
- ●Before testing, be sure to calculate the current value applied to the OCR. Applying excessive current may cause the OCR to malfunction.
- ●After testing, be sure to return the settings of the OCR to their original state (prior to testing). Failure to do so may result in fire or nuisance tripping.
- ●Do not connect the MIP cable to any devices other than the TNS-3 OCR checker or the circuit breaker to be used.

2. Ratings and Specifications

Table 1 and Table 2 show the ratings and specifications of the OCR checker, and Table 3 shows the test modes, time measurement ranges, and units of time measurement for the OCR checker.

Table 1 Ratings and specification 1 of TNS-3 OCR checker

Item	Details
Applicable models	Electronic circuit breakers: TemBreak2, and TemBreak
Rated voltage	100 to 240 VAC, 50/60 Hz (shared)
Fuse for voltage input protection	5 mm diameter × 20 mm long, 1 A (time lag type)
Power consumption	30 VA
External dimensions of main unit	W240.6 mm × H157.1 mm × D108.8 mm (excluding screw heads)
Mass of main unit	2.3 kg
Switch operating force	2 N to 4 N
Allowable ambient temperature	While in use: 0 to 55°C, While stored: -20 to +60°C
Allowable humidity	While in use: 40% to 85% RH, While stored: 40% to 90%
Accessories	Power cord (approx. 3 m) ● With a conversion plug (type C)
Option	MIP cable (see Table 5 MIP cable types)

Table 2 Ratings and specification 2 of TNS-3 OCR checker

(For TemBreak)

Test mode		Output current range (Displayed value/set value)	Maximum continuous energization time
Long time-delay tripping	Pickup current	0 mA to 100 mA	No limit
	Pickup time	0 mA to 500 mA	*1
Short time-delay tripping	Pickup time	0 mA to 750 mA	1.50 sec
Instantaneous tripping	Pickup time	0 mA to 750 mA	0.04 sec
Ground-fault tripping	Pickup time	0 mA to 50 mA	1.50 sec

*1: The time [in seconds] calculated by $1{,}600/I^2$. However, the maximum allowable time is 999 seconds and "I" indicates the set current value [mA] divided by 50.

(For TemBreak2)

Test mode		Output current range (Displayed value/set value)	Maximum continuous energization time
Long time-delay tripping	Pickup current	0 mA to 200 mA	No limit
	Pickup time	0 mA to 1000 mA	*2
Short time-delay tripping	Pickup time	0 mA to 1500 mA	1.50 sec
Instantaneous tripping	Pickup time	0 mA to 1500 mA	0.04 sec
Ground-fault tripping	Pickup time	0 mA to 100 mA	1.50 sec

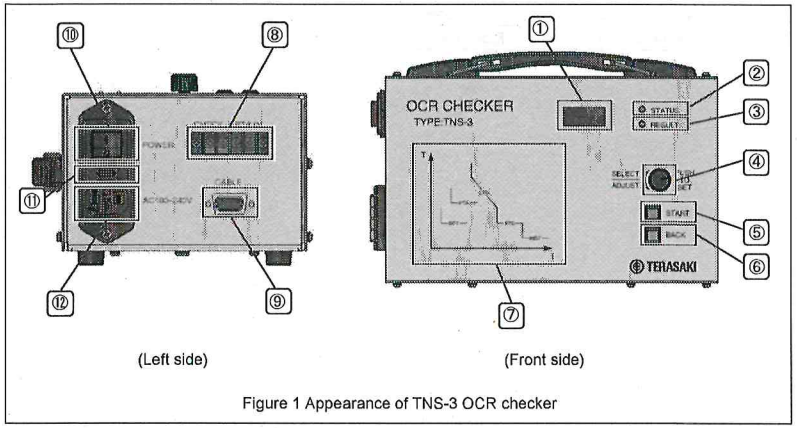
*2: The time [in seconds] calculated by $1{,}600/I^2$. However, the maximum allowable time is 999 seconds and "I" indicates the set current value [mA] divided by 100.

Table 3 Test modes, time measurement ranges, and units of time measurement

Test mode		Time measurement range	Unlit of time measurement
Long time-delay tripping	Pickup time	0.0 s to 999.9 sec	0.1 sec
Short time-delay tripping	Pickup time	0.00 s to 1.50 sec	0.01 sec
Instantaneous tripping	Pickup time	0.00 s to 0.05 sec	0.01 sec
Ground-fault tripping	Pickup time	0.00 s to 1.50 sec	0.01 sec

3. Component Identifications

This chapter explains the name and function of each component of the OCR checker.



(Left side) (Front side)

Figure 1 Appearance of TNS-3 OCR checker

Table 4 Name and function of each component of TNS-3 OCR checker

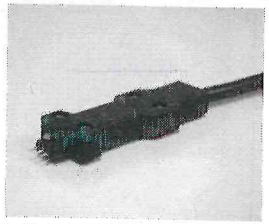
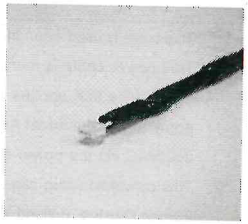
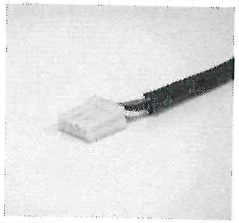
	Name	Description
①	Display section	This selection displays a current value or time according to the selected measurement item.
②	STATUS lamp	Unlit: While the power is off Lit in green: While the power is on Blinking in red: While a test is in progress (power is being supplied to the OCR)
③	RESULT lamp	Unlit: When there is no error Lit in green: When timekeeping is stopped as tripping or PTA contact activation is detected Lit in red: When a test is terminated as the upper limit of energization time is exceeded
④	SELECT/ADJUST knob	For normal operation: This switch is used to switch the test mode menu screen and select a desired test mode. For current setting: This switch is used to move the cursor (underline) over each digit of the output signal value or increment or decrement the output signal value.
⑤	START switch	This switch is used to start a test. Pressing the switch starts supplying power to the OCR.
⑥	BACK switch	For normal operation: This switch is used to return to the previous menu screen. For testing: This switch is used to stop the test.
⑦	Protection characteristic curve diagram	Each test item is displayed in this protection characteristic curve diagram.
⑧	CHECK terminal	The actual current value of power supplied to the OCR is output to this terminal.
	PTA IN terminal	The PTA status detected by the OCR is output to this terminal.
⑨	Signal terminal port	The D-sub connector of the MIP cable is plugged into this port. (See Table 5 MIP cable types.)
⑩	POWER switch	This switch is used to turn the OCR checker on or off.
⑪	Fuse box	This fuse box is designed to protect voltage input.
⑫	Power socket	The square connector (IEC 60320 C13 connector) of the power cable is plugged into this port. (See Figure 2 Power cable.)

● MIP cable (optional)

This cable is used to connect an overcurrent release (OCR) and OCR checker.

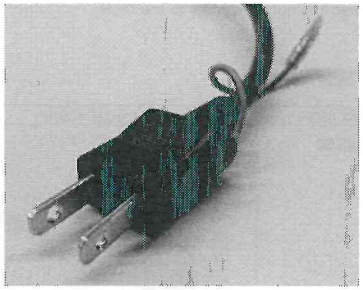
The circuit breaker uses this MIP cable to supply power and output signals to the OCR.

Table 5 MIP cable types

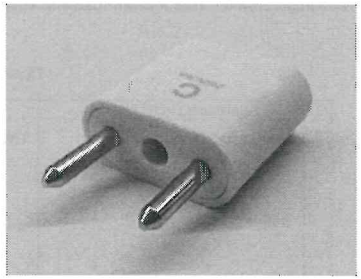
	Applicable circuit breaker	Product name	Connector shape
1	**TemBreak2 (400AF or higher)**	**TNS-3 CABLE2**	
2	**TemBreak2 (225AF)**	**TNS-3 CABLE3**	
3	**TemBreak**	**TNS-3 CABLE1**	

● Power cable (accessory)

The cable for supplying power to the OCR checker is shown in Figure 2.



AC power cable*1



Conversion plug*2
(Type C)

Figure 2 Power cable

*1: This cable is used when the OCR checker is used in Japan.
This power cable is marked as "125V 7A", which indicates the case where the cable is connected to a device that applies to the Electrical Appliance and Material Safety Act. This device does not apply to the Electrical Appliance and Material Safety Act and can be used with AC voltages up to 250 VAC via the power cable provided.

*2: This conversion plug can be connected to the end of the power cable when the OCR checker is used in Europe (Austria, Holland, Germany, Sweden, Denmark, Norway, Finland, Belgium, etc.). A different cable can also be used as long as the plug shape and voltage of the cable match the power outlet.

4. Preparation for Testing

⚠ CAUTION

- Before testing the OCR, be sure to check that the main circuit of the circuit breaker is not energized and then prepare for testing. Failure to do so may result in nuisance tripping or malfunction.
- Before plugging the power plug into or out from the OCR checker or the signal terminal into or out from the OCR checker or OCR, be sure to check that the OCR checker is off.
- If you turn on the power switch before connecting the MIP cable or reconnect the MIP cable with the power switch turned on, turn off the power once before using the OCR checker.
- If you conduct testing with the circuit breaker turned off, you cannot confirm tripping.

This chapter explains how to prepare for testing. Use the following procedures to prepare for testing.

4-1. Preparation for Testing (1)

1) Check that the power switch of the OCR checker is off.

2) Plug the D-sub connector of the MIP cable into the signal terminal port on the OCR checker. (See Figure 3 below.)

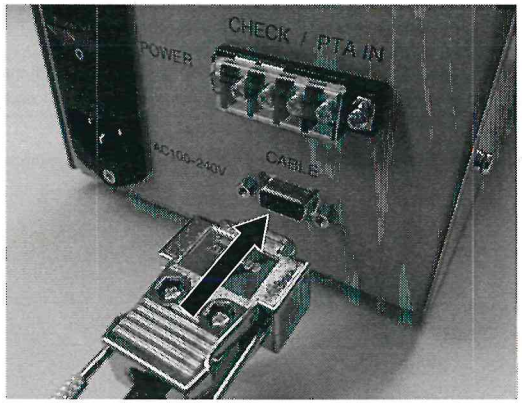


Figure 3 Connecting the signal terminal connector (D-sub connector)

Check that the MIP cable is equipped with the terminal connector corresponding to the circuit breaker to be tested. (See Table 5 MIP cable types.)

3) Check the power supply voltage value marked on the power socket on the OCR checker and plug the power plug (square connector) into the power socket on the OCR checker. (See Figure 4 below.)

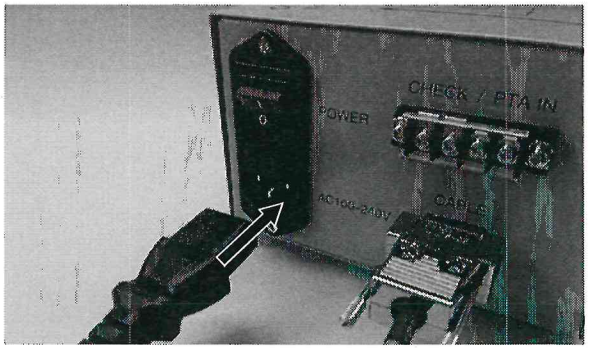


Figure 4 Connecting the power plug

4-2. Preparation for Testing (2)

4-2-1. For TemBreak2

1) If the circuit breaker is installed in a system, turn off the upper circuit breaker to stop power supply to the main circuit and control circuit.

2) Removing the test terminal cap (for the TemBreak2 225AF circuit breaker)
Insert a flathead screwdriver into the gap on the right edge of the test terminal cap and remove the cap. (See Figure 5 below.)

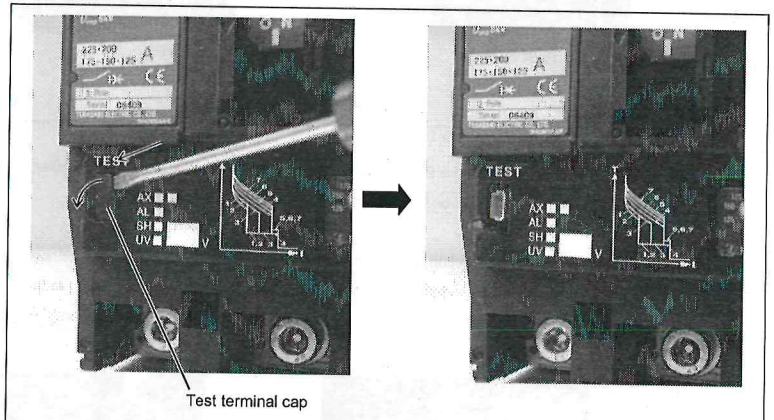


Figure 5 Removing the test terminal cap

3) Removing the OCR cover (for TemBreak2 400AF or higher)
Remove the OCR cover from the circuit breaker. Peel off the sealing sticker (shown in Figure 6 below), lift the OCR cover by inserting a flathead screwdriver into the gap on the right edge of the OCR cover, and then slide the OCR cover to the right until it comes off. (See Figure 7.)

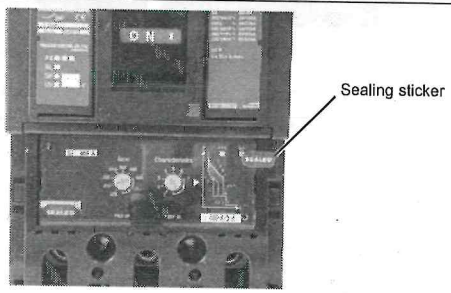


Figure 6 Location of sealing sticker

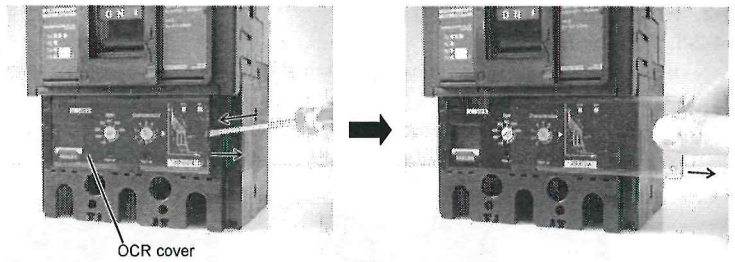
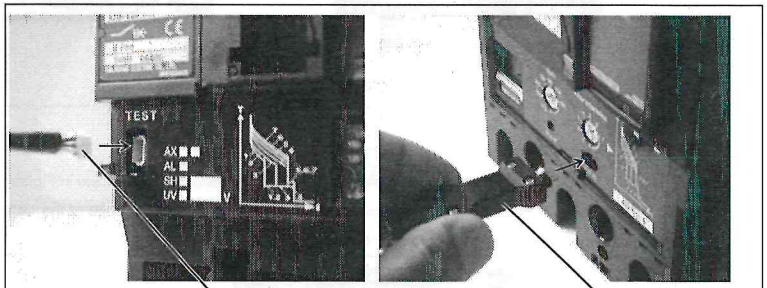


Figure 7 Removing the OCR cover

After testing, be sure to mount the OCR cover and seal the OCR cover with a sealing sticker. (Spare sealing stickers are stored in the pocket on the back of the OCR cover.)

4) Make sure that the display section and lamps of the OCR checker are unlit and then connect the OCR and OCR checker with the signal terminal connectors. Plug the signal terminal connector (square connector) of the MIP cable connected to the OCR checker to the "TEST IN" terminal on the circuit breaker. (See Figure 8 below.)



Signal terminal connector (square connector)

(For TemBreak2 225AF)

Signal terminal connector (square connector)

(For TemBreak2 400AF or higher)

Figure 8 Connecting the signal terminal connector

5) Plug the power plug connected to the OCR checker into the power outlet.

6) Testing includes the procedure for changing OCR*1 settings. We recommend that you write down the original settings before testing so that you can restore them after testing.

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*1: If you use a high-performance OCR (equipped with LCD), contact our head office shown on the last page of this document. Complicated explanation is required because the operating current values for short-time delay tripping and instantaneous tripping differ between high-performance OCR and knob-type OCR and current values are corrected on high-performance OCR.

4-2-2. For TemBreak

1) If the circuit breaker is installed in a system, turn off the upper circuit breaker to stop power supply to the main circuit and control circuit.

2) Remove the OCR cover from the circuit breaker. Peel off the sealing sticker, loosen the OCR cover mounting screws underneath the sealing sticker, and remove the OCR cover. (See Figure 9 below.)

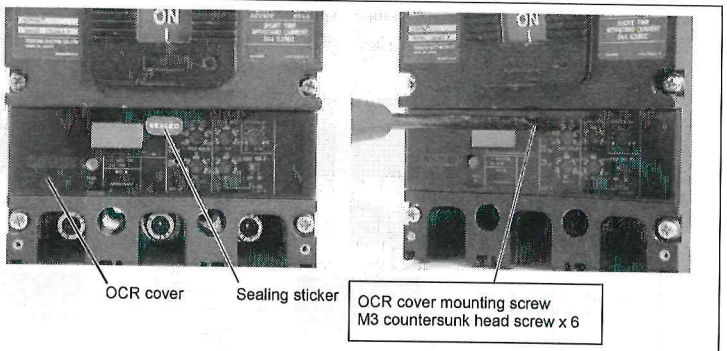


Figure 9 Removing the OCR cover

After testing, be sure to mount the OCR cover and seal the OCR cover mounting screws with a sealing sticker. (Spare sealing stickers are stored in the pocket on the back of the OCR cover.)

3) Make sure that the display section and lamps of the OCR checker are unlit and then connect the OCR and OCR checker with the signal terminal connectors. Plug the signal terminal connector (square shape) of the MIP cable connected to the OCR checker to the "TEST IN" terminal on the circuit breaker. (See Figure 10 below.)

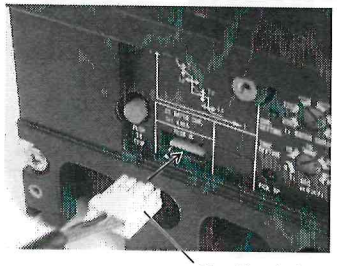


Figure 10 Connecting the signal terminal connector (square connector)

4) Plug the power plug connected to the OCR checker into the power outlet.

5) Testing includes the procedure for changing OCR settings. We recommend that you write down the original settings before testing so that you can restore them after testing.

5. Common Operations

5-1. Menu Operations

If you turn on the OCR checker, after a while, the display section will be switched to "LTD/PTA PICK UP", which indicates pickup current measurement for long time-delay tripping. You can switch the menu item by rotating the SELECT/ADJUST knob clockwise or counterclockwise. (For details, refer to the menu transition diagram shown below.)

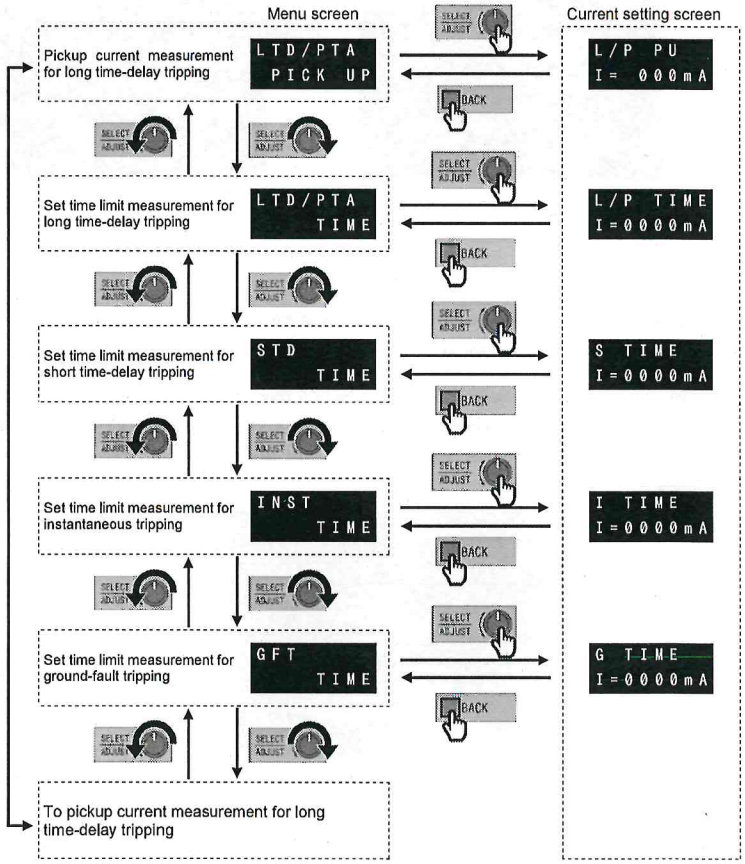
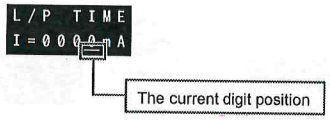


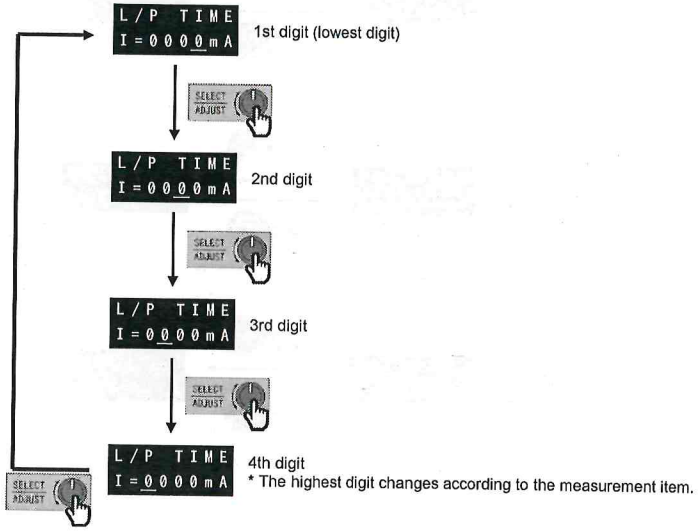
Figure 11 Menu transition diagram

5-2. Current Value Setting

The underline on the numerical value displayed on the current value setting screen indicates the current digit position. (The first digit is the default position of the underline.)

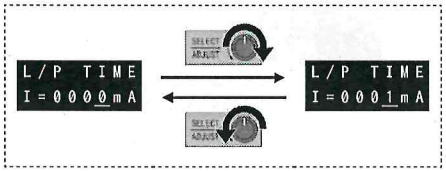


The current digit position can be moved by pressing the SELECT/ADJUST knob.

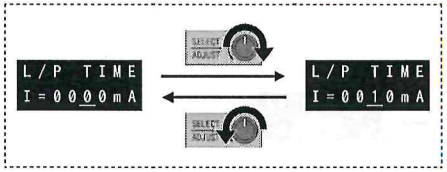


Turning the SELECT/ADJUST knob clockwise increases the value in the current digit position and turning it counterclockwise decreases the value in the current digit position.

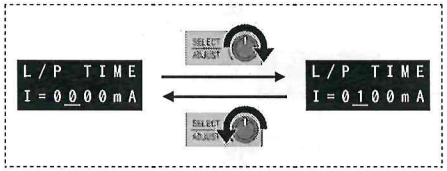
1st digit



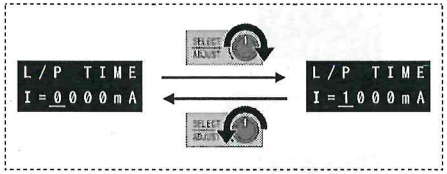
2nd digit



3rd digit



4th digit



6. Testing Procedures

This chapter explains the testing procedures for the OCR checker.

> **⚠ CAUTION**
>
> - Press each switch on the OCR checker with your finger with an operating force of 2N to 4N. Applying an excessive operating force or pressing with a pointed hard projection (or similar object) may result in malfunction.
> - Before testing, be sure to calculate judgment criterion values for the OCR. Applying excessive current may result in OCR failure.
> - After testing, be sure to return the settings of the OCR to their original state (prior to testing). Failure to do so may result in fire or nuisance tripping.
> - After testing each set time limit with the circuit breaker turned off, reset the handle before turning on the circuit breaker. Otherwise, depending on the circuit breaker, tripping may occur when the circuit breaker is turned on.

1) Press the power switch (shown in Figure 1) on the OCR checker to turn the power on.
2) When startup is completed, the display is switched to "LTD/PTA PICK UP" (Pickup current measurement mode for long time-delay tripping).

Use the following procedures to conduct testing.

6-1. Pickup Current Measurement for Long Time-delay Tripping

The characteristics of set current values ensure that the OCR remains inactive when the set current value is below 105% of the rated current and the OCR is activated when the set current value is above 125% of the rated current. The OCR of the circuit breaker is adjusted with any value between these upper and lower threshold values (105% to 125%). Set values can be checked as shown in Figure 12 Indicator lamp on OCR of each circuit breaker.

1) Calculate judgment criterion values.
   Use the following formula to calculate judgment criterion values for pickup current.

   (For TemBreak)

   $[I_1 / I_{CT} \times 50 \times 1.05] < I_T \leq [I_1 / I_{CT} \times 50 \times 1.25]$ (mA)

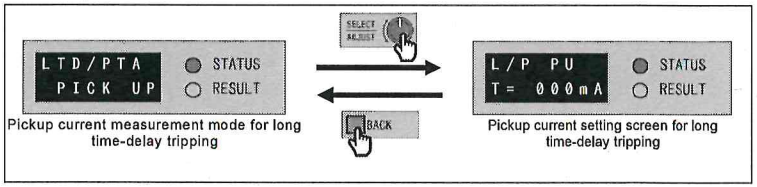
   (For TemBreak2)

   $[I_R / I_{CT} \times 100 \times 1.05] < I_T \leq [I_R / I_{CT} \times 100 \times 1.25]$ (mA)

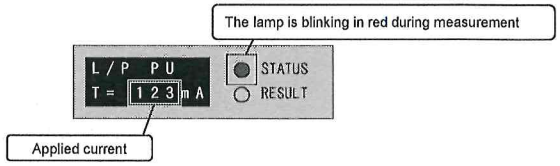
I_1, I_R	:	Set rated current value (A)
I_T	:	Set current value for TNS-3 (mA)
I_{CT}	:	Rated primary current value for CT (A)*1

2) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "LTD/PTA PICK UP" (Pickup current measurement mode for long time-delay tripping) on the screen. (This measurement mode is initially displayed when the power is turned on.)

3) Press the SELECT/ADJUST knob to display the current setting screen. (To cancel the operation, press the BACK button.)



4) Press the START button to start measurement.



*1:The value of I_{CT} is indicated on the OCR of the circuit breaker.

5) Turn the SELECT/ADJUST knob clockwise to increase the applied current until the indicator lamp on the OCR of the circuit breaker lights up in red*2. (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

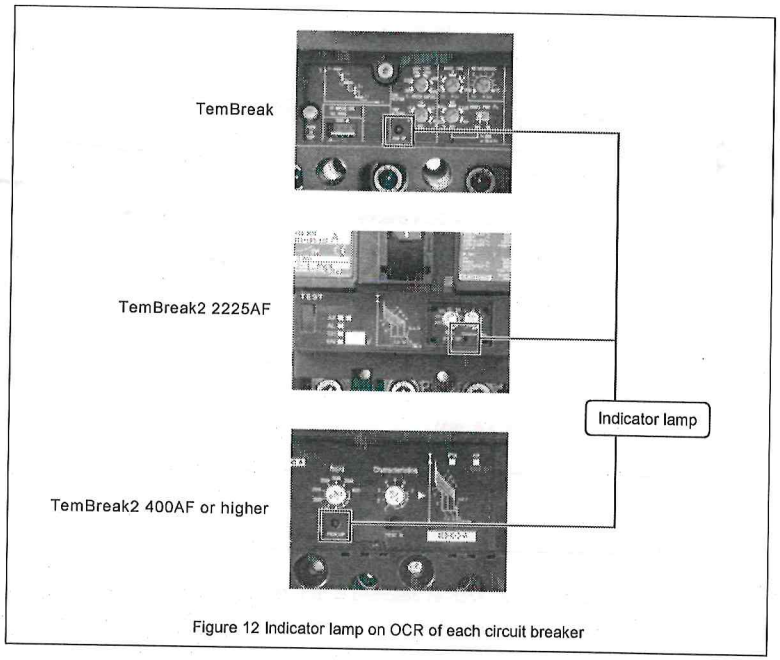


Figure 12 Indicator lamp on OCR of each circuit breaker

6) When the indicator lamp on the OCR of the circuit breaker lights up, turn the SELECT/ADJUST knob counterclockwise to decrease the applied current until the indicator lamp goes out.

7) Slowly repeat increasing and decreasing applied current a few times to read the current value at the limit point at which the indicator lamp on the OCR of the circuit breaker lights up

8) Compare the read current value with the judgment criterion values calculated in step 1). It is normal if the read current value falls within the range of the judgment criterion values.

9) After checking the above, press the BACK button to cancel the test mode and shut off the power.

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*2: If a pre-trip alarm (PTA) is incorporated, the indicator lamp on the OCR of the circuit breaker will start blinking in red when the set value for PTA is exceeded.

- The current value at which the indicator lamp starts blinking is the set value (I_P) for PTA.
- If current exceeding the set value is continuously applied, the time limit function will be activated.

6-2. Set Time Limit Measurement for Long Time-delay Tripping

This item cannot be measured during operation described in "7-2. Measuring the Activation Time Limit for Pre-trip Alarm (PTA)".

1) Change the settings on the circuit breaker side.

If the circuit breaker has the OCR set value shown in the table below, temporarily change the set value before testing. After testing, restore the OCR set value to its original value.

Circuit breaker	OCR set value to be changed
TemBreak	If the dial scale value of I_2 is 6 or less, change the value to 10.
TemBreak2*1	If the scale value of Characteristics is 3 or less, change the value to 4 or more.

2) Calculate a set current value for the OCR checker.

Use the following formula to calculate a set current value.

(For TemBreak)

$I_T = I_1 / I_{CT} \times 50 \times 6$ (mA)

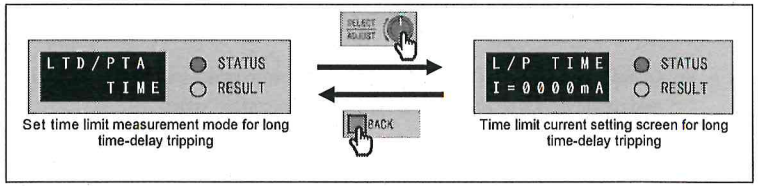
(For TemBreak2)

$I_T = I_R / I_{CT} \times 100 \times 6$ (mA)

I_1, I_R	:	Set rated current value (A)
I_T	:	Set current value for TNS-3 (mA)
I_{CT}	:	Rated primary current value for CT (A)*2

3) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "LTD/PTA TIME" (Set time limit measurement mode for long time-delay tripping) on the screen.

4) Press the SELECT/ADJUST knob to display the current setting screen. (To cancel the operation, press the BACK button.)



Set time limit measurement mode for long time-delay tripping

Time limit current setting screen for long time-delay tripping

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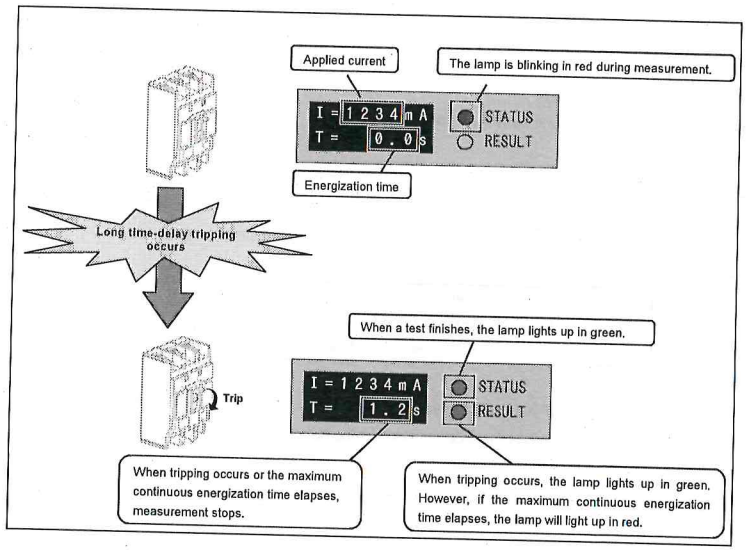
*1: When XOW type OCR is used, there is no need to change the set value.

*2: The value of I_{CT} is indicated on the OCR of the circuit breaker.

5) Use the SELECT/ADJUST knob to set the applied current value (I_T) to the value calculated in step 2) above. (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

6) Press the START button to output the set current to the OCR and start measuring energization time.

7) If applied current exceeds the threshold of long time-delay tripping, measurement of energization time will be terminated. At this time, if the circuit breaker is on, it will trip.
   * If the maximum continuous energization time (shown in Table 3) elapses, measurement will be terminated automatically*3.



8) Compare the energization time (time limit value for long time-delay tripping) on the display with the OCR set value (TemBreak: T_1, TemBreak2: t_R). It will be normal if the energization time falls within the range of the judgment criterion values ±20%.

9) To conduct a test again, press the BACK button and start the procedure from step 5) (setting the applied current value) on this page.

*3: The cause of tripping failure may be OCR failure or applied current that is set inadequately.

6-3. Set Time Limit Measurement for Short Time-delay Tripping

1) Change the settings on the circuit breaker side.
When testing a TemBreak circuit breaker, first check that the SHORT TIME I^2t switch on the OCR is set to "OFF". If the SHORT TIME I^2t switch is set to "ON", switch it to "OFF" before testing and switch it back to ON after testing.

2) Calculate a set current value for the OCR checker.
Use the following formula to calculate a set current value.

(For TemBreak)

$I_T = I_2 / I_{CT} \times 50$ (mA) (±15%)

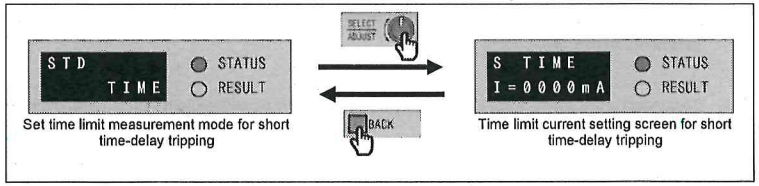
(For TemBreak2)

Use the settings corresponding to the rated current for each circuit breaker model as shown in "Table 6 Set current values for short-time delay tripping" on page 23.

I_2	:	Set rated current value (A)
I_T	:	Set current value for TNS-3 (mA)
I_{CT}	:	Rated primary current value for CT (A)*1

3) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "SDT TIME" (Set time limit measurement mode for short time-delay tripping) on the screen.

4) Press the SELECT/ADJUST knob to display the current setting screen. (To cancel the operation, press the BACK button.)



Set time limit measurement mode for short time-delay tripping

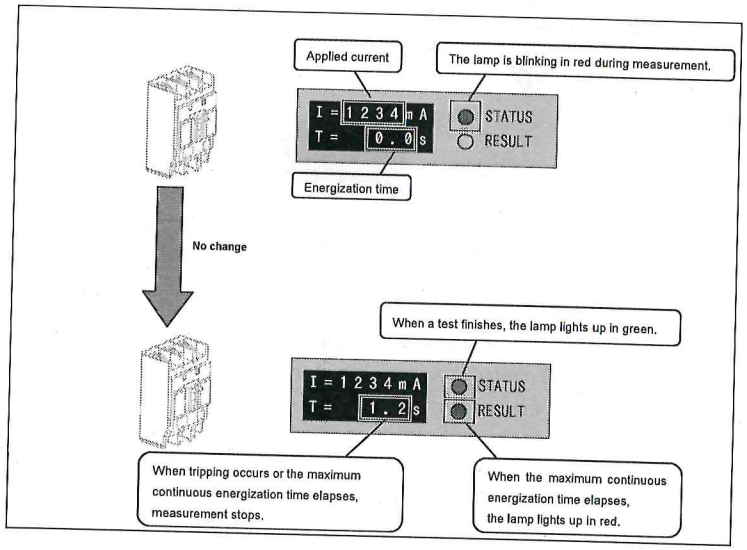
Time limit current setting screen for short time-delay tripping

*1:The value of I_{CT} is indicated on the OCR of the circuit breaker.

5) Use the SELECT/ADJUST knob to set the applied current value (I_T) to the lower limit value calculated in step 2) above (or the lower limit value shown in Table 6 in the case of TemBreak2). (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

6) Press the START button to output the set current to the OCR and start measuring energization time.

7) Check that measurement is terminated automatically when the maximum continuous energization time (shown in Table 3) elapses. At this time, if the circuit breaker is on, check that it does not trip.



8) Press the BACK button to return to the current setting screen, and set the applied current value (I_T) to the upper limit value calculated in step 2) above (or the upper limit value shown in Table 6 in the case of TemBreak2).

9) Press the START button to start measuring energization time.

10) If applied current exceeds the threshold of short time-delay tripping, measurement of energization time will be terminated*2. At this time, if the circuit breaker is on, it will trip.
* If the maximum continuous energization time (shown in Table 3) elapses, measurement will be terminated automatically*3.

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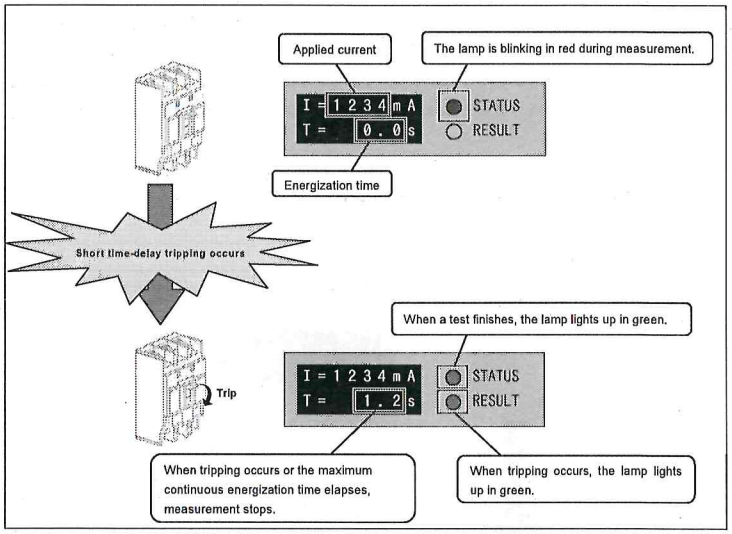
*2: If the operating time drops below 0.05 seconds, lower the upper limit value and check the operating time.

*3: The cause of tripping failure may be OCR failure or applied current that is set inadequately.



11) Compare the energization time (time limit value for short time-delay tripping) on the display with the OCR set value (TemBreak: T_1, TemBreak2: t_R). It will be normal if the energization time falls within the error range of the judgment criterion values (refer to the catalog).

12) To conduct a test again, press the BACK button and start the procedure from step 5) (setting the applied current value) on the previous page.

Table 6 Set current values for short-time delay tripping (in Japan)

Circuit breaker model	I_R [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
S225-GE S225-PE H225-NE	125	1, 2	107	125	143
		3	213	250	287
		4, 5	425	500	575
	150	1, 2	128	150	172
		3	255	300	345
		4, 5	510	600	690
	175	1, 2	149	175	201
		3	298	350	402
		4, 5	595	700	805
	200	1, 2	170	200	230
		3	340	400	460
		4, 5	680	800	920
	225	1, 2	192	225	258
		3	383	450	517
		4, 5	765	900	1035
S400-NE S400-GE S400-PE H400-NE L400-NE I_{CT} = 250 A	125	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	150	1, 2	128	150	172
		3	255	300	345
		4, 5, 6, 7	510	600	690
	175	1, 2	149	175	201
		3	298	350	402
		4, 5, 6, 7	595	700	805
	200	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	680	800	920
	225	1, 2	192	225	258
		3	383	450	517
		4, 5, 6, 7	765	900	1035
S400-NE S400-GE S400-PE H400-NE L400-NE I_{CT} = 400 A	175	1, 2	93	109.4	125
		3	186	218.8	251
		4, 5, 6, 7	372	437.5	503
	200	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	225	1, 2	120	140.6	161
		3	240	281.3	323
		4, 5, 6, 7	479	562.5	646
	250	1, 2	133	156.3	179
		3	266	312.5	359
		4, 5, 6, 7	532	625	718
	300	1, 2	160	187.5	215
		3	319	375	431
		4, 5, 6, 7	638	750	862
	350	1, 2	186	218.8	251
		3	372	437.5	503
		4, 5, 6, 7	744	875	1006
	400	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	850	1000	1150
S630-NE S630-RE S630-PE H630-NE L630-NE	250	1, 2	85	99.2	114
		3	169	198.4	228
		4, 5, 6, 7	338	396.8	456
	300	1, 2	102	119	136
		3	203	238.1	273
		4, 5, 6, 7	405	476.2	547
	350	1, 2	119	138.9	159
		3	237	277.8	319
		4, 5, 6, 7	473	555.6	638
	400	1, 2	135	158.7	182
		3	270	317.5	365
		4, 5, 6, 7	540	634.9	730
	500	1, 2	169	198.4	228
		3	338	396.8	456
		4, 5, 6, 7	675	793.7	912
	600	1, 2	203	238.1	273
		3	405	476.2	547
		4, 5, 6, 7	801	941.6	1082
	630	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	837	984.3	1131
S800-NE S800-RE S800-PE H800-NE L800-NE	350	1, 2	93	109.4	125
		3	186	218.8	251
		4, 5, 6, 7	372	437.5	503
	400	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	450	1, 2	120	140.6	161
		3	240	281.3	323
		4, 5, 6, 7	479	562.5	646
	500	1, 2	133	156.3	179
		3	266	312.5	359
		4, 5, 6, 7	532	625	718

Circuit breaker model	I_R [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
	600	1, 2	160	187.5	215
		3	319	375	431
		4, 5, 6, 7	629	739.5	850
	700	1, 2	186	218.8	251
		3	372	437.5	503
		4, 5, 6, 7	724	851.4	979
	800	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	819	963.3	1107
S1000-CE	400	1, 2	85	100	115
		3	170	200	230
		4, 5, 6	272	320	368
	500	1, 2	107	125	143
		3	213	250	287
		4, 5, 6	340	400	460
	600	1, 2	128	150	172
		3	255	300	345
		4, 5, 6	408	480	552
	700	1, 2	149	175	201
		3	298	350	402
		4, 5, 6	476	560	644
	800	1, 2	170	200	230
		3	340	400	460
		4, 5, 6	544	640	736
	900	1, 2	192	225	258
		3	383	450	517
		4, 5, 6	603	708.6	814
	1000	1, 2	213	250	287
		3	425	500	575
		4, 5, 6	660	775.5	891
S1250-NE S1250-GE	500	1, 2	85	100	115
		3	170	200	230
		4, 5, 6, 7	340	400	460
	600	1, 2	102	120	138
		3	204	240	276
		4, 5, 6, 7	408	480	552
	700	1, 2	119	140	161
		3	238	280	322
		4, 5, 6, 7	476	560	644
	800	1, 2	136	160	184
		3	272	320	368
		4, 5, 6, 7	544	640	736
	1000	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	680	800	920

Circuit breaker model	I_R [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
	1200	1, 2	204	240	276
		3	408	480	552
		4, 5, 6, 7	805	946.4	1088
	1250	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	831	977.3	1123
S1600-NE	700	1, 2	93	109.4	125
		3	186	218.8	251
		4, 5, 6, 7	372	437.5	503
	800	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	900	1, 2	120	140.6	161
		3	240	281.3	323
		4, 5, 6, 7	479	562.5	646
	1000	1, 2	133	156.3	179
		3	266	312.5	359
		4, 5, 6, 7	532	625	718
	1200	1, 2	160	187.5	215
		3	319	375	431
		4, 5, 6, 7	613	720.1	828
	1400	1, 2	186	218.8	251
		3	372	437.5	503
		4, 5, 6, 7	692	813.9	935
	1500	1, 2	200	234.4	269
		3	399	468.8	539
		4, 5, 6, 7	732	860.9	990
	1600	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	772	907.8	1043

Table 7 Set current values for short-time delay tripping (outside Japan)

Circuit breaker model	I_n [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
S250-NE S250-GE S250-PE H250-NE	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5	340	400	460
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5	425	500	575
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5	536	630	724
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5	680	800	920
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5	765	900	1035
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5	808	950	1092
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5	850	1000	1150
S400-NE S400-GE S400-PE H400-NE L400-NE	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6, 7	340	400	460
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6, 7	536	630	724
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	680	800	920
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6, 7	765	900	1035
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6, 7	808	950	1092
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	850	1000	1150

Circuit breaker model	I_n [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
E630-NE S630-CE S630-GE	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6	272	320	368
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6	340	400	460
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6	429	504	579
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6	544	640	736
	0.85	1, 2	181	212.5	244
		3	362	425	488
		4, 5, 6	578	680	782
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6	612	720	828
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6	646	760	874
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6	680	800	920
S800-NE S800-RE H800-NE L800-NE In = 630 A	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6, 7	340	400	460
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6, 7	536	630	724
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	680	800	920
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6, 7	761	894.8	1029
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6, 7	799	939.5	1080

Circuit breaker model	I_n [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	837	984.3	1131
S800-NE S800-RE H800-NE L800-NE In = 800A	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6, 7	340	400	460
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6, 7	536	630	724
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	667	784.3	901
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6, 7	743	873.8	1004
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6, 7	781	918.5	1056
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	819	963.3	1107
S1000-SE S1000-NE	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6	272	320	368
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6	340	400	460
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6	429	504	579
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6	544	640	736
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6	603	708.6	814
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6	631	742	853
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6	660	775.5	891

Circuit breaker model	I_n [A]	Protection characteristic setting dial	Set current value [mA]		
			Lower limit	Standard	Upper limit
S1250-SE S1250-NE S1250-GE	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6, 7	340	400	460
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6, 7	536	630	724
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	680	800	920
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6, 7	765	900	1035
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6, 7	798	938.7	1079
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	831	977.3	1123
S1600-SE S1600-NE	0.40	1, 2	85	100	115
		3	170	200	230
		4, 5, 6, 7	340	400	460
	0.50	1, 2	107	125	143
		3	213	250	287
		4, 5, 6, 7	425	500	575
	0.63	1, 2	134	157.5	181
		3	268	315	362
		4, 5, 6, 7	536	630	724
	0.80	1, 2	170	200	230
		3	340	400	460
		4, 5, 6, 7	644	757.6	871
	0.90	1, 2	192	225	258
		3	383	450	517
		4, 5, 6, 7	708	832.7	957
	0.95	1, 2	202	237.5	273
		3	404	475	546
		4, 5, 6, 7	740	870.2	1000
	1.00	1, 2	213	250	287
		3	425	500	575
		4, 5, 6, 7	772	907.8	1043

6-4. Set Time Limit Measurement for Instantaneous Tripping

1) Calculate a set current value for the OCR checker.
Use the following formula to calculate a set current value.

(For TemBreak)

$I_T = I_3 / I_{CT} \times 50$ (mA) (±20%)

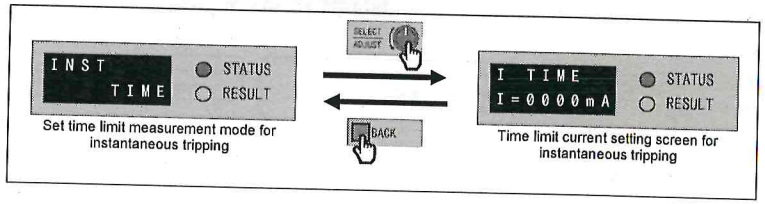
(For TemBreak2)

Use the settings corresponding to the rated current for each circuit breaker model as shown in "Table 8 Set current values for instantaneous tripping" on page 30.

I_3	:	Set current value for instantaneous tripping (A)
I_T	:	Set current value for TNS-3 (mA)
I_{CT}	:	Rated primary current value for CT (A)*1

2) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "INST TIME" (Set time limit measurement mode for instantaneous tripping) on the screen.

3) Press the SELECT/ADJUST knob to display the current setting screen. (To cancel the operation, press the BACK button.)



Set time limit measurement mode for instantaneous tripping

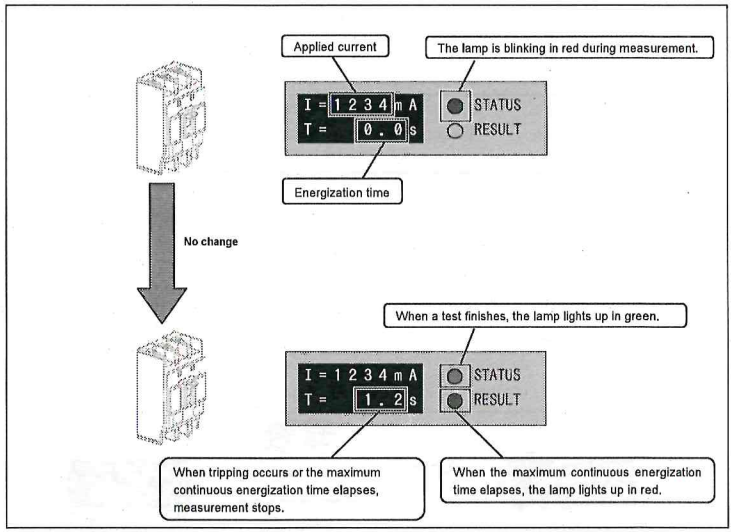
Time limit current setting screen for instantaneous tripping

*1:The value of I_{CT} is indicated on the OCR of the circuit breaker.

4) Use the SELECT/ADJUST knob to set the applied current value (I_T) to the lower limit value calculated in step 1) above (or the lower limit value shown in Table 8 in the case of TemBreak2). (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

5) Press the START button to output the set current to the OCR and start measuring energization time.

6) Check that measurement is terminated automatically when the maximum continuous energization time (shown in Table 3) elapses. At this time, if the circuit breaker is on, check that it does not trip.



7) Press the BACK button to return to the current setting screen, and set the applied current value (I_T) to the upper limit value calculated in step 1) above (or the upper limit value shown in Table 8 in the case of TemBreak2).

8) Press the START button to start measuring energization time.

9) If applied current exceeds the threshold of instantaneous tripping, measurement of energization time will be terminated. At this time, if the circuit breaker is on, it will trip.
   * If the maximum continuous energization time (shown in Table 3) elapses, measurement will be terminated automatically*2.

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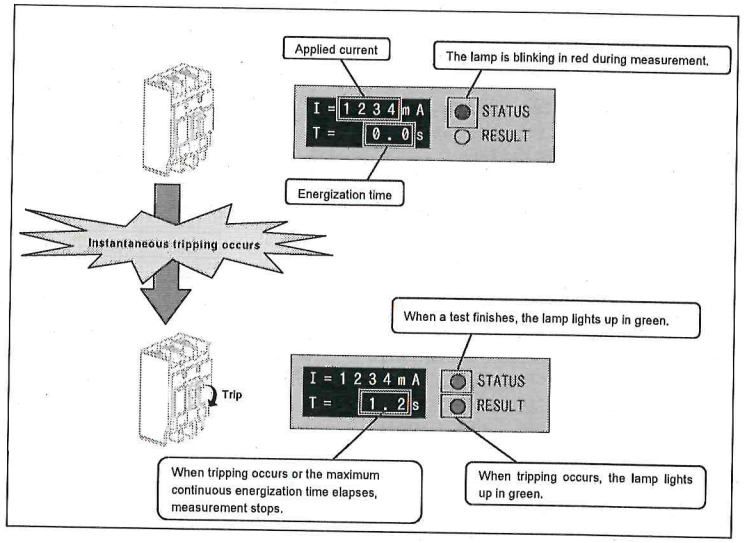
*2: The cause of tripping failure may be OCR failure or applied current that is set inadequately.



10) Compare the energization time (time limit value for instantaneous tripping) on the display with the OCR set value (TemBreak: T_1, TemBreak2: f_R). It will be normal if the energization time is 0.04 seconds or less.

11) To conduct a test again, press the BACK button and start the procedure from step 4) (setting the applied current value) on the previous page.

Table 8 Set current values for instantaneous tripping (in Japan)

Circuit breaker model	I_R [A]	Set current value [mA]		
		Lower limit	Standard	Upper limit
S225-GE S225-PE H225-NE	125	595	700	805
	150	714	840	966
	175	833	980	1127
	200	933	1097.6	1262
	225	1007	1184.4	1362
S400-NE S400-GE S400-PE H400-NE L400-NE	When I_{CT} = 250 A			
	125	595	700	805
	150	714	840	966
	175	833	980	1127
	200	952	1120	1288
	225	1071	1260	1449
	When I_{CT} = 400 A			
	175	521	612.5	704
	200	595	700	805
	225	670	787.5	905
	250	744	875	1006
	300	875	1029	1183
S630-NE S630-RE S630-PE H630-NE L630-NE	350	990	1163.8	1338
	400	1028	1209	1390
	250	473	555.6	638
	300	567	666.7	766
	350	662	777.8	894
	400	741	871.1	1001
	500	907	1066.7	1226
	600	969	1140	1311
	630	969	1140	1311
S800-NE S800-RE S800-PE H800-NE L800-NE	350	521	612.5	704
	400	584	686	788
	450	650	763.9	878
	500	714	840	966
	600	839	987	1135
	700	934	1098	1262
	800	934	1098	1262

Circuit breaker model	I_R [A]	Set current value [mA]		
		Lower limit	Standard	Upper limit
S1000-CE	400	476	560	644
	500	572	672	772
	600	672	789.6	908
	700	742	872.2	1003
	800	753	885	1017
	900	753	885	1017
	1000	753	885	1017
S1250-NE S1250-GE	500	476	560	644
	600	572	672	772
	700	660	776.2	892
	800	739	869.1	999
	1000	891	1047.2	1204
	1200	941	1107	1273
	1250	941	1107	1273
S1600-NE	700	489	574.2	660
	800	545	640.5	736
	900	600	704.8	810
	1000	648	761.3	875
	1200	750	882	1014
	1400	847	996	1145
	1500	847	996	1145
	1600	847	996	1145

Table 9 Set current values for instantaneous tripping (outside Japan)

Circuit breaker model	I_n [A]	Set current value [mA]		
		Lower limit	Standard	Upper limit
S250-NE S250-GE S250-PE H250-NE	I_n = 40 A, I_n = 250 A			
	0.4	740	560	644
	0.5	925	700	805
	0.63	1166	882	1014
	0.8	1451	1097.6	1262
	0.9	1566	1184.4	1362
	0.95	1581	1196	1375
	1	1581	1196	1375
	I_n = 125A			
	0.4	740	560	644
	0.5	925	700	805
	0.63	1166	882	1014
	0.8	1319	997.9	1147
	0.9	1440	1089.9	1253
	0.95	1460	1105	1270
	1	1460	1105	1270
S400-NE S400-GE S400-PE H400-NE L400-NE	I_n = 250A			
	0.4	740	560	644
	0.5	925	700	805
	0.63	1166	882	1014
	0.8	1481	1120	1288
	0.9	1666	1260	1449
	0.95	1719	1300	1495
	1	1719	1300	1495
	I_n = 400A			
	0.4	740	560	644
	0.5	925	700	805
	0.63	1166	882	1014
	0.8	1428	1080.8	1242
	0.9	1582	1197	1376
	0.95	1598	1209	1390
	1	1598	1209	1390
E630-NE S630-CE S630-GE	0.4	740	560	644
	0.5	925	700	805
	0.63	1113	842.3	968
	0.8	1179	893	1026
	0.85	1179	893	1026
	0.9	1179	893	1026
	0.95	1179	893	1026
	1	1179	893	1026

Circuit breaker model	I_n [A]	Set current value [mA]		
		Lower limit	Standard	Upper limit
S800-NE S800-RE H800-NE L800-NE	I_n = 630 A			
	0.4	740	560	644
	0.5	925	700	805
	0.63	1143	864.4	994
	0.8	1421	1075.2	1236
	0.9	1507	1140	1311
	0.95	1507	1140	1311
	1	1507	1140	1311
	I_n = 800A			
	0.4	740	560	644
	0.5	906	686	788
	0.63	1118	846.7	973
	0.8	1376	1041.6	1197
	0.9	1451	1098	1262
	0.95	1451	1098	1262
	1	1451	1098	1262
S1000-SE S1000-NE	0.4	740	560	644
	0.5	887	672	772
	0.63	1095	829.1	953
	0.8	1169	885	1017
	0.9	1169	885	1017
	0.95	1169	885	1017
	1	1169	885	1017
S1250-SE S1250-NE S1250-GE	0.4	740	560	644
	0.5	925	700	805
	0.63	1130	855.5	983
	0.8	1384	1047.2	1204
	0.9	1463	1107	1273
	0.95	1463	1107	1273
	1	1463	1107	1273
S1600-SE S1600-NE	0.4	702	532	611
	0.5	846	640.5	736
	0.63	1014	767.3	882
	0.8	1239	938	1078
	0.9	1316	996	1145
	0.95	1316	996	1145
	1	1316	996	1145

6-5. Set Time Limit Measurement for Ground-fault Tripping

1) Calculate a set current value for the OCR checker.
Use the following formula to calculate a set current value.

(For TemBreak)

I_G dial graduation	Judgment criterion value for set current [mA] (±15%)
0.1	23
(0.15)*	36
0.2	49
(0.25)*	62
0.3	75
(0.35)*	87
0.4	100

*: The value in parentheses () indicates an intermediate scale value.

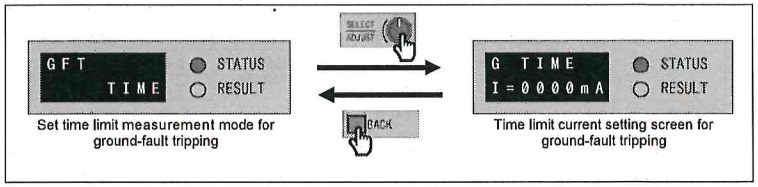
(For TemBreak2)

I_T = 20 (mA) (±15%)

I_T : Set current value for TNS-3 (mA)

2) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "GFT TIME" (Set time limit measurement mode for ground-fault tripping) on the screen.

3) Press the SELECT/ADJUST knob to display the current setting screen. (To cancel the operation, press the BACK button.)



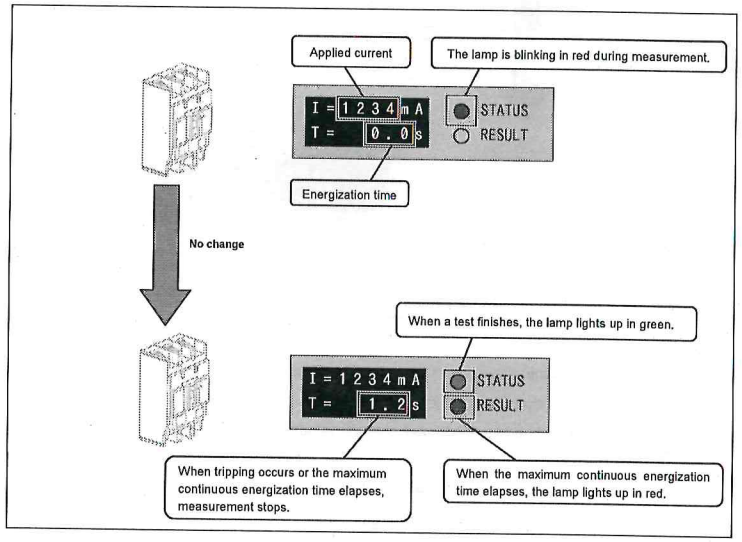
Set time limit measurement mode for ground-fault tripping

Time limit current setting screen for ground-fault tripping

4) Use the SELECT/ADJUST knob to set the applied current value (I_T) to the lower limit value calculated in step 1) above. (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

5) Press the START button to output the set current to the OCR and start measuring energization time.

6) Check that measurement is terminated automatically when the maximum continuous energization time (shown in Table 3) elapses. At this time, if the circuit breaker is on, check that it does not trip.



7) Press the BACK button to return to the current setting screen, and set the applied current value (I_T) to the upper limit value calculated in step 1) above.

8) Press the START button to start measuring energization time.

9) If applied current exceeds the threshold of ground-fault tripping, measurement of energization time will be terminated. At this time, if the circuit breaker is on, it will trip. * If the maximum continuous energization time (shown in Table 3) elapses, measurement will be terminated automatically*1.

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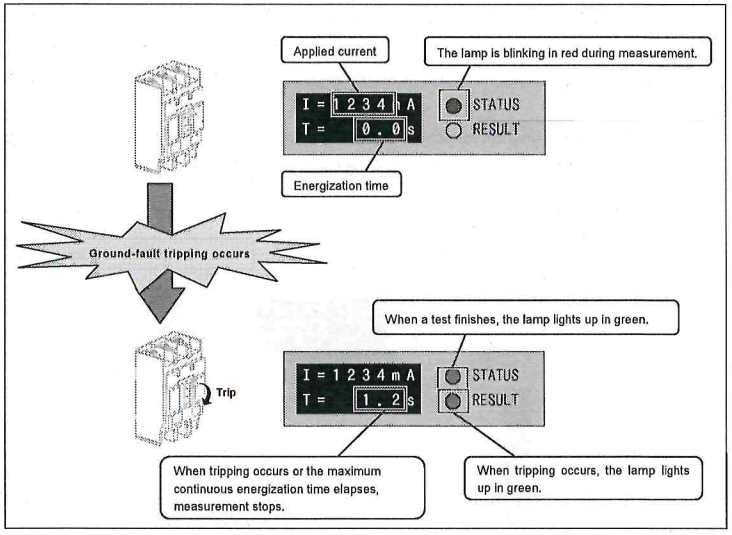
*1:The cause of tripping failure may be OCR failure or applied current that is set inadequately.



10) Compare the energization time (time limit value for ground-fault tripping) on the display with the OCR set value (TemBreak: T_1, TemBreak2: t_R). It will be normal if the energization time falls within the error range of the judgment criterion values (refer to the catalog)

11) To conduct a test again, press the BACK button and start the procedure from step 4) (setting the applied current value) on the previous page.

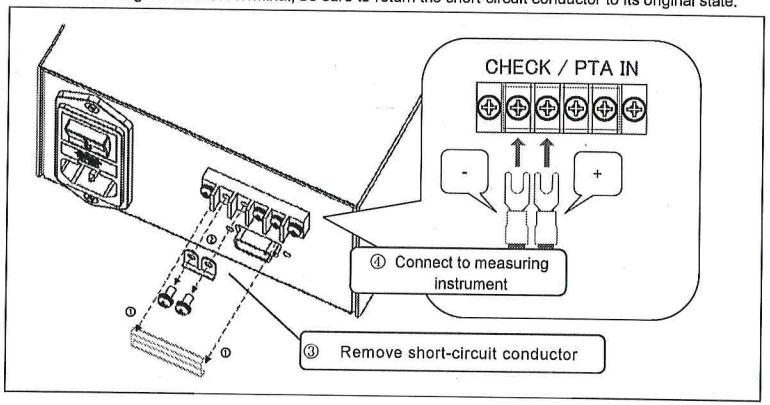
7. Other Notes

7-1. Checking Current Values that Are Actually Applied

The CHECK terminal on the OCR checker can be used to check current that is actually applied.

1) Check that the power switch (shown in Figure 1) of the OCR checker is off.

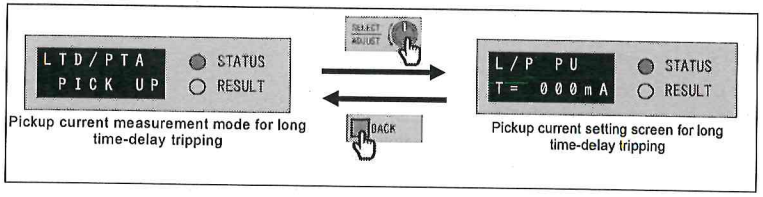
2) Remove the short-circuit conductor from the CHECK terminal and connect an instrument capable of measuring RMS current to the CHECK terminal.
   * After using the CHECK terminal, be sure to return the short-circuit conductor to its original state.



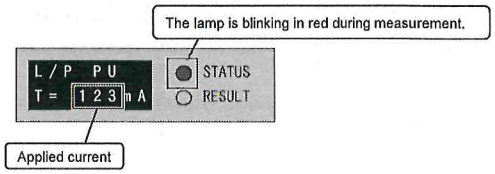
3) Turn on the power switch on the OCR checker.

4) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "LTD/PTA PICK UP" (Pickup current measurement mode for long time-delay tripping) on the screen. (This measurement mode is initially displayed when the power is turned on.)

5) Press the SELECT/ADJUST knob to display the current setting screen. (To cancel the operation, press the BACK button.)



6) Press the START button to start measurement.



7) Turn the SELECT/ADJUST knob clockwise to increase applied current. (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

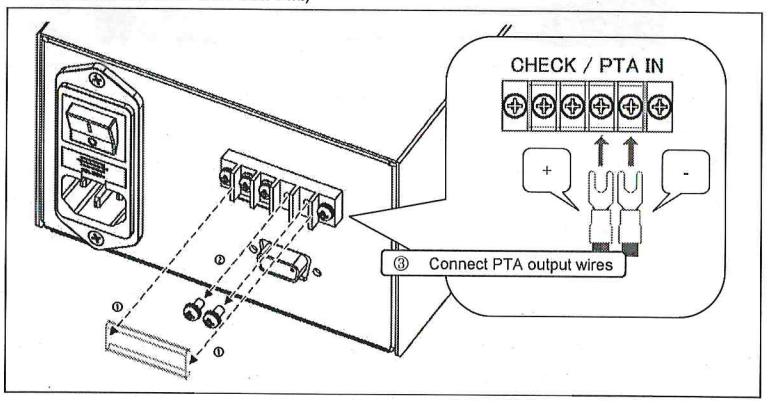
8) Compare the applied current value displayed on the OCR checker with the value measured by the connected instrument, as shown in the table below.
(For MIP cables, refer to Table 5 MIP cable types.)

MIP cable	Comparison method
CABLE-1	The applied current value displayed on the OCR checker and the measured RMS value are compared.
CABLE-2 CABLE-3	The applied current value displayed on the OCR checker and the measured RMS value multiplied by $1/\sqrt{2}$ are compared.

7-2. Measuring the Activation Time Limit for Pre-trip Alarm (PTA)

The OCR checker allows you to measure activation time limits for pre-trip alarms using the procedure described in "6-2. Set Time Limit Measurement for Long Time-delay Tripping".

1) Check that the power switch of the OCR checker is off.
2) Connect the PTA output wires of the circuit breaker to the PTA IN terminals.
   (Because the OCR checker confirms to JIS C 61000-6-2, the length of the wire connected to the PTA IN terminal must be no more than 3 m.)



3) Turn on the power switch on the OCR checker.
4) Calculate a set current value for the OCR checker.
   Use the following formula to calculate a set current value.

(For TemBreak)

$I_T = I_1 / I_{CT} \times 50 \times I_p$ (mA)

(For TemBreak2)

$I_T = I_R / I_{CT} \times 100 \times 0.8$ (mA)

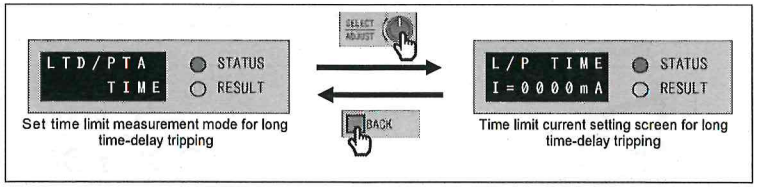
I_1, I_R	:	Set rated current value (A)
I_T	:	Set current value for TNS-3 (mA)
I_{CT}	:	Rated primary current value for CT (A)*1
I_p	:	PTA set current value*2

*1:The value of I_{CT} is indicated on the OCR of the circuit breaker.

*2:The value of I_p is set with the knob on the OCR of the circuit breaker.

5) Turn the SELECT/ADJUST knob as described in "5-1. Menu Operations" to display "LTD/PTA TIME" (Set time limit measurement mode for long time-delay tripping) on the screen.

6) Press the SELECT/ADJUST knob to display the current setting screen.
(To cancel the operation, press the BACK button.)



Set time limit measurement mode for long time-delay tripping

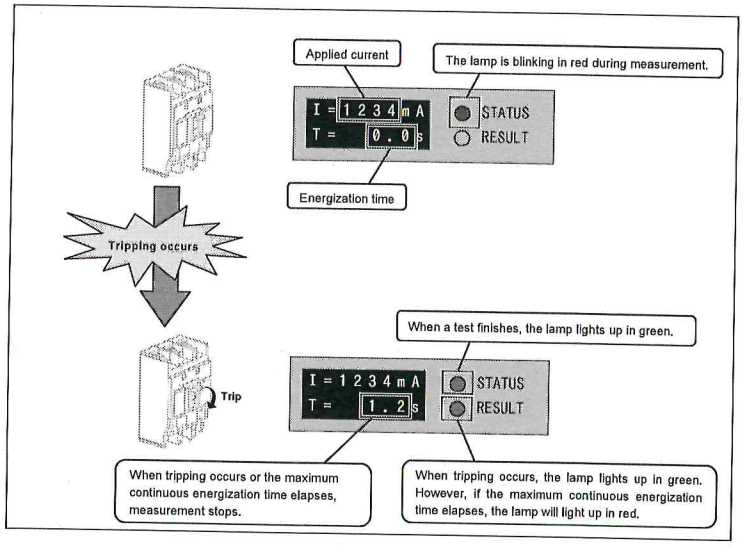
Time limit current setting screen for long time-delay tripping

7) Use the SELECT/ADJUST knob to set the applied current value (I_T) to the value calculated in step 4) on the previous page. (For details on how to manipulate current values, refer to "5-2. Current Value Setting" on page 13.)

8) Press the START button to output the set current to the OCR and start measuring energization time.

9) If applied current exceeds the threshold of pre-trip alarm, measurement of energization time will be terminated. At this time, if the circuit breaker is on, it will trip.
* If the maximum continuous energization time (shown in Table 3) elapses, measurement will be terminated automatically*3.

*3:The cause of tripping failure may be OCR failure or applied current that is set inadequately.



10) Compare the energization time (time limit value for PTA) on the display with the OCR set value (TemBreak: T_1, TemBreak2: t_R). It will be normal if the energization time falls within the range of the judgment criterion values ±10%.

11) To conduct a test again, press the BACK button and start the procedure from step 7) (setting the applied current value) on the previous page.

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