



Selecting the analog monitor output (Monitor MON)  
Select a signal to be output as an analog output.

rEuO	Outputs a voltage proportional to the rotational speed.
Sig	Outputs a sensor signal for monitoring. Signal after waveform shaping.



\* Set to "rEuO" at the time of shipment.

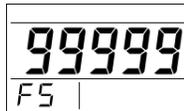
Setting the analog output full-scale value (Full Scale FS)

Set the rotational speed corresponding to the full-scale value (F.S. value: 1V) of the analog voltage output.

This item can be set only when "rEuO" is set as the analog monitor output.

Setup range: 1 to 99999 (If 0 is set, 1 is set automatically.)

\* Set to "99999" at the time of shipment.



Setting analog output calibration (Calibration CAL)

Outputs calibration signal 0V or 1V for analog voltage output.

This item can be set only when "rEuO" is selected as the analog monitor output.

Note: The setup of this function is not retained. The default setting of this item is always "0u."

The selected analog output is enabled only while this item is selected.

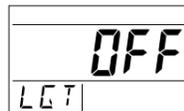
0 u	0V Output
1 u	1V Output



Setting the lighting condition of LCD backlight (Light LGT)

Set the LCD backlight to On or OFF.

OFF	Backlight OFF
On	Backlight ON



\* Set to "OFF" at the time of shipment.

## Various Measurement Operations (Descriptions of Each Algorithm)

### 1. Steady Rotation Measurement Mode "CNS"

This mode is effective when the rotational speed of the object under measurement is fixed. In this mode, either of the following two algorithms can be selected according to the object under measurement in algorithm setup from the setup menu.

TYPE-A (Algorithm A/Maximum Power Spectrum Peak Detection Method)

The most basic algorithm suitable for measurement of rated rotational speed, etc.

TYPE-B (Algorithm B/Peak-Interval Mode Method)

This algorithm emphasizes the stability.

However, since this algorithm is inferior to TYPE-A in tracking performance, measurement may not be performed correctly if a rapid rotational variation occurs. Further, depending on the waveform of the sensor signal, measurement may not be performed correctly.

Because of the measurement principle of algorithms, the upper limit of the input frequency is about one third of the frequency range.

Note: When Algorithm B is selected, the filter function is disabled.

### 2. Rotational Acceleration/Deceleration Measurement Mode "ACT"

This mode is effective when measuring the rotational speed of an object under measurement, which is accelerating or decelerating. In this mode, either of the following two algorithms can be selected according to the object under measurement in algorithm setup from the setup menu.

TYPE-D (Algorithm D)

This algorithm is suitable for measurement when the rotational speed accelerates or decelerates.

Performs measurement by changing the measurement time according to variation of the rotational speed.

TYPE-E (Algorithm E)

This algorithm maintains a balance between the tracking performance and the stability of the rotational speed.

Performs measurement focusing on a selected power spectrum.

However, since this algorithm is inferior to TYPE-D in tracking performance, measurement may not be performed correctly if the rotational speed changes rapidly.

### 3. "ACT" Mode Measurement Procedures

: Algorithm: TYPE-D

When the power is turned ON or the setup mode is terminated, "rEAdY" is displayed in the MAIN display.

Set the object under measurement to the rotational speed at the start of measurement (make the rotational speed as stable as possible). When measurement is ready, press the "SAMPLE" switch.

Measurement starts.

\* Measurement does not start if the rotation signal is not input.

To stop (cancel) measurement and then perform measurement again, press the "SAMPLE" switch during measurement.

Control returns to step . Proceed with step .

: Algorithm: TYPE-E

When the power is turned ON or the setup mode is terminated, "rEAdY" is displayed in the MAIN display.

Set the object under measurement to the rotational speed at the start of measurement (make the rotational speed as stable as possible). When measurement is ready, press the "SAMPLE" switch.

Candidate values (up to eight values) of the rotational speed at the start of measurement are displayed. Select a candidate value that is closest to the current rotational speed using the "RECALL" switch and then apply it using the "MODE & NEXT" switch.

Measurement starts.

To stop (cancel) measurement and then perform measurement again, press the "SAMPLE" switch during measurement.

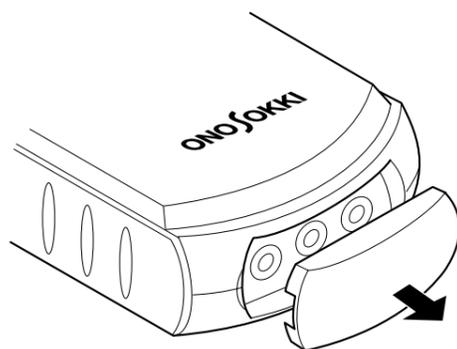
Control returns to step . Proceed with step .

## Outputs

### 1. Analog output

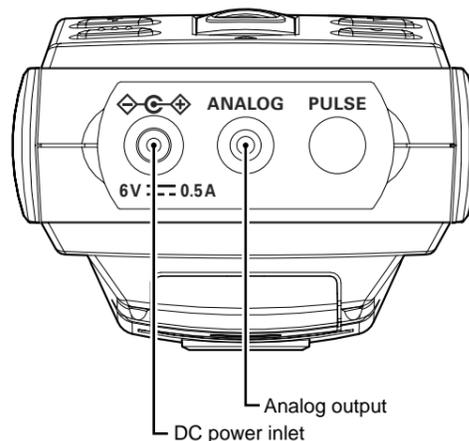
[When REVO is selected]

- Analog voltage with the setting of the analog output "F.S." (full scale) in the setup mode is output from the analog output jack.
- The analog output becomes 1V when the value of the MAIN display agrees with the full-scale setting. The minimum load resistance of the analog output is 100 kΩ.



[When SIG is selected]

- A sensor signal after waveform shaping (signal before pulse waveform conversion) is output.



## Description of CONDITION Display Section

### 1. ERROR Display

If the "ERROR" mark lights up, one of the following error has occurred.

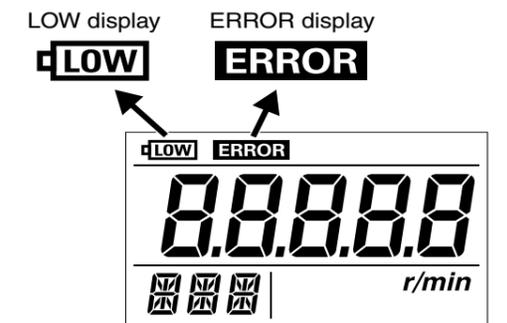
Relation BETWEEN the cause of error and the error code displayed in the SUB display is shown below.

Error Code	Cause of Error
E01	A backed up parameter is not set correctly.
E02	The FT-7100 could not normally be activated.
E11	The amplifier sensitivity for sensor is excessive.
E12	A detected rotational speed exceeded the maximum display range, i.e., "99999 r/min."
E13	When the drive mode is the rotational acceleration/deceleration measurement mode (when the "ACT" mode is selected), the rotational speed cannot be measured correctly (tracked rotational speed is lost).
E14	The rotational speed becomes out of the range set with the filter.
E15	When the drive mode is the rotational acceleration/deceleration measurement mode (when the "ACT" mode is selected), the rotational speed at the start of measurement cannot be sampled.
E21	With filter settings, the lower-limit setting is equal to or greater than the upper-limit setting.

### 2. LOW Display

If the "LOW" mark lights up, the battery has been consumed and the low battery condition occurred.

- This mark lights up if the battery voltage drops to 4.2V or lower.
- If this mark lights up, immediately replace the four batteries with new ones. Using the consumed batteries may disable measurement.
- If the batteries are further consumed under this condition, measurement is disabled and the MAIN display displays " - - - - - ."
- If the battery voltage drops to about 4.5V or lower, the backlight becomes dark (with no problem).



## Troubleshooting

If you perceive any abnormal condition, first check the following points. If the instrument does not operate normally after check, contact your dealer (Ono Sokki agency) or Ono Sokki sales office nearby.

Symptom	Check Point	Solution
No display	Are batteries set? Is the battery polarity correct?  Are batteries consumed? When using the AC adapter, is the dedicated AC adapter connected to an outlet and the DC input terminal of the main unit? Is the dedicated AC adapter used?	Set batteries. If the polarity is wrong, the batteries have been consumed and therefore replace the batteries with new ones with the correct polarity. *1 Replace all batteries with new ones. Plug the dedicated AC adapter to an outlet and then connect the DC plug to the DC input terminal of the main unit. Use the dedicated AC adapter.
Unstable display	Is sensor selection appropriate?  Is amplifier sensitivity adjustment appropriate?	Select the sensor used with the setup menu or sensor selector switch. Adjust the sensor amplifier sensitivity adjustment volume so that the indicator stably blinks. If adjustment is not completed using the volume, change the input voltage level using the setup menu.
Abnormally high or low rotational speed	Is the setting of the number of pulses appropriate?	Set correctly the number of pulses per rotation (P/R) according to the body of revolution under measurement.

\*1 If normal operation cannot be restored even after performing solution or , the internal protection circuit may have operated and the fuse may have blown. Contact Ono Sokki sales office.