



***TOUCH DISPLAY OPERATION
INSTRUCTIONS***

タッチディスプレイ 取扱説明書

Common Manual

共通マニュアル

English version : page1 – page12

日本語版 : P.13 ~ P.24

MOHMEI

Contents

	<u>Page</u>
Preface	2
1. Configurations	3
1.1 Touch Display	3
2. Operating the ARG	4
2.1 Method of operation	4
2.2 Restarting.....	9
2.3 Fast return function	10
2.4 Safety function	11

Preface

This operation instructions summarized important information for proper operation of **TOUCH DISPLAY** for Anti Rolling Gyro (**ARG**). Please be sure to read this manual before operation.

Please be sure to submit this manual to customers who operate the **ARG**.

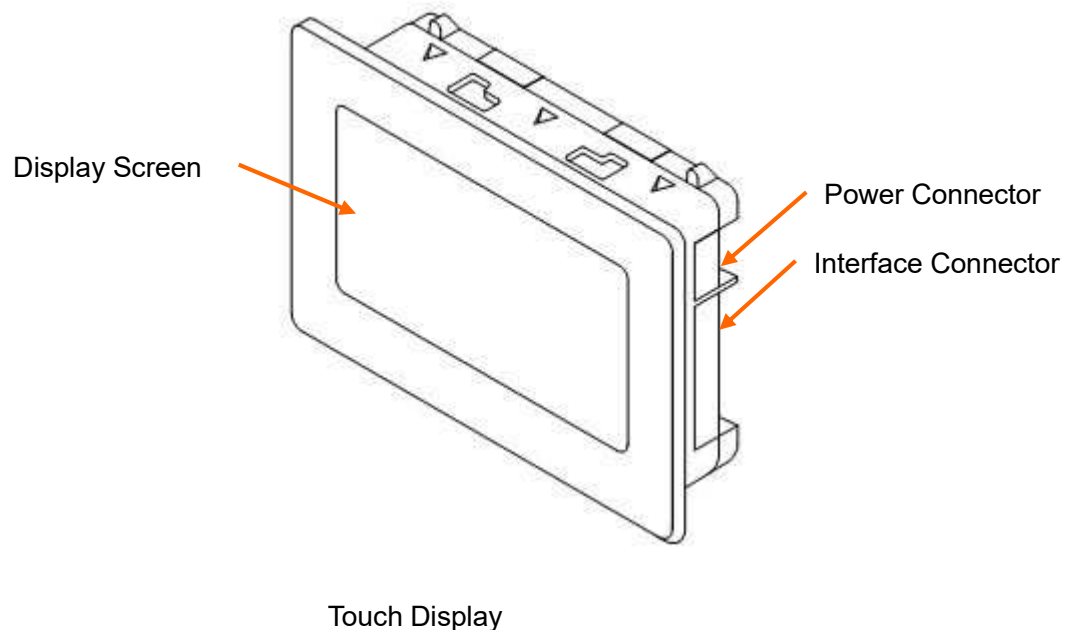
1. Configurations

1.1 Touch Display

Table 1-1 Touch Display (1EA)

Item	Specifications
Name	Touch Display
Model	PFXGP4116T2D
Dimensions	90 mm(height) × 125 mm(width) × 39 mm(depth) 3.54 inches(height) x 4.92 inches(width) x 1.53 inches(depth)
Weight	0.22 kg
Ambient temperature	0 ~ 50°C *1)
Humidity	10 ~ 90% (with no condensation) *1)
Input Voltage	12~24VDC(rating)、 10.2~28.8 VDC(operable)

* 1) Please use this condition when storing and transporting.



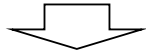
2. Operating the ARG

2.1 Method of operation

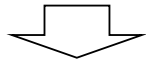
Please operate the **ARG** according to the procedure below.

(1) Starting

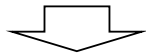
① "Turn ON" the Generator or battery switch.



② "Turn ON" the circuit breaker switch.



③ "Turn ON" the Touch Display switch by touching the switch.

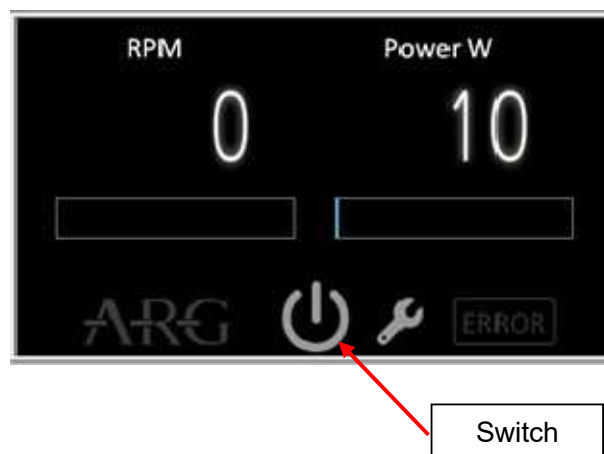


< 30~45 minutes later*1 >

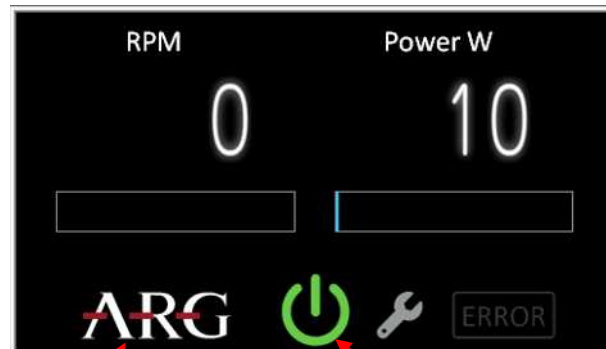
④ If the test run is performed on the sea, anti-rolling function becomes effective in approximately 30~45 minutes after starting.

The Initial screen is indicated to the Touch Display when you turn on the power to the Touch Display. You can operate the **ARG** in this screen. You can operate the **ARG** to start/stop and check the Starting and the Reaching steady rotation. Indication are from left, rotation speed of fly wheel "RPM" and power consumption (previous power of the Power Inverter) "Power W".

[Initial state]



[Switch ON]



Lighted up "ARG"

Changed green color

[Reached steady rotation]



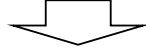
Reached the meter
to maximum

Changed blue color

*1) The **ARG** takes approximately 30~ minutes to reach rated rotational speed after turning on the Touch Display switch.

(2) Stopping

① "Turn OFF" the Touch Display switch by touching the switch. *1



② Make sure that the Touch Display switch is gray color.

③ "Turn OFF" the circuit breaker switch.



⑤ "Turn OFF" the Generator or battery switch.

*1) After turning off the power supply to the **ARG**, the **ARG** stops its operation gradually.
It takes approximately 1 hour until the system stops completely.

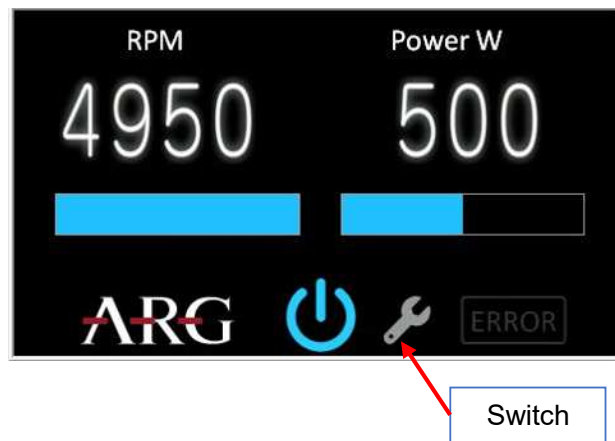
Anti Rolling Gyro Touch Display manual

(3) Maintenance screen

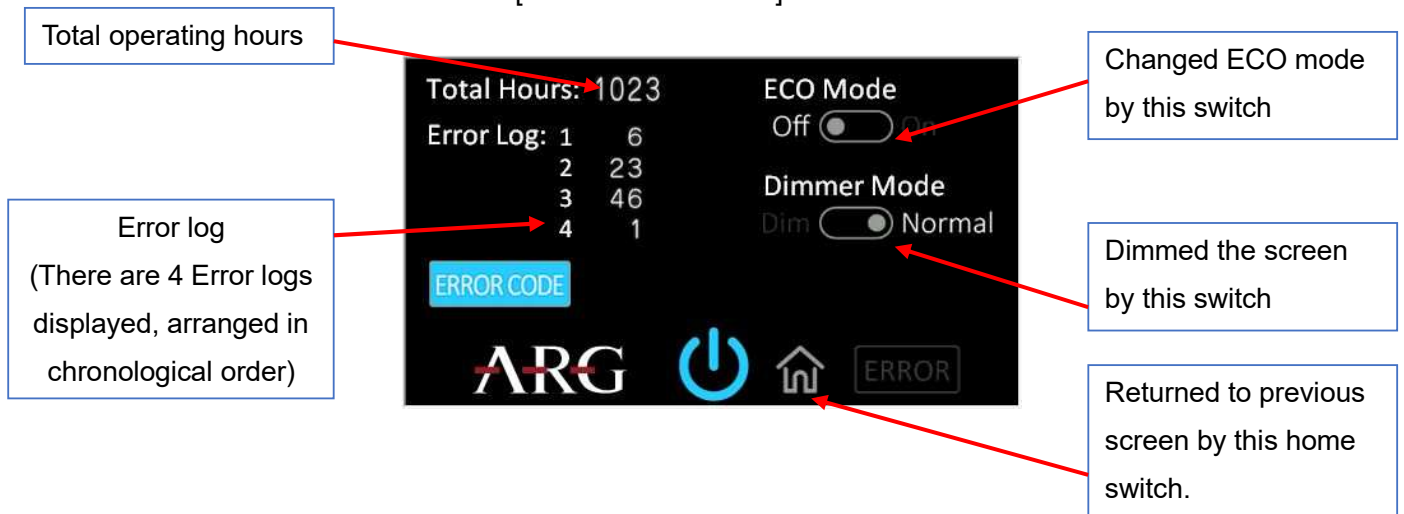
You can change the Touch Display screen to maintenance screen by touching the switch to the right of the Touch Display switch. In this screen, you can change the **ARG** to ECO mode. ECO mode is a mode that reduces battery power consumption by slowing down the steady rotation speed of the fly wheel. Use ECO mode when the ship is not rolling much because of low waves or when you want to make the batteries last longer.

In the other, you can dim the Touch Display screen and check the error log, error code and the total operating hours.

[Reached steady rotation]



[Maintenance screen]



(4) Error indication

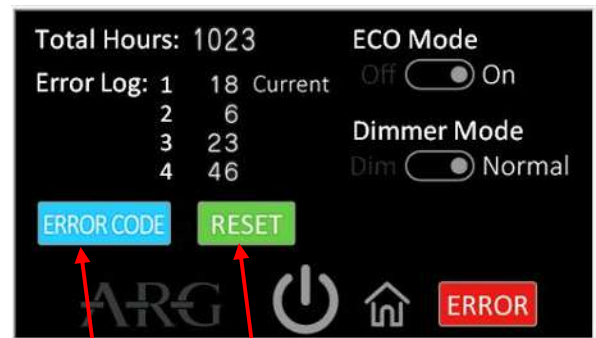
You can confirm the error occurred. If the error occurs, the **ARG** is turned OFF and the “ERROR” is lighted up to red color. You can clear the error by touching the “RESET”. But, when the error state is still remained, you can't clear the error even if you touch the “RESET”. In that case, please contact your dealer.

[Error occurrence screen]



Lighted up to red color

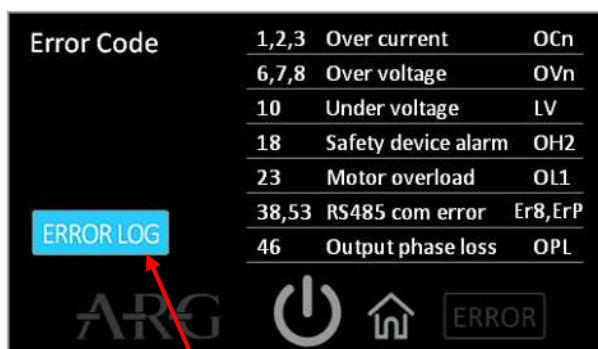
[Error log screen]



Cleared error by touching the “RESET” lighted up to green color.

Indicated error descriptions by touching the “ERROR CODE” lighted up to blue color.

[Error code screen]



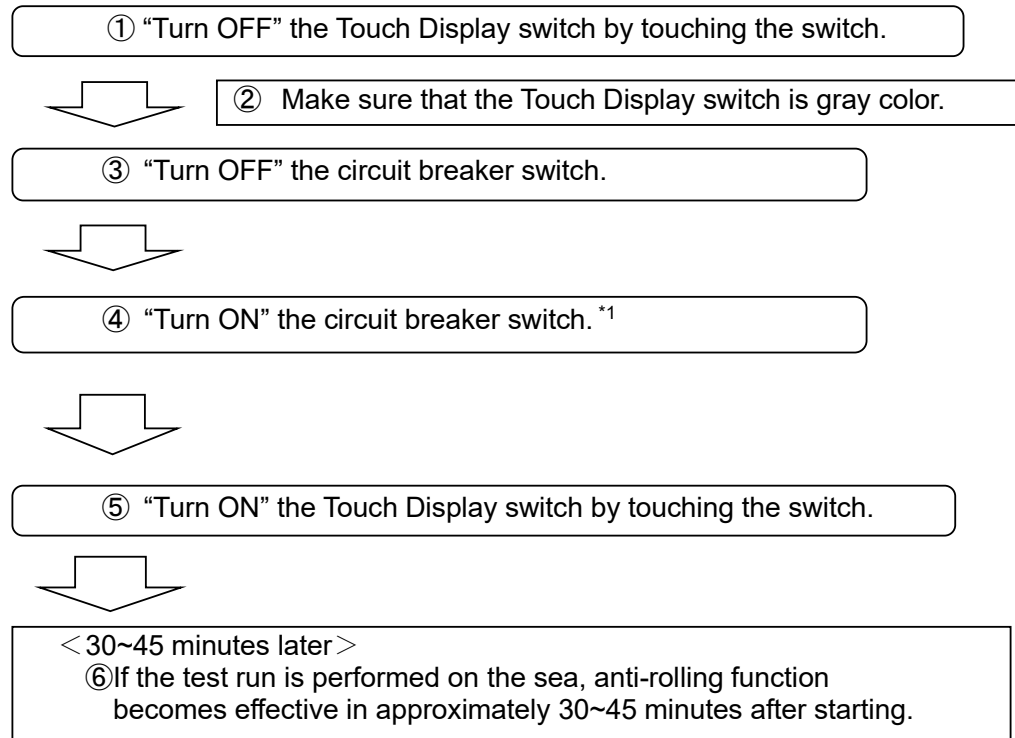
Returned to previous screen by touching again the “ERROR LOG”

[Error code table]

code	contents	
1,2,3	Over current	OCn
6,7,8	Over voltage	OVn
10	Under voltage	LV
18	Safety device alarm	OH2
23	Motor overload	OL1
38,53	RS-485 com error	Er8, ErP
46	Output phase loss	OPL

2.2 Restarting

Operate the **ARG** according to the procedure below if the **ARG** is restarted due to anomalies.



*1) If you turn on the switch back before the **ARG** unit has stopped completely, self shut down circuit may occur due to over current.
In this case, release the over current protector of the Motor Driver and then restart the **ARG**.

2.3 Fast return functions

(1) Description of the functions

The **ARG** has a function called “Fast return functions”. It is a function that the **ARG** will not be turned off even when the Generator or batteries are turned off for a moment. This function is valid under the following conditions.

- If the ship temporary uses an electricity from the ground (Shore Power) to start the **ARG** and then change it from the ship (generators etc.) to supply the electricity.
- If there are some generators or batteries on the ship and want to change them to get applicable electric capacity during the **ARG**'s operation.

A customer does not need to prepare extra parts or wirings to get this function.

(2) Procedure for Fast return function

Table 2-1 describes the procedure to recover the **ARG** after the Touch Display switch is temporarily turned off. When you use this fast return function, check this table procedure, and Touch Display screen all the time.

Table 2-1 Procedure for Fast return function

No.	Operation	ARG's condition	Main Power	Touch Display	
				Touch Display switch	Switch color
1	The ARG is in operation	Steady-state rotational speed	ON	ON	Blue
2	Change the Touch Display switch (Turn off the switch)	Reduce the rotational speed	ON	OFF	Gray
3	Change the Touch Display switch (Turn on the switch)	Restarting	ON	ON	Green
4	_____	Steady-state rotational speed	ON	ON	Blue

Note 1) When temporarily turning off the Touch Display switch with the fast return function used, keep the main power ON all the time. If you change it to OFF during its operation, the protective function of the Motor Driver will be started and the whole system will be stopped.

Note 2) If you operate the **ARG** for the first time, follow the procedure below and Section 2.1 “Method of operation”.

- ①Turn on the main power → ②Turn on the circuit breaker switch
→ ③Turn on the Touch Display switch

2.4 Safety functions

The **ARG** has a safety device to stop the **ARG** automatically.
When the **ARG** is operated under the following conditions, the safety device operates and the **ARG** stops.

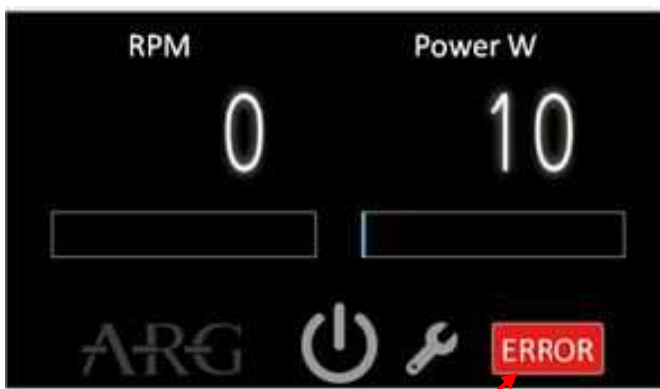
- The **ARG** generates excessive load by the operation under stormy weather or excessive high wave condition.
- Ambient temperature of the **ARG** becomes high.

If the safety device operates, the “ERROR” in Touch Display screen is lighted up red color even when the Touch Display switch is still “on”. (Refer to Figure 2-1)

And error log is indicated “18” in error log screen.

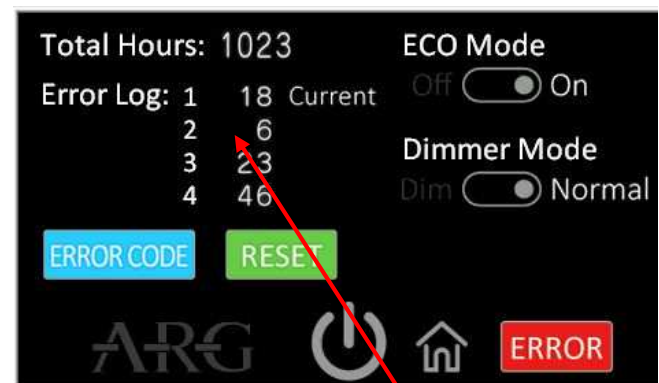
Please contact the **ARG** dealer, if there is possibility that the safety device operates.

[Error occurrence screen]



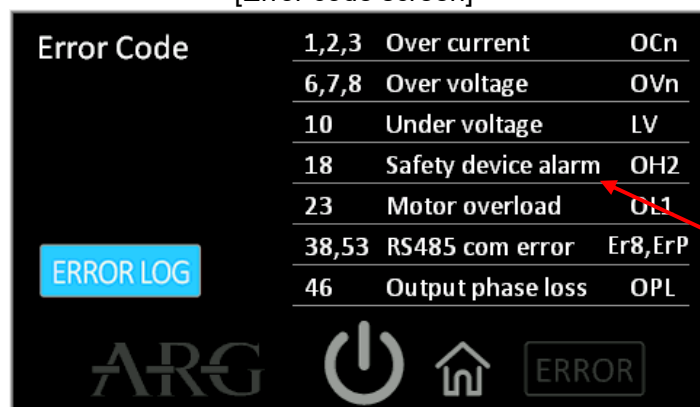
Lighted up red color

[Error log screen]



Indicated “18”

[Error code screen]



Error contents
(caution by safety device)

Figure 2-1 Touch Display screen when safety device operating

Sales Agent

販売店

Manufacture

製造業者



TOHMEI INDUSTRIES CO., LTD.

System Product Department **ARG** Group

東明工業株式会社

システム製品事業部 **ARG** グループ

Address : 51 Kosaka, Haruki, Togo-cho, Aichi-gun, Aichi, 470-0162 JAPAN

住所 : 〒470-0162

愛知県愛知郡東郷町大字春木字小坂 51

TEL : +81-561-38-5888

電話番号 : 0561-38-5888