FURUNO

Installation Manual
INMARSAT-C MES
Model FELCOM18

FURUNO ELECTRIC CO., LTD.

www.furuno.com

ECF
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The paper used in this manual
is elemental chlorine free.

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(YOSH) FELCOM18

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⚠ SAFETY INSTRUCTIONS

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Do not open the equipment unless totally familiar with electrical circuits and service manual.

Only qualified personnel should work inside the equipment.

Do not approach the radome closer than 0.5 m when it is transmitting.

Microwave radiation can cause severe injury or illness.
Radiation level:
10 W/m^2 at 0.5 m

Turn off the power at the mains switchboard before beginning the installation. Post a sign near the switch to indicate it should not be turned on while the equipment is being installed.

Fire, electrical shock or serious injury can result if the power is left on or is applied while the eqiuipment is being installed.

⚠ CAUTION

Confirm that the power supply voltage is compatible with the voltage rating of the equipment.

Connection to the wrong power supply can cause fire or equipment damage. The voltage rating appears on the label at the rear of the terminal unit.

Use the correct fuse.

Use of wrong fuse can result in damage to the equipment.

Keep the following compass safe distances.

	Standard	Steering
Antenna Unit IC-118	0.30 m	0.30 m
Terminal Unit IC-218	0.65 m	0.40 m
Printer PP-510 or PP-520	1.00 m	0.80 m
Junction Box IC-318	0.90 m	0.60 m
Distress Alert/ Received Call Unit IC-305	0.50 m	0.30 m
Alarm Unit IC-306	0.50 m	0.30 m
SSAS Alert Unit IC-307	0.70 m	0.45 m
AC/DC Power Supply Unit PR-240	0.90 m	0.60 m
AC/DC Power Supply Unit PR-241	0.85 m	0.55 m
Keyboard	0.70 m	0.45 m

Ground the equipment to prevent electrical shock and mutual interface.

SYSTEM CONFIGURATION

Standard configuration is shown with solid line.

ANTENNA
UNIT IC-118

DGPS

TERMINAL UNIT
IC-218

POWER SUPPLY
100-115/200-230 VAC ,
1φ 50/60 Hz

POWER SUPPLY
24 VDC

POWER SUPPLY
12/24 VDC

POWER SUPPLY
24 VDC

AC/DC Power
Supply Unit
PR-240/241

Built in
GPS Board
OP16-62

Personal Computer
(PC/AT compatible)

Shipboard LAN (Ethernet)

Printer**
PP-510/
PP-520

For 12 VDC power supply,
DC-DC converter is
required to use PP-510 or
PP-520.

Keyboard

Distress Alert/
Received Call Unit
IC-305 or 350

SSAS Alert Unit*
IC-307

SSAS Alert Unit*
IC-307

JUNCTION
BOX IC-318

Alarm Unit
IC-306

(Max. 3 units)
Standard supply for SSAS

Navigator

*: At least two SSAS Alert Units are required.
**: Mandatory for EGC operation as required by IMO RES. A.664(16).

CATEGORY OF UNITS (required by IEC60945):

Unit	Category
Terminal Unit	Protected from the weather (For indoor installation)
Antenna Unit	Exposed to the weather (For installation on the open deck)
Other Units	Protected from the weather (For indoor installation)

EQUIPMENT LISTS

Standard supply

Name	Type	Code No.	Qty	Remarks
Antenna Unit	IC-118	-	1	w/FP16-02501
Terminal Unit	IC-218	-	1	w/CP16-05220, SP16-01301, FP16-02610
Junction Box	IC-318	-	1	
SSAS Alert Unit	IC-307	-	2	For SSAS only
Installation Materials	CP16-05511	001-189-560	1	For IC-118, 30 m

Optional supply

Name	Type	Code No.	Qty	Remarks
Printer	PP-520	-	1	
Distress Alert/ Received Call Unit	IC-305	-	1	
Alarm Unit	IC-306	-	1	
AC/DC Power Supply Unit	PR-240	-	1	
	PR-241	-	1	
Ferrite Core	OP86-11	001-594-450	1	For PR-241
SSAS Alert Unit	IC-307	-	1	
PC Terminal Software	OP16-57	001-180-050	1	
Cable Assy.	COSPEVVSBC 5PX0.2LF	000-560-452-11	1	5P, 10 m
	COSPEVVSBC 5PX0.2LF	000-103-868-11	1	5P, 20 m
	COSPEVVSBC 5PX0.2LF	000-103-869-11	1	5P, 30m
	COSPEVVSBC 5PX0.2LF	000-132-829-11	1	5P, 40 m
	COSPEVVSBC 5PX0.2LF	000-132-828-11	1	5P, 50 m
Flush Mount Kit	OP16-27	004-448-000	1	For IC-305/306
	OP16-28	004-448-010	1	For IC-307
Antenna Unit	IC-118	-	1	
Antenna Bracket	CP16-05602	001-189-610	1	For IC-118
Antenna Base w/Hose Clamp	OP16-72	001-323-420	1	
Antenna Base w/ Mount Pipe	OP16-73	001-323-430	1	
Antenna Base 2/U Bolt	OP16-74	001-313-440	1	
Antenna Base	OP16-75	001-313-450	1	
IPX2 Kit	OP16-58	001-180-070	1	D-sub cables
Water Proof Kit	OP16-59	001-180-080	1	For IC-218
	OP16-60	001-180-090	1	For IC-318
	OP16-67	001-189-380	1	For IC-305
	OP16-68	001-189-400	1	For IC-307
GPS Board Kit	OP16-62	001-180-100	1	For IC-218
Bracket Kit	OP16-65	001-182-900	1	
Key Template	OP05-135	001-184-560	1	For Russian flag vessels

Name	Type	Code No.	Qty	Remarks
Installation Materials	CP16-05750	000-021-704	1	w/o pipe, 30 m
	CP16-05790	000-021-715		w/o pipe, 30 m, for armored cable
	CP16-05760	000-021-713		w/o pipe, 40/50 m, for armored cable
	CP16-05770	000-021-714		w/o pipe, 100 m, for armored cable
Hose clamp	OP16-76-1	001-443-450	1	Nominal Diameter, Mast Diameter For 40A (ϕ 48.6)
	OP16-76-2	001-443-460	1	Nominal Diameter, Mast Diameter For 65A to 80A (ϕ 76.3 to 89.1)
	OP16-76-3	001-443-470	1	Nominal Diameter, Mast Diameter For 90A to 100A (ϕ 101.6 to 114.3)
Operator's Manual	OME-56740-*	000-198-355-1*	1	Hard copy manual, English
	OMJ-56740-*	000-198-356-1*	1	Hard copy manual, Japanese

1. MOUNTING

<div style="border:1px solid black; padding:10px;">

NOTICE

Do not apply paint, anti-corrosive sealant or contact spray to coating or plastic parts of the equipment.

Those items contain organic solvents that can damage coating and plastic parts, especially plastic connectors.

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1.1 Antenna Unit

1.1.1 Mounting location

Refer to IMO resolutions A663(16) and A.807(19), as amended.

• Mount the omnidirectional antenna unit high atop a mast clear of stays and the turning diameter of a radar antenna. The ideal mounting location would be where no obstacle appears in the fore and aft directions down to -5° and down to 15°

ANTENNA UNIT

in the port and starboard directions. The concept is illustrated in the figure below. Shadow sector of the antenna mast, whip antenna, etc. should be within two degrees at one meter from the antenna unit.
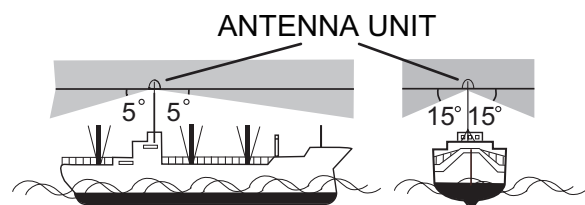
• When two FELCOMs are installed, the horizontal separation shall be at least 1.5 m and the vertical separation, 1 m or more.

Installation of two antenna units

• If Inmarsat ship earth stations other than C are installed, separate the Inmarsat antenna at least 8 m from the Inmarsat-C antenna.
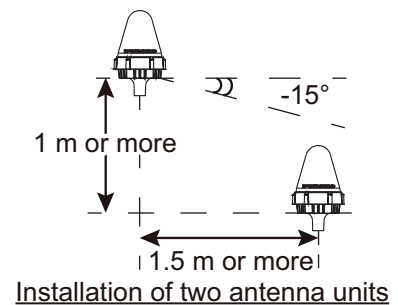
• Separate the antenna unit from an S-band radar as shown in the figure to the right:
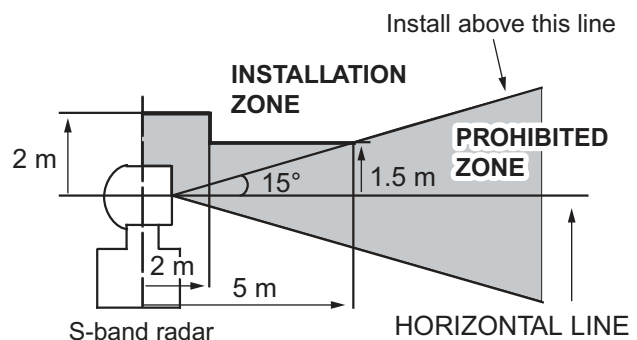
- The allowable vibration level as specified by Inmarsat is as shown in the table below.

Allowable vibration level

Frequency	Level
2 to 10 Hz	2.54 mm Peak Amplitude
10 to 100 Hz	9.8 m/s2 Peak Acceleration

- Avoid the location near tunnels and stacks; smoke and soot on the radome can lower signal level (10 m or more in horizontal distance).

- Separate the antenna unit 5 m from HF, VHF of 27 MHz antenna.

1.1.2 Mounting

The antenna cable is available in lengths of 30 m, 50 m and 100 m (see table below).

Cable length	Type	Remarks
30 m (no armor)	TP5FBAW-5DFB	TNC connector at both ends
30 m (w/armor)	5D-FB-CV-NP	N connector on one end (antenna side)
50 m (w/armor)	8D-FB-CV	
100 m (w/armor)	12D-SFA-LITE-CV	

Note: When using the optional installation kit to install the antenna, refer to the outline drawings at the back of this manual.

Antenna installation

Select a location to weld the grounding stud bolt (M6), keeping in mind the length of the grounding cable RW-4747 (Included as installation materials) is 340 mm. The location for welding the grounding stud bolt should allow the antenna ground and mast ground to be connected with the grounding cable (to ground lightning strikes). For detailed measurements, refer to the outline drawings at the back of this manual.

For information on wiring the antenna cable, refer to the manual included with the antenna unit.
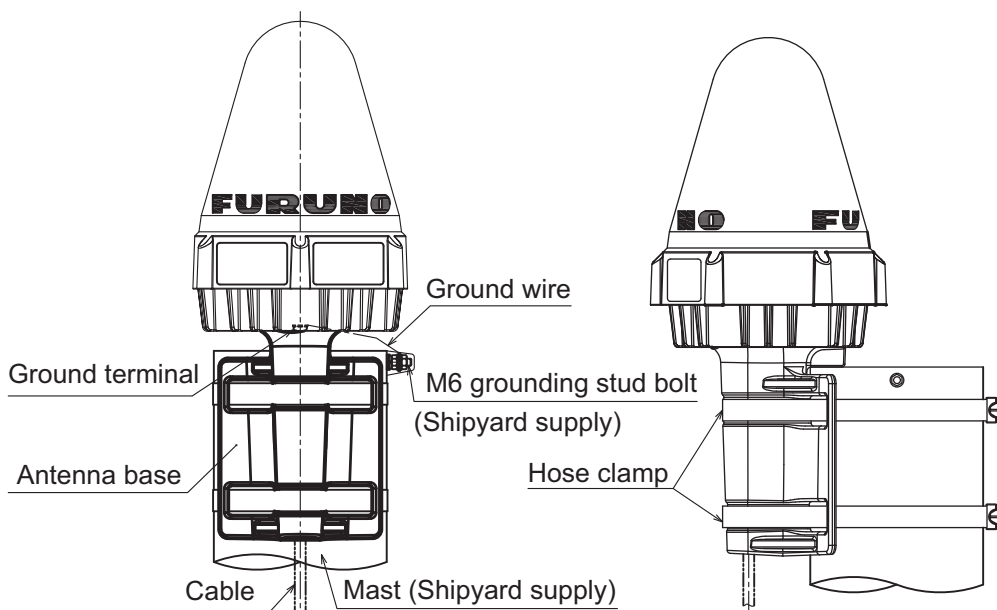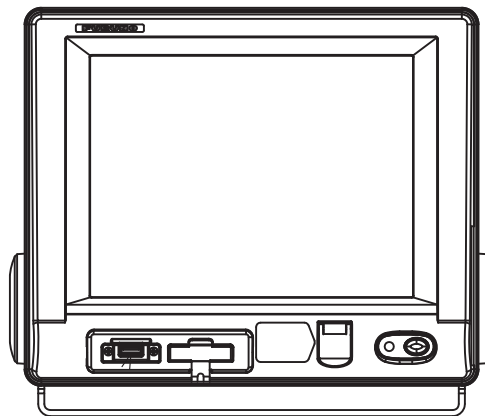
1.2 Terminal Unit

Select a mounting location, considering the following points.

- The temperature and humidity should be moderate and stable.
- For maintenance and checking purposes, leave sufficient space at the sides and rear of the unit and leave slack in cables.
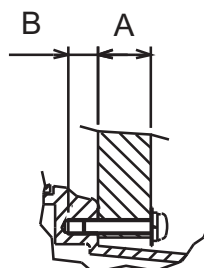
Mounting

Tabletop mount

1) Fix the hanger (option) to a table with four self-tapping screws (5x20, supplied), referring to the outline drawing at the back of this manual.

2) Screw knobs and washers to terminal unit loosely.

3) Set the terminal unit to the hanger and tighten knobs.

Terminal unit, tabletop mounting

Flush mount

Use locally supplied pan head screws (M4x20) when the thickness of the bulkhead is from 11 to 14 mm. For bulkhead which exceeds 14 mm in thickness the length of the pan head screws should be bulkhead thickness A +7.8±2 mm. Also the length of B should be max. 8 mm (B≤8 mm).


Bulkhead, sectional view

1. Prepare a cutout in the mounting location whose dimensions are as shown in the outline drawing at the back of this manual.

2. Fix the display unit with six pan head screws, inserting them from the inside of the bulkhead. Refer to the outline drawing at the end of this manual.

How to connect the LAN cable

Connect the LAN cable using the sponge and LAN cable support (supplied). This procedure should be done even if the LAN cable is not used, to waterproof the unit.

1. Attach the sponge for LAN terminal to the LAN terminal.

Sponge for
LAN terminal
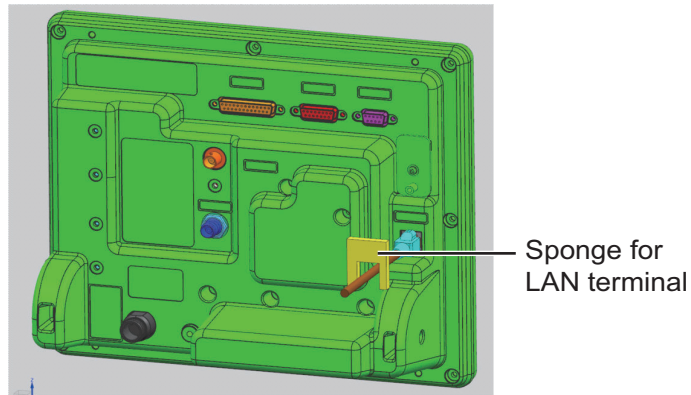
2. Use the binding screw (pre-attached at the rear of the unit) to fix the LAN cable support.
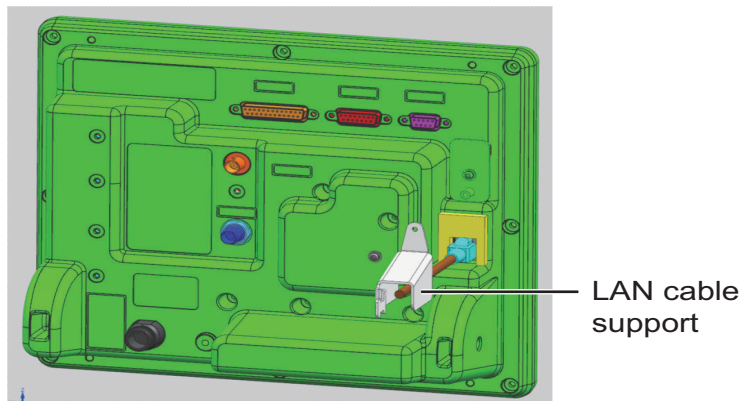
LAN cable
support

3. Connect the LAN cable to the terminal unit. Fix the LAN cable to the LAN cable support with a cable tie (supplied).

Binding screw

Fix the cable here
with a cable tie.

Keyboard

1. Stick the supplied INM-C18 function key stickers to their respective keys (F1 to F10).
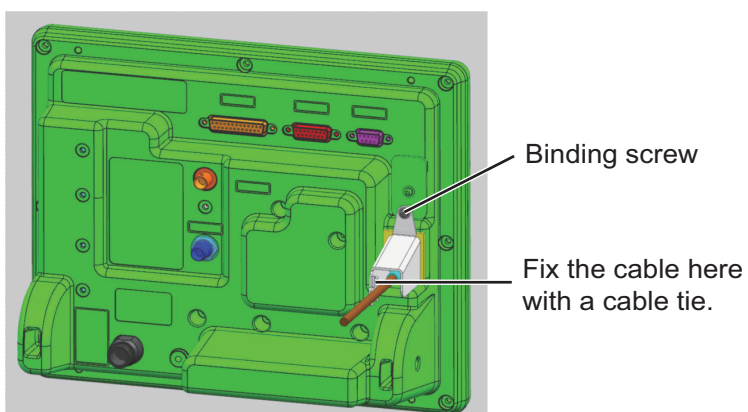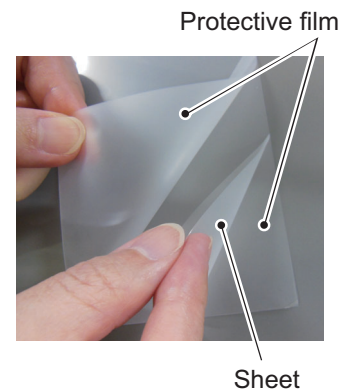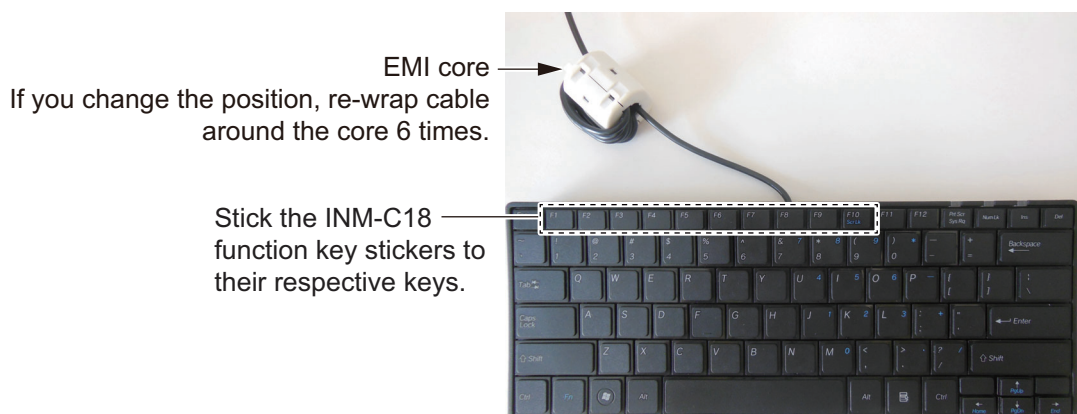
2. Referring to the following steps, fit the static electricity prevention sheet (included as installation materials) to the keyboard, then fix the keyboard at the installation location using the double-sided supplied tape (Tape V/H).

   1) Remove the protective film from one side of the supplied double-sided tape, then stick the tape to the 4 edges of the rear of the keyboard.

   2) Remove the protective film on both sides of the sheet, then fit the sheet to the keyboard.
   Note: The sheet is extremely thin and should be handled with care.

   3) Remove the protective film from the double-sided tape on the rear of the keyboard, then fix the sheet to the tape.

3. Stick the supplied smaller velcro tape (Fastener, 5 pcs.) to the four corners of the rear of the keyboard and to the EMI core.

Protective film

Sheet

4. Fit the supplied larger velcro tape (Fastener, 5 pcs.) to the smaller tape.

5. Remove the protective film from the larger velcro tape.

6. Fit the keyboard at the installation location.

7. Depending on the installation location and environment, move and then fit the EMI cores as required.
The following points should be observed when moving the EMI cores:

   • Do not remove or disconnect the USB cable.

   • Do not apply undue stress or weight to the base of the cable connection on the keyboard.

   • The EMI core must not be suspended freely as this puts strain on the cable.

   • Re-wrap the cable around the EMI core a total of 6 times. The cable should pass through the EMI core a total of 7 times.

EMI core

If you change the position, re-wrap cable around the core 6 times.

Stick the INM-C18 function key stickers to their respective keys.

1-5

1.3 Distress Alert/Received Call Unit IC-305/Alarm Unit IC-306
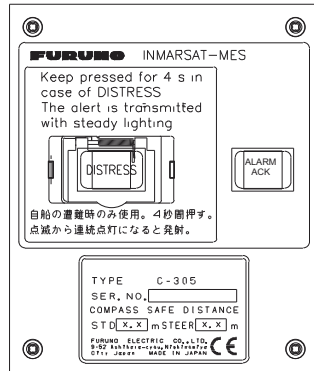
Distress alert/received call unit IC-305
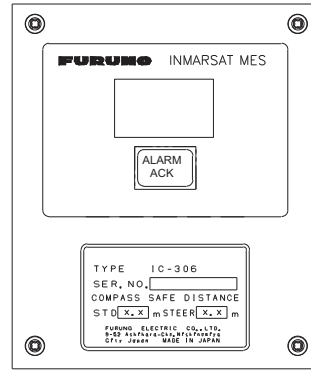
Alarm unit IC-306

Bulkhead mounting

1. Remove four screws from the unit to separate the bottom chassis from the top cover.

2. Fix the bottom chassis to the mounting location with four self-tapping screws (supplied).

3. Cable can be led in from the bottom or the rear panel. For rear panel entrance, change the clamp orientation as follows.

   1) Unfasten two screws to remove the cable clamp.

   2) Turn the clamp 90 degrees.

   3) Refasten two screws removed at step 1) to fix the clamp.

Unfasten these screws.
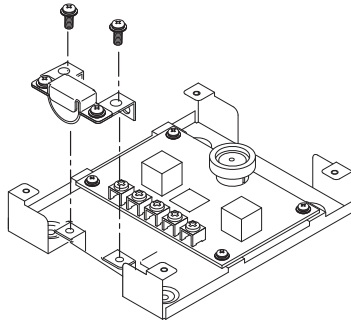
Refasten screws.

Rotate.
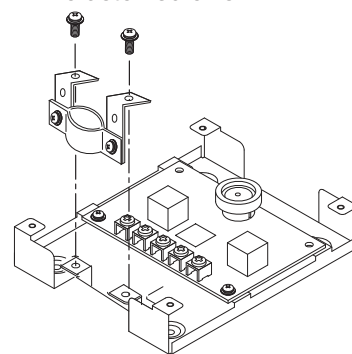
   4) Run the interconnection cable thorough a cable entrance and connect it to terminal board.

Flush mount

The optional flush mounting kit OP16-27 (Code No.: 004-448-000) is required.

Name	Type	Code No.	Qty
Fixture	16-018-4201-1	100-317-841	1
Pan head screw	M3x6	000-800-362	4
Self-tapping screw	4x16	000-162-605-10	4

1. Make a cutout in the mounting location, referring to the outline drawings at the back of this manual.

2. Fix the unit to the fixture with four pan head screws (supplied).

3. Fasten four self-tapping screws (φ5, supplied) to fasten the fixture to the mounting position.

1.4 Printer (option)

Mount the printer (PP-510 or PP-520) on a tabletop with the fixtures supplied. Refer to the outline drawing at the end of this manual for the mounting dimensions. The right figure is for PP-520

1. Decide the location of the printer.

2. Set the ink ribbon cartridge and the roll paper to the printer.

3. Set the fixtures (left/right) onto the printer. Fasten them with four self-tapping screws (φ5x20).
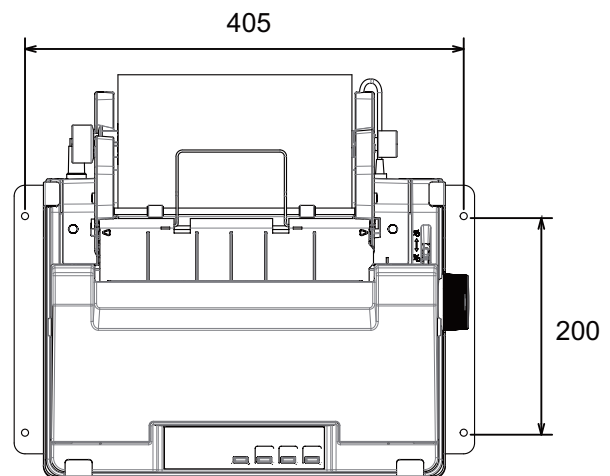
1.5 AC/DC Power Supply Unit (option)

For PR-240

Fix the unit on a table with four self-tapping screws.
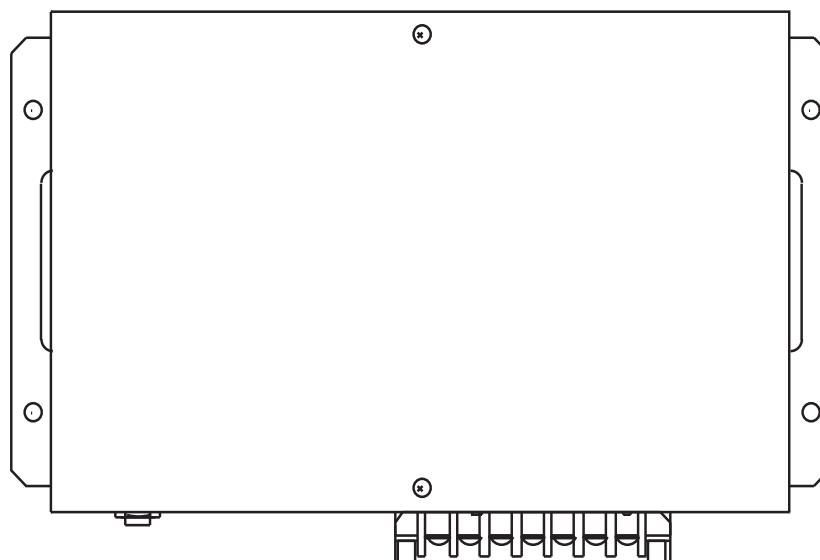
AC/DC power supply unit PR-240

For PR-241

To mount the PR-241, see the installation guide supplied with the PR-241.

1.6 Junction Box IC-318

The junction box IC-318 is connected to the terminal unit by using the cable assy 16S0344 (2 m, attached to the junction box). Install the junction box within 2 m from the terminal unit.

1. Remove four screws from the unit to separate the bottom chassis from the top chassis.

2. Fix the bottom chassis to the mounting location with four self-tapping screws (4x16, supplied).

3. Connect the cables referring to Chapter 2.
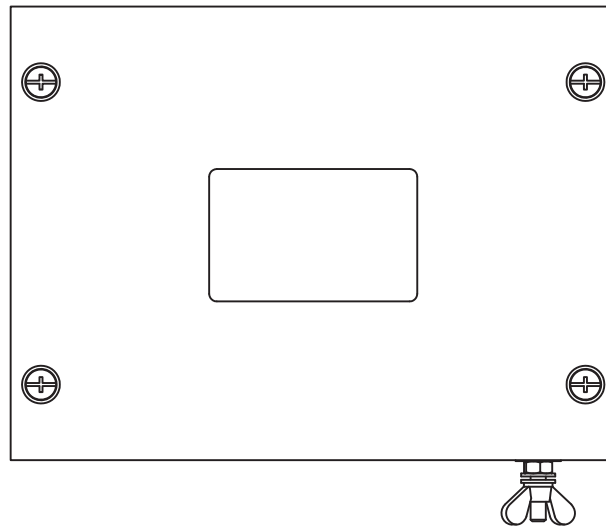
Junction box IC-318

2. WIRING

Wiring of FELCOM 18

For cable w/armor

Cable Assy.
TPA5FB0.4NJ5FBA-5DFB

5D-FB-CV-NP, 30 m
8D-FB-CV, 50 m
12D-SFA-CV, 100 m
Connector at one end

TNCP-NJ connector (Supplied)

Connector → N-P-5DFB
N-P-8DFB
N-P-12DSFA
(Supplied, local arrangement)

0.34 m
Ground wire

TP5FBAW-5DFB,30 m (No armor)
Connector at both ends

DGPS

Keyboard
(to USB terminal on the front panel)

MJ-A3SPF0018-050Z

24 VDC

VCTF-0.75x3C (5 m)

Printer
PP-510/PP-520

16S0184, 3 m

LAN cable
(100Base-TX, local supply)

Copper strap
1.2 m

Power supply
24 VDC

Junction Box
IC-318

CO-SPEVV-SB-C 0.2x5p
(option) or TTYCS(LA)-4
(Japanese Industrial
Standards)

Distress alert/
Received call
unit IC-305
or IC-350

Alarm unit
IC-306

IC-307

Navigator

⚠ CAUTION

The terminal unit is shipped with a 15 A fuse in its power cable. This fuse is for use with a 12 VDC power supply.

For a 24 VDC power supply, replace the fuse with a 7A fuse (supplied). Attach the "7A" label to the fuse holder on the power cable. Use of a wrong fuse can damage the equipment.

2.1 Antenna Cable Connector at the Terminal Unit

2.1.1 Antenna cable TP5FBAW-5DFB (30 m)

Remove the outer sheath, armor and inner-sheath by the dimensions shown.
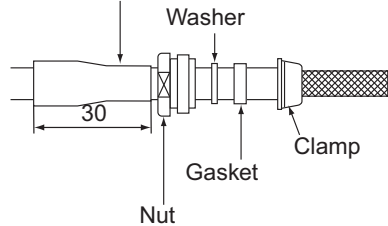
Set the nut, washer, gasket, clamp onto cable as shown.

- Be careful not to damage the braided shield.

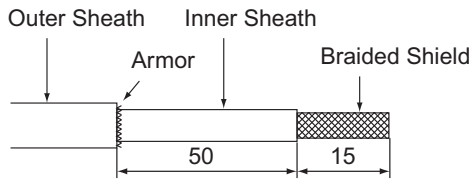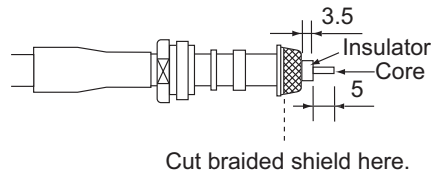Fold back the braided shield onto the clamp and trim the shield as shown.

Make the length of insulator 3.5 mm and the length of the core 5 mm.
- Be careful not to damage the core.
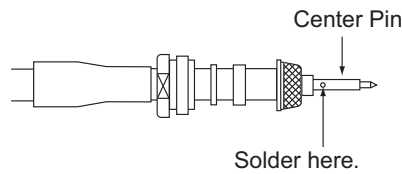
Set the center pin to the core and solder the pin from the hole in the pin.
(Pull the pin with approx. 1 kg of force to check strength of solder joint.)
- Be sure the solder is flush with surface of pin.
- Be sure there is no gap between center pin and insulator. Do not push the center pin into the insulator.
- Do the soldering as quickly as possible so as not to deform the insulator.
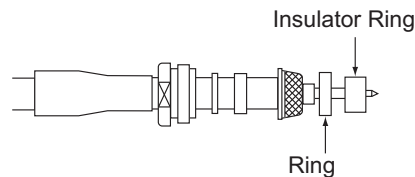
Set the ring and insulator ring onto the cable.
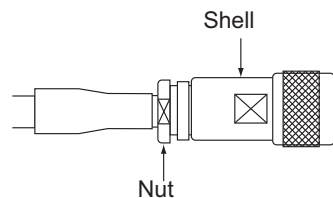
Set the shell to the cable then turn the nut to tighten. (Do not tighten by turning shell.) - Use a wrench or the like to tighten the nut securely.

How to fabricate antenna cable TP5FBAW-5DFB

2.1.2 Antenna cable 5D/8D-FB-CV (50 m)

Connector type N-P-5D-FB

Outer Sheath
Armor   Inner Sheath   Shield
Dimensions in millimeters.

50   30

Remove outer sheath and armor by the dimensions shown left.
Expose inner sheath and shield by the dimensions shown left.

Cover with heat-shrink tubing and heat.

30   10

Remove insulator and core by 10 mm.

Twist shield end.

Clamp Nut   Clamp
Gasket (reddish brown)

Slip on clamp nut, gasket and clamp as shown left.

Aluminum Foil

Trim shield here.

Fold back shield over clamp and trim.

Cut aluminum foil at four places, 90° from one another.

Insulator

Trim aluminum tape foil here.

Fold back aluminum tape foil onto shield and trim.

1

5

Expose the insulator by 1 mm.

Expose the insulator by 5 mm.
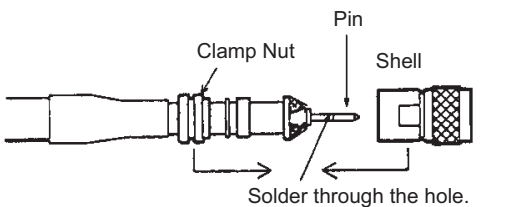
Pin
Clamp Nut   Shell

Solder through the hole.

Slip the pin onto the conductor. Solder them together through the hole on the pin.

Insert the pin into the shell. Screw the clamp nut into the shell.
(Tighten by turning the clamp nut. Do not tighten by turning the shell.)

How to fabricate antenna cable 8D-FB-CV

Connector type N-P-8D-FB

Outer Sheath
Armor
Dimensions in millimeters.
Inner Sheath   Shield

50   30

Remove outer sheath and armor by the dimensions shown left.
Expose inner sheath and shield by the dimensions shown left.

Cover with heat-shrink tubing and heat.

30   10

Remove insulator and core by 10 mm.

Twist shield end.

U-shaped groove

Clamp Nut   Clamp
Gasket (reddish brown)

Slip on clamp nut, gasket and clamp as shown left.

Aluminum Foil

Trim shield here.

Fold back shield over clamp and trim.

Cut aluminum foil at four places, 90° from one another.

Insulator

Trim alminum tape foil here.

Fold back aluminum tape foil onto shield and trim.

Expose the insulator by 1 mm.

5

Expose the core by 1 mm.
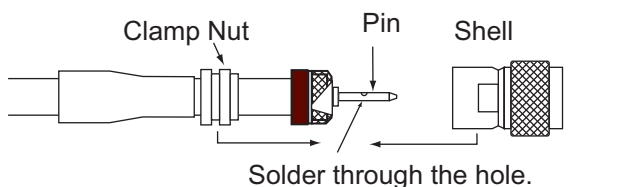
Clamp Nut   Pin   Shell

Solder through the hole.

Slip the pin onto the conductor. Solder them together through the hole on the pin.

Insert the pin into the shell. Screw the clamp nut into the shell.
(Tighten by turning the clamp nut. Do not tighten by turning the shell.)

Connector type N-P-8DSFA

Outer sheath

50

15

Armor

Inner sheath

Braided shield

30

Twist the shield and pass the clamp.

10

Cover with heat-shrink
tube or vinyl tape.

Nut Washer Gasket

Core

Clamp

Core (Adjust
the length.)

Center pin

Fold back the shield. Remove the
shield that hangs over the gasket.
Apply solder to core.

Center pin
(Soldering)

Set the shell to the cable
then turn the nut to tighten.
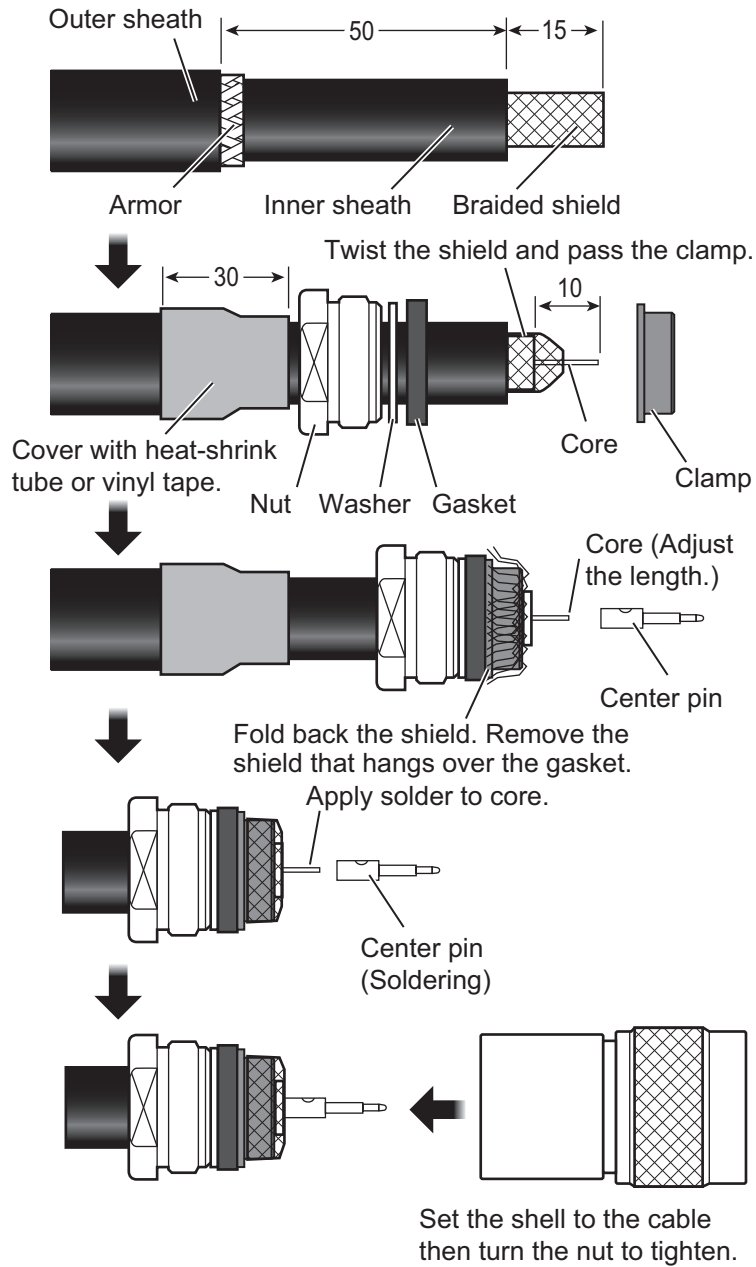
2.1.3   12D-SFA-LITE-CV (100 m)
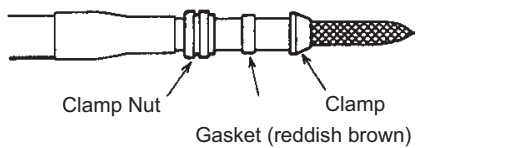
Dimensions in millimeters
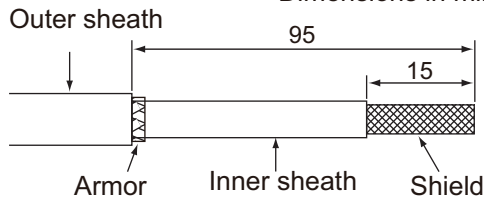
Remove outer sheath and armor by the dimensions shown left.
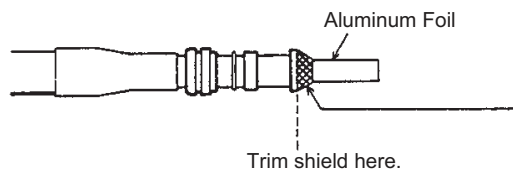Remove inner sheath and expose shield by the dimensions shown left.

95

15

Outer sheath

Armor   Inner sheath   Shield
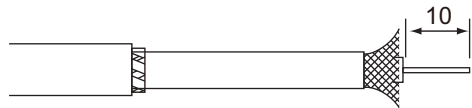
Remove the insulator beneath shield by 10 mm and expose the core.

10

30
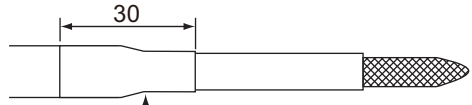
Twist shield end.

Heat shrinkable tube or vinyl tape
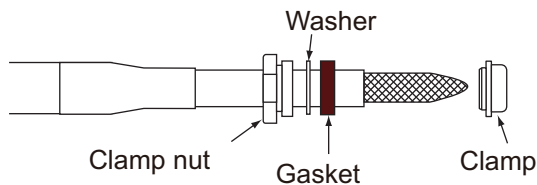
Washer

Slip on clamp nut, washer, gasket and clamp as shown left.

Clamp nut   Gasket   Clamp

Fold back shield over clamp and trim.

Trim shield here.
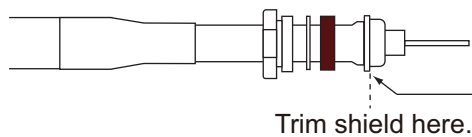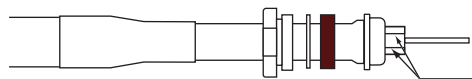
Cut aluminum tape at four places, 90° from one another.

Expose the insulator by 2 mm.

2

Expose the conductor (core) by 5 mm.

5
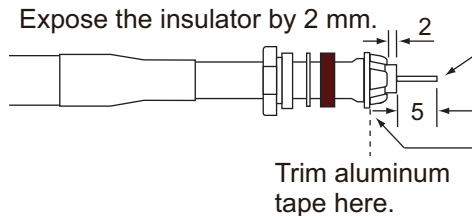
Fold back aluminum tape over clamp and trim.
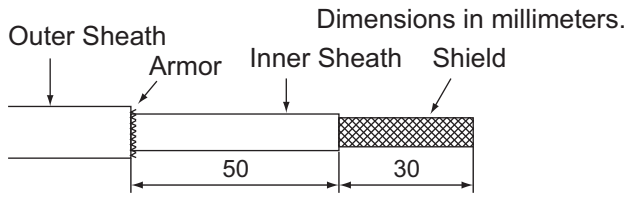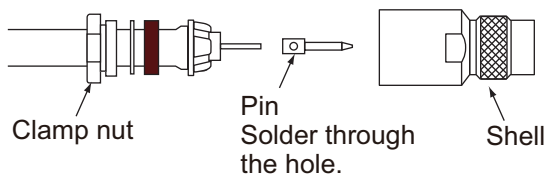
Trim aluminum tape here.

Slip the pin onto the conductor. Solder them together through the hole on the pin. Insert the pin into the shell. Screw the clamp nut into the shell.
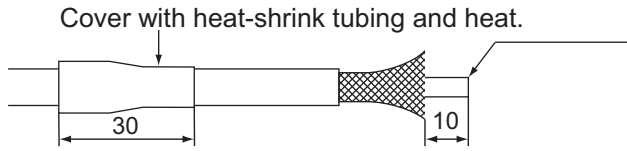Tighten them by turning the clamp nut. (Do not tighten by turning the shell.)

Clamp nut   Pin   Solder through the hole.   Shell

How to fabricate antenna cable 12D-SFA-CV

2.2 Distress Alert/Received Call Unit IC-305

Use the installation materials CP16-02201 to connect the IC-305. The optional CO-SPEVV-SB-C 0.2x5P cable or JIS cable (Japan Industrial Standard) TTYCS(LA)-4 or equivalent are available to connect with the junction box IC-305. Select the cable clamp attached according to the diameter of cable, and fix the armor of the cable with the clamp.
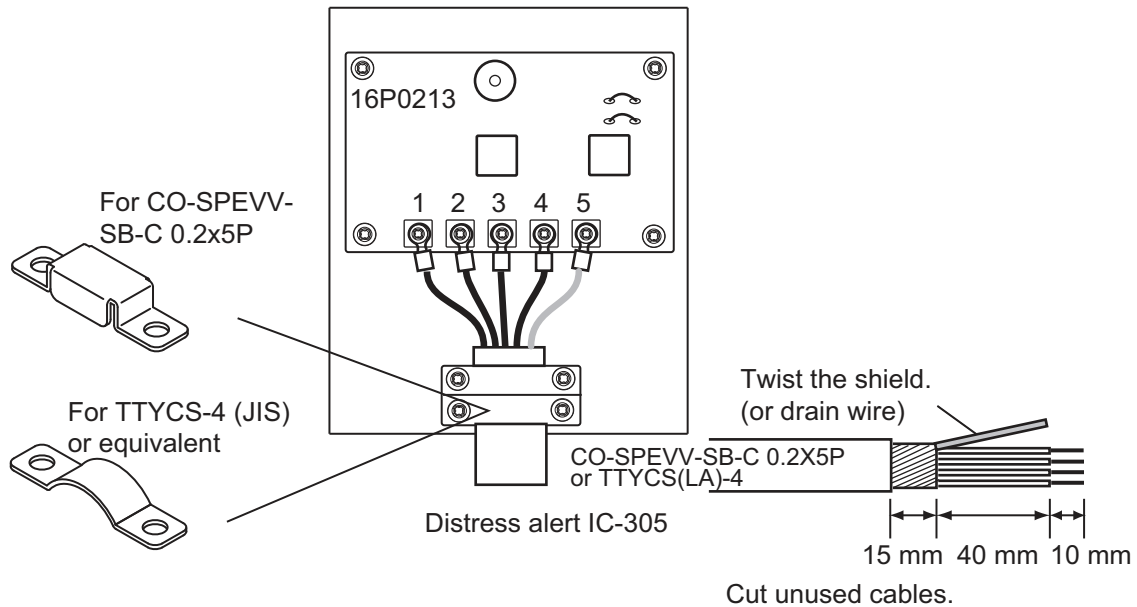
Wiring of distress alert IC-305

2.3 Alarm Unit IC-306

A maximum of three alarm units can be connected to the junction box IC-318, in parallel. To distinguish the incoming indictors, set jumper wires for the second alarm unit as shown below. For connection, refer to 2.2 Distress Alert/Received Call Unit IC-305."
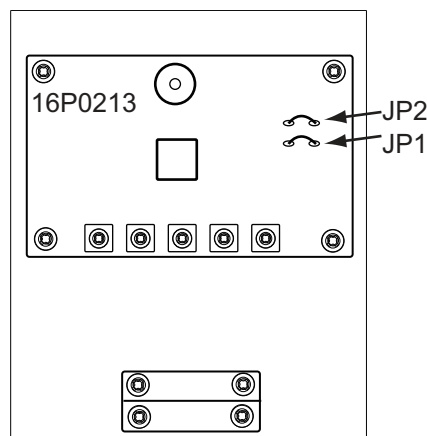
Alarm unit IC-306

	No.1 (default setting)	No.2	No.3
JP1	Open	Open	Short
JP2	Short	Open	Open

2.4 Junction Box IC-318

Use the junction box IC-318 to connect the distress alert/received call unit IC-305 and other units (max. four units) to the terminal unit. Unfasten four screws to remove the units cover to connect cables.

For connection, use the optional 5 pair cable CO-SPEVV-SB-C 0.2x5P, JIS cable (Japan Industrial Standard) TTYCS(LA)-4 or equivalent.

	IC-305/306	
1	Vcc	
2	GND	
3	TD/RD-A	
4	TD/RD-B	
5	NC	
6	ALM-H	
7	ALM-C	
8	RD-A(NAV)	
9	RD-B(NAV)	
10	GND	
11	SSAS OUT-H	
12	SSAS OUT-C	
13	SSAS IN-H	
14	SSAS IN-C	
15	SSAS CTR	

Cover

Cable clamp

Terminal board

Sticker for connection of other equipment

Core 7 mm

Procedure

1. Insert from direction ① .

2. Tilt slightly toward ② .

3. Insert cable core to ③ .

4. Pull out the screwdriver.

Note 1: Do not insert the wire deeply, to prevent pinching its sheath.

Note 2: Pull the wire slightly to confirm that it is in the slot correctly.

For TTYCSLA cable, use the screws and crimp-on lugs shown below to connect the drain wire of that cable.

Screws and crimp-on lugs (supplied in the IC-318)

IC-318, inside view

Fold back

15 mm   90 mm   7 mm

Junction Box IC-318

Input sentences

The following sentences can be input by a GPS navigator.

Input sentences
BWC, BWR, DBT, DTM, GGA, GLL, GNS, GSA, MTW, RMA, RMB, RMC, VDO, VDR, VTG, WPL, ZDA

3. INITIAL SETTINGS

This chapter shows you how to setup the equipment. Some procedures require entry of job no. and password. Ask your dealer.

3.1 How to Set the IMN (INMARSAT MOBILE NO.)

Set your IMN (Inmarsat Mobile No.) as shown below.

1. Turn the power on.

2. Press the function key [F8] to show the [Setup] menu.

```
File   Edit   Transmit   EGC     Reports   Logs   Options   Setup   Distress   StopAlarm
            ┌─ Setup ──────────────┐
            │ 1. System Setup      │
            │ 2. Editor Setup      │
            │ 3. Terminal Setup    │
            │ 4. EGC Setup         │
            │ 5. Auto Mode Setup   │
            │ 6. E-Mail Setup      │
            │ 7. Directories       │
            │ 8. Configuration     │
            └──────────────────────┘
```
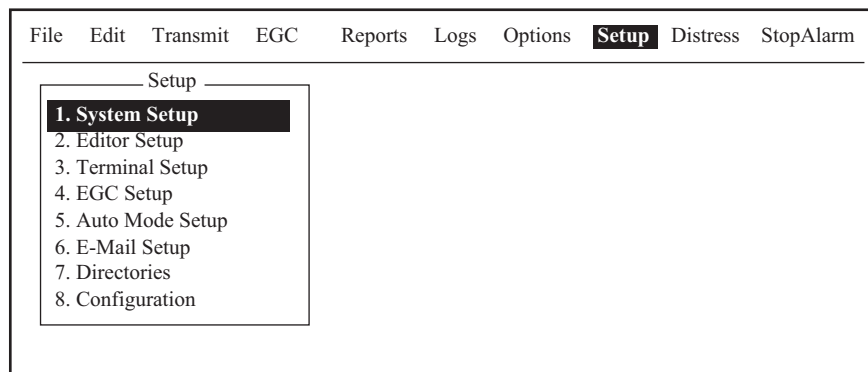
3. Press **1** key to display the [System Setup] menu.

```
            ┌─ Setup ──┐
                    └─ System Setup ──────────────┐
            │ System Date & Time   01:53  12-02-25 (YY-MM-DD)
            │ IMN
            │ MES Operation Mode   INMARSAT-C
            │ Nav Port             EXT
            │ LAN Port             ON
            │ Message Output Port  INT
            │ EGC Output Port      INT
            │ Network Setup
            │ Command Window
            └───────────────────────────────────────┘
```
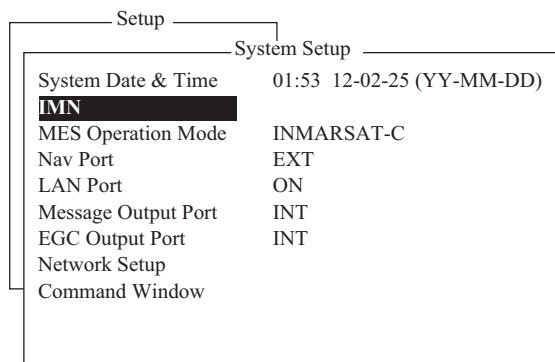
4. Confirm that [IMN] is selected, and then press the **Enter** key.
   An input box appears.

5. Key in your IMN.

6. Press the **Enter** key.
   To clear the IMN, select [IMN], then press **I**, **M**, **N** while pressing the **Alt** key. Repeat step 4 to step 6 to input the correct IMN.

7. Press the **Esc** key.

8. Press the **Enter** key.

9. Press the **Esc** key.

3.2 How to Set External Equipment

The FELCOM 18 is set at the factory to accept the distress alert/received call unit IC-305, up to three alarm units IC-306 and the SSAS alert unit IC-307. If the configuration is different, change the setting to OFF as below.

1. Press the **F8** key to show the [Setup] menu.

2. Press the **1** key to show the [System Setup] menu.

3. Press the ↓ key to select [Command Window], and then press **Enter** key to show the [Command Window] screen.

4. Enter the [Enter JOB No.:], and then press the **Enter** key.

5. Enter the [PASSWORD:], and then press the **Enter** key.
    [Main Menu] is highlighted.

6. Press the **1** and **Enter** keys in order.

```
┌──────── Setup ──────────┐
│         ┌──────── System Setup ─────────┐
│  System Date & Time    01:53  02-02-25 (YY-MM-DD)
│  IMN
│                        ┌──── Command Window ─────────┐
│    [ Main Menu ]
│    1. Remote Box Setup
│    2. External Alarm Setup
│    3. AMS Setup
│    4. Management Profile Setup
│    Enter JOB No.: 1
│
│    [ Remote Box Setup ]
│    1. SSAS              OFF
│    2. IC-305           OFF
│    3. IC-306 No.1      OFF
│    4. IC-306 No.2      OFF
│    5. IC-306 No.3      OFF
│    E: Exit
│    Enter No.:
└──────────────────────────────────────────┘
```
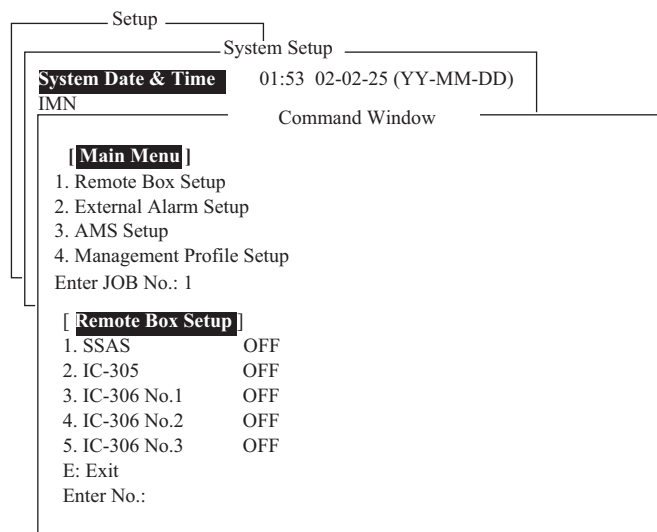
Command Window screen

7. Press the number key for unit not connected.
    For example, press the **1** and **Enter** keys when the SSAS alert unit IC-307 is not connected.

```
[ SSAS ]
1. OFF
2. IC-307 (Standard SSAS)
3. IC-307 (Russian SSAS)
4. SSAS(Momentary SW)
E: Exit
```

Setting window for IC-307

8. If the unit is not connected, press the **1** key, and the **Enter** key.
    To return to the [Remote Box Setup] menu, press the **E** key (not any numeric key).

9. Repeat step 7 to step 8 for other units not connected.

10. Press the **Esc** key several times to close the menu.

3.3   How to Set the Alarm Contact

1. Press the **F8** and **1** keys to show the [System Setup] menu.

2. Press ↓ to select [Command Window], and then press the **Enter** key.

3. Enter the [Enter JOB No.:], then press the **Enter** key.

4. Enter the [PASSWORD:], and then press the **Enter** key.
   [Main Menu] is highlighted.

5. Press the **2** key, and the **Enter** key.

```
┌────────── Command Window ──────────┐
│                                    │
│ [ External Alarm Setup   ]         │
│ 1. Distress Message : ON           │
│ 2. Distress EGC      : ON          │
│ 3. Urgent EGC        : ON          │
│ 4. Unit Fault        : OFF         │
│ E: Exit                            │
│                                    │
│ Enter No.:                         │
│                                    │
│                                    │
│                                    │
└────────────────────────────────────┘
```

6. Press a numeric key (1 to 4), then press the **Enter** key.
   To detect the error on a unit, press **4** and **Enter** in order.

```
- - - - - - - - - - - - - - - - - - - - -
[ Unit Fault ]
1. ON
2. OFF    E: Exit
- - - - - - - - - - - - - - - - - - - - -
```

7. Press the **1**, and **Enter** keys.
   To return to the [External Alarm Setup] menu, press the **E** key.

8. Repeat steps 6 and 7 to set other alarm contacts.

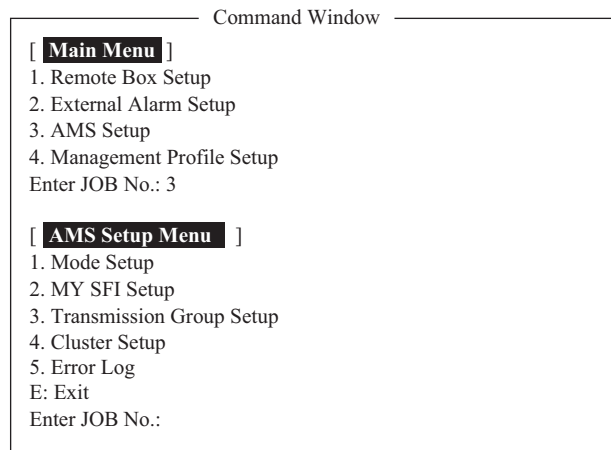9. Press the **Esc** key several times to close the menu.

3.4   How to Set up the AMS/BAM

Do the following to connect the AMS (Alert Management System).

1. Press the **F8** and **1** keys to show the [System Setup] menu.

2. Press ↓ to select [Command Window], and then press the **Enter** key.

3. Enter the [Enter JOB No.:], then press the **Enter** key.

4. Enter the [PASSWORD:], then press the **Enter** key.

5. Press the **3** key, and the **Enter** key.
   The [AMS Setup Menu] appears on the [Command Window].

```
─── Command Window ───
[ Main Menu ]
1. Remote Box Setup
2. External Alarm Setup
3. AMS Setup
4. Management Profile Setup
Enter JOB No.: 3

[ AMS Setup Menu ]
1. Mode Setup
2. MY SFI Setup
3. Transmission Group Setup
4. Cluster Setup
5. Error Log
E: Exit
Enter JOB No.:
```

6. Press appropriate numeric key (1 to 4), then press the **Enter** key.
   To return to the [AMS Setup Menu], press the **E** key at the setting window.

1 key: [Mode Setup]

Set the alert mode.
[Legacy]: Select when no AMS/BAM is connected.
[AlertIF1]: Select when AMS is connected.
[AlertIF2]: Select when BAM is connected.

```
─── Command Window ───
[ Mode Setup ]
1. Legacy      ON
2. AlertIF1
3. AlertIF2
E: Exit
Enter AMS Mode No.:
```

For [AlertIF1], the option window shown to the right is displayed. To return to the [AMS Setup Menu] from this window, press the **E** key twice.

```
─── Command Window ───
[ Mode Setup ]      ─── Command Window ───
1.
2.      [ AlertIF1 Option ]
E:      1. Distress Alarm Stop Enable
En      2. Distress Alarm Stop Disable    ON
        E: Exit
        Enter AlertIF1 Option No.:
```

[Distress Alarm Stop Enable]: The AMS can stop the alarm sound when the Distress Priority message is received.
[Distress Alarm Stop Disable]: The AMS can not stop the alarm sound when a Distress Priority message is received.

For [AlertIF2], select the connected Distress Alert Unit. If there is no unit connected, select [3].

```
[ AlertIF2 Option ]
Select the connected distress alert unit.
1. IC-305   ON
2. IC-350
3. None
E: Exit
Enter AlertIF2 Option No. :
```

2 key: [MY SFI Setup]

Set this FELCOM's SFI number, which is the four-digit number that follows "CS". (The setting range is 0001 to 9998.)

Note: Be sure to use an SFI not used by other devices in the shipboard network.

```
─── Command Window ───
[ MY SFI Setup ]
SFI            CS0001

Set SFI not used for other equipment.
0001 to 9998: SFI No.
E: Exit
Enter SFI No.:
```
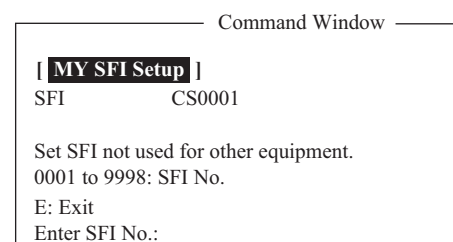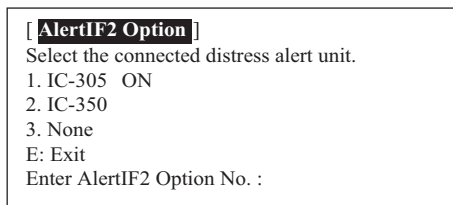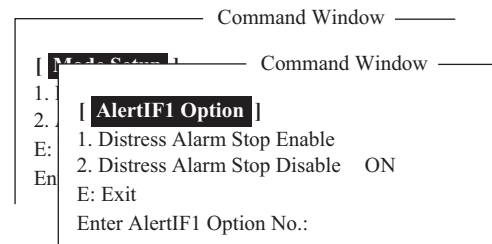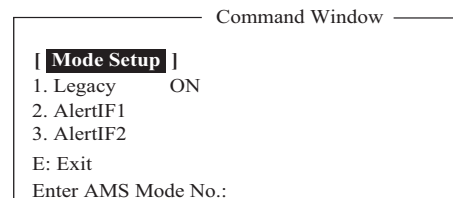
3 key: [Transmission Group Setup]

Set the transmission group of this equipment according to the transmission group of connected AMS/BAM equipment.

—— Command Window ——

[Transmission Group Setup]

1. MISC   ON
2. TGTD
3. SATD
4. NAVD
5. VDRD
6. RCOM
7. TIME
8. PROP
9. USR
A. Other
B. NONUSE
E: Exit

Enter Group No:

Transmission Group	Multicast Address	Destination Port
MISC	239.192.0.1	60001
TGTD	239.192.0.2	60002
SATD	239.192.0.3	60003
NAVD	239.192.0.4	60004
VDRD	239.192.0.5	60005
RCOM	239.192.0.6	60006
TIME	239.192.0.7	60007
PROP	239.192.0.8	60008
USR1 to USR8	239.192.0.9 to 239.192.0.16	60009 to 60016
BAM1, BAM2	239.192.0.17, 239.192.0.18	60017, 60018
CAM1, CAM2	239.192.0.19, 239.192.0.20	60019, 60020

—— Command Window ——

[AMS Setup Menu]

1. Mode Setup
2. MY SFI Setup
3. Transmiddion Group Setup
4. Ciuster Setup
5. Error Log
E: Exit
Enter JOB No.: 3
Enter Cluster Setup No.:

[TransmissionGroup Setup]
1. Group for TX   RCOM
2. Group 1 for RX   MISC
3. Group 2 for RX   - - - -
E: Exit
Enter No.:

[Group for TX]: Transmission group for sending sentences.
[Group for RX], [Group2 for RX]: Transmission group for receiving sentence.

4 key: Cluster Setup

Set the cluster for this equipment. These settings are applied only when AlertIF2 settings are applied (connected to BAM).

—— Command Window ——

1. Mode Setup
2. MY SFI Setup
3. Transmission Group Setup
4. Clister Setup
4. Error Log
E: Exit
Enter JOB No.: 4

[Cluster Setup]
1. My Cluster   None
2. Destination Cluster   None
E: Exit
These settings are used only for alertF2 mode.
Enter Cluster Setup No.:

[My Cluster Setup] window appears after selecting [1. My Cluster] on the menu. Set the destination cluster. Default setting is [None] which does not use the cluster. Change this item to use the cluster. Set the cluster according to the cluster setting of the BAM system.

```
─────── Command Window ───────

[ Cluster Setup ]
1. My Cluster                None
2. Destination Cluster       None
E: Exit
These settings are used only for alertF2 mode.
Enter Cluster Setup No.:

[ My Cluster Setup ]
1. Nav
2. Com
3. None              ON
E: Exit
Enter Cluster No.:
```

[Destination Cluster Setup] window appears after selecting [2. Destination Cluster] on the menu. Set the destination cluster according to the cluster setting of the BAM system.

```
─────── Command Window ───────
Enter Cluster Setup No.: 2
     [ Destination Ciuster Setup ]
     1. Nav
     2. Com
     3. Aut
     4. Cgo
     5. Htl
     6. ICT
     7. SSe
     8. Pos
     9. User Setting      ON
     E: Exit
     Enter Cluster No.:
```

5 key: [Error Log]

The [Error Log] compiles AMS related errors. To delete an error log entry, select the log then press the **1**, **Enter** key.

```
─────── Command Window ───────

[ Error Log ]
Datagram header error        xxxxxxxxxx*
TAG block formatting error   xxxxxxxxxx
TAG checksum error           xxxxxxxxxx
TAG syntax error             xxxxxxxxxx
TAG framing error            xxxxxxxxxx
Sentence syntax error        xxxxxxxxxx
UDP checksum error           xxxxxxxxxx
Total                        4294967295    LIMIT MAX

1. Log Clear
E: Exit
Enter JOB No.:
```
*: xxxxxxxxxx: Error log count

The error log holds 4294967296 entries. When that count is reached, the message "LIMIT MAX" appears.

7. Press the **Esc** key several times to close the menu.

3.5   How to Select Position-fixing Equipment

Select the position-fixing equipment that is to feed navigation data to the FELCOM.

1. Press the **F8** and **1** keys to show the [System Setup] menu.

2. Select [NAV Port] then press the **Enter** key.

3. Select the navigator to use, then press the **Enter** key.
    OFF: Manually input the position of own ship. Alarm is outputted when the position data is not updated every four hours.
    Auto: INT or EXT is automatically selected. For SSAS Russia and LRIT Russia, the setting of [NAV Port] is fixed at Auto and GLONASS is prioritized.
    INT: Use the navigator that is built into the terminal unit.
    EXT: Use an external navigator.

4. Press the **Esc** key several times to close the menu. The [Update] window appears.

5. Select [Yes] then press the **Enter** key.

3.6   How to Set up for 2nd DTE

For a 2nd DTE, do the procedure shown below.

1. Press the **F8** and **3** keys to show the [Terminal Setup] menu.

```
┌──────────── Terminal Setup ────────────┐
│ Connection                              │
│ Date Disp. Form   YY-MM-DD              │
│ Screen Saver      OFF                   │
│ Window Color                            │
│ Window Size       Normal                │
└─────────────────────────────────────────┘
```

Terminal Setup menu (for 2nd DTE)

2. [Connection] shows the name of the terminals available for connection to the LAN interface. Press the **Enter** key to show the [Connect List].

```
┌──────────────── Connect List ─────────────────┐
│ No.  Name         IMN         IP Address          Software Version │
│ *01  F18_123456   123432588   172.31.16.100/24    1650247-01        │
│  02  F18_133234   456789210   192.168.16.11/24    1650247-01        │
│  03                                               │
│  04                                               │
│  05                                               │
│  06                                               │
│  07                                               │
│  08                                               │
│  09                                               │
│  10                                               │
└────────────────────────────────────────────────┘
```

The No., Name, IMN, IP address and software version of each terminal are shown. The asterisk marks the terminal currently selected for communication.

3. To connect to a different terminal, select it then press the **Enter** key. The [Connect] window appears and [Yes] is selected. Press the **Enter** key to connect the terminal.

3.7 How to Set the Russian Language

Do the following to create a message in Russian.

1. Press the **F8** and **1** keys to show the [System Setup] menu.

2. Press ↓ to select [Command Window], and then press the **Enter** key.

3. Type "RUSSIAN ON" in the [Enter JOB No.:], then press the **Enter** key.
   The language is switched to Russian and the message "Russian supported." appears at the bottom of the standby display.
   To restore the previously used language, type "RUSSIAN OFF" in the [Enter JOB No.:], then press the **Enter** key. "Russian supported." disappears from the screen.
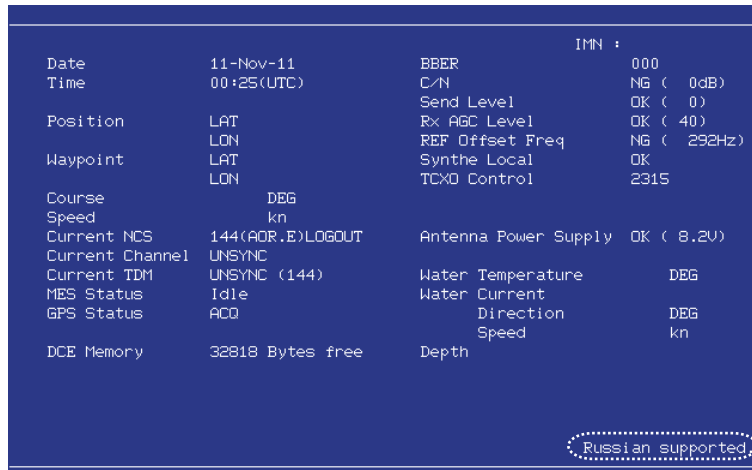
4. Press and hold down the left **Shift** key while pressing the left **Alt** key.
   The language for the keyboard is switched from English to Russian. The Scroll Lock lamp lights when Russian is selected. To switch the language from Russian to English, press and hold down the left **Shift** key while pressing the left **Alt** key.
   Note: With a 2nd DTE, Russian can be input from the keyboard of your PC. See your PC's owner's manual for how to switch languages.

5. Put the key template for Russian (OP05-135) on the keyboard of your PC.

3.8 How to Use the Paper Save Function

The Paper Save function allows you to choose whether to print the "Successful Data Report Sending" confirmation after a data report is sent.

1. Press the **F8** and **1** keys to show the [System Setup] menu.

2. Press ↓ to select [Command Window], and then press the **Enter** key.

3. At the [Enter JOB No.:] prompt, type "Paper Save", then press the **Enter** key. A message is displayed showing the status of the Paper Save function (ON or OFF).

4. To change the setting, type "Paper Save ON" (No report is printed) or "Paper Save OFF" (Report is printed), as appropriate, then press the **Enter** key.

3.9 How to Output EGC Messages

The FELCOM can output EGC messages to a navigation device (via the FELCOM's LAN port) that can receive EGC messages.

The output messages, in IEC 61162 format, are SM1, SM2, SM3, SM4, and SMB.

1. Press the **F8** and **1** keys to open the [System Setup] menu.
2. Select [EGC Output Port] then press the **Enter** key.
3. Select [LAN] or [INT+LAN] as appropriate, then press the **Enter** key.
   [INT]: Output EGC messages to the main terminal.
   [LAN]: Output EGC messages to the sub terminal or other navigation device connected to the LAN Port on the main terminal.
   Note: When [LAN] is selected, the main terminal does not print and display EGC messages with priority other than urgent or distress.
   [INT+LAN]: Output EGC messages to the main terminal, sub terminal and other navigation device.

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4. HOW TO INSTALL OPTIONAL EQUIPMENT

4.1 GPS Board OP16-62

This chapter provides the procedure for the installation of the GPS board (in the terminal unit), which provides GPS position information.

Name: GPS board
Type: OP16-62
Code No.: 001-180-100

Name	Type	Code No.	Qty
Binding Screw	M3x6	000-163-479-10	3
GPS Board	16P0246	004-656-550	1
Connector Assy.	51065-0700-PHR7-L110	000-176-305-10	1

Note: Use anti-static gloves to handle board.

1. Unfasten 18 screws, six spacers and three nuts to remove the terminal unit cover.

*: Remove.
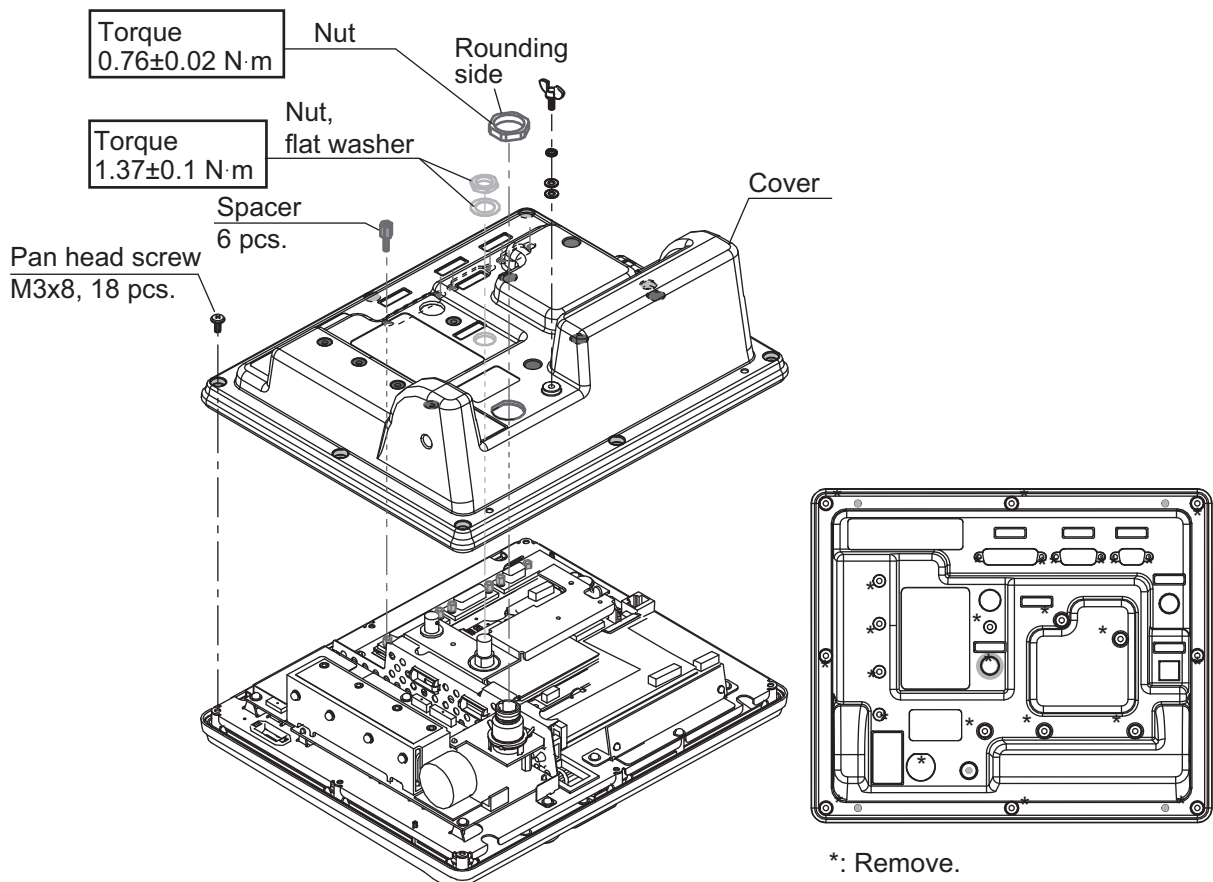
2. Fasten three binding screws (M3x6, supplied with the kit) to attach the GPS Board to the RF cover.

3.   Attach the 51065-0700-PHR7-L110 connector assy. between J13 on the TER-MCPU Board and J1 on the GPS board.

4.   Attach the cable from the GPS board to J6 on the RF COMMCPU Board. Use the clamp next to the connector to fix the cable.
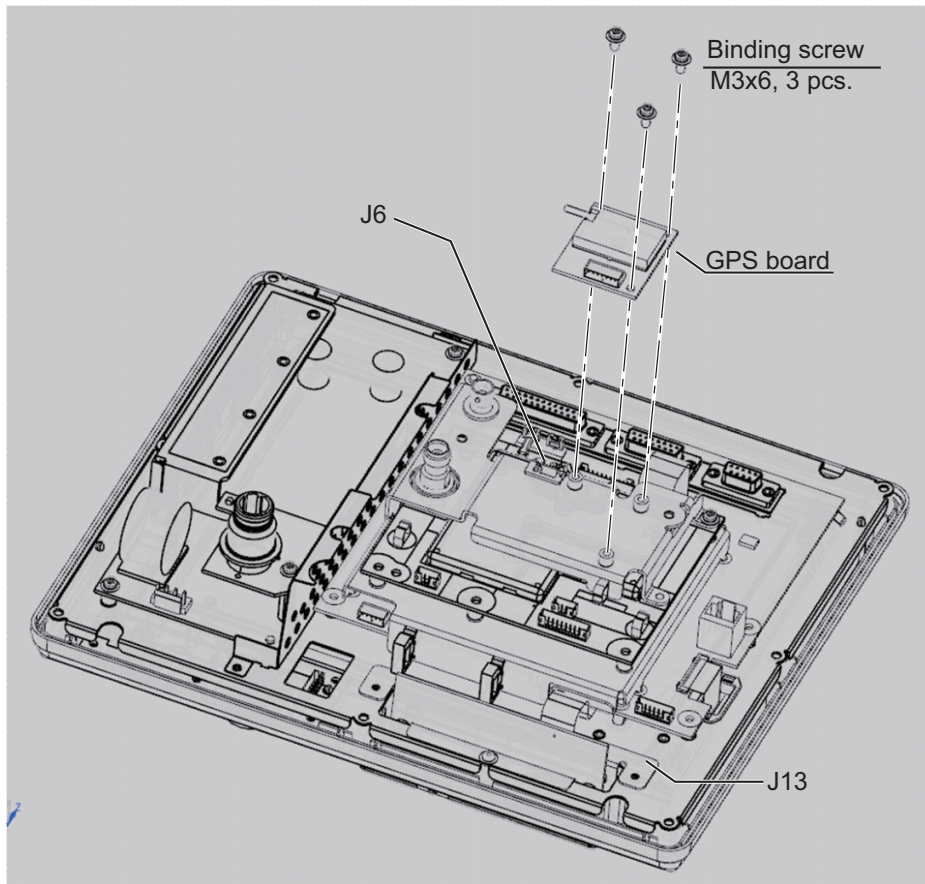
5.   Reassemble the terminal unit.

4.2   IPX2 Kit OP16-58/OP16-59

The optional kits OP16-58 and OP16-59 are used to protect the connectors on the terminal unit from water splash. Note that these optional kits should be used as a pair.

4.2.1   OP16-58 (cables)

Connect the waterproofed D-sub cables to the rear of the terminal unit, instead of the standard supply cable. For the connection at the IC-318, see section 4.3.
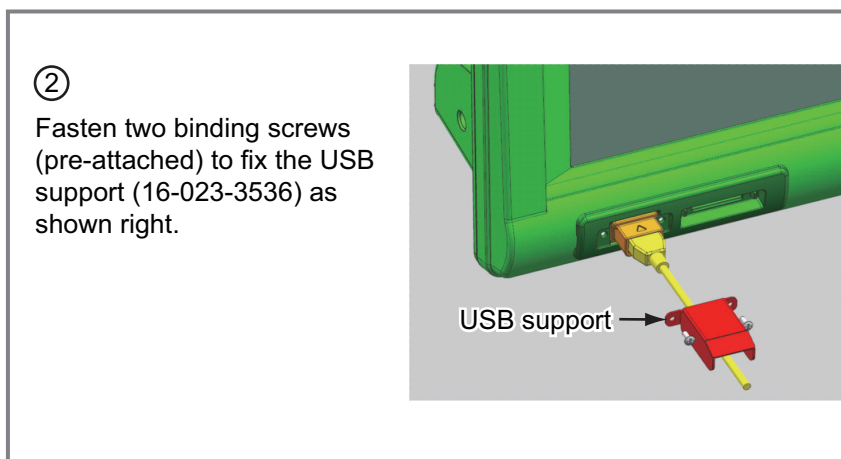
OP16-58 (Code No.: 001-180-070)

Name	Type	Code No.	Qty
Cable Assy.	H230817-1	001-176-552-10	1
	H230817-2	000-176-553-10	1
	XM-FD-361	000-176-551-10	1

4.2.2   OP16-59 (for connector ports)

OP16-59 (001-180-080)

Name	Type	Code No.	Qty
Sponge for Dsub	16-023-3531	100-369-600-10	1
Cover for BNC	16-023-3534	100-369-630-10	1
Cover for USB	16-023-3535	100-369-641-10	1
USB Support	16-023-3536	100-369-650-10	1
Sponge for BNCR	16-023-3541	100-369-690-10	1
Dummy Plate 9P	16-023-3542	100-368-190-10	1
Dummy Plate 15P	16-023-3543	100-369-700-10	1
Dummy Plate 25P	16-023-3544	100-369-710-10	1
Binding Screw	#4-40UNCX3/16	000-176-619-10	6

USB port

① Attach the cover for USB (16-023-3535) to the USB connector, then connect it to the terminal unit.

Cover for USB (triangle mark should be upward.)

② Fasten two binding screws (pre-attached) to fix the USB support (16-023-3536) as shown right.
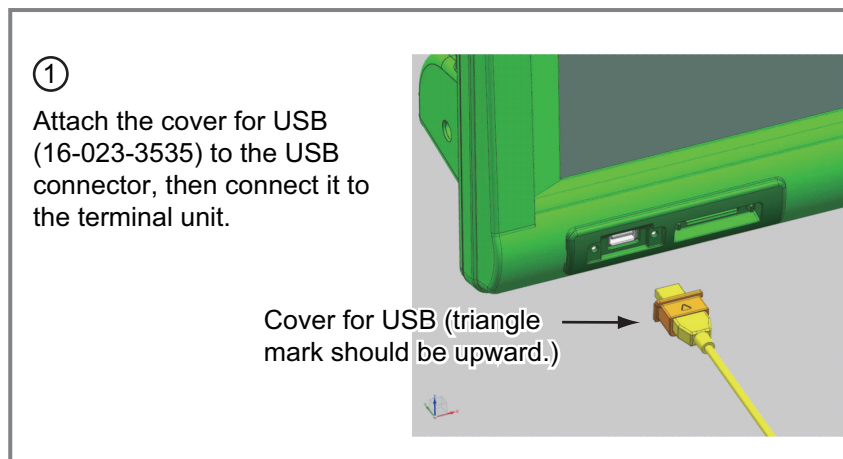
USB support

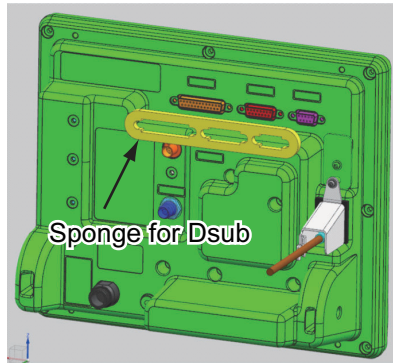## D-sub ports

① Peel the paper from the sponge for Dsub (16-023-3531), then attach the sponge to the D-sub connectors at the rear of the terminal unit.

Sponge for Dsub

② (Cables connected)

Connect the cables supplied with OP16-58 to the appropriate ports.
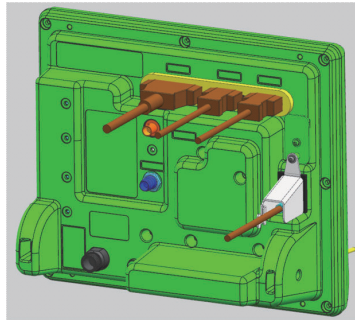
(No cables connected)
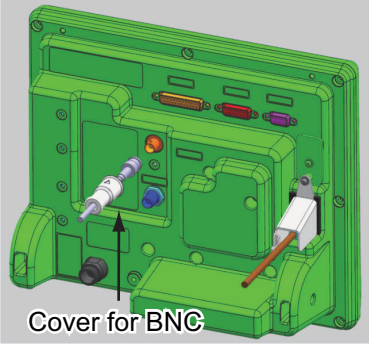
Use the binding screws (#4-40UNCx3/16) to fix the dummy plates (for 9P, 15P and 25P) to the appropriate ports.
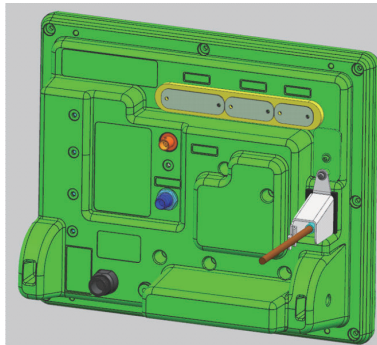
DGPS port

(Coaxial cable connected)

①
Pass the coaxial cable through the slit on the cover for BNC (16-023-3534).
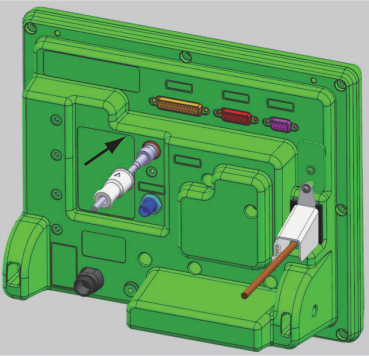
Cover for BNC
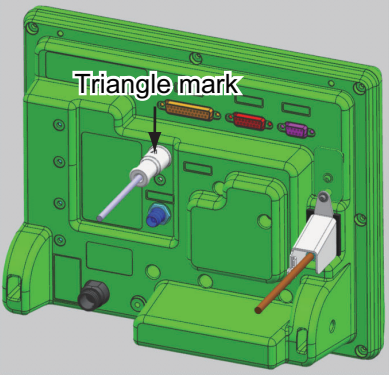
②
Attach the connector* of the coaxial cable to the DGPS port.

*For waterproofing, use the connector assy. shown below:
-BNCP-58U-BNCP L-200 (000-161-953-11)
-BNCP-58U-BNCP L-290 (000-175-274-11)

③
Slide the cover for BNC on the connector to cover the connector. Confirm that the triangle mark on the cover is upward.

Triangle mark

(Coaxial cable not connected)

①

Remove the cap from the DGPS port, then atttach the sponge for BNCR (16-023-3541) around the port.

Sponge for BNCR

Cap
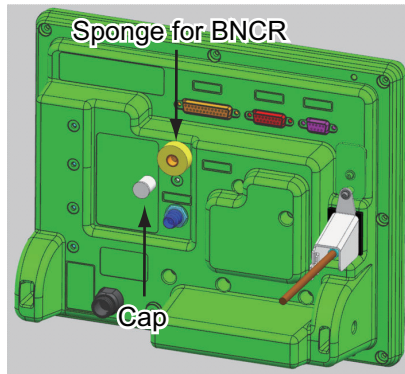
②

Re-attach the cap to the DGPS port.
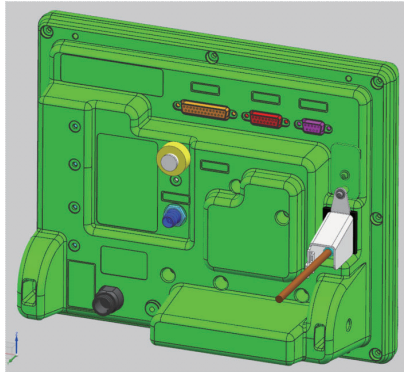
4.3   Waterproofing Kit OP16-60/OP16-67/OP16-68

You can use the optional waterproof kits to keep water splash out of the unit. Note that each kit is specifically designed for each unit.

OP16-60 (for IC-318)

The IC-318 should be installed on a desktop. To ensure the waterproof rating is maintained, use the optional waterproofing kit OP16-60. If a floor installation is required, make sure the area is not subject to water splash, rain or other water ingress.

OP16-60 (Code No.: 001-180-090)

Name	Type	Code No.	Qty
Cover gasket	16-023-5502	100-373-530-10	1
Grommet	16-023-5503	100-373-541-10	1

When the OP16-58 (described in paragraph 4.2.1) is used, replace the cable from the IC-318 with the XM-FD-361 as shown below.

#	Color
1	Blue
2	Brown
3	Purple
4	Gray
5	-
6	Green
7	Yellow
8	Orange
9	Pink
10	Light-green
11	White (w/black dots)
12	White (w/red dots)
13	Black
14	Red
15	Light-blue
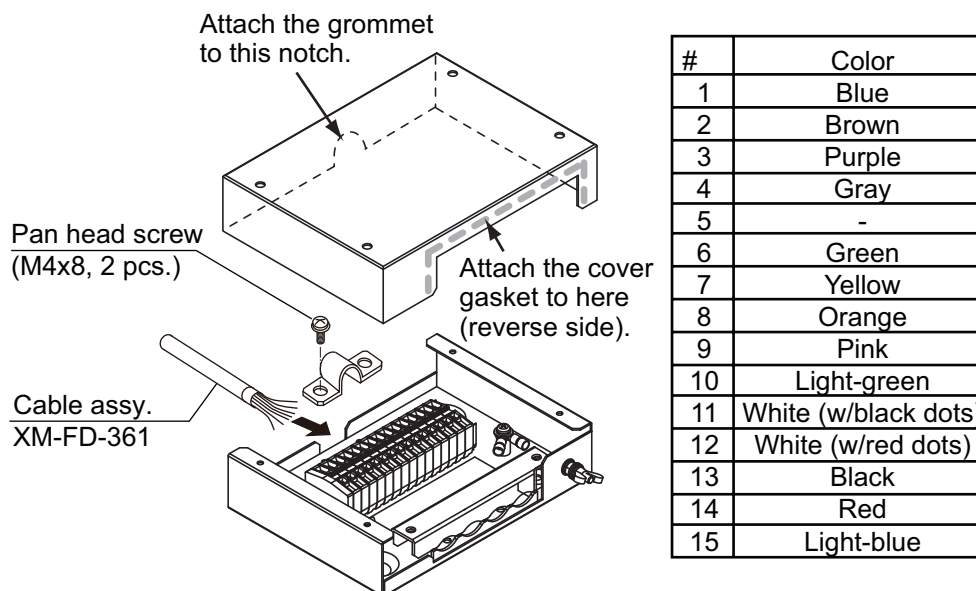
OP16-67 (for IC-305), OP16-68 (for IC-307)

Note: To maintain the waterproofing, these units must be installed on a bulkhead or wall, with the cable entry facing downwards. Further, the optional kits do not provide waterproofing if the unit is installed with the cable entry facing upwards.

OP16-67 (Code No.: 001-189-380)

Name	Type	Code No.	Qty
Fixing Tape	24-009-1225	100-366-200-10	2

OP16-68 (Code No.: 001-189-400)

Name	Type	Code No.	Qty
Waterproofing Cover	16-023-5501	100-374-950-10	1
Fixing Tape	24-009-1225	100-366-200-10	2

1. Unfasten four screws to remove cover of IC-305/IC-307.

2. Attach supplied fixing tape to the underside of the cover as shown in the illustration below.

Fixing tape

(IC-305)   (IC-307)
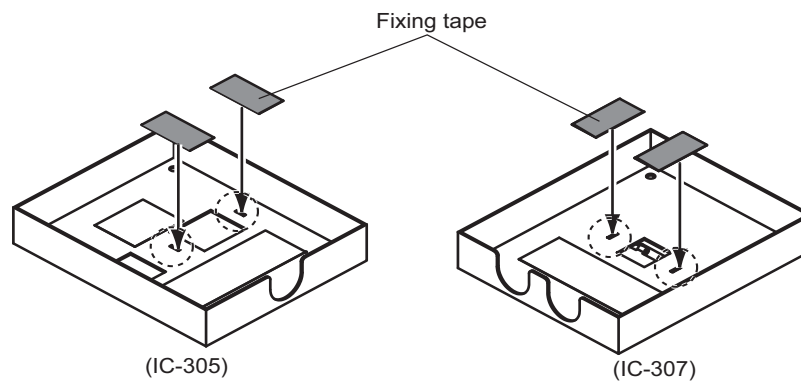
3. Attach the cover.

4. For IC-307, remove the seal from the waterproofing cover and attach the cover as shown in the illustration below.
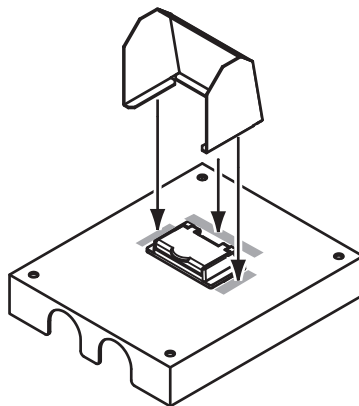
5. HOW TO CHANGE POWER SUP-PLY SPECIFICATIONS

The AC-DC power supply PR-240 is shipped ready for connection to a 200-230 VAC ship's mains. If the ship' mains is 100 VAC, change the tap connection and terminal board connection as below. Attach a label supplied as accessories to the front panel according to the ship's mains.

Ship's mains	Tap connection	Terminal board	Label
200 to 230 VAC	SEL 230 V	Below (a)	200-230 VAC, 2.2-1.7 A, 1φ 50/60 Hz
100 to 115 VAC	SEL 115 V	Below (b)	100-115 VAC, 3.2-2.6 A, 1φ 50/60 Hz

Remove screw and cover.

Cover

Front panel

(a) 200-230 VAC

1	Black
2	Gray
3	

Terminal board

Relay
Coil
J4

SEL 115V
SEL 230V

Heat sink

(b) 100-115 VAC

1	Black
2	Gray
3	

Tap connection
(Pull out to disconnect.)

Front panel

Attach appropriate label.

AC FAIL: Connect to Alarm system.
Output Setting: Normal Close → Set plug to 2 & 3 pins of J4 (Factory setting)
Normal Open → Set plug to 1 & 2 pins of J4

AC Power Switch
(When connecting DC input, note that the DC power is supplied even though this switch is turned off.)

Note: The DC output load must be less than 8 A.

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APPENDIX 1 JIS CABLE GUIDE

Cables listed in the manual are usually shown as Japanese Industrial Standard (JIS). Use the following guide to locate an equivalent cable locally.

JIS cable names may have up to 6 alphabetical characters, followed by a dash and a numerical value (example: DPYC-2.5).
For core types D and T, the numerical designation indicates the *cross-sectional Area (mm²)* of the core wire(s) in the cable.
For core types M and TT, the numerical designation indicates the *number of core wires* in the cable.

1. Core Type
D: Double core power line
T: Triple core power line
M: Multi core
TT: Twisted pair communications
       (1Q=quad cable)

2. Insulation Type
P: Ethylene Propylene Rubber

3. Sheath Type
Y: PVC (Vinyl)

4. Armor Type
C: Steel

5. Sheath Type
Y: Anticorrosive vinyl sheath

6. Shielding Type
S: All cores in one sheath
-S: Indivisually sheathed cores
SLA: All cores in one shield, plastic tape w/aluminum tape
-SLA: Individually shielded cores, plastic tape w/aluminum tape

DPYCY

TPYCY
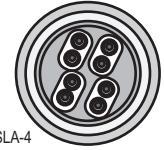
MPYC-4

TTYCSLA-4

EX: TTYCYSLA - 4
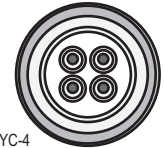   1 2 3 4 5 6
Designation type — Core Area (mm²)

MPYC - 4
      1 2 3 4
Designation type — # of cores
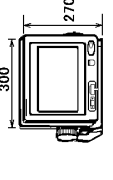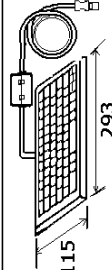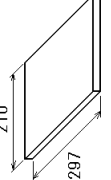
The following reference table lists gives the measurements of JIS cables commonly used with Furuno products:

Type	Core Area	Core Diameter	Cable Diameter	Type	Core Area	Core Diameter	Cable Diameter
DPYC-1.5	1.5mm²	1.56mm	11.7mm	TTYCS-1	0.75mm²	1.11mm	10.1mm
DPYC-2.5	2.5mm²	2.01mm	12.8mm	TTYCS-1T	0.75mm²	1.11mm	10.6mm
DPYC-4	4.0mm²	2.55mm	13.9mm	TTYCS-1Q	0.75mm²	1.11mm	11.3mm
DPYC-6	6.0mm²	3.12mm	15.2mm	TTYCS-4	0.75mm²	1.11mm	16.3mm
DPYC-10	10.0mm²	4.05mm	17.1mm	TTYCSLA-1	0.75mm²	1.11mm	9.4mm
DPYCY-1.5	1.5mm²	1.56mm	13.7mm	TTYCSLA-1T	0.75mm²	1.11mm	10.1mm
DPYCY-2.5	2.5mm²	2.01mm	14.8mm	TTYCSLA-1Q	0.75mm²	1.11mm	10.8mm
DPYCY-4	4.0mm²	2.55mm	15.9mm	TTYCSLA-4	0.75mm²	1.11mm	15.7mm
MPYC-2	1.0mm²	1.29mm	10.0mm	TTYCY-1	0.75mm²	1.11mm	11.0mm
MPYC-4	1.0mm²	1.29mm	11.2mm	TTYCY-1T	0.75mm²	1.11mm	11.7mm
MPYC-7	1.0mm²	1.29mm	13.2mm	TTYCY-1Q	0.75mm²	1.11mm	12.6mm
MPYC-12	1.0mm²	1.29mm	16.8mm	TTYCY-4	0.75mm²	1.11mm	17.7mm
TPYC-1.5	1.5mm²	1.56mm	12.5mm	TTYCY-4S	0.75mm²	1.11mm	21.1mm
TPYC-2.5	2.5mm²	2.01mm	13.5mm	TTYCY-4SLA	0.75mm²	1.11mm	19.5mm
TPYC-4	4.0mm²	2.55mm	14.7mm	TTYCYS-1	0.75mm²	1.11mm	12.1mm
TPYCY-1.5	1.5mm²	1.56mm	14.5mm	TTYCYS-4	0.75mm²	1.11mm	18.5mm
TPYCY-2.5	2.5mm²	2.01mm	15.5mm	TTYCYSLA-1	0.75mm²	1.11mm	11.2mm
TPYCY-4	4.0mm²	2.55mm	16.9mm	TTYCYSLA-4	0.75mm²	1.11mm	17.9mm

P A C K I N G   L I S T   IC-218-A-*,IC-218-A-G-*,IC-218-A-*-HK

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット / UNIT			
ターミナルユニット / TERMINAL UNIT		IC-218-A* / 000-020-961-00 **	1
予備品 / SPARE PARTS			
予備品 / SPARE PARTS		SP16-01301 / 004-439-370-00	1
付属品 / ACCESSORIES		FP16-02610	
ミニキーボード組品 / KEYBOARD ASSEMBLY	L=5M 293 115	SKB-E3U / 001-591-140-00	1
工事材料 / INSTALLATION MATERIALS		CP16-05220	
ケーブル組品MJ / CABLE ASSY.	L=5M	MJ-A3SPF0018-050ZC / 001-597-190-00	1
工事材料 / INSTALLATION MATERIALS		CP16-05201 / 001-179-830-00	1
工事材料 / INSTALLATION MATERIALS		CP16-05221 / 001-590-740-00	1
図書 / DOCUMENT			
アプリケーションフォーム / REGISTRATION FOR SERVICE ACTIVATION	210 × 297	J59-50010-* ワ/エイ / 000-807-330-1*	1

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
テストモード操作手順 / SSAS TEST MODE HANDBOOK	210 × 297	C52-01502-*	1
		000-191-063-1*	1
ヒューズ変更のお願い / NOTIFICATION DOCUMENT	210 × 297	C52-00206-* ワ/エイ	1
		000-147-004-1*	
機器引渡し前の注意 / BEFORE DELIVERING TO OWNER	210 × 297	C52-00201-* ワ/エイ	1
		000-809-353-1*	1
取扱説明CD / OPERATOR'S MANUAL CD	φ120	FELCOM18 O/M *CDROM*	1
		000-198-628-1*	
取扱説明書(英) / OPERATOR'S MANUAL (EN)	210 × 297	OME-56351-*	1
		000-150-359-1* **	
操作要領書(英) / OPERATOR'S GUIDE (EN)	210 × 297	OSE-56740-*	1
		000-176-510-1*	(*1)
装備要領書 / INSTALLATION MANUAL	210 × 297	IM*-56740-*	1
		000-197-941-1* **	
遭難通信要領 / DISTRESS COMMUNICATION	210 × 297	TIC-56350-* ワ/エイ	1
		000-809-352-1*	1

コード番号末尾の[**]は、選択品の代表コードを表します。
CODE NUMBER ENDING WITH "**" INDICATES THE CODE NUMBER OF REPRESENTATIVE MATERIAL.

(*1)の書類は、英文仕様専用です。
(*1) MARKED DOCUMENTS ARE FOR ENGLISH SET ONLY.

(略図の寸法は、参考値です。DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)
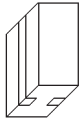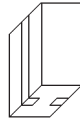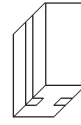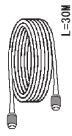
A-1

C5674-Z03-P

PACKING LIST

FELCOM18-A-*-30-SSAS, FELCOM18-A-G-*30SSAS

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
アンテナユニット箱詰品 ANTENNA UNIT COMPLETE SET		IC-118*	1
		000-021-012-00 **	
ケミナルユニット箱詰品 TERMINAL UNIT COMPLETE SET		IC-218-A-*	1
		000-020-955-00 **	
接続箱箱詰品 JUNCTION BOX COMPLETE SET		IC-318	1
		000-021-003-00	
保安警報発呼器 SSAS ALERT UNIT		IC-307	2
		000-043-474-00	
付属品 ACCESSORIES			
付属品 ACCESSORIES		FP16-00901	2
		004-448-050-00	
工事材料 INSTALLATION MATERIALS			
ケーブル組品 CABLE ASSY.	L=30M	TP5FBAW-5DFB 30M	1
		000-159-523-11	
工事材料 INSTALLATION MATERIALS		CP16-03101	2
		004-448-040-00	
工事材料 INSTALLATION MATERIALS		CP16-05511	1
		001-189-560-00	
図書 DOCUMENT			
IC-30X引き渡し前の注意 BEFORE DELIVERING TO OWNER		C52-00202-*	1
		000-809-354-1*	
カバー貼付要領書 ATTACHMENT OF SWITCH COVER		C52-00403-*	1
		000-150-849-1*	

コード番号末尾の[**]は、選択品の代表コードを表します。
CODE NUMBER ENDING WITH "**" INDICATES THE CODE NUMBER OF REPRESENTATIVE MATERIAL.

型式/コード番号が2段の場合、下段より上段に代わる過渡期品であり、どちらかが入っています。 なお、品質は変わりません。
TWO TYPES AND CODES MAY BE LISTED FOR AN ITEM. THE LOWER PRODUCT MAY BE SHIPPED IN PLACE OF THE UPPER PRODUCT. QUALITY IS THE SAME.

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

C5674-Z11-E

PACKING LIST

FELCOM18-A-*-30, FELCOM18-A-*-30-HK, FELCOM18-A-G-*-30

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
アンテナユニット箱詰品 ANTENNA UNIT COMPLETE SET		IC-118*	1
		000-021-012-00 **	
ケミナルユニット箱詰品 TERMINAL UNIT COMPLETE SET		IC-218-A-*	1
		000-020-955-00 **	
接続箱箱詰品 JUNCTION BOX COMPLETE SET		IC-318	1
		000-021-003-00	
工事材料 INSTALLATION MATERIALS			
ケーブル組品 CABLE ASSY.	L=30M	TP5FBAW-5DFB 30M	1
		000-159-523-11	
工事材料 INSTALLATION MATERIALS		CP16-05511	1
		001-189-560-00	

コード番号末尾の[**]は、選択品の代表コードを表します。
CODE NUMBER ENDING WITH "**" INDICATES THE CODE NUMBER OF REPRESENTATIVE MATERIAL.

型式/コード番号が2段の場合、下段より上段に代わる過渡期品であり、どちらかが入っています。 なお、品質は変わりません。
TWO TYPES AND CODES MAY BE LISTED FOR AN ITEM. THE LOWER PRODUCT MAY BE SHIPPED IN PLACE OF THE UPPER PRODUCT. QUALITY IS THE SAME.

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

C5674-Z07-E

PACKING LIST

IC-318

A-5

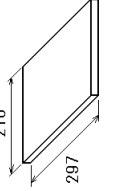| NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
接続箱 JUNCTION BOX	160	IC-318 000-020-971-00	1
工事材料 INSTALLATION MATERIALS			
工事材料 INSTALLATION MATERIALS		CP16-05101 001-180-020-00	1

型式/コード番号が2段の場合、下段より上段に代わる過渡期品であり、どちらかが入っています。なお、品質は変わりません。

TWO TYPES AND CODES MAY BE LISTED FOR AN ITEM. THE LOWER PRODUCT MAY BE SHIPPED IN PLACE OF THE UPPER PRODUCT. QUALITY IS THE SAME.

(略図の寸法は、参考値です。DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

C5674-Z05-A

PACKING LIST

IC-118/-HK

A-4

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
アンテナユニット ANTENNA UNIT	343	IC-118* 000-020-943-00 **	1
付属品 ACCESSORIES			
付属品 ACCESSORIES		FP16-02501 001-175-970-00	1
図書 DOCUMENT			
アンテナ交換方法 ANTENNA INSTALL/REPALCE	210 297	TIC-56351-* 000-173-370-1*	1

コード番号末尾の(*)は、選択品の代表コードを表します。
CODE NUMBER ENDING WITH "*" INDICATES THE CODE NUMBER OF REPRESENTATIVE MATERIAL.

型式/コード番号が2段の場合、下段より上段に代わる過渡期品であり、どちらかが入っています。なお、品質は変わりません。

TWO TYPES AND CODES MAY BE LISTED FOR AN ITEM. THE LOWER PRODUCT MAY BE SHIPPED IN PLACE OF THE UPPER PRODUCT. QUALITY IS THE SAME.

(略図の寸法は、参考値です。DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)
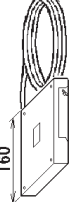
C5674-Z02-B

PACKING LIST

IC-305

NAME		OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット	**UNIT**			
遭難警報器	DISTRESS ALERT UNIT	100 / 120	IC-305	1
			000-043-427-00 **	
工事材料	**INSTALLATION MATERIALS**		**CP16-02201**	
+トラスタッピンネジ 1シュ	SELF-TAPPING SCREW	10 / φ3	3X10 SUS304	4
			000-162-604-10	
圧着端子	CRIMP-ON LUG	16 / 6	FV1.25-3(LF) RED K	4
			000-166-756-11	
圧着端子	CRIMP-ON LUG	21 / 9	FV2-3 K	1
			000-157-246-11	
図書	**DOCUMENT**			
IC-30X引き渡し前の注意	BEFORE DELIVERING TO OWNER	210 / 297	C52-00202-*	1
			000-809-354-1*	(*1)

1.(*1)の*＊**は、有り・無しの仕様が有ります。
AVAILABLE WITH OR WITHOUT **** UNIT.

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

C5635-Z04-E

PACKING LIST

IC-306

NAME		OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット	**UNIT**			
着信指示器	ALARM UNIT	100 / 120	IC-306	1
			000-043-429-00	
工事材料	**INSTALLATION MATERIALS**		**CP16-02201**	
+トラスタッピンネジ 1シュ	SELF-TAPPING SCREW	10 / φ3	3X10 SUS304	4
			000-162-604-10	
圧着端子	CRIMP-ON LUG	16 / 6	FV1.25-3(LF) RED K	4
			000-166-756-11	
圧着端子	CRIMP-ON LUG	21 / 9	FV2-3 K	1
			000-157-246-11	

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

C5635-Z05-E

FURUNO

PACKING LIST

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
保安警報発呼器 SSAS ALERT UNIT		IC-307 / 000-043-474-00	1
付属品 ACCESSORIES		**FP16-00901**	
Dカバー L組品 DISTRESS COVER		05-073-1111-0 ROHS / 100-274-720-10	1
工事材料 INSTALLATION MATERIALS		**CP16-03101**	
+トラスタッピンネジ 1シュ SELF-TAPPING SCREW		3X10 SUS304 / 000-162-604-10	4
圧着端子 CRIMP-ON LUG		FV1.25-3(LF) RED K / 000-166-756-11	8
圧着端子 CRIMP-ON LUG		FV2-3 K / 000-157-246-11	2
図書 DOCUMENT			
IC-30X引き渡し前の注意 BEFORE DELIVERING TO OWNER		C52-00202-* / 000-809-354-1*	1
カバー貼付要領書 ATTACHMENT OF SWITCH COVER		C52-00403-* / 000-150-849-1*	1

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

C5635-Z02-F

FURUNO

工事材料表 INSTALLATION MATERIALS

CODE NO.	001-179-830-00
TYPE	CP16-05201

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS / CODE NO.	数量 Q'TY	用途／備考 REMARKS
1	ヒューズ ハリマーク FUSE LABEL		03-153-1312-0 ROHS / 100-292-140-10	1	
2	アース板 COPPER STRAP		05-003-0031-0 ROHS / 590-300-310-10	1	
3	LANケーブルササエI LAN CABLE SUPPORTING		16-023-3532-0 / 100-369-610-10	1	
4	LAN用カスポンジ SPONGE FOR LAN		16-023-3533-0 / 100-369-620-10	1	
5	+トラスタッピンネジ 1シュ SELF-TAPPING SCREW		5X20 SUS304 / 000-162-608-10	4	
6	コンベ ックス CABLE TIE		CV-150B / 000-167-183-10	2	
7	ヒューズ GLASS TUBE FUSE		FGBO-A 125V 7A PBF / 000-164-965-10	1	

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO ELECTRIC CO ., LTD.

C5674-M01-B

FURUNO

工事材料表
INSTALLATION MATERIALS

CODE NO.	001-180-020-00	16AV-X-9401 -0
TYPE	CP16-05101	1/1

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	+トラスタッピンネジ 1シュ SELF TAPPING SCREW	⌀4 16	4X16 SUS304 CODE NO. 000-162-605-10	4	
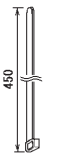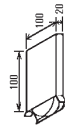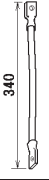
FURUNO

工事材料表
INSTALLATION MATERIALS

CODE NO.	001-189-560-00	16AV-X-9404 -3
TYPE	CP16-05511	1/1
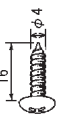
番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	コンベックス CABLE TIE	450	CV-450B CODE NO. 000-173-169-10	5	アンテナケーブル固定用 For securing the antenna cable
2	ブチルゴムテープ SELF-BONDING TAPE	100 100 20	NO.15 CODE NO. 000-174-646-10	1	
3	ケーブル組品 CABLE ASSY.	340	RW-4747 CODE NO. 000-566-000-12	1	

FURUNO

SPARE PARTS LIST FOR

CODE NO.	004-439-370-00		16AK-X-9301-4	1/1		
TYPE	SP16-01301		BOX NO.	P		

SHIP NO.   SETS PER VESSEL

ITEM NO.	NAME OF PART	OUTLINE	DWG. NO. OR TYPE NO.	USE — QUANTITY WORKING PER SET	PER VES	SPARE	REMARKS/CODE NO.
1	ﾋｭｰｽﾞ GLASS TUBE FUSE	30 φ6	FGB0-A 125V 15A PBF	1	1	1	000-155-827-10
2	ﾋｭｰｽﾞ GLASS TUBE FUSE	30 φ6	FGB0-A 125V 7A PBF	1	1	1	000-164-965-10

MFR'S NAME   FURUNO ELECTRIC CO.,LTD.   DWG. NO. C5635-P01-E   1/1

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

工事材料表
INSTALLATION MATERIALS

CODE NO.	001-590-740-00		16AV-X-9422-2	1/1	
TYPE	CP16-05221				

番号 NO.	名称 NAME	略図 OUTLINE	型名/規格 DESCRIPTIONS	数量 Q'TY	用途/備考 REMARKS
1	ﾌｧｽﾅｰ(3) HOOK LOOP FASTENER	30 / 25	16-007-6814-0 ROHS CODE NO. 100-237-670-10	5	
2	ﾌｧｽﾅｰ(4) HOOK LOOP FASTENER	60 / 25	16-007-6815-0 ROHS CODE NO. 100-237-680-10	5	
3	ｷｰﾎﾞｰﾄﾞｶﾊﾞｰ KEYBOARD COVER	340 / 165	16-023-3557-0 CODE NO. 100-436-170-10	1	
4	Fｷｰﾘﾃﾅｰ F-KEY STICKER	165 / 26	16-023-3558-0 CODE NO. 100-436-180-10	1	
5	ﾃｰﾌﾟ V DOUBLE-SIDED TAPE V	110 / 10	16-023-3561-0 CODE NO. 100-436-150-10	2	
6	ﾃｰﾌﾟ H DOUBLE-SIDED TAPE H	292 / 11	16-023-3562-0 CODE NO. 100-436-160-10	2	

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO ELECTRIC CO., LTD.

C5674-M18-B

φ142

156

218

125

型式銘板
NAMEPLATE

FURUNO

NO   FU

アース線
GROUND WIRE

※

（造船所手配）
M6 アースボルト
GND STUD (SHIPYARD SUPPLY)

ホースクランプ（表2参照）
HOSE CLAMP (TABLE 2)

アンテナ台
ANTENNA BASE

A⇑   ⇑A

φ48.6－φ114.3
(40A~100A)

ケーブル
CABLE

マスト（造船所手配）
MAST (SHIPYARD SUPPLY)

アース端子
GND TERMINAL

※ ：シール剤塗布
APPLY SILICONE SEALANT

※

※

※

矢視A－A
VIEW A－A

表2　ホースクランプ（オプション）
TABLE 2 HOSE CLAMP (OPTION)

TYPE	MODEL	CODE No.	DIA. OF MAST
77-95	OP16-76-1	001443450	φ48.6 (40A)
104-138	OP16-76-2	001443460	φ76.3-89.1 (65A-80A)
130-165	OP16-76-3	001443470	φ101.6-114.3 (90A-100A)

注　記　1）指定外の寸法公差は表1による。
　　　　　2）対応マスト径は40A（φ48.6）～100A（φ114.3）

NOTE　1.　TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
　　　　2.　MAST DIAMETER: 40A (φ48.6) TO 100A (φ114.3)

表1　TABLE 1

寸法区分（ｍｍ） DIMENSION	公差（ｍｍ） TOLERANCE
Ｌ≦５０	±１.５
５０＜Ｌ≦１００	±２.５
１００＜Ｌ≦５００	±３

			TITLE	IC-115/116/118/119
DRAWN	15/Feb/2016　T.YAMASAKI		名称	アンテナユニット
CHECKED	16/Feb/2016　H.MAKI			
APPROVED	22/Feb/2016 H.MAKI	FELCOM 15/16/18/19		外寸図
SCALE	1/3	MASS 1.9 ±10% kg	質量は工材を含む MASS INCLUDES INSTALLATION MATERIALS	NAME
DWG.No.	C5674-G05- E	REF.No. 16-023-254G-1		ANTENNA UNIT OUTLINE DRAWING
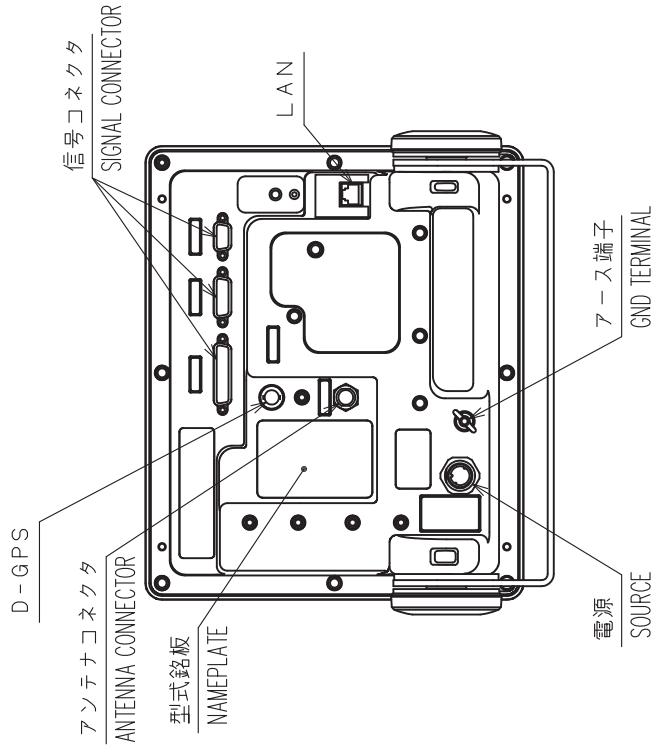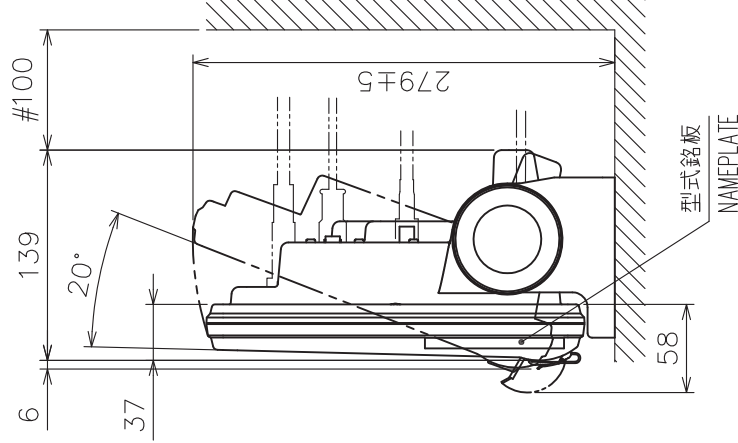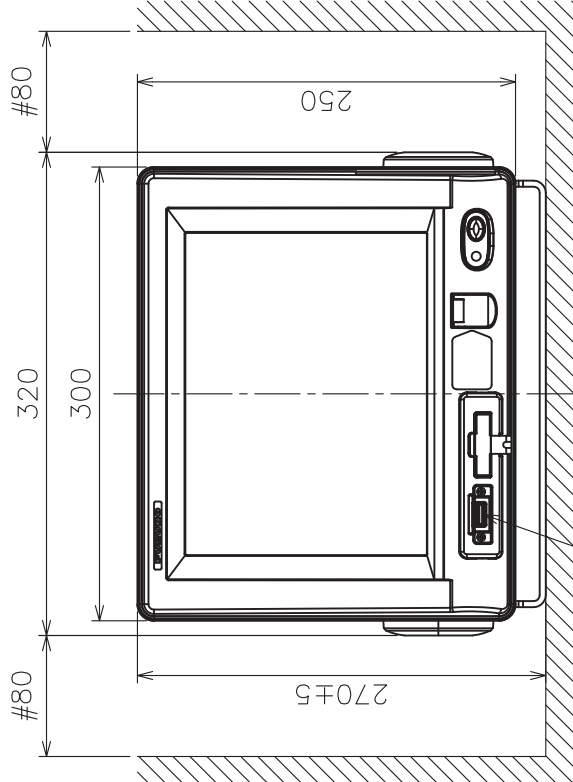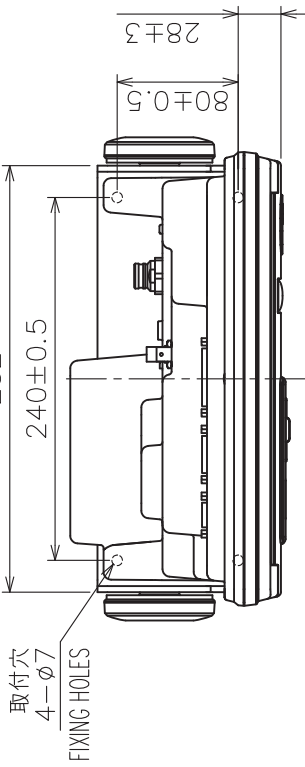
D-2

FURUNO

FURUNO ELECTRIC CO., LTD.

表 1 TABLE 1

寸法区分 (mm) DIMENSION	公差 (mm) TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

LAN

信号コネクタ SIGNAL CONNECTOR

アース端子 GND TERMINAL

D-GPS

アンテナコネクタ ANTENNA CONNECTOR

型式銘板 NAMEPLATE

電源 SOURCE

型式銘板 NAMEPLATE

279±5

#100

139

20°

6

37

58

取付穴 4-φ7 FIXING HOLES

28±3

80±0.5

282

240±0.5

#80

250

320

300

270±5

#80

キーボードコネクタ KEYBOARD CONNECTOR

注 記 1) 指定外の寸法公差は表1による。
2) #印寸法は最小サービス空間寸法とする。
3) 取付用ネジはトラスタッピンネジ呼び径5×20を使用のこと。

NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE TAPPING SCREWS φ5x20 FOR FIXING THE UNIT.

TITLE IC-218

名称 ターミナルユニット (卓上装備)

外寸図

NAME TERMINAL UNIT (TABLETOP MOUNT)

OUTLINE DRAWING

DRAWN 20/Jan/2012 T.YAMASAKI
CHECKED 20/Jan/2012 H.MAKI
APPROVED 24/Jan/2012 Y.NISHIYAMA

FELCOM 18

MASS 4.0 ±10% kg

質量はケーブルを含みます。
MASS DOES NOT INCLUDE CABLE.

SCALE 1/5

DWG.No. C5674-G01- A

REF.No. 16-023-351G-0

FURUNO ELECTRIC CO., LTD.

FURUNO

表 1 TABLE1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≤50	±1.5
50<L≤100	±2.5
100<L≤500	±3

取付穴寸法図
CUTOUT DIMENSIONS

4-R2.25

273±1
230±0.5
4.5
223±1
228±0.5
R12

信号コネクタ
SIGNAL CONNECTOR

LAN

アース端子
GND TERMINAL

電源
SOURCE

D-GPS

アンテナコネクタ
ANTENNA CONNECTOR

型式銘板
NAMEPLATE

取付部詳細 （尺度：1／2）
DETAIL FOR FIXING (SCALE: 1/2)

A
B

#100
102
37
6

型式銘板
NAMEPLATE

58

250
300

キーボードコネクタ
KEYBOARD CONNECTOR
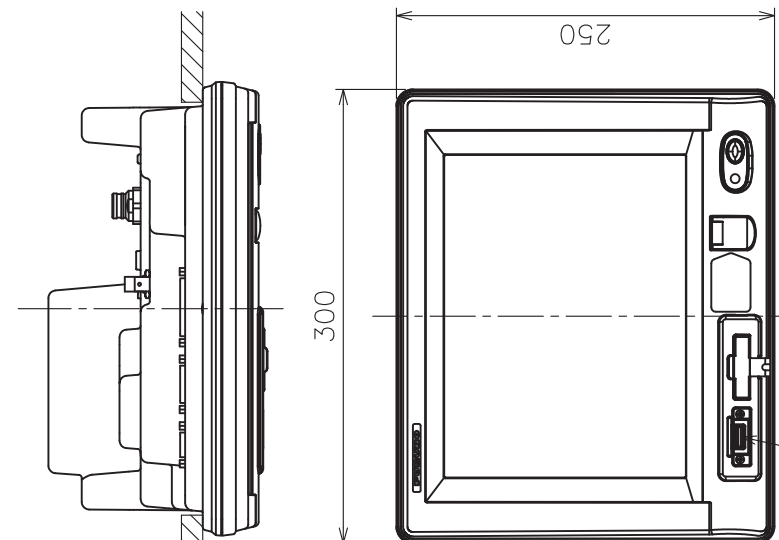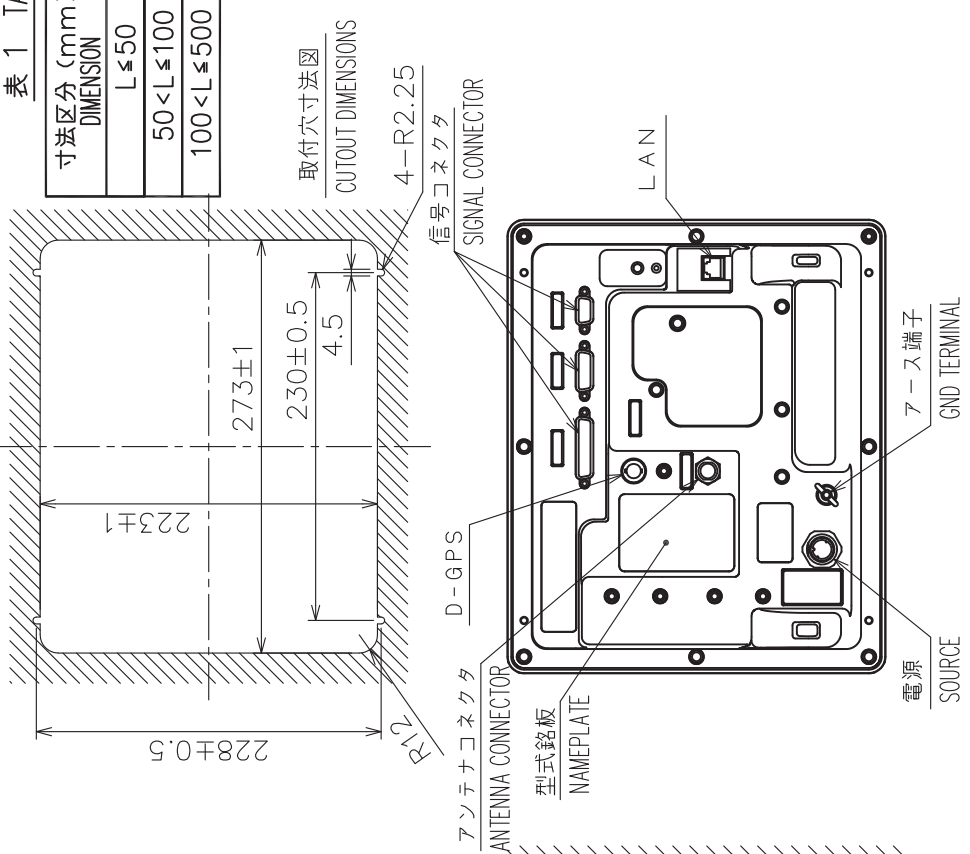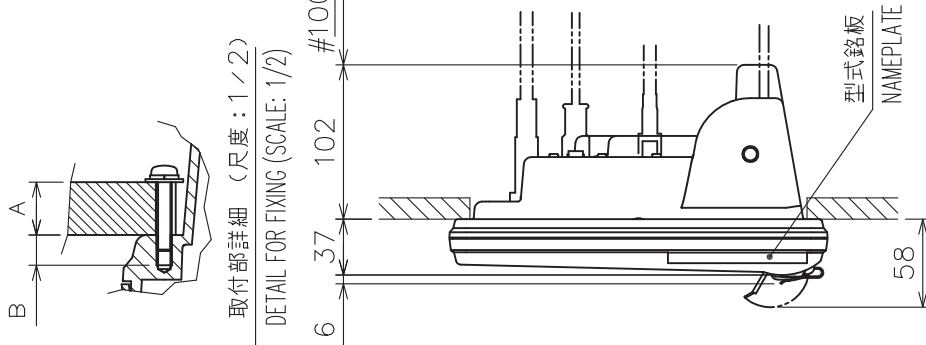
注記 1) 指定外の寸法公差は表１による。
2) #印寸法は最小サービス空間寸法とする。
3) 取付用ネジは、セムスネジB M4x20を使用のこと。
壁厚さ（A）は11≤A≤14とする。
また、ネジ長さを（A＋7．8）±2とする。
筐体にはネジ部を8mm以上入れないこと。（B≤8）

NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. # MINIMUM SERVICE CLEARANCE.
3. USE SEMS B SCREWS M4x20 FOR FIXING THE UNIT.
THICKNESS (A): 11≤A≤14 OR SCREW LENGTH: (A+7.8)±2.
DO NOT FASTEN SCREWS INTO UNIT MORE THAN 8 mm (B≤8).

DRAWN	20/Jan/2012	T.YAMASAKI	TITLE	IC-218
CHECKED	20/Jan/2012	H.MAKI	名称	ターミナルユニット （埋込装備）
APPROVED	24/Jun/2012	Y.NISHIYAMA		TERMINAL UNIT (FLUSH MOUNT)
SCALE	1/5	MASS 3.4 kg	NAME	
DWG.No.	C5674-G02-A		外寸図	OUTLINE DRAWING

FELCOM 18
質量はケーブルを含まず
MASS DOES NOT INCLUDE CABLE.
REF.No. 16-023-352G-0

表1　TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L ≦ 50	±1.5
50 < L ≦ 100	±2.5
100 < L ≦ 500	±3

ケーブル導入口
CABLE ENTRY

120±0.5

取付穴
4－φ5
FIXING HOLES

型式銘板
NAMEPLATE

70±0.5

25

160

#50

3   40

137

120

#100

Ø10～17

ケーブル導入口
CABLE ENTRY

アース端子
GND TERMINAL
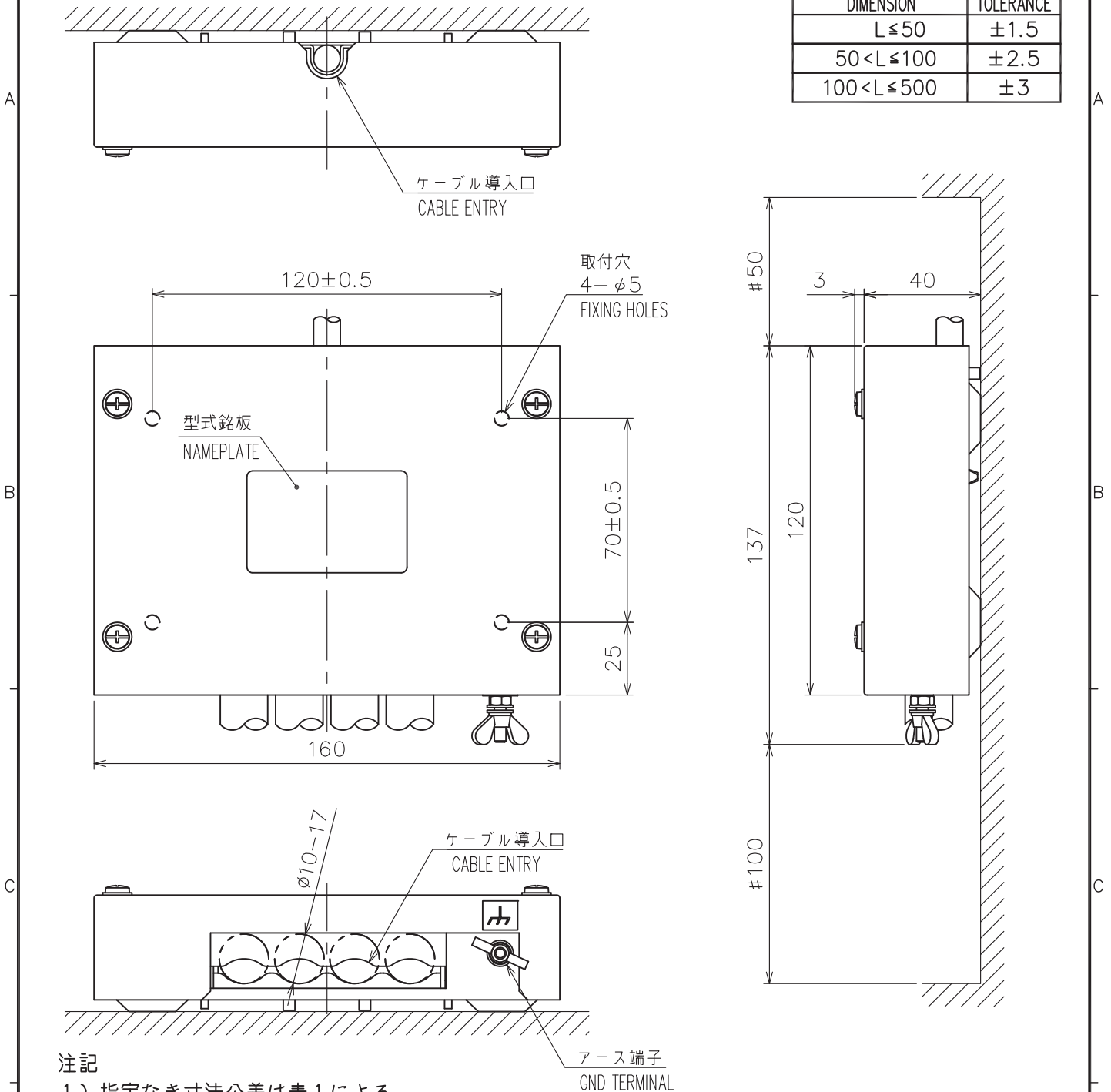
注記
１）指定なき寸法公差は表１による。
２）＃印寸法は、最小サービス空間寸法とする。
３）取付にはトラスタッピンネジ呼び径４×16を使用のこと。

NOTE
1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE TAPPING SCREWS ø4x16 FOR FIXING THE UNIT.

DRAWN 17/May/2012 T.YAMASAKI		TITLE IC-318
CHECKED 17/May/2012 H.MAKI		名称 接続箱
APPROVED 17/May/2012 Y.NISHIYAMA	FELCOM 18/19	外寸図
SCALE 1/2	MASS 0.7 kg ±10% 質量はケーブルを含まず。 MASS DOES NOT INCLUDE CABLE.	NAME JUNCTION BOX
DWG. No. C5674-G03- B	REF. No. 16-023-550G-1	OUTLINE DRAWING
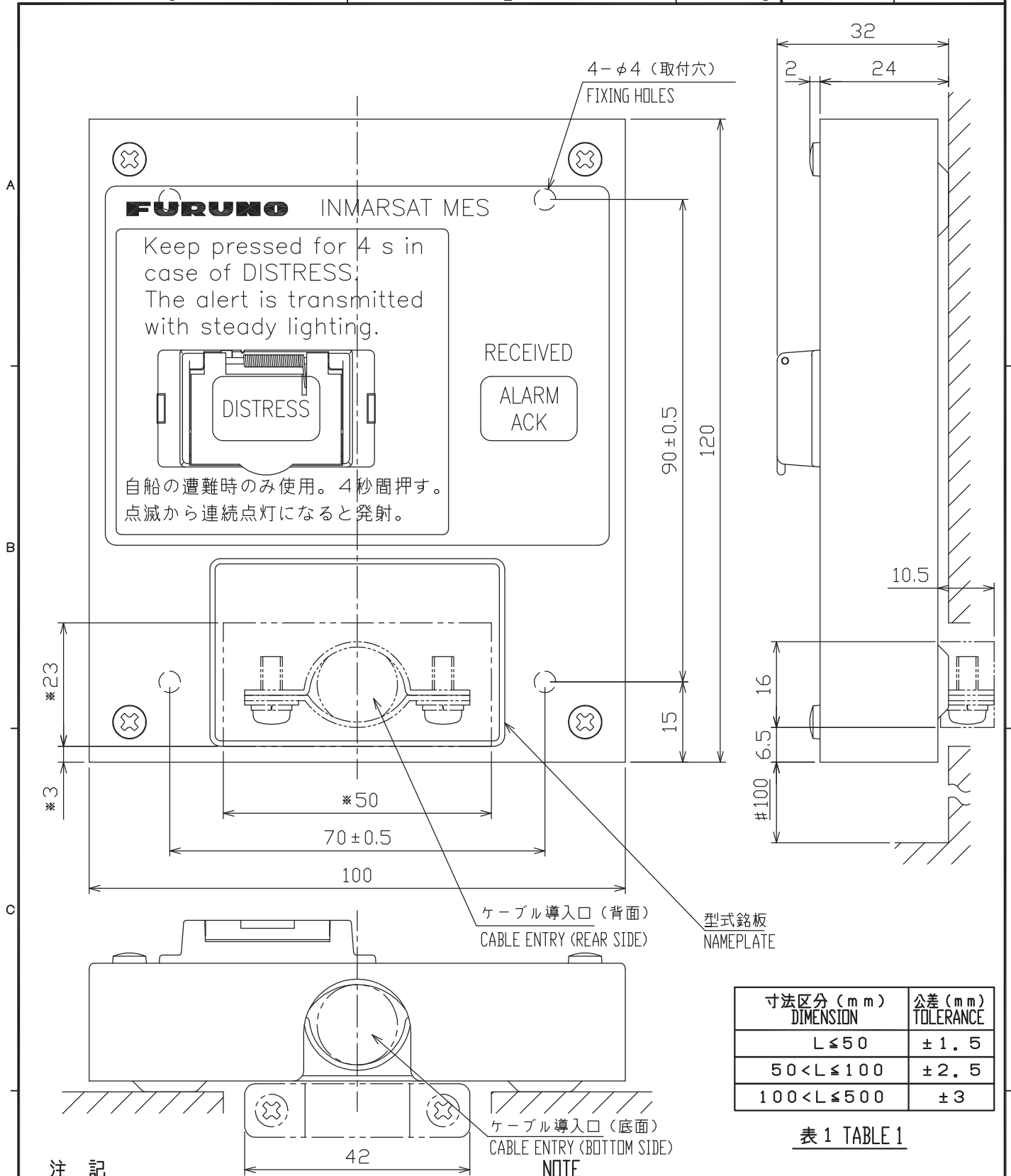
FURUNO ELECTRIC CO., LTD.

4-φ4（取付穴）
FIXING HOLES

32
2   24

FURUNO   INMARSAT MES

Keep pressed for 4 s in
case of DISTRESS.
The alert is transmitted
with steady lighting.

DISTRESS

RECEIVED

ALARM
ACK

自船の遭難時のみ使用。４秒間押す。
点滅から連続点灯になると発射。

90±0.5
120
10.5
16
6.5
#100
15

※23

※3

※50

70±0.5

100

42

ケーブル導入口（背面）
CABLE ENTRY (REAR SIDE)

型式銘板
NAMEPLATE

ケーブル導入口（底面）
CABLE ENTRY (BOTTOM SIDE)

寸法区分（ｍｍ）DIMENSION	公差（ｍｍ）TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

表1 TABLE 1

注 記
1） ＃印寸法は最小サービス空間寸法とする。
2） 指定外の寸法公差は表1による。
3） 取付には＋タッピンネジ３×１０を使用のこと。
4） ※印寸法は、背面からのケーブル導入穴寸法。

NOTE
1. #: RECOMMENDED SERVICE CLEARANCE.
2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.
3. USE TAPPING SCREWS 3x10 FOR FIXING THE UNIT.
4. ※: CUTOUT DIMENSIONS FOR REAR SIDE CABLE ENTRY.

			TITLE	IC-305	
DRAWN	July 11 '03 T.YAMASAKI				
CHECKED	July 14 '03 T.Matsuguchi		名称	遭難警報器	
APPROVED	July 14 '03 T.Matsuguchi	FELCOM 15/16		外寸図	
SCALE	1/1	MASS 0.34 ±10% kg	NAME	DISTRESS ALERT/RECEIVED CALL UNIT	
DWG No.	C5635-G04-B	16-018-400G-1		OUTLINE DRAWING	

FURUNO ELECTRIC CO., LTD.

FURUNO

表 1 TABLE 1

寸法区分 (mm) DIMENSION	公差 (mm) TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

4-取付穴位置
PILOT HOLES

132±0.5

124±1.5

111±0.5

107±1.5

取付穴寸法図
CUTOUT DIMENSIONS

120

2

33 (FOR REAR ENTRY)
(背面時)

24

29

9

型式銘板
NAMEPLATE

ケーブル導入口 (背面時)
CABLE ENTRY (REAR ENTRY)

FURUNO INMARSAT MES

RECEIVED

ALARM
ACK

Keep pressed for 4 s in
case of DISTRESS.
The alert is transmitted
with steady lighting.

DISTRESS

自船の遭難時のみ使用。4秒間押す。
点滅から連続点灯になると発射。

取付穴
4-φ5
FIXING HOLES

123

111±0.5

100

120

132±0.5

144

ケーブル導入口 (底面時)
CABLE ENTRY (BOTTOM ENTRY)

42

103
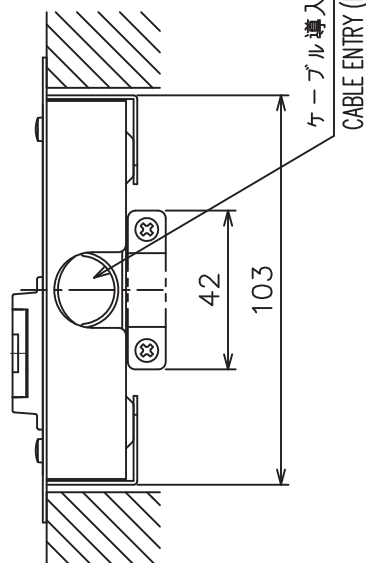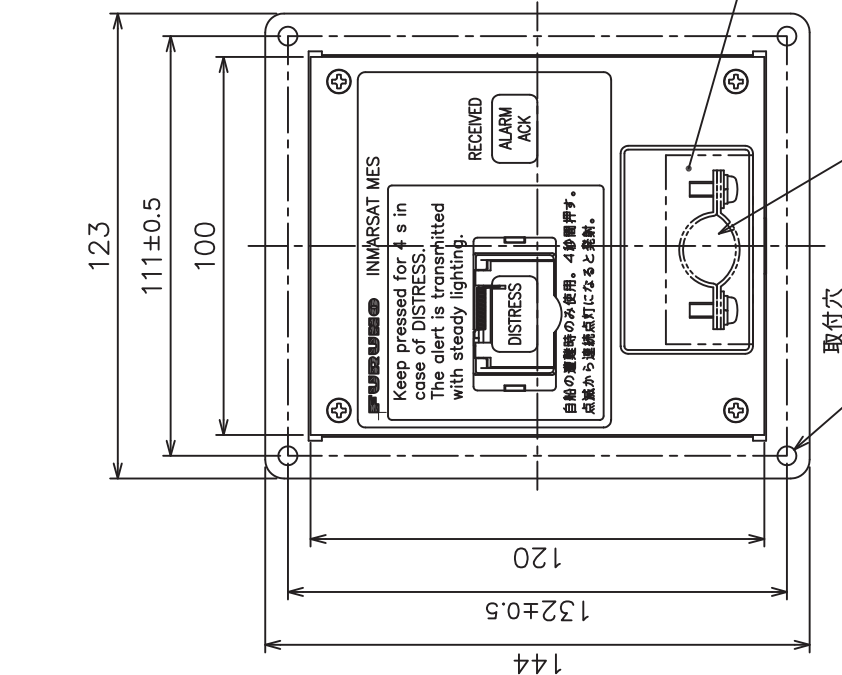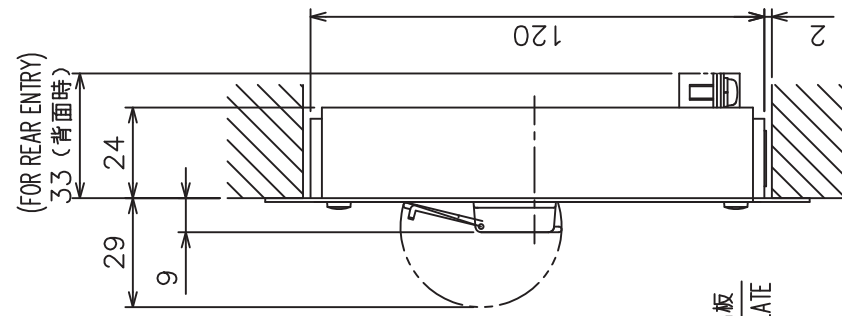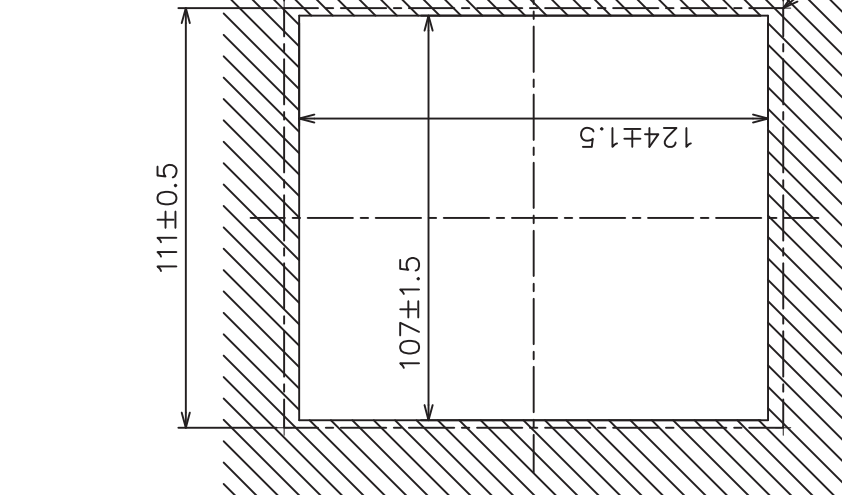
注 記 1) 指定外の寸法公差は表1による。
　　　 2) 取付用ネジは＋トラスタッピンネジ呼び径4×16を使用のこと。

NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
　　　2. USE TAPPING SCREWS ø4x16 FOR FIXING THE UNIT.

DRAWN	17/May/2012	T.YAMASAKI		TITLE	IC-305
CHECKED	17/May/2012	H.MAKI		名 称	遭難警報器 (埋込装備)
APPROVED	17/May/2012	Y.NISHIYAMA	FELCOM 15/18		外寸図
SCALE	1/2	MASS 0.45 ±10% kg		NAME	DISTRESS ALERT/RECEIVED CALL UNIT (FLUSH MOUNT)
DWG.No.	C5635-G12- C	REF.No. 16-018-410G-3			OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

4−φ4（取付穴）
FIXING HOLES

2　24

FURUNO　INMARSAT MES

ALARM
RESET

90±0.5

120

10.5

16

6.5

#100

※23

※3

※50

70±0.5

100

42

ケーブル導入口（背面）
CABLE ENTRY (REAR SIDE)

型式銘板
NAMEPLATE

ケーブル導入口（底面）
CABLE ENTRY (BOTTOM SIDE)

15

寸法区分（ｍｍ） DIMENSION	公差（ｍｍ） TOLERANCE
L≦50	±1.5
50＜L≦100	±2.5
100＜L≦500	±3

表1 TABLE 1

注　記
1）　#印寸法は最小サービス空間寸法とする。
2）　指定外の寸法公差は表1による。
3）　取付には＋タッピンネジ3×10を使用のこと。
4）　※印寸法は、背面からのケーブル導入穴寸法。

NOTE
1.　#: RECOMMENDED SERVICE CLEARANCE.
2.　TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.
3.　USE TAPPING SCREWS 3x10 FOR FIXING THE UNIT.
4.　※: CUTOUT DIMENSIONS FOR REAR SIDE CABLE ENTRY.

DRAWN	Dec. 19 '02　T.YAMASAKI		TITLE	IC-306
CHECKED	Dec. 19 '02　Y.KIMURA		名称	アラームユニット
APPROVED	Dec. 20, '02　Y. Kimura	FELCOM 15/16		外寸図
SCALE	1/1　MASS　0.33 ±10% kg		NAME	ALARM UNIT
DWG No.	C5635-G05- B	16-018-500G-1		OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

FURUNO ELECTRIC CO., LTD.

表 1 TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

4-取付穴位置
PILOT HOLES

132±0.5

124±1.5

111±0.5

107±1.5

取付穴寸法図
CUTOUT DIMENSIONS

120

(FOR REAR ENTRY)
33（背面時）

24

3

2

型式銘板
NAMEPLATE

ケーブル導入口（背面時）
CABLE ENTRY (REAR ENTRY)

INMARSAT MES

ALARM
RESET

FURUNO

取付穴
4-φ5
FIXING HOLES

123

111±0.5

100

120

132±0.5

144

ケーブル導入口（底面時）
CABLE ENTRY (BOTTOM ENTRY)

42

103

注 記 1) 指定外の寸法公差は表1による。
2) 取付用ネジは＋トラスタッピンネジ呼び径4×16を使用のこと。

NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. USE TAPPING SCREWS φ4x16 FOR FIXING THE UNIT.

TITLE	IC-306
名称	アラームユニット（埋込装備）
	外寸図
NAME	ALARM UNIT (FLUSH MOUNT) OUTLINE DRAWING

DRAWN	17/May/2012	T.YAMASAKI	
CHECKED	17/May/2012	H.MAKI	
APPROVED	17/May/2012	Y.NISHIYAMA	FELCOM 15/18
SCALE	1/2	MASS 0.44 ±10% kg	
DWG.No.	C5635-G09-C	REF.No. 16-018-510G-2	

70±0.5

4-φ4 取付穴
FIXING HOLES

20   32

2   24

(15)

192°

70±0.5

120

型式銘板
NAMEPLATE

35

10.5

ケーブル導入口（背面）
CABLE ENTRY (REAR)

※25

16

※25

※3

※76

6.5

※3

100

#100

ケーブル導入口（背面時）
CABLE ENTRY (REAR ENTRY)

※76

ケーブル導入口（底面時）
CABLE ENTRY (BOTTOM ENTRY)
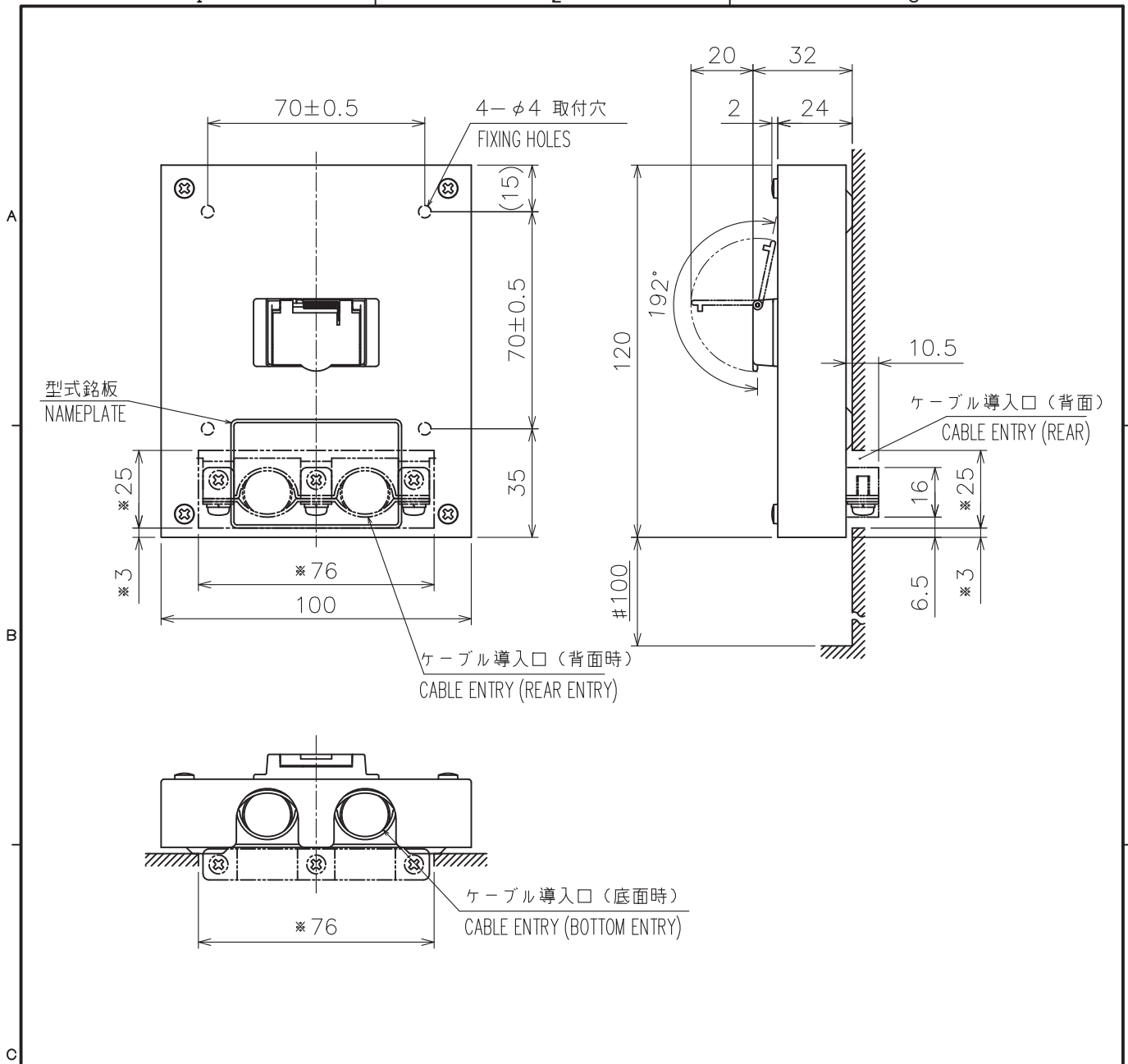
注 記
１）指定外の寸法公差は表１による。
２）＃印寸法は最小サービス空間寸法とする。
３）取付用ネジはタッピンネジ呼び径３×１０を使用のこと。
４）※印寸法は、ケーブルを背面から導入時に設ける穴の寸法

表１ TABLE 1

NOTE
1. TABLE 1 INDICATES TOLERANCE OF DIMESIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE TAPPING SCREWS ø3x10 FOR FIXING THE UNIT.
4. ※: CUTOUT DIMENSIONS FOR REAR CABLE ENTRY.

寸法区分（ｍｍ） DIMENSION	公差（ｍｍ） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

			TITLE	IC-307
DRAWN 5/Oct/2010 T.YAMASAKI				
CHECKED 5/Oct/2010 T.TAKAHASHI			名称	保安警報発呼器（壁掛装備）
APPROVED 6/Oct/2010 Y. NISHIYAMA	FELCOM 12/15/16			外寸図
SCALE 1/2	MASS 0.35 ±10% kg		NAME	SSAS ALERT UNIT (BULKHEAD MOUNT)
DWG.No. C5635-G10- C	REF.No. 16-018-700G-3			OUTLINE DRAWING
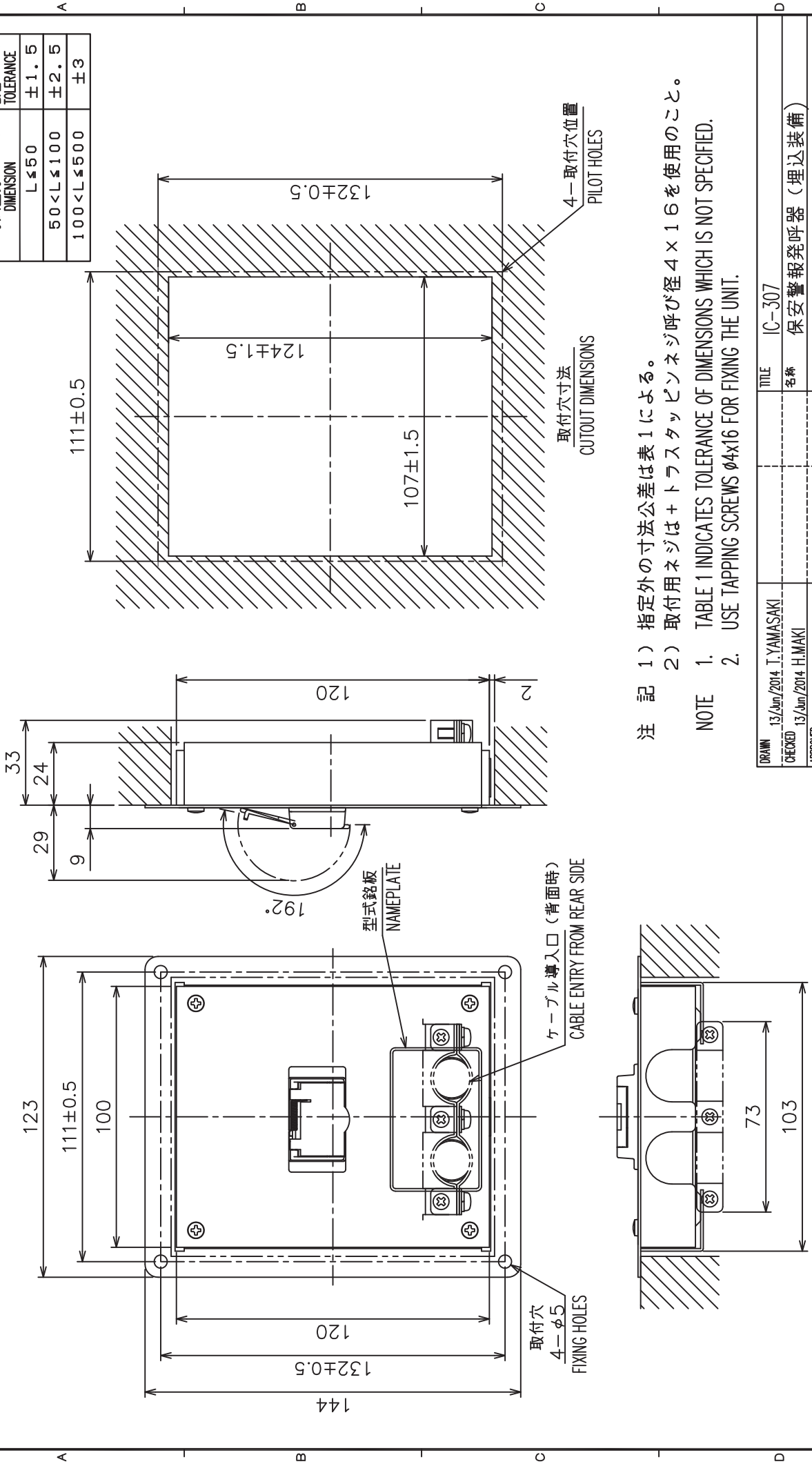
FURUNO ELECTRIC CO., LTD.

FURUNO

表 1　TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

132±0.5

124±1.5

111±0.5

107±1.5

取付穴寸法
CUTOUT DIMENSIONS

4-取付穴位置
PILOT HOLES

120

2

33

24

29

9

192°

型式銘板
NAMEPLATE

ケーブル導入口（背面時）
CABLE ENTRY FROM REAR SIDE

123

111±0.5

100

120

132±0.5

144

取付穴 4-φ5
FIXING HOLES

73

103
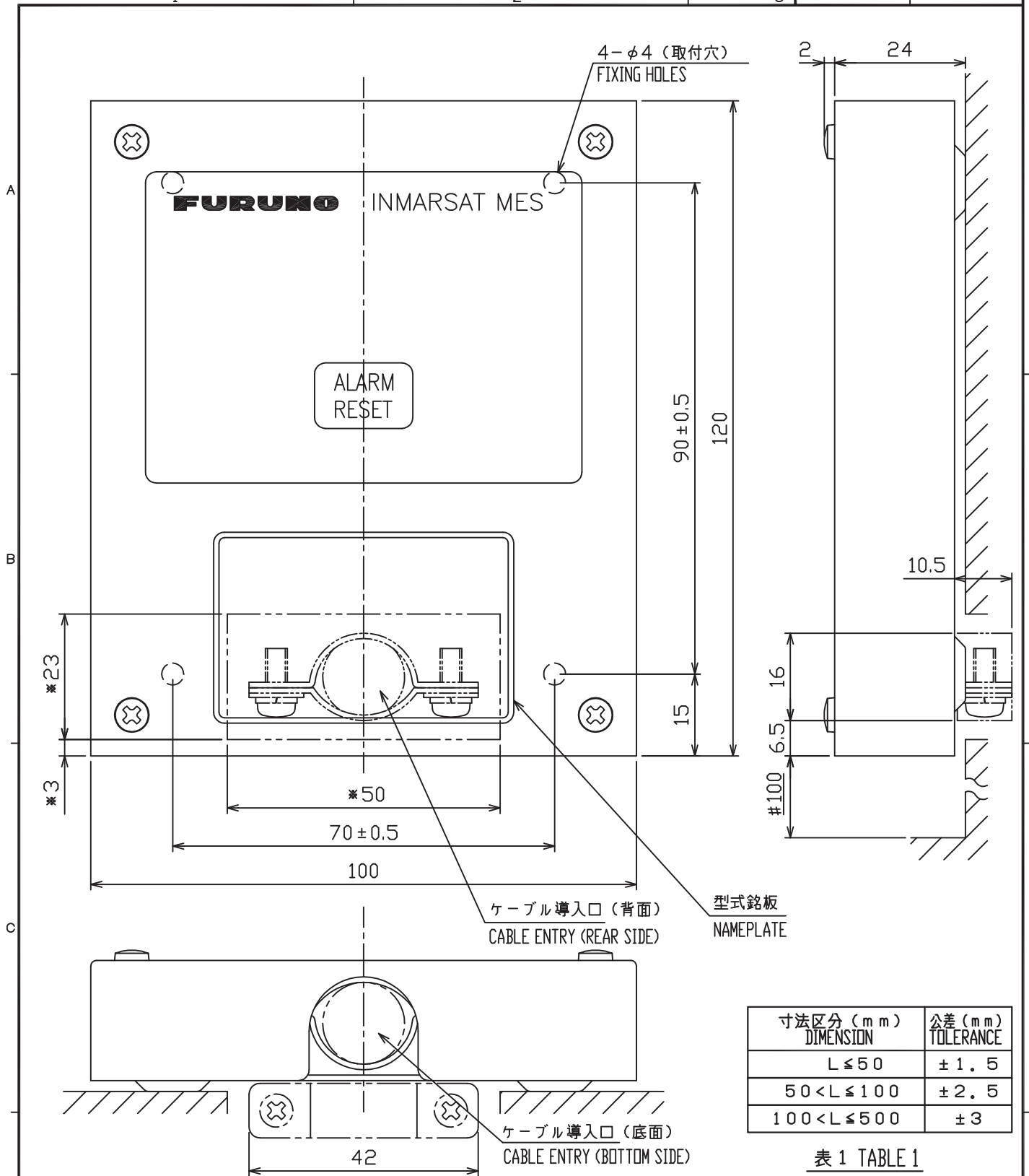
注 記　1）　指定外の寸法公差は表1による。
　　　　2）　取付用ネジは＋トラスタッピンネジ呼び径4×16を使用のこと。

NOTE　1.　TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
　　　　2.　USE TAPPING SCREWS ø4x16 FOR FIXING THE UNIT.

TITLE	IC-307
名称	保安警報発呼器（埋込装備）
	外寸図
NAME	SSAS ALERT UNIT (FLUSH MOUNT) OUTLINE DRAWING

DRAWN	13/Jun/2014	T.YAMASAKI	
CHECKED	13/Jun/2014	H.MAKI	
APPROVED	16/Jun/2014	H.MAKI	FELCOM 12/15/16
SCALE	1/2	MASS 0.5 ±10% kg	
DWG. No.	C5635-G11-B	REF. No.	16-018-7106-1

FURUNO ELECTRIC CO., LTD.

FURUNO

表1 TABLE 1

寸法区分 (mm) DIMENSION	公差 (mm) TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

通気口
AIR VENT

187

#10

#100

取付穴
4-φ6
FIXING HOLES

286

272±1

警告ラベル
SAFETY INSTRUCTIONS

型式銘板
NAMEPLATE

167

100±1

33.5

18

電源貼りマーク
POWER LABEL

端子台
TERMINAL BOARD

258

#50

4

4

81

#50

AC-DC POWER SUPPLY PR-240

AC BREAKER

DC BREAKER

AC IN
100-240VAC 50/60Hz

DC IN
24 VDC

DC OUT
24 VDC

AC FAIL

AC BATT/DC
(GREEN) (RED)

ON I

OFF O POWER
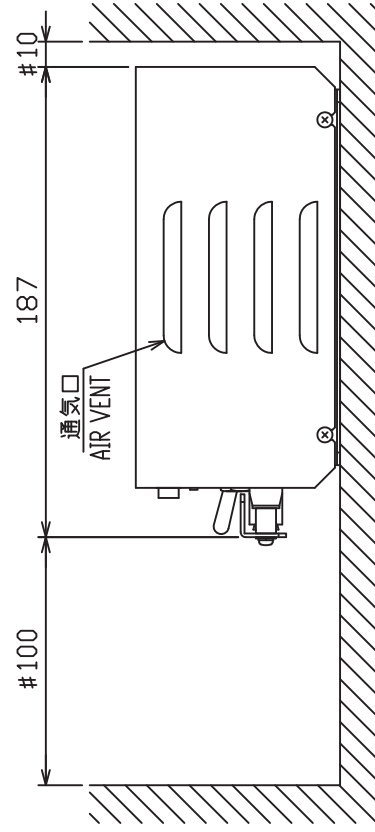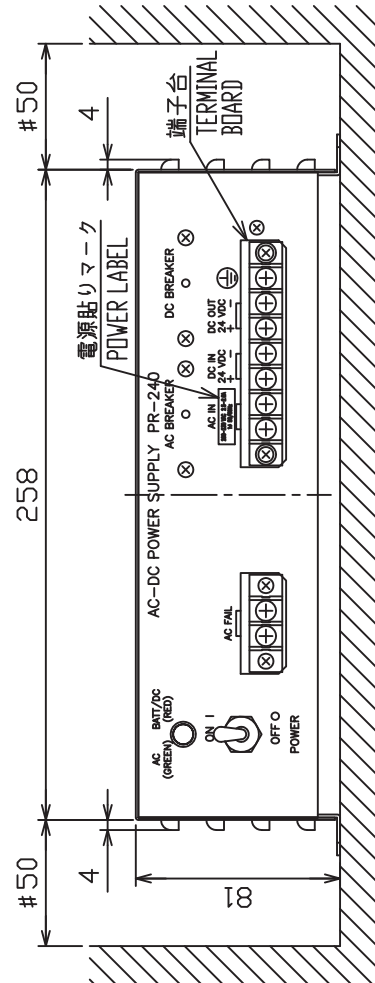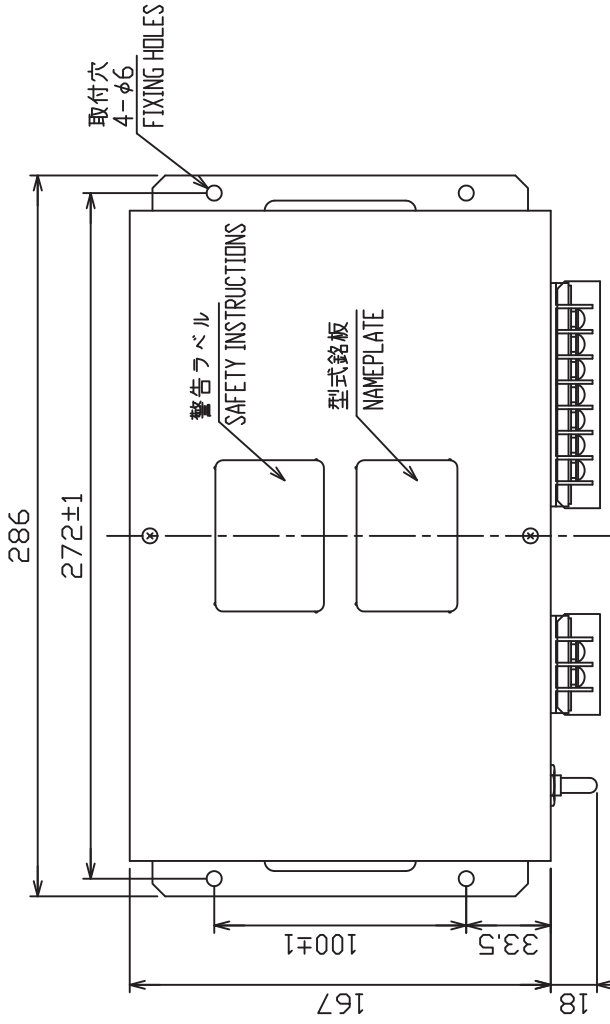
注 記 1) 指定なき寸法公差は表1による。
2) #印寸法は最小サービス空間寸法とする。
3) 取付用ネジは＋トラスタッピンネジ 呼び径４×１６を使用のこと。

NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. # MINIMUM SERVICE CLEARANCE.
3. USE TAPPING SCREWS φ4x16 FOR FIXING THE UNIT.

DRAWN	25/Sep/09 T.YAMASAKI	TITLE	PR-240
CHECKED	25/Sep/09 T.TAKENO	名称	AC/DC電源ユニット
APPROVED	26/Oct/09 R.Esumi		外寸図
SCALE 1/3	MASS 3.2 ±10% kg	NAME	AC/DC POWER SUPPLY UNIT OUTLINE DRAWING
DWG.No. C5003-G03-J		REF.No. 24-003-500G-4	

FURUNO ELECTRIC CO., LTD.

表1 TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

注記 1) 指定外の寸法公差は表1による。
2) #印寸法は最小サービス空間寸法とする。
3) 取付用ネジはトラスタッピンネジ呼び径5×20を使用のこと。

NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.
2. #: MINIMUM SERVICE CLEARANCE.
3. USE TAPPING SCREWS ø5x20 FOR FIXING THE UNIT.

ロール紙
ROLL PAPER
#120

357.5

取付金具
FIXTURE

138
(15)
176

#100

#50

405±1
425

(373)
80.5
24.2
277
200±0.5
42.5
366

取付穴
4×ø6.5
FIXING HOLES

A

B

C

FURUNO
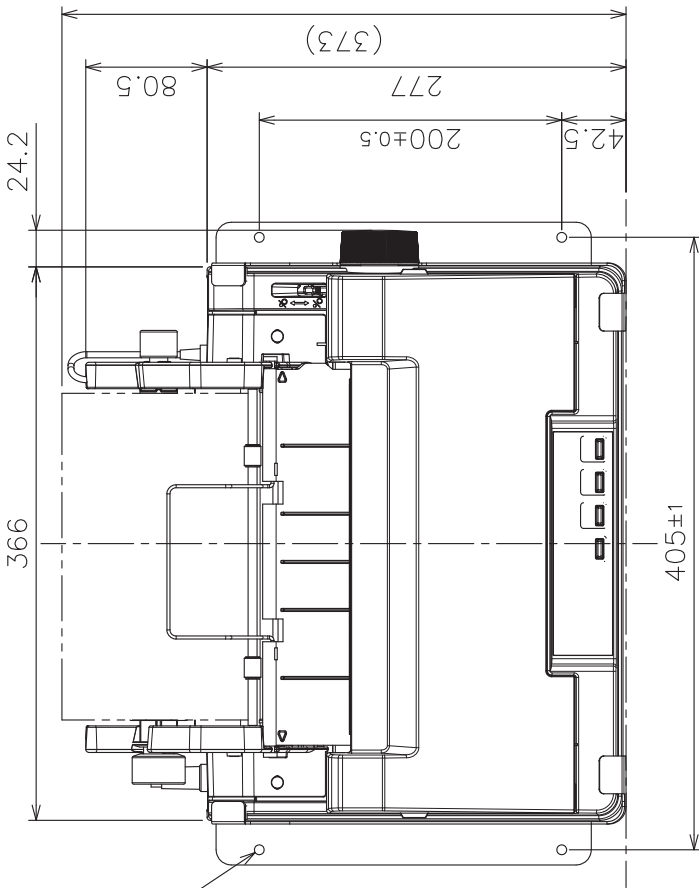
TITLE PP-520
名称 プリンタ
外寸図
NAME PRINTER
OUTLINE DRAWING
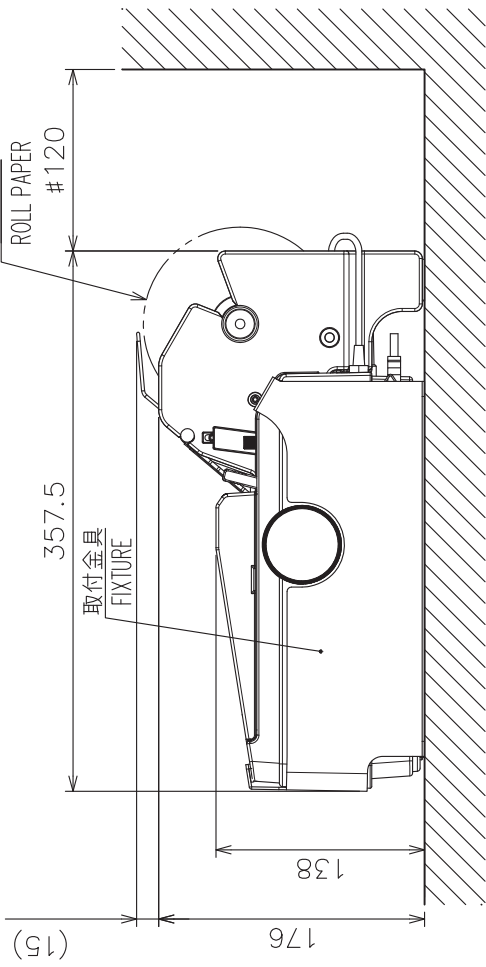
DRAWN 6/Jul/2012 T.YAMASAKI
CHECKED 6/Jul/2012 H.MAKI
APPROVED 6/Jul/2012 Y.NISHIYAMA
SCALE 1/5 MASS 5.5 kg ±10%
DWG.No. C5080-G02-A

質量はロール紙を含まず
MASS DOES NOT INCLUDE ROLL PAPER
REF.No. 16-023-551G-1

FURUNO ELECTRIC CO., LTD.

φ142
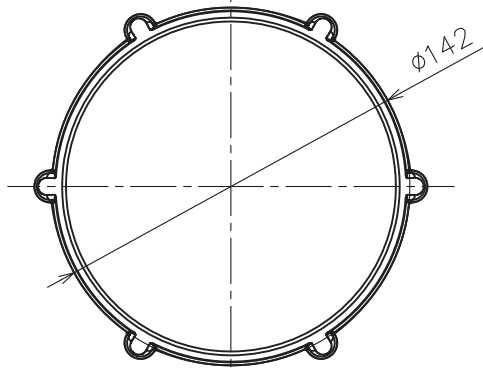
表2 工事材料　　TABLE 2 INSTALLATION MATERIAL

品番 ITEM	品 名 NAME	図番 DWG. No.	摘要 REMARK
1	アンテナ取付パイプ ANTENNA MOUNTING PIPE	16-018-1301	0.3 kg APPROX.
2	ロックナット LOCK NUT	16-023-2518	
3	ナットシート NUT SHEET	16-023-2519	

表1　TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L ≦ 50	±1.5
50 < L ≦ 100	±2.5
100 < L ≦ 500	±3

156

258

FURUNO

型式銘板
NAMEPLATE

③
②

(φ25.4)

183

アース用ボルト
GROUND BOLT

※：シール剤塗布
APPLY SILICONE SEALANT

アース線
GROUND WIRE

ケーブル
CABLE

50

（引出場所は選択）
(SELECT EITHER ONE)

100

①

マスト（造船所手配）
MAST (SHIPYARD SUPPLY)

φ50-φ90

ケーブル
CABLE

SUS304, t=6　溶接部材質
MATERIAL FOR WELDING

注 記　1）指定外の寸法公差は表1による。

NOTE　1.　TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.

DRAWN	17/May/2012 T.YAMASAKI		TITLE	IC-115/116/118/119
CHECKED	17/May/2012 H.MAKI		名称	アンテナユニット
APPROVED	17/May/2012 Y.NISHIYAMA	FELCOM 15/16/18/19	外寸図	
SCALE 1/3	MASS 1.4 kg ±10%	質量はパイプ工材を含まず。 MASS W/O MOUNTING PIPE.	NAME	ANTENNA UNIT
DWG. No. C5635-G01-H	REF. No. 16-023-250G-1		OUTLINE DRAWING	

FURUNO ELECTRIC CO., LTD.

表1 TABLE 1

寸法区分（mm） DIMENSION	公差（mm） TOLERANCE
L≦50	±1.5
50＜L≦100	±2.5
100＜L≦500	±3

表2 工事材料
TABLE 2 INSTALLATION MATERIAL

品番 ITEM	品　名 NAME	図番 DWG. No.
1	ロックナット LOCK NUT	16-023-2518
2	ナットシート NUT SHEET	16-023-2519
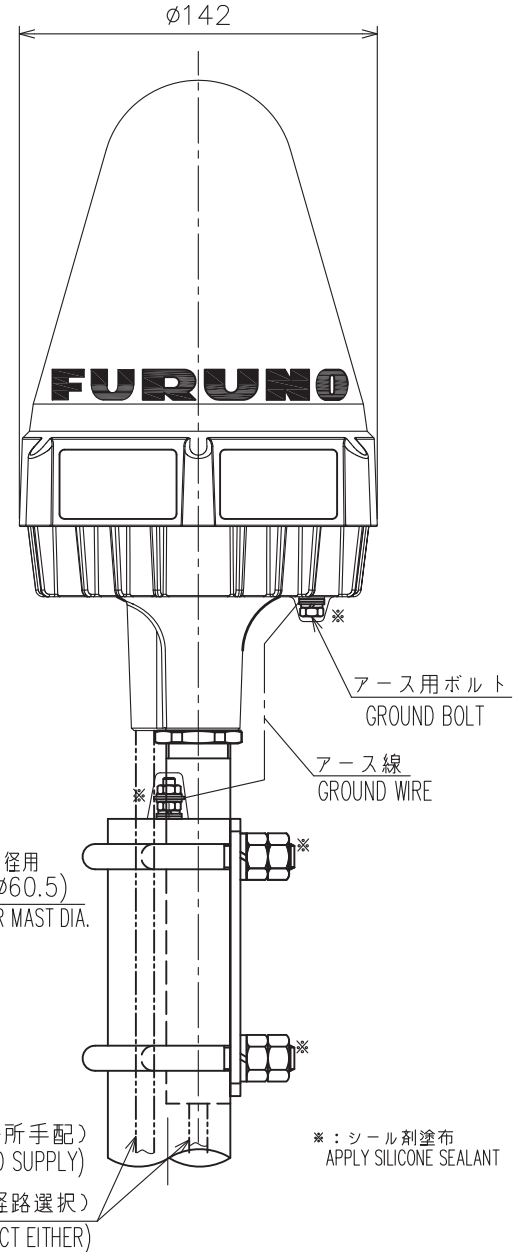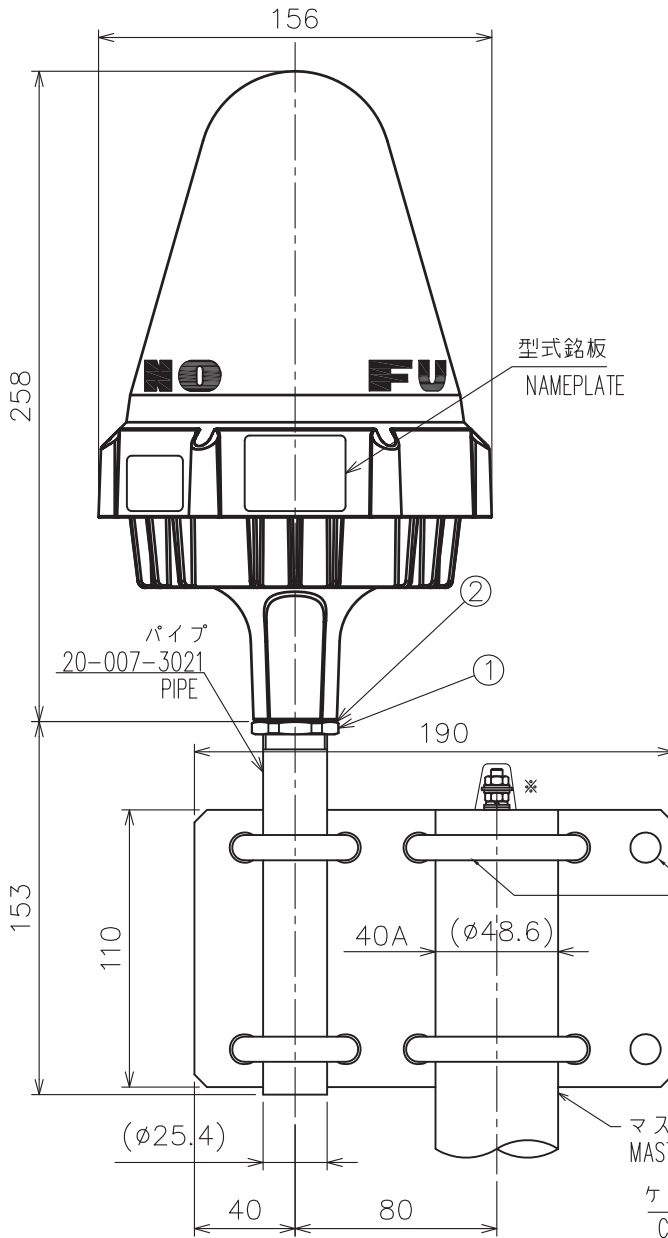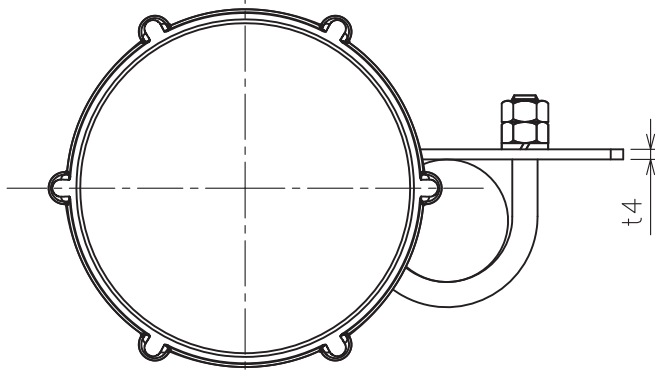
t4

156

258

φ142

型式銘板
NAMEPLATE

パイプ
20-007-3021
PIPE

アース用ボルト
GROUND BOLT

アース線
GROUND WIRE

190

153

110

別マスト径用
50A（φ60.5）
ANOTHER MAST DIA.

40A （φ48.6）

（φ25.4）

40   80

マスト（造船所手配）
MAST (SHIPYARD SUPPLY)

ケーブル（経路選択）
CABLE (SELECT EITHER)

※：シール剤塗布
APPLY SILICONE SEALANT

注記　1）指定外の寸法公差は表1による。

NOTE　1.　TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.

DRAWN 25/Apr/2012 T.YAMASAKI		TITLE IC-115/116/118/119
CHECKED 25/Apr/2012 H.MAKI		名称 アンテナユニット（取付板）
APPROVED 30/Apr/2012 Y.NISHIYAMA	FELCOM 15/16/18/19	外寸図
SCALE 1/3	MASS 2.3 ±10% kg 質量は工材を含む。 MASS INCLUDES INSTALLATION MATERIALS.	NAME ANTENNA UNIT (W/ FIXTURE PLATE)
DWG. No. C5635-G19-D	REF. No. 16-023-252G-1	OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

アンテナユニット
ANTENNA UNIT

コネクタプラグ
CONNECTOR PLUG

イラックススリーブ
HEAT-SHRINK TUBING

アンテナ台
MOUNTING BASE

０．４ｍケーブル組品
または
コネクタ付ケーブル（３０ｍ）
0.4m CABLE ASSY. OR
CABLE W/ CONNECTOR (30m)

ホースクランプ（表1参照）
HOSE CLAMP (TABLE 1)

φ48.6～φ114.3
(40A～100A)

アース端子
GND TERMINAL

矢視Ａ－Ａ
VIEW A-A

アース線
GROUND WIRE

※：シール剤塗布
APPLY SILICONE SEALANT

ケーブル
CABLE

マスト（造船所手配）
MAST (SHIPYARD SUPPLY)

０．４ｍケーブル組品
0.4m CABLE ASSY.

ビニルテープ
VINYL TAPE

ブチルゴムテープ
SELF-BONDING TAPE

延長ケーブル（切断禁止）
EXTENSION CABLE (DO NOT SHORTEN)

耐候性コンベックス
WEATHERPROOF CABLE TIE

φ200以上
φ200 OR MORE

ケーブルをループ状に巻くときは
芯線が断線しないようにφ200mm
以上とること。
WHEN A LOOP OF CABLE IS FORMED,
DIAMETER OF LOOP SHOULD BE φ200mm
OR MORE TO AVOID INJURY FROM STRESS.

表1　ホースクランプ（オプション）
TABLE 1　HOSE CLAMP (OPTION)

TYPE	MODEL	CODE No.	DIA. OF MAST
77-95	OP16-76-1	001443450	φ48.6 (40A)
104-138	OP16-76-2	001443460	φ76.3-89.1 (65A-80A)
130-165	OP16-76-3	001443470	φ101.6-114.3 (90A-100A)

手順

１）０．４ｍケーブル組品を使用するときは、コネクタプラグを
アンテナ上部底のコネクタに接続した後、ケーブルの下から
イラックススリーブを通しておく。
０．４ｍケーブル組品を使用しないときは、アンテナ台の下
から３０ｍケーブルを通し、イラックススリーブを通して
コネクタプラグをアンテナ上部底のコネクタに接続する。

２）イラックススリーブを熱で固着し（１１０℃以下）、自己融着
テープおよびビニルテープで固定する。
固定範囲は５０ｍｍ以内。高温で熱すると部材の一部を変形
させる恐れがあるので注意する。

３）アンテナ台をアンテナ上部にネジ３本で固定する。
うち一本のネジは、アース線（圧着端子付）を共締めする。

４）アンテナ台のネジ部にシール剤を塗布する。

５）アンテナ台をホースクランプ２本でマストに固定する。

６）０．４ｍケーブル組品を使用するときは、がい装付ケーブルの
コネクタを接続し、自己融着テープ、ビニルテープで固定する。

７）ケーブルをマストに固定し、アース線をマストに接続する。
ケーブルは耐候性コンベックスで固定する。

８）※部分をシール剤で完全に覆う。

PROCEDURE

1. FOR CONNECTION OF CABLE ASSY.(0.4m)
   CONNECT THE CONNECTOR PLUG OF CABLE ASSY. TO ANTENNA UNIT.
   THEN PASS HEAT-SHRINK TUBING FROM THE OTHER SIDE OF CABLE ASSY.
   FOR CONNECTION OF CABLE W/ CONNECTOR (30m).
   PASS THE ANTENNA CABLE THRU THE HOLE IN THE CENTER OF THE
   ANTENNA BASE. THEN PASS HEAT-SHRINK TUBING ONTO THE CABLE.
   CONNECT THE CABLE PLUG TO ANTENNA UNIT.

2. FIX THE SHRINK TUBE WITH HEAT (+110℃ OR LESS) AND BIND WITH
   SELF-BONDING TAPE AND VINYL TAPE.
   WRAPPING LENGTH: WITHIN 50 mm. DO NOT HEAT WITH HIGH TEMPERATURE
   TO AVOID DISTORTION OF ANTENNA PARTS.

3. FIX THE MOUNTING BASE TO ANTENNA UNIT WITH 3 SCREWS.
   FASTEN THE GROUND WIRE TO A SCREW OF THEM WITH CRIMP-ON LUG.

4. APPLY SILICONE SEALANT TO SCREWS OF MOUNTING BASE.

5. FIX THE MOUNTING BASE TO MAST WITH TWO HOSE CLAMPS SECURELY.

6. CONNECT THE ARMARED CABLE CONNECTOR TO THE CABLE ASSY.
   WRAP THE CONNECTORS WITH SELF-BONDING TAPE AND VINYL TAPE.

7. FIX THE ANTENNA CABLE WITH WEATHERPROOF CABLE TIES AND CONNECT
   GROUND WIRE TO MAST.

8. COVER SCREW HEADS MARKED '※' WITH SILICONE SEALANT.

DRAWN	18/Feb/2016 T.YAMASAKI			TITLE	IC-115/116/118/119
CHECKED	18/Feb/2016 H.MAKI			名称	アンテナユニット（ホースクランプ取付）
APPROVED	22/Feb/2016 H.MAKI	FELCOM 15/16/18/19			装備要領
SCALE	MASS ±10% kg			NAME	ANTENNA UNIT (HOSE CLAMP FIXING)
DWG.No.	C5674-Y01- C				INSTALLATION PROCEDURE

FURUNO ELECTRIC CO., LTD.

FURUNO

S-1

アンテナユニット
ANTENNA UNIT
IC-118

TPA5FB0.4NJ5
FBA-5DFB, 0.4m
12D-SFA-LITE-CV, 100m, φ20: N-P-12DSFA
8D-FB-CV, 40/50m, φ14.3: N-P-8DSFA
5D-FB-CV, 30m, φ10.7: N-P-5DFB

TP5FBAW-5DFBB, 30m, φ7.7

DGPSデコーダー — DGPS DECODER — COAX. CABLE(50Ω)

キーボード
KEYBOARD — 1.5m

ターミナルユニット
TERMINAL UNIT
IC-218

TNCP-NJ
ANT
DGPS
BNC
USB A TYPE
PRINTER
LAN
DC IN

JUNCTION
Vcc(ALM) C1
GND C2
TD/RD-A C3
TD/RD-B C4
NC C5
ALM-H C6
ALM-C C7
RD-A C8
RD-B C9
GND C10
SSAS_OUT-H C11
SSAS_OUT-C C12
SSAS_CHECK C13
SSAS_IN-C C14
SSAS_CTRL C15

17JE-23150-02(D8C)   2m

接続箱
JUNCTION BOX
IC-318

TTYCSLA-4(*1) OR CO-0.2x5P(*2) MAX.50m
TTYCSLA-1(*1) OR CO-0.2x2P(*2)
TTYCSLA-1(*1) OR CO-0.2x2P(*2)
TTYCSLA-4(*1) OR CO-0.2x5P(*2)

*1 IV-2sq.

アラームユニット
ALARM UNIT
1 VCC ALARM UNIT
2 GND IC-306
3 TD/RD-A *2
4 TD/RD-B
5 GND

遭難警報器
DISTRESS ALERT/
RECEIVED CALL UNIT *2
IC-305
1 VCC
2 GND
3 TD/RD-A
4 TD/RD-B
5 GND

アラームシステム
ALARM SYSTEM
航法装置
NAV EQUIPMENT

保安警報発呼器
SSAS ALERT UNIT
IC-307 *2 *3 *4
1 SSAS_OUT-H
2 NC
3 SSAS_CHECK
4 SSAS_IN-C
5 SSAS_CTRL
6 GND

IC-350を接続するとき（IC-305との共用不可）
CONNECTION FOR IC-350 (DO NOT USE W/ IC-305)

選択
SELECT
IC-318
3
4
TTYCSLA-1(*1) OR CO-0.2x2P(*2)

INMARSAT No.1/2
1 TR-A
2 TR-B アラームユニット
3 FG ALARM UNIT
IC-350

IC-307(No.2) *2 *3 *4
1
2
3
4
5
6

IC-307(No.3) *2 *3
1
2
3
4
5
6

最大3台まで接続可能
MAX. 3 UNITS AVAILABLE.

TTYCSLA-4(*1) OR CO-0.2x5P(*2)
合計：最大200m
TOTAL: UP TO 200m

24 VDC (+)アカ RED
(−)クロ BLK
GND シロ WHT

RH12BPG-3S
VCTF-0.75x3C, 5m, φ7
(16S0084)
プリンタ
PRINTER
PP-520 *2
57-3036
16S0184
3m, φ8
OR
H230817-1(*2)
防水仕様ケーブル
WATERPROOF CABLE
17JE-23250-02(D8C)

12 VDC
DC/DCコンバータ
DC/DC CONVERTER
*1

12-24 VDC
MJ-A3SPF0018-050Z
5m, φ11
15A(12V)
7A(24V)
MJ-A3SPF
シロ WHT
クロ BLK
DC+ C1
DC- C2
GND C3

24 VDC
DPYC-1.5 *1

100-230VAC
1φ, 50-60Hz
TPYC-1.5 *1
CON1
AC-H
AC-C
GND
CON9
DC IN (+)1
(−)2
DC OUT (+)3
(+)4
(−)6
(−)7
AC/DC電源ユニット
AC/DC POWER
SUPPLY UNIT
PR-241 *2

または OR

100-115/
200-230VAC
1φ, 50/60Hz
DPYC-1.5 *1
24VDC
(BACKUP)
DPYC-1.5 *1
AC/DC電源ユニット
AC/DC POWER
SUPPLY UNIT
PR-240 *2
+
−
E
*1
IV-2sq.

RJ45 *1
STP(CAT5)
パソコン/HUB
PC OR HUB

銅板
COPPER STRAP
W=30, 1.2m

IC-218
JUNCTION
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15

防水仕様ケーブル
WATERPROOF CABLE
XM-FD-361, 2m *2

アオ BLU
チャ BRN
ムラサキ PPL
ハイ GRY
ミドリ GRN
キ YEL
ダイ ORG
モモ PNK
ウスミドリ L-GRN
シロ/クロ WHT/BLK
シロ/アカ WHT/RED
クロ BLK
アカ RED
ミズ L-BLU

接続箱
JUNCTION BOX
IC-318
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

注記
＊1）造船所手配。
＊2）オプション。
＊3）終端のIC-307はジャンパー設定を変更する。
＊4）SSAS仕様のとき標準構成。

NOTE
*1: SHIPYARD SUPPLY.
*2: OPTION.
*3: CHANGE SETTING OF JUMPER IN IC-307 TO TERMINATE.   CO-0.2x2P: CO-SPEVV-SB-C 0.2x2P, φ10.5
*4: STANDARD CONFIGURATION FOR SSAS.   CO-0.2x5P: CO-SPEVV-SB-C 0.2x5P, φ13.5
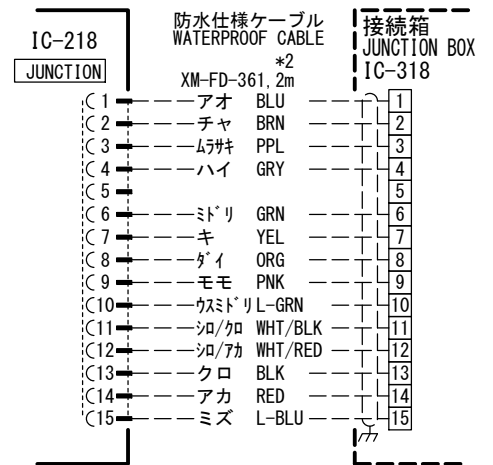
DRAWN 24/Mar/2021 T.YAMASAKI		TITLE FELCOM 18
CHECKED 24/Mar/2021 H.MAKI		名称 インマルサット-C 船舶地球局
APPROVED 25/Mar/2021 H.MAKI		相互結線図
SCALE	MASS kg	NAME
DWG No. C5674-C01- K	REF. No. 16-023-3001-1	INMARSAT-C MES INTERCONNECTION DIAGRAM

FURUNO ELECTRIC CO., LTD.