TOSHIBA
Carrier

Installation Manual
INTELLIGENT SERVER

Model name:
BMS-LSV6UL

- Thank you very much for purchasing this TOSHIBA INTELLIGENT SERVER.
- Please read this manual carefully beforehand for proper installation of the SERVER.

NOTE

This product is designed exclusively for use in North America. Do not use it in a place other than North America.

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Precautions for safety

The following instructions must be observed.

- Carefully read these “Precautions for safety” before installation, and perform installation work safely.
- These precautions contain important information regarding safety.
- After installation work, carry out an operation trial to confirm that there are no problems, and explain to the customer how to operate and maintain the system. Ask the customer to keep this Installation Manual.

Expressions

⚠ **Warning**	Text set off in this manner indicates that failure to adhere to the directions in the warning could result in serious bodily harm (*1) or loss of life if the product is handled improperly.
⚠ **Caution**	Text set off in this manner indicates that failure to adhere to the directions in the caution could result in serious bodily injury (*2) or damage (*3) to property if the product is handled improperly.

*1: Serious bodily harm indicates loss of eyesight, injury, burns, electric shock, bone fracture, poisoning, and other injuries which leave aftereffect and require hospitalization or long-term treatment as an outpatient.
*2: Bodily injury indicates injury, burns, electric shock, and other injuries which do not require hospitalization or long-term treatment as an outpatient.
*3: Damage to property indicates damage extending to buildings, household effects, domestic livestock, and pets.

Graphic symbols

 Prohibited	“⃠” indicates prohibited items. The actual contents of the prohibition are indicated by a picture or text placed inside or next to the graphic symbol.
 Compulsory	“●” indicates compulsory (mandatory) items. The actual contents of the obligation are indicated by a picture or text placed inside or next to the graphic symbol.

⚠ Warning

- **Installation and reinstallation should be performed by your dealer or a qualified electrician.**
  Attempting to carry out installation work on your own, and doing so incorrectly, may result in electric shock or fire.
- **Electrical work must be performed by a qualified electrician in accordance with this installation manual.**
  The work must satisfy all local, national and international regulations.
  Inappropriate work may result in electric shock or fire.
- **Be sure to turn off the power before starting work.**
  Failure to do so may result in electric shock.

- **Do not modify the unit.**
  Doing so may result in excessive heat or fire.

- **Always connect to ground.**
  Improper grounding may result in an electric shock.

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⚠ Caution



- **Do not install in the following locations.**
  Locations where combustible gas may leak
  Locations with high humidity or water
  Dusty locations
  Locations in direct sunlight and locations subject to high temperatures
  Locations within 1 m from televisions or radios
  Outdoors, under awnings, or other locations exposed to rain and dew
  Locations exposed to outside air containing corrosive gases or salinity
  Locations with frequent vibrations
- **Do not operate the touch panel with mechanical pencils or other pointed objects.**



- **In installation work, use wiring with the correct ampacity.**
  Failure to do so may result in excessive heat or fire.
- **Use specified cables and connect them securely, and do not subject connecting terminals to external force.**
  Doing so may result in broken cables, excessive heat or fire.
- **Always install a circuit breaker on the primary side of the power supply.**
- **Always turn off the power before inserting or removing a compact flash card.**
  Failure to do so may result in damage to data and files.
- **Clean the touch panel by wiping with an eyeglasses cleaner or other soft cloth.**
  To remove oil-based ink, wipe with a cloth that has been moistened with a neutral detergent and then wrung out, and finish by wiping with a soft, dry cloth.
  Do not use commercial OA cleaners, cleansers, or other liquid cleaners containing abrasives.

Trademarks

- BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.).
- Compact Flash and CF are trademarks of SanDisk Corporation.
- Ethernet is a registered trademark of Xerox Corporation.

Before Installation

NOTE

Prepare the following software (sold separately) before using the server.

Available software

INTELLIGENT SERVER SOFTWARE BMS-STBN□□UL (□□ is 09 or higher)

Check the following package contents.

No.	Item	Quantity	Remarks
1	INTELLIGENT SERVER	1	
2	Installation Manual	1	
3	Manual	1	
4	Cable	1	RS-485 cable for Intelligent Server
5	Closed end wire joint	2	
6	Clamp filter	2	
7	Tie-wrap	2	For fixing the clamp filter
8	Power cable	1	

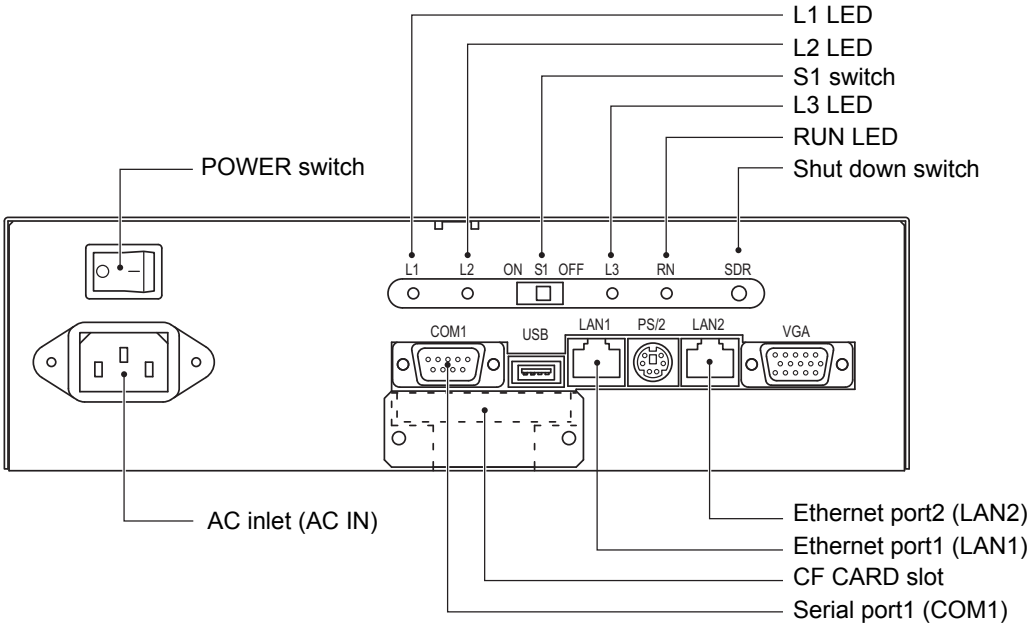
Use the following wiring materials to connect the communication cables and power cables. (locally procured)

No.	Line	Description	
1	For RS-485	Type	2-core shield wire
		Wire size	AWG16 (1.25 mm^2), 1600 ft (500 m) max. (total length)
		Length	
2	For ethernet	Type	LAN cable (higher than Category 5, UTP) The appropriate use of straight cable/cross cable should be done depending on your system used.
		Length	320 ft (100 m) max.

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Intelligent Server Specifications

■ Names of each parts

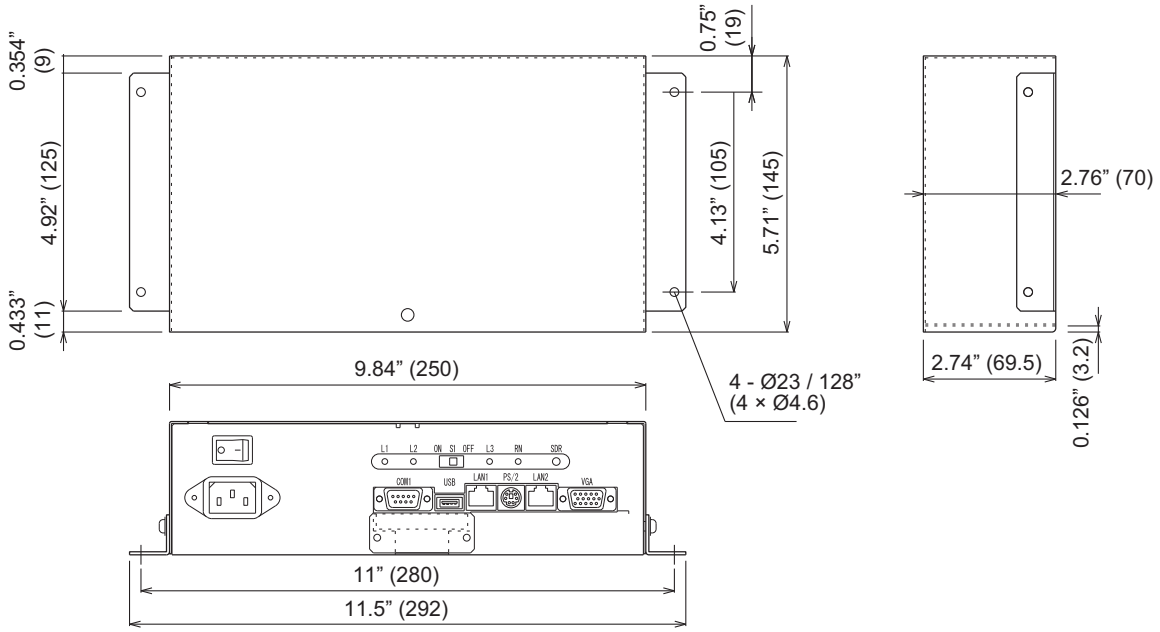


■ Specifications

Power supply	120 VAC, 60 Hz
Current	0.2 A
Operating temperature/humidity	32 to 104 °F (0 to 40 °C), 10 to 90 %RH (no condensation)
Storage temperature	–4 to 140 °F (–20 to +60 °C)
Dimension	9.84” (W) × 2.76” (H) × 5.71” (D) inch (250 (W) × 70 (H) × 145 (D) mm) (11.5” (292) (W) including the fixing metal plate)
Mass	3.31 lb (1.5 kg)
COM port	RS-485 (9-pin, D-SUB)
LAN	10BASE-T/100BASE-TX

■ External view

Unit : inch (mm)

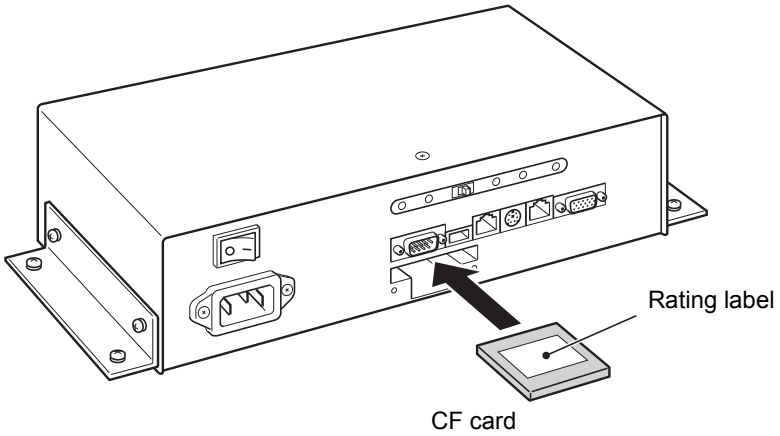


1 CF (Compact Flash) card Installation

REQUIREMENT

- Do not insert or remove the CF (Compact Flash) card during power on of the Intelligent Server. Doing so may cause a failure.
- If the CF (Compact Flash) card is not inserted properly, the Intelligent Server will not work.

Insert the CF card (with the software sold separately).
Push the CF card fully into the slot.



(1) Remove two screws and the cover plate and the CF card slot appears.
(2) Insert the CF card with its rating label attached surface upward.
Confirm the CF card is surely pushed into the slot.

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2 Setting

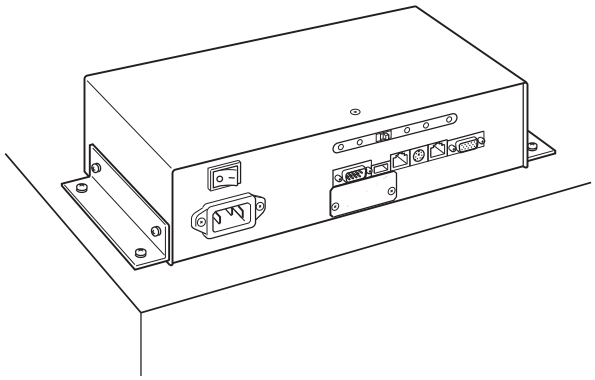
The setting is not required.
S1 is set to “OFF”.

3 Installation

■ Intelligent Server Installation Method and Orientation

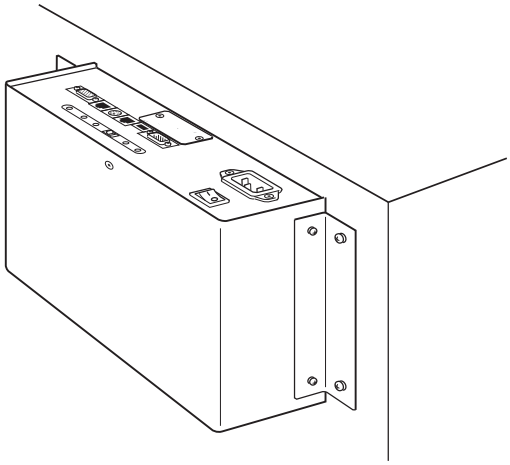
There are 2 types of setting methods and directions available for the server. Use the fixing metal plates attached when installing the server.

(1) Surface mount



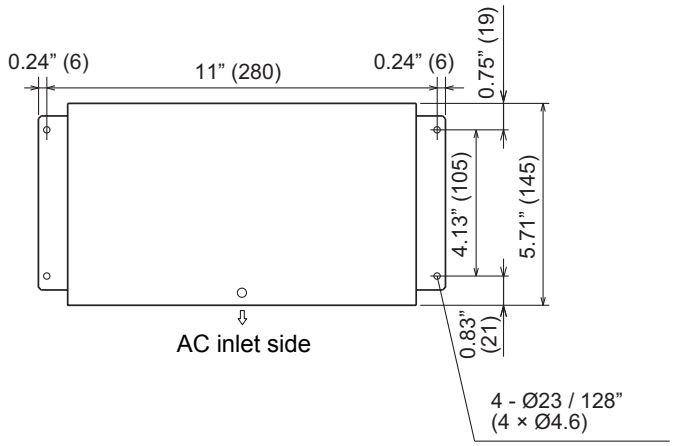
(2) Wall mount

Mount the server with the front face upward.



Fixing screw hole positions

Unit : inch (mm)



REQUIREMENT

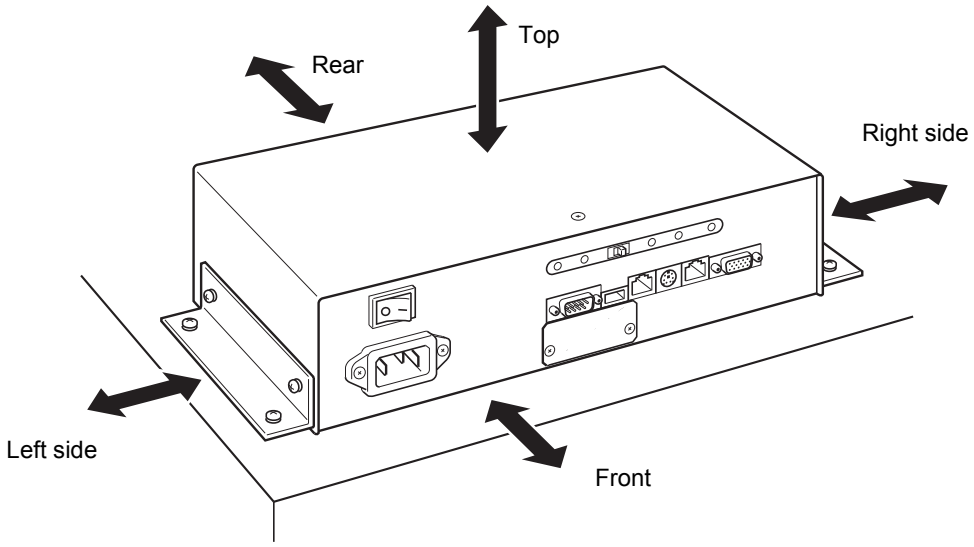
Do not install the unit in any of the following places.
- Humid or wet place
- Dusty place
- Place exposed to direct sunlight
- Place where there is a TV set or radio within one meter
- Place exposed to rain (outdoors, under eaves, etc.)

■ Installation Space and Maintenance Space

The installation space and the maintenance space must be determined before installation.
These spaces depend on installation method.

Installation Space

The values in the following table are required for installation space in each direction. Select an installation place that allows good air ventilation.



Unit : inch (mm)

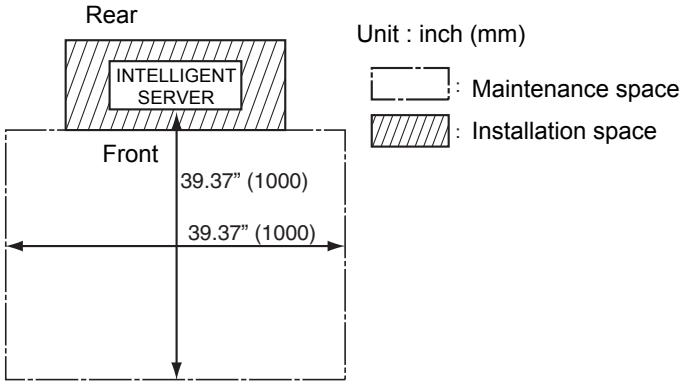
Item	Direction	Surface mount	Wall mount
Installation space	Top	3.94” (100)	1.97” (50)
	Bottom	0	0
	Front	3.94” (100)	3.94” (100)
	Rear	Location adjacent to wall permitted (*1)	
	Right side	1.97” (50)	3.94” (100)
	Left side	1.97” (50)	3.94” (100)

(*1) “Location adjacent to wall permitted” means that the unit can be installed close to the wall on that side.

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Maintenance Space

Maintenance space is required for installation and maintenance of the unit.



4 Cable Connection

■ AC Power Cable Connection

REQUIREMENT

Power cable is not supplied for the Intelligent Server. Insert a three core power cord applicable to the standard of the country you use. Be sure to connect the earth line of the power cable securely.

- Insert an AC power cable into the AC inlet of the unit.
- Connect the power cord plug to an outlet (120 V, AC).

REQUIREMENT

- Disconnect the appliance from the main power supply. Connect this appliance to the main power supply by a circuit breaker or a switch with a contact separation of at least 0.118” (3 mm).
- Make sure that the outlet is earthed.

■ Ethernet wire Connection

- Insert the Ethernet wire into the Ethernet port1 (LAN1).

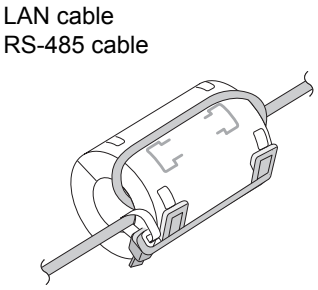
■ Serial Port (RS-485) Connection

- Confirm that the power supply for the Intelligent Server is shut off.
- Connect RS-485 cable (packaged with the Intelligent Server) to Serial port 1 (COM1).
  Fix the cable to the Intelligent Server by the fixing screws (two locations on both sides) attached to the connector on RS-485 cable.

REQUIREMENT

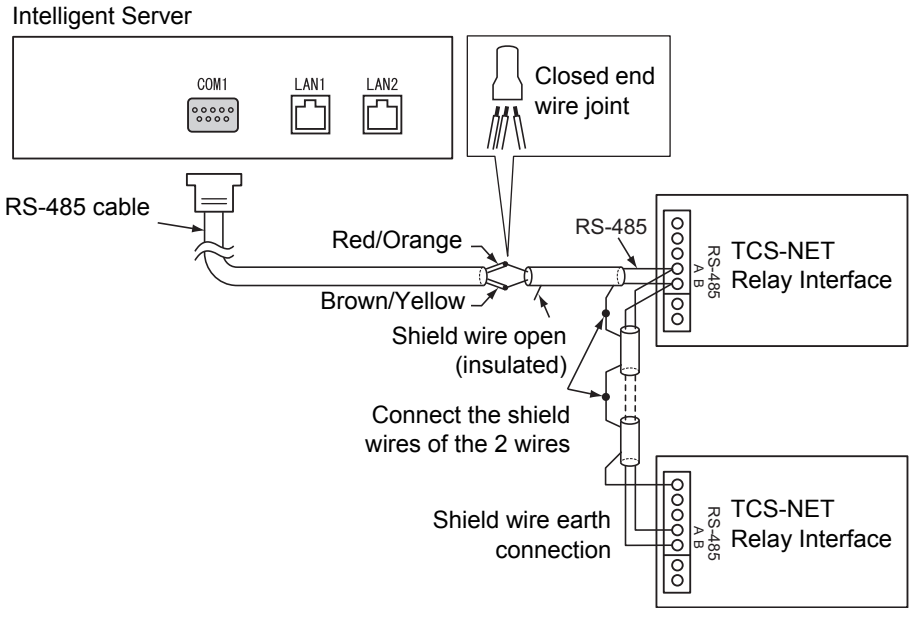
Attach the supplied clamp filter to the LAN cable and RS-485 cable.
* Wind the LAN cable and RS-485 cable around the clamp filter as shown below when attaching the filter to the cable.

After attaching the filter, fix it to the LAN cable and RS-485 cable using a supplied tie-wrap.
* Attach the clamp filter as near the main unit as possible.



Connection to the TCS-NET Relay Interface

- TxRx(+) Connection
  Connect the two wires (red and orange wires) of the four RS-485 wires and the wire from the terminal board RS-485 A of the TCS-NET Relay Interface using the closed end wire joint. The red and orange wires can be connected directly to the terminal board RS-485 A of the Relay Interface.
- TxRx(-) Connection
  Connect the two wires (brown and yellow wires) of the four RS-485 wires and the wire from the terminal board RS-485 B of the TCS-NET Relay Interface using the closed end wire joint. The brown and yellow wires can be connected directly to the terminal board RS-485 B of the Relay Interface.



NOTE

The RS-485 signal wire has polarity.
If connected with incorrect polarity, the unit will not work.
Do not connect or disconnect the wire during control operation.
Doing so may cause a malfunction.

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