Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

■BlueChip PLC Evaluation board Manual

Dolphin BCP-STD for PLC

BCP-CP-E01 : Evaluation board (Dolphin STD)

2016/03/29

Proprietary MegaChips Corporation

■Table of contents

■EVALUATION KIT IMPORTANT NOTICE

MegaChips Corporation (MCC) provides these evaluation kits (EVKs) under the following **AS IS** conditions:

The EVKs are intended for use for **ENGINEERING DEVELOPMENT OR EVALUATION PURPOSES ONLY** and are not for commercial use. Therefore, the EVKs are not fault-tolerant and are not designed or manufactured with protective considerations, including but not limited to product safety measures typically found in finished commercial goods. As a prototype, the EVKs do not fall within the scope of the European Union Directive on electromagnetic compatibility. Also be aware that the EVKs may not be regulatory compliant or agency certified (FCC, UL, CE, etc.).

The EVKs have **110/220VAC POWER DIRECTLY CONNECTED TO THEIR CIRCUITS, which can cause PERSONAL INJURY, DEATH OR PHYSICAL DAMAGE**. Therefore, caution should be exercised when testing these devices. The user must be a skilled person in the practice and art of high voltage circuitry in order to utilize the circuits in the EVKs. It is highly recommended that the user should have qualifications or any certificate for handling 110/220VAC Power, **COMMON SENSE IS ENCOURAGED**. The user agree not to use the EVKs in any situation where damage or injury to persons, property or business could occur. Furthermore, the EVKs are **NOT FOR RESALE/COMMERCIAL USE AND MUST BE STRICTLY OPERATED IN A WELL-CONTROLLED LABORATORY ENVIRONMENTS**.

THE USER ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR PROPER AND SAFE HANDLING OF THE EVKS. FURTHER, THE USER RELEASES MCC FROM ALL CLAIMS ARISING FROM THE HANDING OR USE OF THE EVKS.
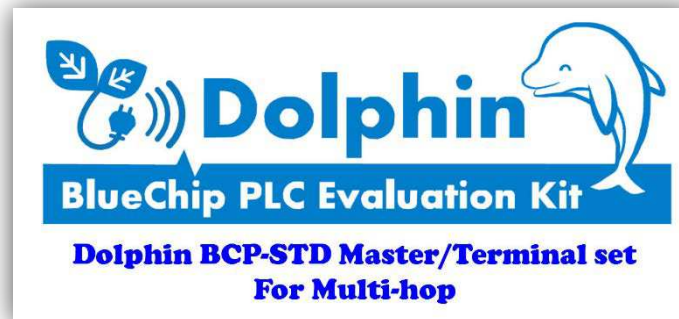
This notice contains important safety information as to handling EVKs. For further safety concerns, please contact a MCC application engineer.

■BlueChip PLC Evaluation board contents(1/2)

1.Dolphin BCP-STD Master/Terminal set

① Packaging box   :1pcs

② EVALUATION KIT IMPORTANT NOTICE   :1pcs
③ Multi-hop Master unit   :1pcs
④ Multi-hop Terminal unit   :1pcs
⑤ AC adapter(DC12V)   :2pcs
⑥ Connector Plug for RS485 Port Connector   :2pcs
   MC 1,5/ 3-ST-3,5(PhoenixContact)
⑦ Connector Plug for PLC Interface Connector   :4pcs
   MSTB 2,5/ 2-ST(PhoenixContact)
⑧ BCP-COAX_CONV Board   :2pcs

■BlueChip PLC Evaluation board contents(2/2)

2.Dolphin BCP-STD Terminal/Terminal set

① Packaging box   :1pcs

② EVALUATION KIT IMPORTANT NOTICE   :1pcs
③ Multi-hop Master unit   :0pcs
④ Multi-hop Terminal unit   :2pcs
⑤ AC adapter(DC12V)   :2pcs
⑥ Connector Plug for RS485 Port Connector   :2pcs
　　MC 1,5/ 3-ST-3,5(PhoenixContact)
⑦ Connector Plug for PLC Interface Connector   :4pcs
　　MSTB 2,5/ 2-ST(PhoenixContact)
⑧ BCP-COAX_CONV Board   :2pcs
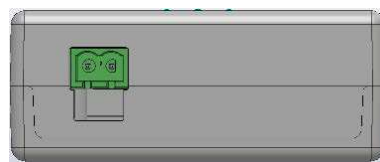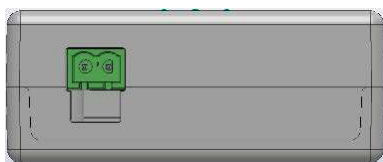
■OutlineView
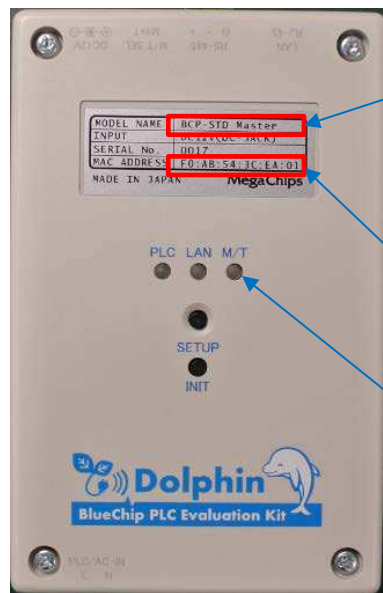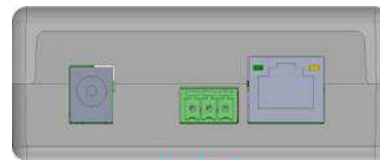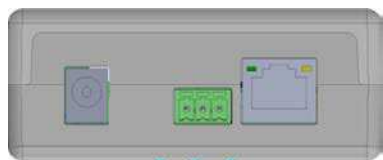
Label：
BCP-STD(Master)

MAC ADDRESS
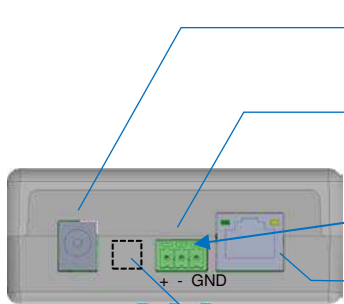
M/T LED：Green ON

Label：
BCP-STD(Terminal)

MAC ADDRESS

M/T LED：Green OFF

Master unit

Terminal unit

MegaChips Corporation

■Detail

DC Jack

RS485 Port
(Op.UART Port)

MC 1,5/3-ST-3,5(PhoenixContact)
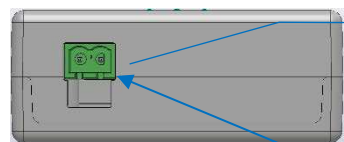$0.14mm^2 \sim 1.5mm^2$/AWG28$\sim$16

LAN Port

+ - GND

N/A
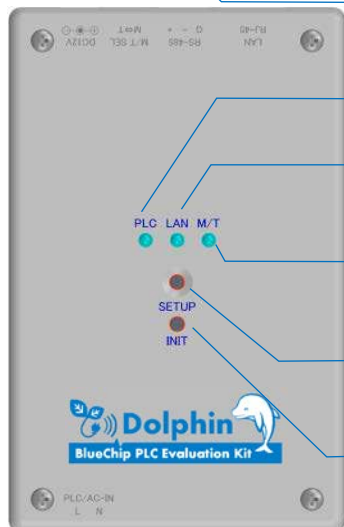
PLC LED　　: PLC Link status

LAN LED　　: LAN status

M/T LED　　: Master mode　　:Green ON
　　　　　　　Terminal mode　:Green OFF

SETUP button　: Power-up with holding SETUP pressed will change the Master/Terminal
　　　　　　　　　mode.

INIT button　: Reset to factory default (push at least 1second)

PLC Interface Connector
(Op. AC Input Connector)

MSTB 2,5/ 2-ST(PhoenixContact)
$0.2mm^2 \sim 2.5mm^2$/AWG24$\sim$12

Case Size
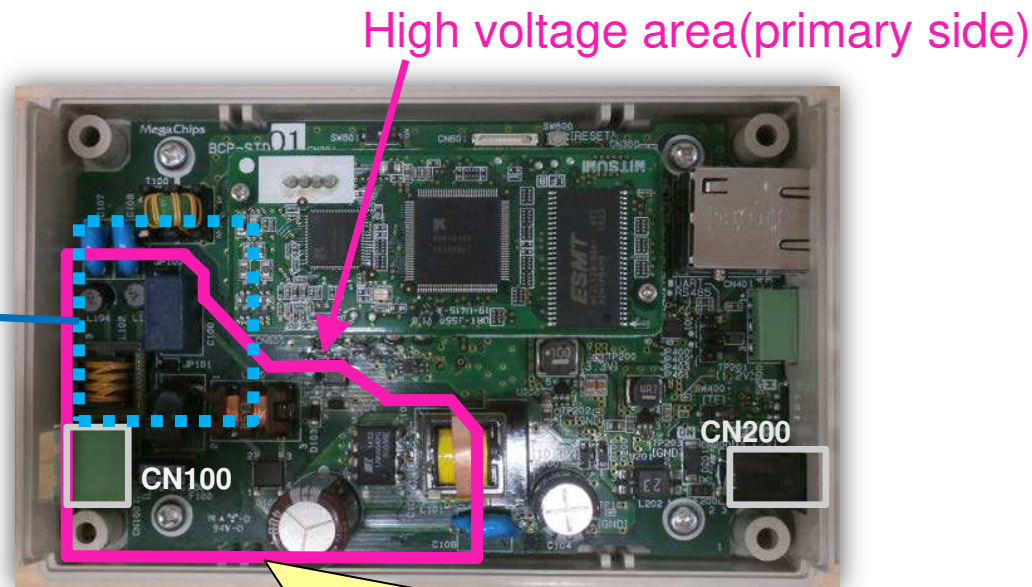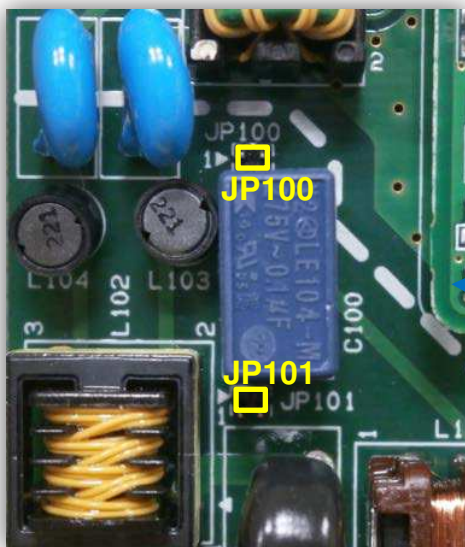32mm(H)×80mm(W)×125mm(D)

■Jumper-pin Setting(1/2)

(1)Power Input Source Setting

| No.	Power Input Source	JP100/JP101
1*	DC12V from CN200(DC-JACK)	OPEN
2	AC100～AC240V from CN100	SHORT

*Default Setting

High voltage area(primary side)

Warning!!
When JP100/101 is short, this area is directly connected to the input power (high voltage : AC100V-AC240V). Therefore, please do NOT touch this area while connected to the AC power line.

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■Jumper-pin Setting(2/2)

(2)CN401 Interface Setting

Case silk

1pin   2pin   3pin

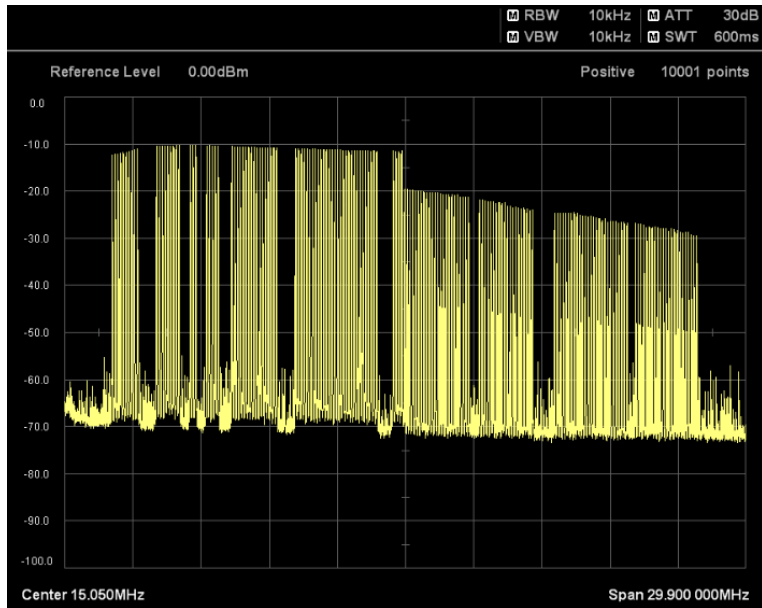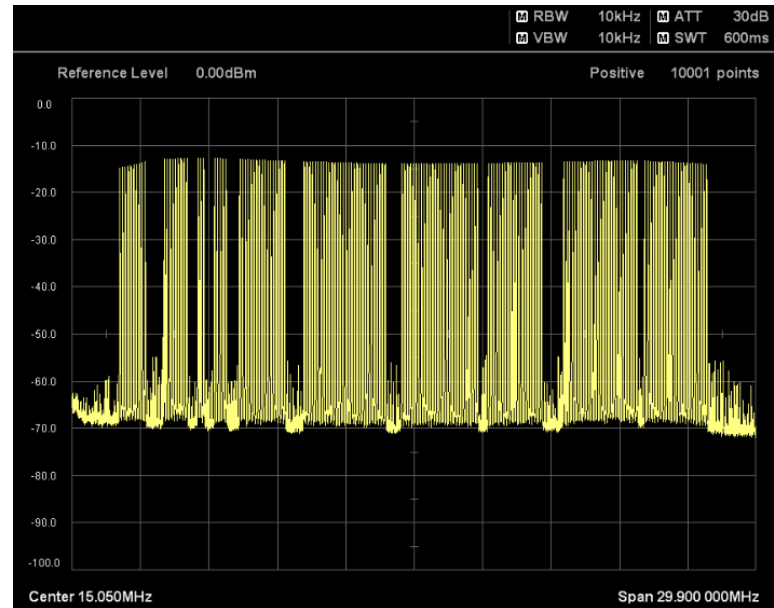| No.	CN401 Interface	JP400 JP401	JP402 JP403	R410
1*	RS485	OPEN	SHORT	22Ω
2	UART	SHORT	OPEN	Non-mounted

*Default Setting
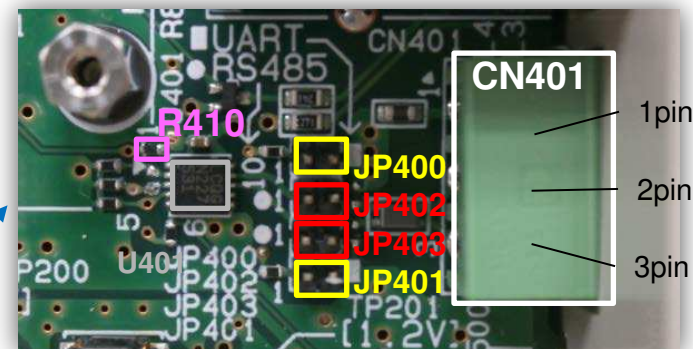
CN401

CN401 Pin assignment

Pin	Case Silk	RS485 mode	UART Mode
1	G	GND	GND
2	-	TxD-/RxD-	RXD (input)
3	+	TxD+/RxD+	TXD (output)

■Tx Power Setting(1/2)

This unit has two power control tables as below.
Refer to next page about how to change the tables.

【Table index 0】(Default)

【Table index 1】

■Tx Power Setting(2/2)

How to change the table index by "HD-PLC ToolManager"

(1)Start the "HD-PLC Tool Manager"
  *Refer to "PTT-D0013E_ToolManager [Power Control] Manual (NDA Required).pdf" for the detailed usage.
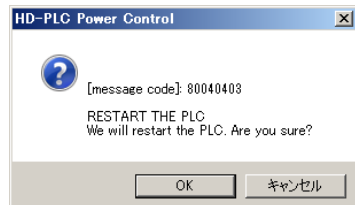
(2)Click "Option" button.
(3)Select the table index, and Click "OK" button.
  ・index 0*   : for Japan (*:Default Setting)
  ・index 1   : Full power setting
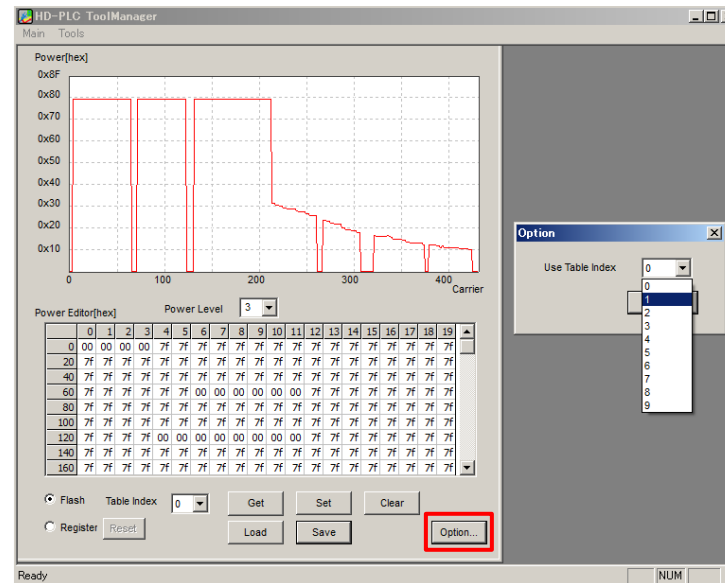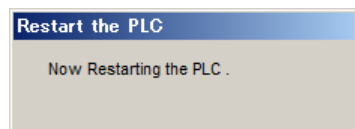 ・index 2-7 : N/A
  ・index 8,9 : Reserved
(4)Input **password "1234567890",**
   and click "OK" button.
   >The following message is displayed.

(5)If you want to restart, click "OK" button.
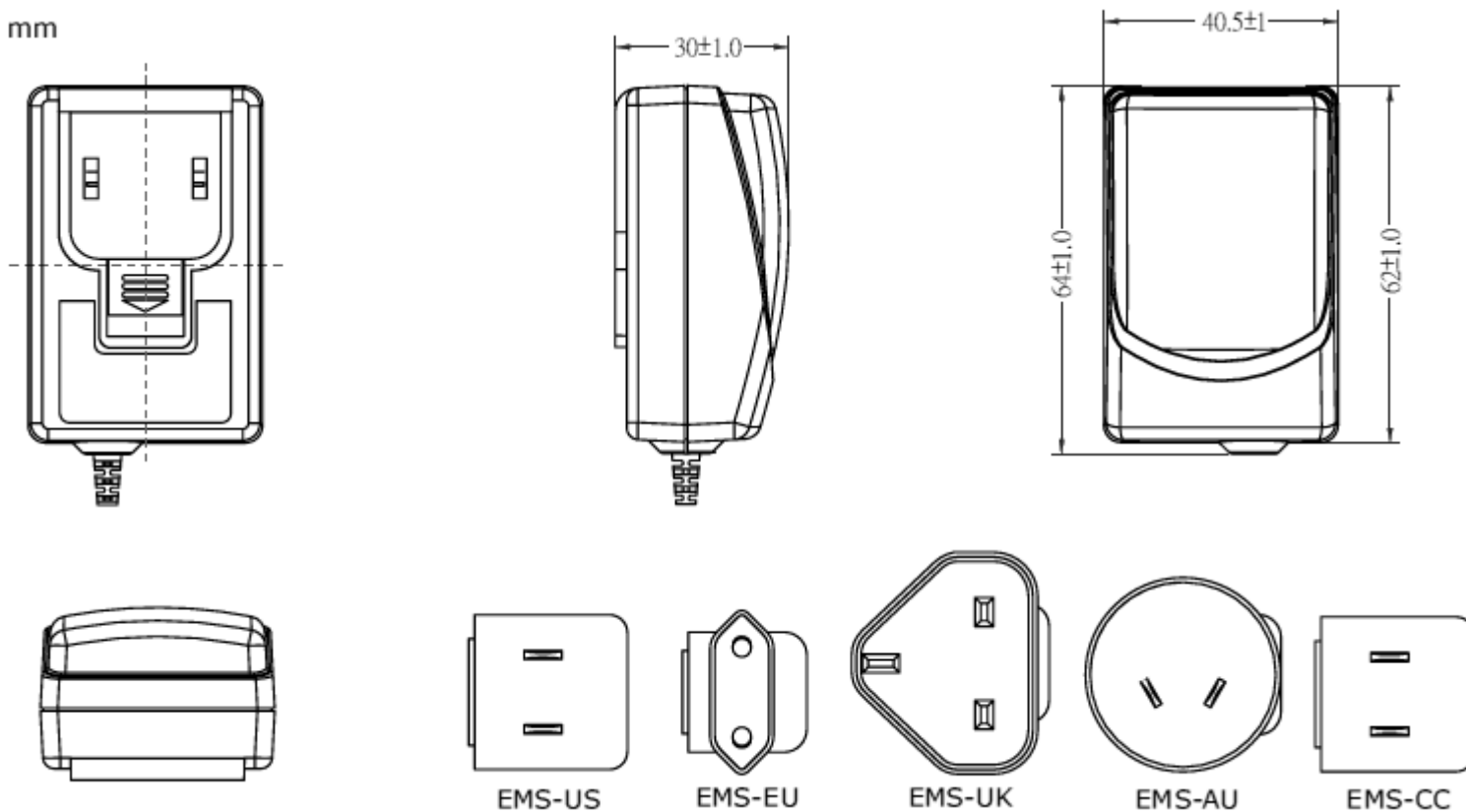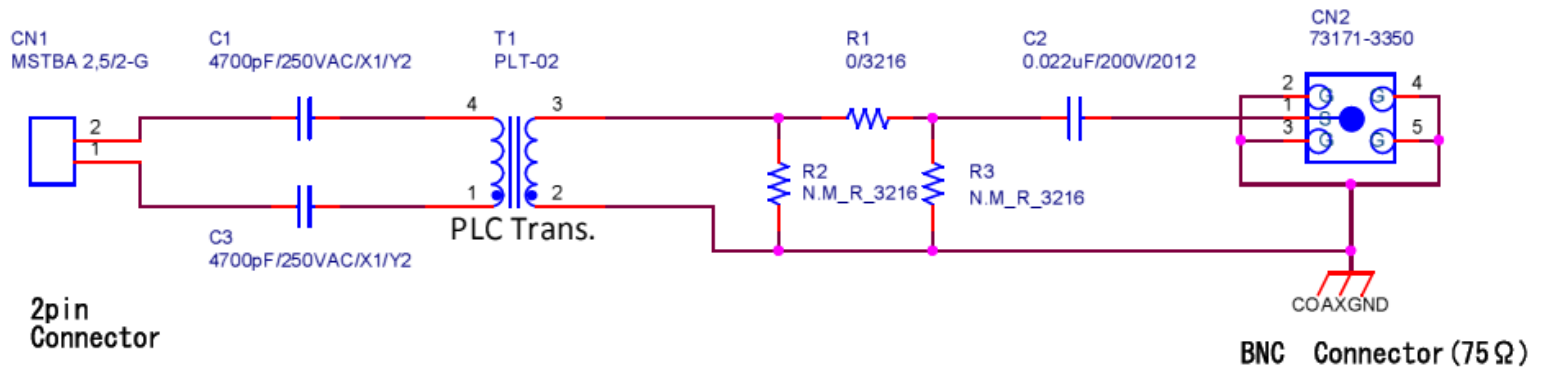   >Then restart will be started.

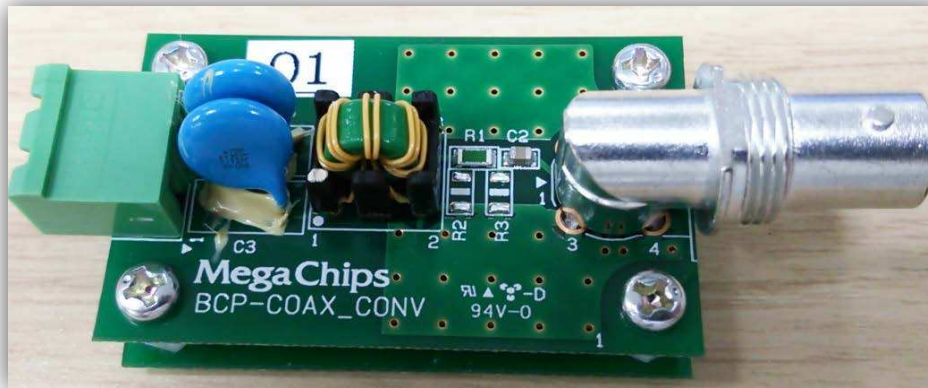# ■AC/DC adapter

Maker   : CUI
ModelNo : SMI6-12-V-P5
INPUT   : 100-240V(47Hz-63Hz)
OUTPUT : DC12V/0.5A

units: mm
tolerance: ±1 mm

30±1.0

40.5±1
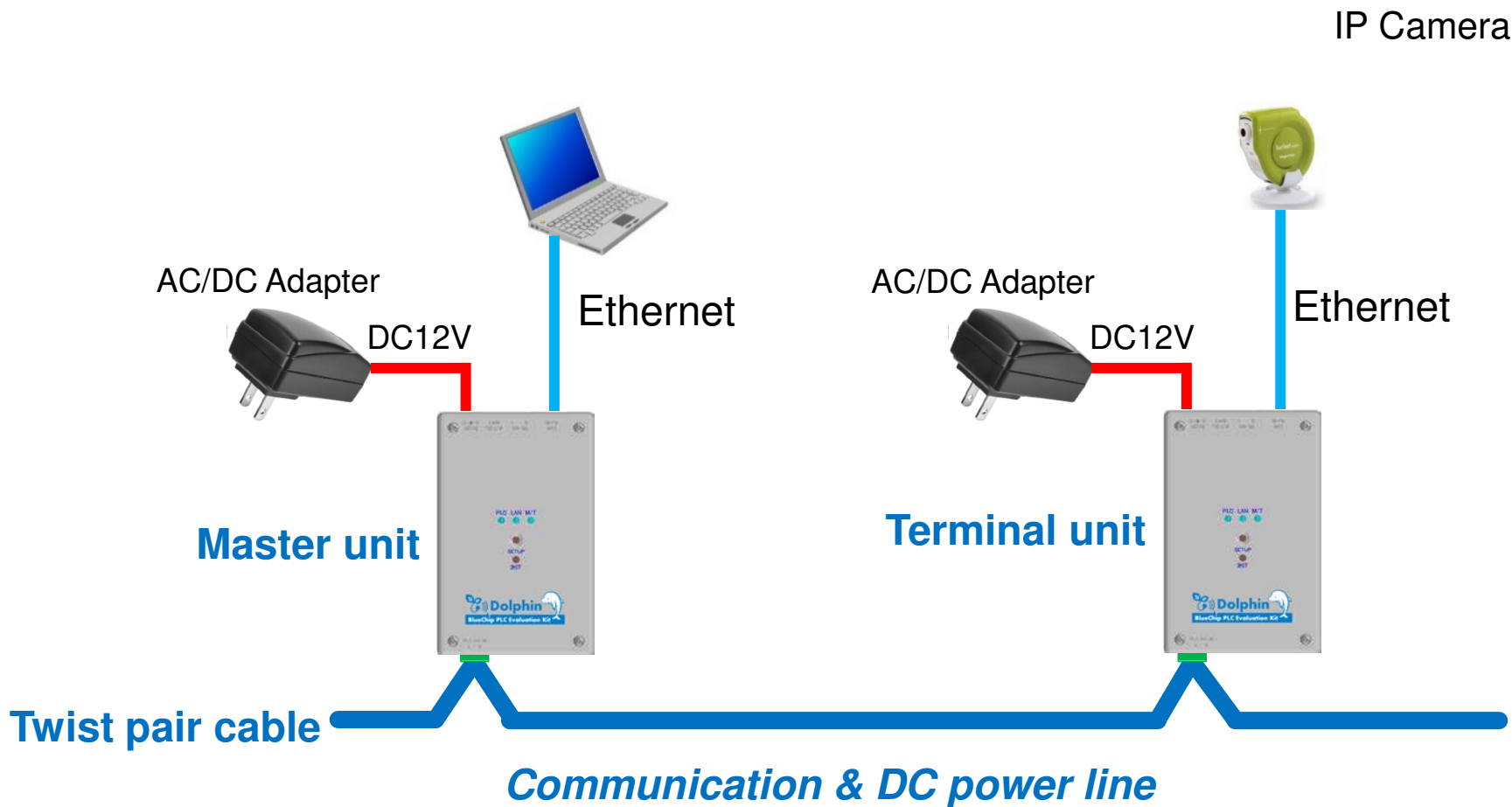
64±1.0

62±1.0

EMS-US   EMS-EU   EMS-UK   EMS-AU   EMS-CC

■BCP-COAX_CONV Board (Coupler)

■Connection Diagram (Ether Bridge Test with DC power line)

(1)Connect Ethernet Devices
(2)Start Test

IP Camera

AC/DC Adapter

DC12V

Ethernet

Master unit

AC/DC Adapter

DC12V

Ethernet

Terminal unit

Twist pair cable

Communication & DC power line

■Connection Diagram (Ether Bridge Test with Coax.)

(1)Connect Ethernet Devices
(2)Start Test

AC/DC Adapter

DC12V

Ethernet

IP Camera

AC/DC Adapter

DC12V

Ethernet

Master unit

Terminal unit

BCP-COAX_CONV
(Coupler)

BCP-COAX_CONV
(Coupler)

Coaxial Cable

*Communication line
(including DC power line)*
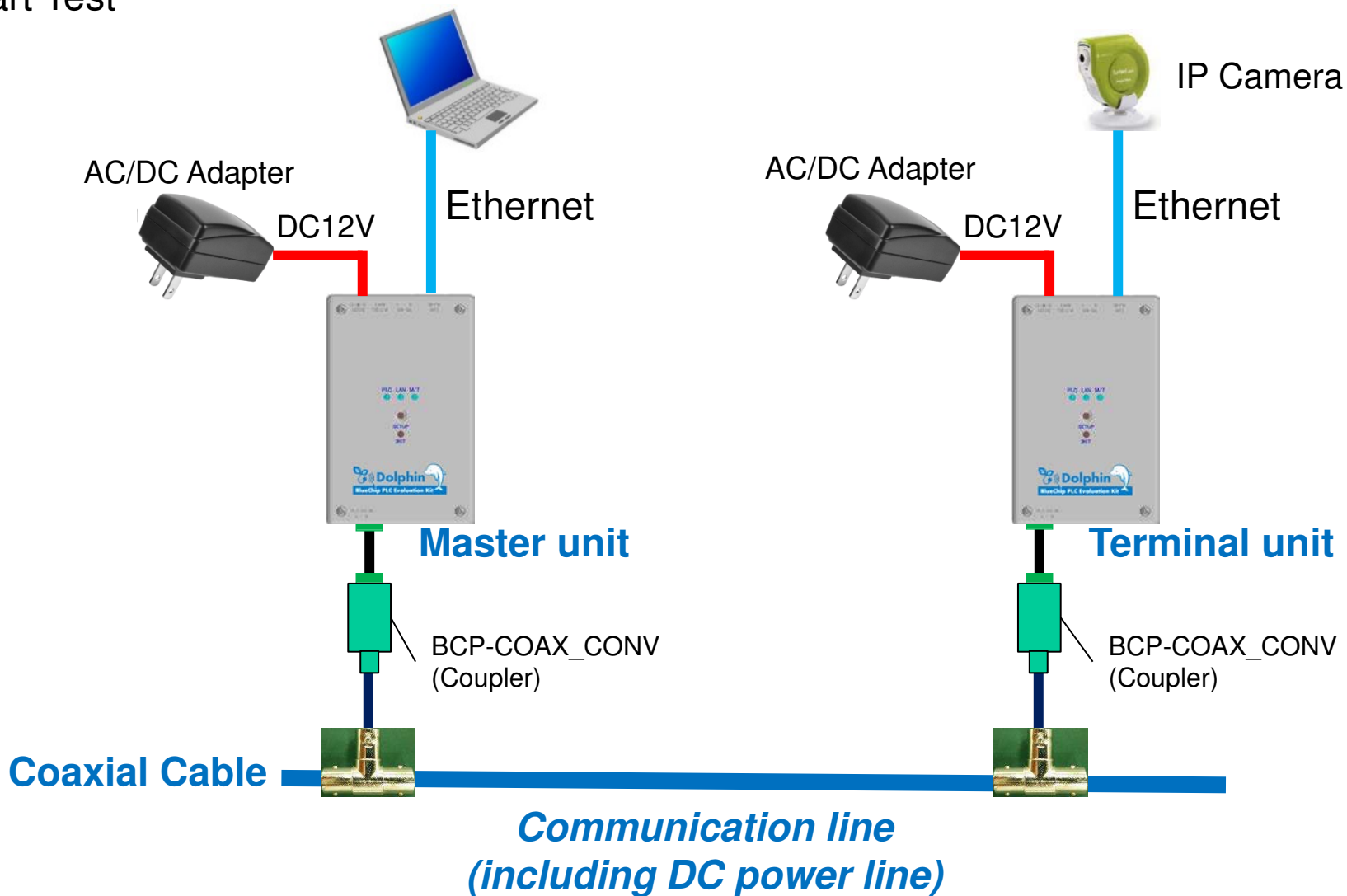
■Connection Diagram (Ether Bridge Test with AC power line)

(1)Connect Ethernet Devices
(2)Start Test

IP Camera

Ethernet

Ethernet

Master unit *

Terminal unit*

**AC Cable
(VCTF, VVF, etc.)**

*Communication &
AC power line(AC100V-AC240V)*
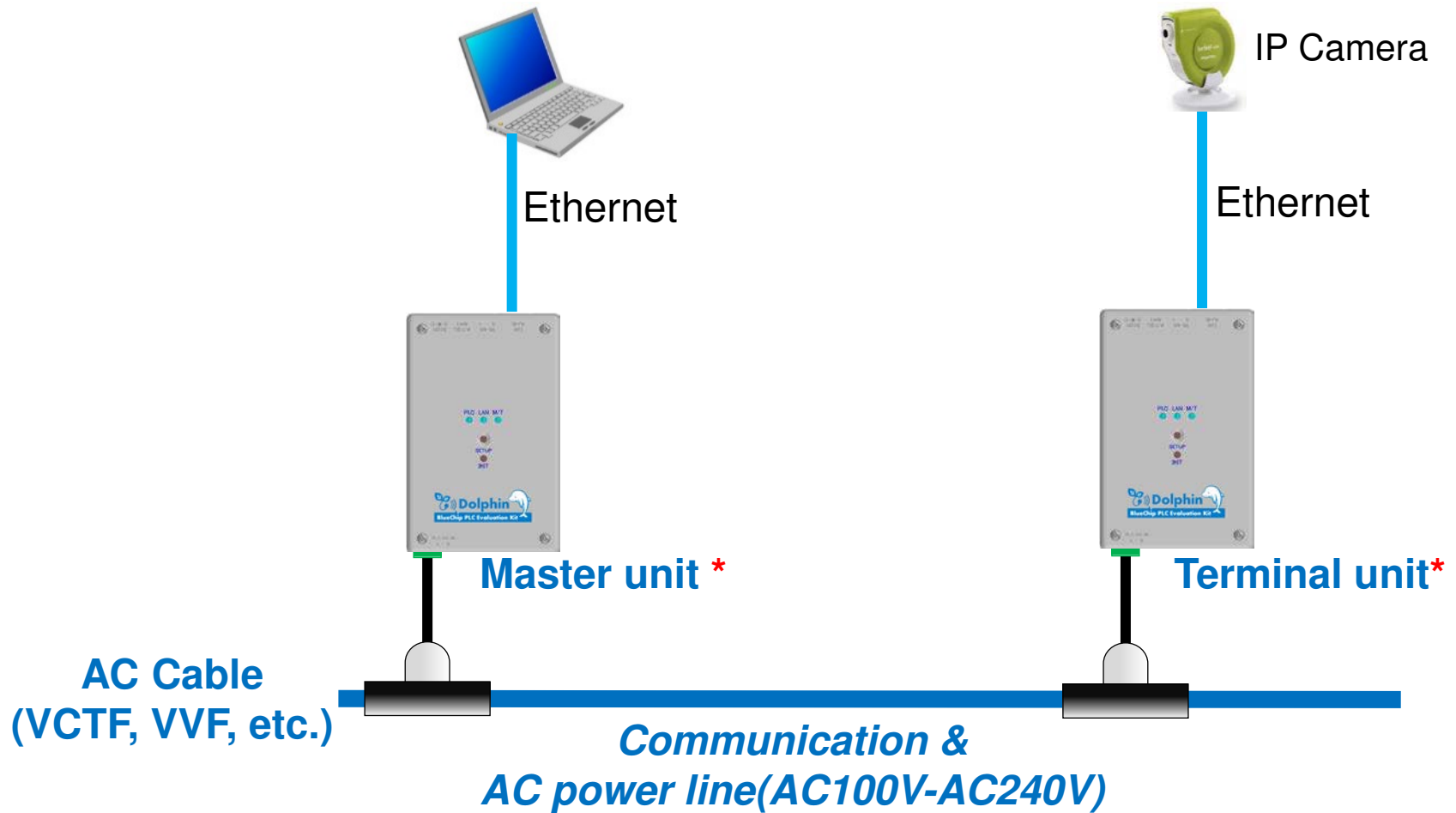
* Change Power Input Source Setting (See P.7)

■Connection Diagram（RS485 Bridge Test）

(1)Connect RS485 Devices
(2)Set RS485 parameters(Baud Rate, Address, etc.) by BCPNM
  (Default : Baud rate:115200bps, Data:8bit, Parity:None, Stop:1bit)
(3)Start Test

RS485
Master

RS485
Slave

AC/DC Adapter

DC12V

RS485

RS485

Master unit *

Terminal unit*

Communication line,
Power line
(DC,AC100-AC240V)
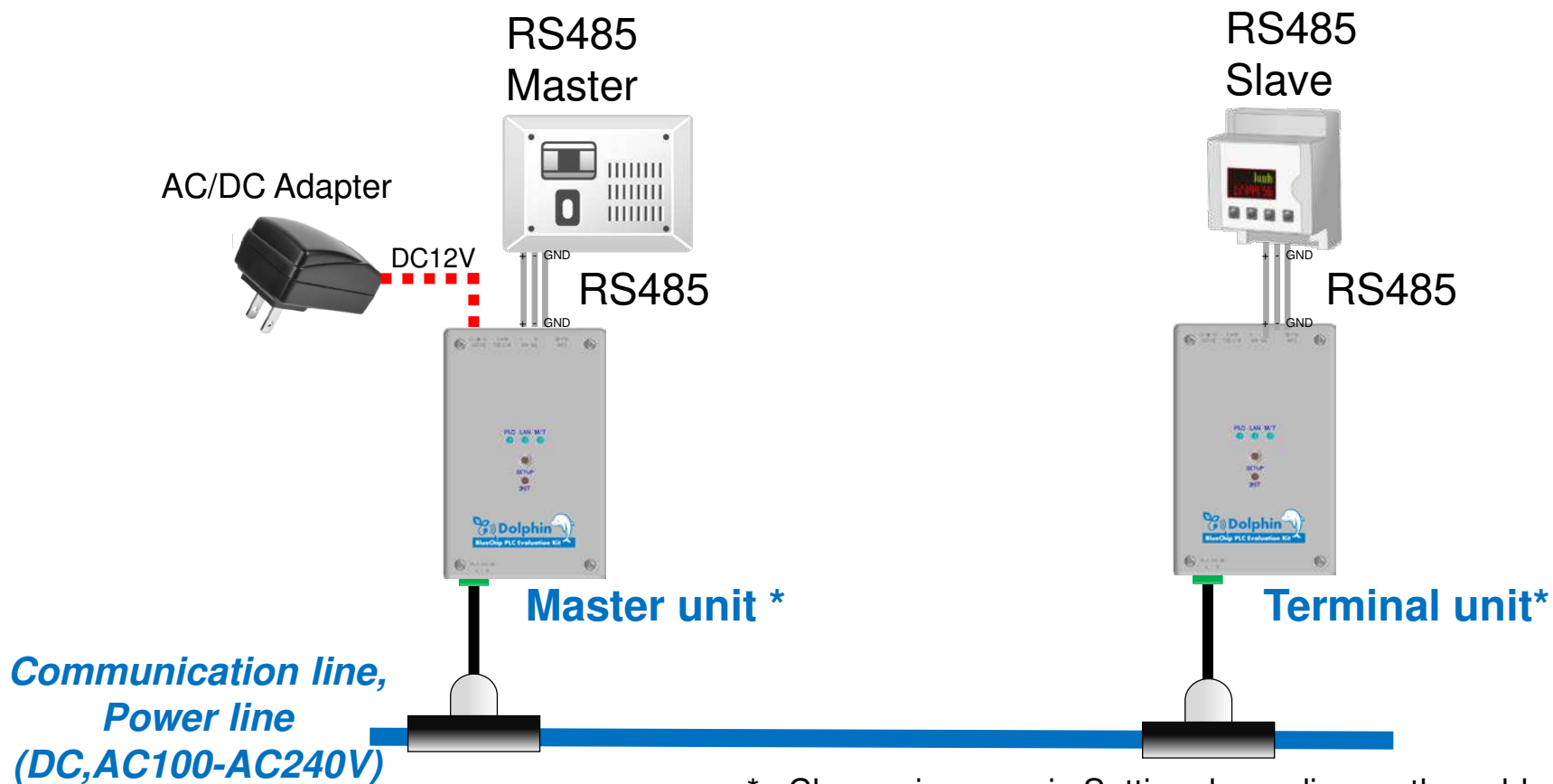
* : Change jumper-pin Setting depending on the cable.
  (See P.7-8).

■Connection Diagram (Multi-hop Test)

(1)Connect devices such as below
(2)Start Test
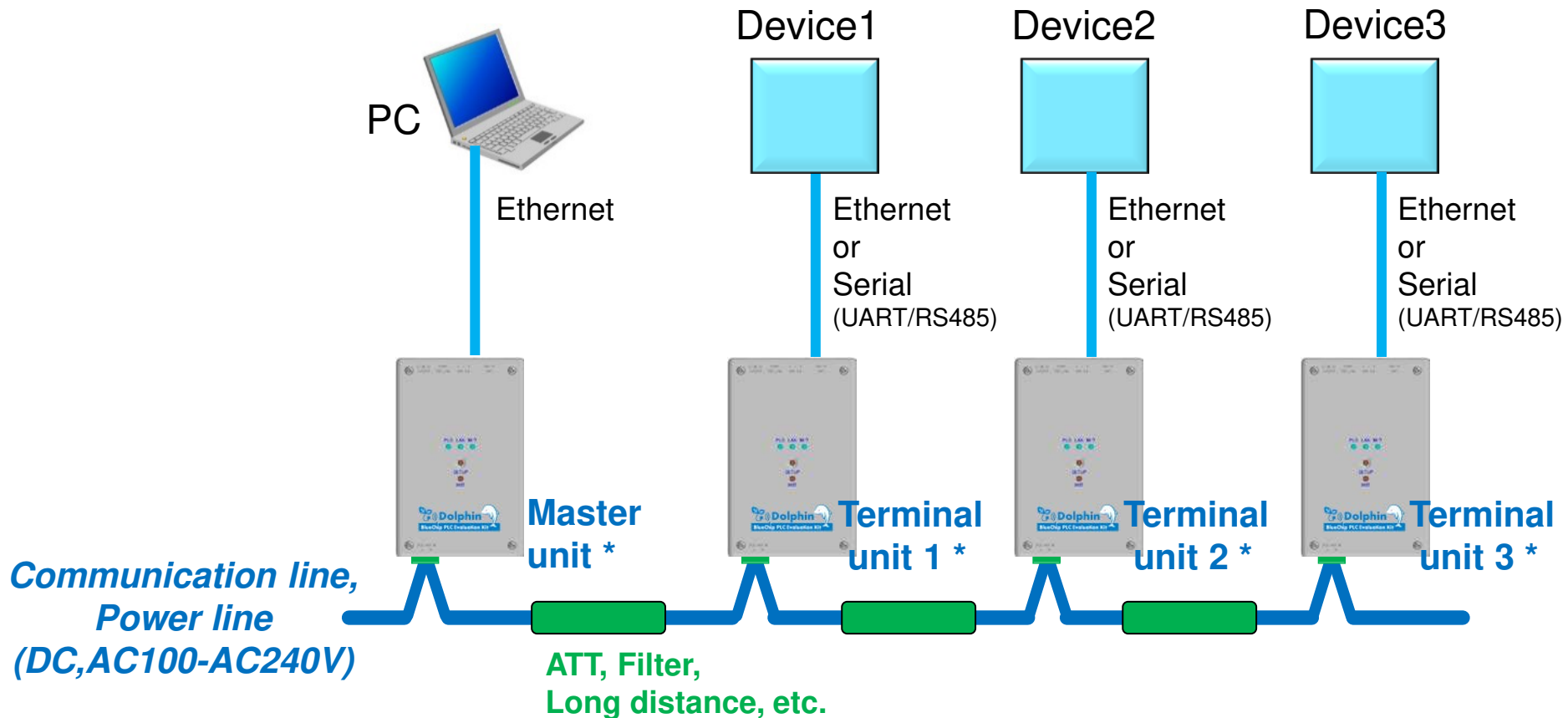
* : Change jumper-pin Setting depending on the cable and serial interface.(See P.7-8).