



**MITSUBISHI
ELECTRIC**

AJ65SBT-CLB CC-Link- CC-Link/LT Bridge Module

User's Manual
(Hardware)

AJ65SBT-CLB

Thank you for buying the programmable controller MELSEC Series

Prior to use, please read both this manual and detailed manual thoroughly to fully understand the product.



| | |
|---------------------------|------------------|
| MODEL | AJ65SBT-CLB-U-HW |
| MODEL CODE | 13JP11 |
| IB(NA)-0800240-I(1806)MEE | |

● SAFETY PRECAUTIONS ●

(Read these precautions before using this product.)



Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

These precautions apply only to this equipment.

Refer to the user's manual of the CPU module to use for a description of the programmable controller system safety precautions.

In this manual, the safety precautions are classified into two levels:

"⚠ WARNING" and "⚠ CAUTION".

| | |
|---|---|
|  WARNING | Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury. |
|  CAUTION | Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage. |

Under some circumstances, failure to observe the precautions given under "⚠ CAUTION" may lead to serious consequences.

Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

[Design Precautions]

WARNING

- When there are communication problems with the data link, the data for the master module will be held.
Configure an interlocking circuit in a sequence program so that the safety of the overall system is always maintained.

[Design Precautions]

CAUTION

- Do not bunch the control wires or communication cables with the main circuit or power wires, or install them close to each other.
They should be installed 100mm (3.9inch) or more from each other.
Not doing so could result in noise that would cause erroneous operation.
- Do not write data to the "reserved areas" of the remote I/O and remote devices.
Doing so can pose the risk of malfunctioning the product.

[Installation Precautions]

CAUTION

- Use each product in an environment as specified in the "general specification" in the detailed manual.
Using the programmable controller outside the range of the general specifications may result in electric shock, fire or malfunction, or may damage or degrade the product.
- Securely fix the product to a DIN rail or securely fix it with the Module mounting screw.
Not doing so can cause a drop or malfunction.
- Do not touch the conducted area or electric parts of the product.
Doing so may cause product malfunctioning or breakdowns.

[Wiring Precautions]

CAUTION

- For the CC-Link/LT, use the cables specified by the CC-Link Partner Association. The performance of the CC-Link/LT cannot be assured if any other cables than the specified are used.
Also, observe the network wiring specifications given in Chapter 2. Normal data communication is not guaranteed if the wiring is not conducted according to the specifications.
- Be sure to shut off all phases of the external power supply used by the system before installation or wiring.
Not doing so can cause the product to be damaged or malfunction.
- Always ground the FG terminal to the protective ground conductor.
Not doing so can cause a malfunction.
- Tighten the terminal screws within the specified torque range. Undertightening can cause short circuit, or malfunction. Overtightening can cause damage to the screw and/or the module, resulting in drop, short circuit, or malfunction.
- Wire the product correctly after confirming the rated voltage and pin layout of the product.
Not doing so can cause a fire or failure.
- Ensure that no foreign matter such as chips and wire-offcuts enter the product.
Foreign matter can cause a fire, failure or malfunction.
- Be sure to fix the wires or cables by ducts or clamps when connecting them to the module. Failure to do so may cause damage of the module or the cables due to accidental pull or unintentional shifting of the cables, or malfunctions due to poor contact of the cable.
- Do not install the control lines together with the communication cables, or bring them close to each other. Failure to do so may cause malfunctions due to noise.
- When disconnecting the communication and power supply cables from the module, do not hold and pull the cable part.
Disconnect the cables after loosening the screws in the portions connected to the module. Pulling the cables connected to the module can damage the module and cables or can cause a malfunction due to a cable connection fault.

[Starting and Maintenance Precautions]



CAUTION

- Do not touch the pin while the power is on. Doing so may cause malfunction.
- Be sure to shut off all phases of the external power supply used by the system before cleaning.
Not doing so can cause the product to fail or malfunction.
- Never disassemble or modify the product.
This may cause breakdowns, malfunctioning, injury and/or fire.
- Do not drop the product or give it hard impact since its case is made of resin. Doing so can damage the product.
- Be sure to shut off all phases of the external power supply used by the system before mounting or dismounting the product to or from the panel.
Not doing so can cause the product to fail or malfunction.
- Before handling the module, touch a conducting object such as a grounded metal to discharge the static electricity from the human body. Failure to do so may cause the module to fail or malfunction.

[Disposal Precautions]



CAUTION

- When disposing of this product, treat it as industrial waste.

● PRÉCAUTIONS DE SÉCURITÉ ●

(Lire ces précautions avant toute utilisation du produit.)

Avant d'utiliser ce produit, lire attentivement ce manuel ainsi que les manuels auxquels il renvoie, et toujours considérer la sécurité comme de la plus haute importance en manipulant le produit correctement.

Ces précautions ne concernent que cet équipement.

Dans le manuel de l'utilisateur du module CPU correspondant, voir l'exposé des précautions de sécurité concernant le système de l'automate programmable.

Dans ce manuel, les précautions de sécurité sont classées en deux niveaux, à savoir : "AVERTISSEMENT" et "ATTENTION"

AVERTISSEMENT

Attire l'attention sur le fait qu'une négligence peut créer une situation de danger avec risque de mort ou de blessures graves.

ATTENTION

Attire l'attention sur le fait qu'une négligence peut créer une situation de danger avec risque de blessures légères ou de gravité moyennes ou risque de dégâts matériels.

Dans certaines circonstances, le non-respect d'une précaution de sécurité introduite sous le titre "ATTENTION" peut avoir des conséquences graves.

Les précautions de ces deux niveaux doivent être observées dans leur intégralité car elles ont trait à la sécurité des personnes et aussi du système.

Veiller à ce que les utilisateurs finaux lisent ce manuel qui doit être conservé soigneusement à portée de main pour s'y référer autant que de besoin.

[Précautions lors de la conception]

AVERTISSEMENT

- En cas de problème de communication sur la liaison de données, les données du module maître sont maintenues.

Prévoir dans le programme séquentiel un circuit de verrouillage permettant de garantir la sécurité de l'ensemble du système en tous temps.

[Précautions lors de la conception]

ATTENTION

- *Ne pas grouper les fils de commande ou câbles de communication avec les fils des circuits principaux ou de l'alimentation, et ne pas les installer à proximité les uns des autres.
Ils doivent être installés à une distance de 100mm (3,9 pouces) les uns des autres.
Faute de quoi, il y a risque de bruit entraînant un fonctionnement erratique.*
- *N'introduire aucune donnée dans les zones marquées "reserved areas" des E/S distantes et des dispositifs distants.
Cela pourrait créer un risque de dysfonctionnement du produit.*

[Précautions d'installation]

ATTENTION

- *Chaque produit doit être utilisé dans un environnement conforme aux "spécifications générales" exposées dans la documentation détaillée.
L'utilisation de l'automate programmable hors des conditions prévues dans les spécifications générales peut être à l'origine d'un choc électrique, d'un départ de feu ou d'un dysfonctionnement, ou peut endommager ou détériorer le produit.*
- *Fixer fermement le produit sur rail DIN, ou le fixer fermement avec la vis de fixation du module.
Faute de quoi, il y a risque de chute et de dysfonctionnements.*
- *Ne pas toucher ou parties conductrices ou aux organes électriques du produit.
Cela pourrait être à l'origine de d'un dysfonctionnement du produit ou d'une panne.*

[Précautions de câblage]

ATTENTION

- *Pour les CC-Link/LT, utiliser les câbles préconisés par la CC-Link Partner Association. L'utilisation de câbles autres que les câbles préconisés ne permet de garantir les performances du CC-Link/LT. En outre, respecter les spécifications de câblage de Chapitre 2. La communication normale des données ne peut pas être garantie si ces prescriptions ne sont pas respectées.*
- *Ne pas oublier de couper toutes les phases de l'alimentation externe utilisée par le système avant l'installation et le câblage. Faute de quoi, il y a risque d'endommagement ou de dysfonctionnement du produit.*
- *Toujours mettre à la masse la borne FG en la raccordant au conducteur de terre. Faute de quoi, il y a risque de dysfonctionnement.*
- *Serrer les vis de borne dans les limites du couple de serrage prescrit. Un serrage insuffisant peut être à l'origine d'un court-circuit ou de dysfonctionnements. Un serrage excessif peut endommager la vis et/ou le module, avec aussi un risque de chute, de court-circuits et de dysfonctionnements.*
- *Câbler le module correctement après avoir vérifié la tension nominale et de l'affectation des broches du produit. Faute de quoi, il y a risque de départ de feu ou de panne.*
- *Faire en sorte que les copeaux, bouts de fil et autres corps étrangers ne pénètrent pas dans le produit. Tout corps étranger peut être à l'origine d'un départ de feu, d'une panne ou d'un dysfonctionnement.*
- *Les fils ou câbles raccordés au module doivent être placés dans des conduits ou doivent être attachés. Faute de quoi, il y a risque d'endommagement du module ou des câbles par ballotement ou effort de traction exercé accidentellement sur les câbles, tout mauvais contact d'un câble pouvant être à l'origine de dysfonctionnement.*
- *Ne pas installer les lignes de commande avec les câbles de communication et ne pas les placer à proximité. Faute de quoi, les bruits parasites produiront des dysfonctionnements.*
- *Pour débrancher les câbles de communication ou d'alimentation du module, ne jamais tirer sur le câble proprement dit. Débrancher les câbles après avoir desserré les vis sur les parties raccordées au module. En tirant les câbles raccordés au module, on risque d'endommager le module et/ou les câbles, ce qui peut produire des dysfonctionnements par mauvais contact.*

[Précautions de démarrage et de maintenance]

ATTENTION

- *Ne pas toucher à la broche quand l'appareil est sous tension. Cela pourrait être à l'origine de dysfonctionnements.*
- *Ne pas oublier de couper toutes les phases de l'alimentation externe utilisée par le système avant le nettoyage.
Faute de quoi, il y a risque de panne ou de dysfonctionnement du produit.*
- *Ne jamais démonter, ni modifier le produit.
Cela pourrait être à l'origine de pannes, de dysfonctionnements, de blessures ou d'un départ de feu.*
- *Ne pas faire tomber le produit ni le soumettre à des chocs car son boîtier en plastique est fragile. Cela pourrait endommager le produit.*
- *Ne pas oublier de couper toutes les phases de l'alimentation externe utilisée par le système avant de mettre le produit en place dans le tableau ou de l'en retirer.
Faute de quoi, il y a risque de panne ou de dysfonctionnement du produit.*
- *Avant de manipuler un module, se débarrasser de la charge électrostatique qu'accumule le corps humain en touchant un objet conducteur approprié. Le non-respect de cette précaution peut être à l'origine de pannes ou de dysfonctionnements du module.*

[Précaution de mise au rebut]

ATTENTION

- *Lors de sa mise au rebut, ce produit doit être traité comme un déchet industriel.*

● CONDITIONS OF USE FOR THE PRODUCT ●

- (1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;
- i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
 - ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.
- (2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.
- MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTS are required. For details, please contact the Mitsubishi representative in your region.

REVISIONS

*The manual number is given on the bottom right of the cover.

| Print date | *Manual number | Revision |
|------------|------------------|--|
| Oct.,2002 | IB(NA)-0800240-A | First edition |
| Nov.,2004 | IB(NA)-0800240-B | <u>Correction</u> SAFETY PRECAUTIONS, Section 2.1, 5.1.4, 5.1.5 |
| Apr.,2008 | IB(NA)-0800240-C | <u>Correction</u> Manuals, Compliance with the EMC Directive and the Low Voltage Directive, Section 2.1, 2.2.1, 5.1 |
| Aug.,2010 | IB(NA)-0800240-D | <u>Addition</u> CONDITIONS OF USE FOR THE PRODUCT, Warranty <u>Correction</u> SAFETY PRECAUTIONS, Compliance with the EMC Directive and the Low Voltage Directive |
| Dec.,2011 | IB(NA)-0800240-E | <u>Addition</u> SAFETY PRECAUTIONS (Chinese) <u>Correction</u> COMPLIANCE WITH EMC AND LOW VOLTAGE DIRECTIVES |
| Jun.,2012 | IB(NA)-0800240-F | <u>Correction</u> Section 5.1.1 |
| Jun.,2014 | IB(NA)-0800240-G | <u>Addition</u> SAFETY PRECAUTIONS (French) <u>Correction</u> Section 2.1, 4.2, 5.1, Chapter 3 |
| Dec.,2016 | IB(NA)-0800240-H | <u>Correction</u> Section 2.1, Chapter 3, 6 |
| Jun.,2018 | IB(NA)-0800240-I | Descriptions are revised due to compliance with the Chinese standardized law. |

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MANUAL

The following table list the manuals related to this product.
You can order it as necessary.

Detailed Manual

| Manual name | Manual number (Model code) |
|--|-------------------------------|
| AJ65SBT-CLB CC-Link - CC-Link/LT Bridge Module User's Manual | SH-080362E (13R63) |

COMPLIANCE WITH EMC AND LOW VOLTAGE DIRECTIVES

(1) Method of ensuring compliance

To ensure that Mitsubishi programmable controllers maintain EMC and Low Voltage Directives when incorporated into other machinery or equipment, certain measures may be necessary. Please refer to one of the following manuals.

- User's manual for the CPU module or head module used
- Safety Guidelines

(This manual is included with the CPU module, base unit, or head module.)

The CE mark on the side of the programmable controller indicates compliance with EMC and Low Voltage Directives.

(2) Additional measures

- To ensure that this product maintains EMC and Low Voltage Directives, please refer to one of the manuals listed under (1).
- The product is tested for compliance in Zone B^{*1} (except for the CC-Link/LT interface part, which is tested in Zone A^{*1}).

*1: Zone defines categories according to industrial environment, specified in the EMC and Low Voltage Directives, EN61131-2.

Zone C: Factory mains (isolated from public mains by dedicated transformer)

Zone B: Dedicated power distribution, secondary surge protection (rated voltage: 300V or less)

Zone A: Local power distribution, protected from dedicated power distribution by AC/DC converter and insulation transformer (rated voltage: 120V or less)

1. OVERVIEW

This manual describes the specifications, part names, settings, etc. of the AJ65SBT-CLB CC-Link - CC-Link/LT bridge module (hereafter abbreviated to the AJ65SBT-CLB) used as a remote device station in a CC-Link system.

After unpacking, confirm that the following product is contained.

| Item name | Number of items |
|--|-----------------|
| AJ65SBT-CLB CC-Link - CC-Link/LT bridge module | 1 |

2. SPECIFICATION

2.1 Performance specifications

The following table indicates the performance specifications of the AJ65SBT-CLB.

Refer to the detailed manual for the general specifications.

| Item | | Specifications | |
|---|--|--|--|
| CC-Link side | Station type | Remote device station | |
| | CC-Link Version | Ver.1.10 | |
| | Communication method | Broadcast polling method | |
| | Number of occupied stations | 2 stations | 64 points each for RX and RY (16 points are used in the system), 8 points each for RWr and RWw |
| | | 4 stations | 128 points each for RX and RY (16 points are used in the system), 16 points each for RWr and RWw |
| | | 8 stations (4 occupied stations × 2 modules) | 256 points each for RX and RY (32 points are used in the system), 32 points each for RWr and RWw |
| AJ65SBT-CLB connection position | No restrictions | | |
| External connection system <i>Système de connexion externe</i> | One-touch connector for communication [transmission circuit] (5-pin, insulation displacement type connector plug is sold separately) <Option> Online connector for communication: A6CON-LJ5P <i>Connecteur rapide pour communication [circuit de transmission](Le connecteur 5-broches à déplacement d'isolant est vendu séparément)</i> <Option> <i>Connecteur en ligne pour communication: A6CON-LJ5P</i> | | |

| Item | | Specifications | | | |
|--|---|--|---|-------------------------|--------------------------|
| CC-Link/LT side | Point mode | 4-point mode | 8-point mode | 16-point mode | |
| | Control specifications | Maximum number of link points Number in parentheses assumes use of the same I/O addresses | 224 points (448 points) | | |
| | | Number of link points per station Number in parentheses assumes use of the same I/O addresses | 4 points (8 points) | 8 points (16 points) | 16 points (32 points) |
| | Communication specifications | Transmission speed | 2.5Mbps/625kbps/156kbps | | |
| | | Communication method | Broadcast polling method | | |
| | | Transmission path format | T-branch system | | |
| | | Error control system | CRC | | |
| | | Number of connected modules | 56 modules | | |
| | | Remote station number | 1 to 56 | | |
| | | AJ65SBT-CLB connection position | Connected at the end of the main line | | |
| RAS functions | | Network diagnosis, internal loopback diagnosis, slave station separation, automatic return to system | | | |
| Connection cable ^{*1} Câble de connexion ^{*1} | Dedicated flat cable (0.75mm ² × 4) ^{*4} , VCTF cable ^{*3} , High flexible cable ^{*4} Câble-ruban dédié (0.75mm ² × 4) ^{*4} , Câble VCTF ^{*3} , Câble haute flexibilité ^{*4} | | | | |
| Common | Module mounting screw | M4×0.7mm×16mm or more screw Tightening torque range 0.78 to 1.08 N·m DIN rail can also be used for mounting. | | | |
| | Module mounting direction | Can be mounted in any of six orientations. (No restrictions on mounting directions) | | | |
| | 24VDC power supply ^{*2} | Voltage | 24VDC (ripples within 5%) (allowable voltage range 20.4VDC to 26.4VDC) | | |
| | | Current consumption | 0.075A (24VDC) | | |
| | | Start-time current | 0.165A (24VDC) | | |
| | Level of protection | IP2X | | | |
| Weight | 0.09kg | | | | |

*1 Performance of the CC-Link/LT cannot be guaranteed for use of cables other than the dedicated flat cables, VCTF cables and high flexible cables.

*2 Supplied by a CC-Link/LT dedicated power supply or power supply adaptor.

*3 For VCTF cable specifications, see Table 2.1.

*4 Use the dedicated flat cables and high flexible cables accredited by the CC-Link Partner Association.

CC-Link Partner Association's website: <http://www.cc-link.org/>

*1 Les performances du système CC-Link/LT ne peuvent pas être garanties si on utilise des câbles autres que des câbles plats dédiés, des câbles VCTF et des câbles haute flexibilité.

*2 Alimenté par une alimentation dédiée CC-Link/LT ou via un adaptateur d'alimentation.

*3 Pour les caractéristiques du câble VCTF, voir Tableau 2.1.

*4 Utiliser les câbles plats dédiés et les câbles haute flexibilité homologués par la CC-Link Partner Association.

Site internet de la CC-Link Partner Association : <http://www.cc-link.org/>

Table 2.1 VCTF cable specifications (Extract from JIS C 3306)

| Type | No. of cores | Conductor | | | Insulator thickness | Sheath thickness | Conductor resistance (20°C) |
|---------------------------|--------------|------------------------------|--|------------------|---------------------|------------------|-----------------------------|
| | | Nominal cross-sectional area | Composition No. of wires/wire diameter | Outside diameter | | | |
| Vinyl cabtyre, Round cord | 4 | 0.75mm ² | 30/0.18mm | 1.1mm | 0.6mm | 1.0mm | 25.1Ω/km |

Table 2.1 Spécifications des câbles VCTF (Extrait de la norme JIS C 3306)

| Type | Nombre d'âmes | Conducteur | | | Épaisseur d'isolant | Épaisseur de gaine | Résistance du conducteur (20°C) |
|----------------------------|---------------|---------------------|--|--------------------|---------------------|--------------------|---------------------------------|
| | | Section nominale | Composition en nombre:diamètre de fils | Diamètre extérieur | | | |
| Vinyle souple, cordon rond | 4 | 0.75mm ² | 30/0.18mm | 1.1mm | 0.6mm | 1.0mm | 25.1Ω/km |

2.2 Network wiring specifications

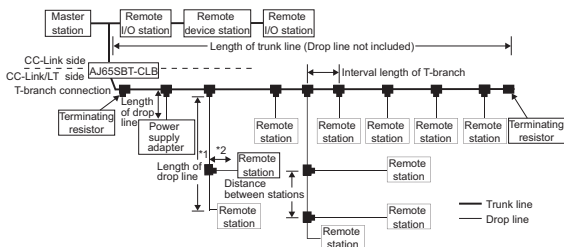
2.2.1 CC-Link network wiring specifications

For the network wiring specifications of CC-Link, refer to the user's manual of the used master module.

2.2.2 CC-Link/LT network wiring specifications

This section describes the system configuration of the CC-Link/LT.

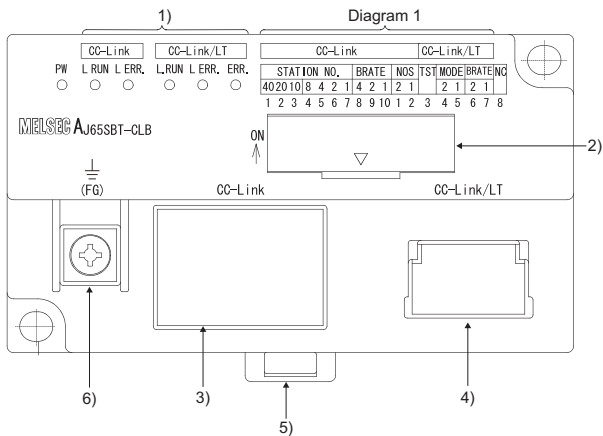
| Item | Specifications | | | Remarks |
|---|----------------|----------|----------|---|
| Transmission speed | 2.5 Mbps | 625 kbps | 156 kbps | - |
| Distance between stations | Not limited | | | - |
| Max. no. of connectable modules per drop line | 8 modules | | | - |
| Length of trunk line | 35 m | 100 m | 500 m | Cable length between terminating resistors. Length of drop lines not included |
| T-branch interval | Not limited | | | - |
| Max. length of drop line | 4 m | 16 m | 60 m | Max. cable length per branch line |
| Overall length of drop lines | 15 m | 50 m | 200 m | Total length of all drop lines |



*1 The length of drop line includes the length of *2. (The max. length of drop line and overall length of drop lines include the length of *2.)

3. PART NAMES AND SETTING

This chapter describes part names.

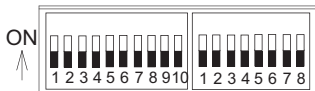


| Number | Name | Description | | |
|--------|---|---|---|--|
| 1) | LED display | Shows the module status by turning the LED on/off. | | |
| | | LED name | Description | |
| | | | CC-Link side | CC-Link/LT side |
| | | PW | On: Module normal Off: Module fault or not supplied with power | |
| | | L RUN | On: Data link communication normal Off: Data link communication off (time-out) | <During normal operation> On: Data link being executed Off: Data link stopped <In self-loopback test mode> On: Self-loopback test completed. Off: Self-loopback test failed |
| L ERR. | On: CC-Link side switch setting fault Data link communication fault Flicker: CC-Link side switch setting is changed during operation. Off: No faults | <During normal operation> On: Data link error station (detected) Station outside control range detected Flicker: Data link error stations (all stations) Off: No faults <In self-loopback test mode> On: Self-loopback test failed Off: Self-loopback test completed | | |
| ERR. | - | Setting error detection On: CC-Link/LT side switch setting fault Flicker: CC-Link/LT side switch setting is changed during operation. Off: No faults | | |

Diagram 1

| CC-Link | | | | | | | | | | CC-Link/LT | | | | | | | |
|-------------|----|-------|---|-----|---|-----|------|---|-------|------------|----|---|---|---|---|---|--|
| STATION NO. | | BRATE | | NOS | | TST | MODE | | BRATE | | NC | | | | | | |
| 40 | 20 | 10 | 8 | 4 | 2 | 1 | 4 | 2 | 1 | 4 | 2 | 1 | 2 | 1 | 2 | 1 | |

1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 ← Case silkscreen No.*



*: The case silkscreen No. and switch silkscreen No. correspond to each other.

← Switch silkscreen No.*

| Number | Name | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--|--|----------------|--------------------|-------|-----|--------------------|---|---|---|-----------------|-----|-----|-----|----------|---|-----|-----|-----|----------|-----|-----|-----|-----|----------|---|-----|-----|-----|----------|-----|----|-----|-----|---------|-----|-----|-----|-----|----|----|---|---|---|---|---|---|---|---|----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|----|-----|-----|-----|----|---|---|---|---|---|---|---|---|----|----|----|-----|-----|-----|----|----|
| 2) | Station number setting switches (CC-Link side) STATION NO. | <p>Use the switches in STATION NO. "10", "20" and "40" to set the tens of the station number. Use the switches in STATION NO. "1", "2", "4" and "8" to set the units of the station number.</p> <table border="1"> <thead> <tr> <th rowspan="2">Station Number</th> <th colspan="3">Tens</th> <th colspan="4">Units</th> </tr> <tr> <th>40</th> <th>20</th> <th>10</th> <th>8</th> <th>4</th> <th>2</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>2</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>3</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> </tr> <tr> <td>10</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>11</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> <td>:</td> </tr> <tr> <td>63</td> <td>ON</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>ON</td> </tr> </tbody> </table> <p>The switches are all factory-set to OFF. The station number can be set within the range 1 to 63 when two stations are occupied, 1 to 61 when four stations are occupied, or 1 to 57 when eight stations (four occupied stations × two modules) are occupied. Setting a value other than the above will result in a setting error. (The "L ERR." LED on the CC-Link side is lit.)</p> | Station Number | Tens | | | Units | | | | 40 | 20 | 10 | 8 | 4 | 2 | 1 | 1 | OFF | OFF | OFF | OFF | OFF | OFF | ON | 2 | OFF | OFF | OFF | OFF | OFF | ON | OFF | 3 | OFF | OFF | OFF | OFF | OFF | ON | ON | : | : | : | : | : | : | : | : | 10 | OFF | OFF | ON | OFF | OFF | OFF | OFF | 11 | OFF | OFF | ON | OFF | OFF | OFF | ON | : | : | : | : | : | : | : | : | 63 | ON | ON | OFF | OFF | OFF | ON | ON |
| | Station Number | Tens | | | Units | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | | 20 | 10 | 8 | 4 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | OFF | OFF | OFF | OFF | OFF | OFF | ON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | OFF | OFF | OFF | OFF | OFF | ON | OFF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | OFF | OFF | OFF | OFF | OFF | ON | ON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| : | : | : | : | : | : | : | : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | OFF | OFF | ON | OFF | OFF | OFF | OFF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | OFF | OFF | ON | OFF | OFF | OFF | ON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| : | : | : | : | : | : | : | : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | ON | ON | OFF | OFF | OFF | ON | ON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Transmission speed setting switches (CC-Link side) B RATE | <table border="1"> <thead> <tr> <th rowspan="2">Setting Value</th> <th colspan="3">Setting Switches</th> <th rowspan="2">Transmission Speed</th> </tr> <tr> <th>4</th> <th>2</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>0 (factory-set)</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>156 kbps</td> </tr> <tr> <td>1</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>625 kbps</td> </tr> <tr> <td>2</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>2.5 Mbps</td> </tr> <tr> <td>3</td> <td>OFF</td> <td>ON</td> <td>ON</td> <td>5.0 Mbps</td> </tr> <tr> <td>4</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>10 Mbps</td> </tr> </tbody> </table> <p>Setting a value other than the above will result in a setting error. (The "L ERR." LED on the CC-Link side is lit.)</p> | Setting Value | Setting Switches | | | Transmission Speed | 4 | 2 | 1 | 0 (factory-set) | OFF | OFF | OFF | 156 kbps | 1 | OFF | OFF | ON | 625 kbps | 2 | OFF | ON | OFF | 2.5 Mbps | 3 | OFF | ON | ON | 5.0 Mbps | 4 | ON | OFF | OFF | 10 Mbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Setting Value | Setting Switches | | | Transmission Speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 (factory-set) | OFF | OFF | OFF | 156 kbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | OFF | OFF | ON | 625 kbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | OFF | ON | OFF | 2.5 Mbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | OFF | ON | ON | 5.0 Mbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | ON | OFF | OFF | 10 Mbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Number | Name | Description | | | | | | | | | | | | | | | | | | |
|---|--|---|--|-----------------------------|--------------------|-----------------------------|---|-----------------|-----------------|-----|----------|------------|-----|-----|----------|------------|----|-----|-----------|--|
| 2) | Number of occupied stations setting switches (CC-Link side) NOS: Numbers of Occupied stations | <table border="1"> <thead> <tr> <th rowspan="2">Setting Value</th> <th colspan="2">Setting Switches</th> <th rowspan="2">Number of occupied stations</th> </tr> <tr> <th>2</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>0 (factory-set)</td> <td>OFF</td> <td>OFF</td> <td>2 stations</td> </tr> <tr> <td>1</td> <td>OFF</td> <td>ON</td> <td>4 stations</td> </tr> <tr> <td>2</td> <td>ON</td> <td>OFF</td> <td>8 stations (four occupied stations × two modules)</td> </tr> </tbody> </table> <p>Setting a value other than the above will result in a setting error. (The "L ERR." LED on the CC-Link side is lit.)</p> | Setting Value | Setting Switches | | Number of occupied stations | 2 | 1 | 0 (factory-set) | OFF | OFF | 2 stations | 1 | OFF | ON | 4 stations | 2 | ON | OFF | 8 stations (four occupied stations × two modules) |
| | Setting Value | Setting Switches | | Number of occupied stations | | | | | | | | | | | | | | | | |
| | | 2 | 1 | | | | | | | | | | | | | | | | | |
| 0 (factory-set) | OFF | OFF | 2 stations | | | | | | | | | | | | | | | | | |
| 1 | OFF | ON | 4 stations | | | | | | | | | | | | | | | | | |
| 2 | ON | OFF | 8 stations (four occupied stations × two modules) | | | | | | | | | | | | | | | | | |
| Self-loopback test setting switch (CC-Link/LT side) TST | <p>OFF: Normal operation mode (factory-set) ON: Self-loopback test mode</p> | | | | | | | | | | | | | | | | | | | |
| Point mode setting switches (CC-Link/LT side) MODE | <table border="1"> <thead> <tr> <th rowspan="2">Setting Value</th> <th colspan="2">Setting Switches</th> <th rowspan="2">Points</th> </tr> <tr> <th>2</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>0 (factory-set)</td> <td>OFF</td> <td>OFF</td> <td>8 points</td> </tr> <tr> <td>1</td> <td>OFF</td> <td>ON</td> <td>4 points</td> </tr> <tr> <td>2</td> <td>ON</td> <td>OFF</td> <td>16 points</td> </tr> </tbody> </table> <p>Setting a value other than the above will result in a setting error. (The "ERR." LED on the CC-Link/LT side is lit.)</p> | Setting Value | Setting Switches | | Points | 2 | 1 | 0 (factory-set) | OFF | OFF | 8 points | 1 | OFF | ON | 4 points | 2 | ON | OFF | 16 points | |
| Setting Value | Setting Switches | | Points | | | | | | | | | | | | | | | | | |
| | 2 | 1 | | | | | | | | | | | | | | | | | | |
| 0 (factory-set) | OFF | OFF | 8 points | | | | | | | | | | | | | | | | | |
| 1 | OFF | ON | 4 points | | | | | | | | | | | | | | | | | |
| 2 | ON | OFF | 16 points | | | | | | | | | | | | | | | | | |
| Transmission speed setting switches (CC-Link/LT side) B RATE | <table border="1"> <thead> <tr> <th rowspan="2">Setting Value</th> <th colspan="2">Setting Switches</th> <th rowspan="2">Transmission Speed</th> </tr> <tr> <th>2</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>0 (factory-set)</td> <td>OFF</td> <td>OFF</td> <td>156 kbps</td> </tr> <tr> <td>1</td> <td>OFF</td> <td>ON</td> <td>625 kbps</td> </tr> <tr> <td>2</td> <td>ON</td> <td>OFF</td> <td>2.5 Mbps</td> </tr> </tbody> </table> <p>Setting a value other than the above will result in a setting error. (The "ERR." LED on the CC-Link/LT side is lit.)</p> | Setting Value | Setting Switches | | Transmission Speed | 2 | 1 | 0 (factory-set) | OFF | OFF | 156 kbps | 1 | OFF | ON | 625 kbps | 2 | ON | OFF | 2.5 Mbps | |
| Setting Value | Setting Switches | | Transmission Speed | | | | | | | | | | | | | | | | | |
| | 2 | 1 | | | | | | | | | | | | | | | | | | |
| 0 (factory-set) | OFF | OFF | 156 kbps | | | | | | | | | | | | | | | | | |
| 1 | OFF | ON | 625 kbps | | | | | | | | | | | | | | | | | |
| 2 | ON | OFF | 2.5 Mbps | | | | | | | | | | | | | | | | | |
| 3) | One-touch connector for communication | A one-touch connector for communication line connection. Connect two optional one-touch connector plugs for communication to the connectors during wiring top and bottom. | | | | | | | | | | | | | | | | | | |
| 4) | CC-Link/LT Interface connector | Connector for CC-Link/LT communication line connection. | | | | | | | | | | | | | | | | | | |
| 5) | DIN rail hook | Used to mount the module to the DIN rail. | | | | | | | | | | | | | | | | | | |
| 6) | FG terminal | Ground terminal | | | | | | | | | | | | | | | | | | |

4. MOUNTING AND INSTALLATION

4.1 Handling instruction

This section explains the handling instruction of the module.
Be careful not to drop it or expose the module case to strong impact, since it is made of resin.

4.2 Installation environment

Use the module in the environment that meets the general specifications described in the tailed manual.
Failure to observe this instruction can cause an electric shock, fire, malfunction, damage to the product, or deterioration.
Tighten the module mounting screws and terminal block screw within the following ranges.

| Screw Location | Tightening Torque Range |
|---|--|
| Module mounting screw (M4 screw) | 0.78 to 1.08 N•m |
| FG terminal block terminal screw (M3 screw) <i>Vis de borne du bornier FG (vis M3)</i> | 0.42 to 0.58 N•m <i>0,42 à 0,58 N•m</i> |

5. WIRING

5.1 Wiring of data link cables

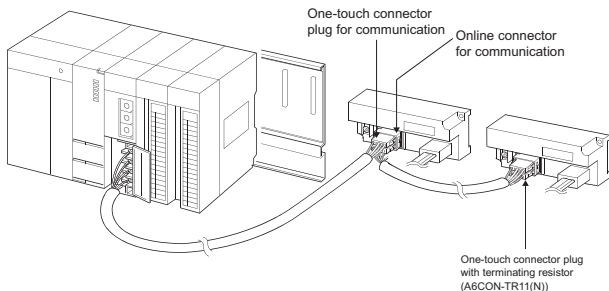
Câblage des câbles de liaison de données

5.1.1 Connection of the CC-Link dedicated cables

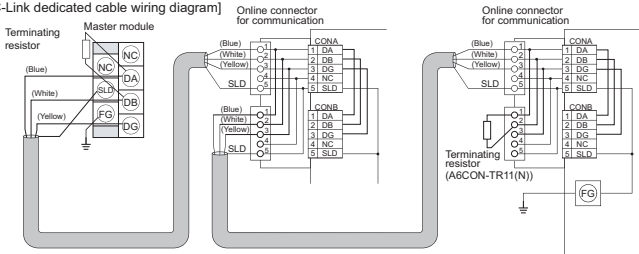
Raccordement des câbles dédiés CC-Link

Connect the CC-Link dedicated cable between the AJ65SBT-CLB and master module as shown below.

Raccorder le câble dédié CC-Link entre le AJ65SBT-CLB et le module maître comme illustré ci-dessous.



[CC-Link dedicated cable wiring diagram]



Ver.1.10 Compatible CC-Link dedicated cable (FANC-110SBH,CS-110,FA-CBL200PSBH)

| English | French |
|--|---|
| One-touch connector plug for communication | <i>Fiche de connecteur rapide pour communication</i> |
| Online connector for communication | <i>Connecteur en ligne pour communication</i> |
| One-touch connector plug with terminating resistor(A6CON-TR11(N)) | <i>Fiche de connecteur rapide avec résistance d'extrémité (A6CON-TR11(N))</i> |
| Master module | <i>Module maître</i> |
| Terminating resistor | <i>Résistance d'extrémité</i> |
| Blue | <i>bleu</i> |
| White | <i>blanc</i> |
| Yellow | <i>jaune</i> |
| Ver.1.10 Compatible CC-Link dedicated cable (FANC-110SBH,CS-110,FA-CBL200PSBH) | <i>Câble dédié CC-Link compatible Ver.1.10 (FANC-110SBH,CS-110,FA-CBL200PSBH)</i> |

| Point |
|--|
| <ul style="list-style-type: none"> • For this module, use the Ver. 1.10-compatible CC-Link dedicated cable (FANC-110SBH, CS-110, FA-CBL200PSBH). You cannot use the Ver. 1.10-compatible CC-Link dedicated cables other than the above types, CC-Link dedicated cables or CC-Link dedicated, high-performance cables. • The shield wire of the CC-Link dedicated cable should be connected to "SLD" in each module, and both ends should be grounded through "FG". "SLD" and "FG" are connected inside the module. • <i>Pour ce module, utiliser le câble dédié CC-Link compatible Ver. 1.10 (FANC-110SBH, CS-110, FA-CBL200PSBH).</i> <i>On ne doit pas utiliser de câbles dédiés CC-Link compatibles Ver. 1.10 autres que les câbles dédiés CC-Link des types mentionnés ci-dessus ou autres que les câbles dédiés CC-Link haute performance.</i> • <i>Le fil de blindage du câble dédié CC-Link doit être raccordé à la borne "SLD" dans chaque module, et ses deux extrémités doivent être mis à la terre via "FG".</i> <i>"SLD" et "FG" sont connectés à l'intérieur du module.</i> |

5.1.2 How to wire the CC-Link one-touch connector plug

For details of how to wire the one-touch connector plug, refer to the AJ65SBT-CLB CC-Link - CC-Link/LT Bridge Module User's Manual.

5.1.3 Connection of modules by CC-Link/LT connection cables

For details of how to connect the modules by the CC-Link/LT connection cables, refer to the AJ65SBT-CLB CC-Link - CC-Link/LT Bridge Module User's Manual.

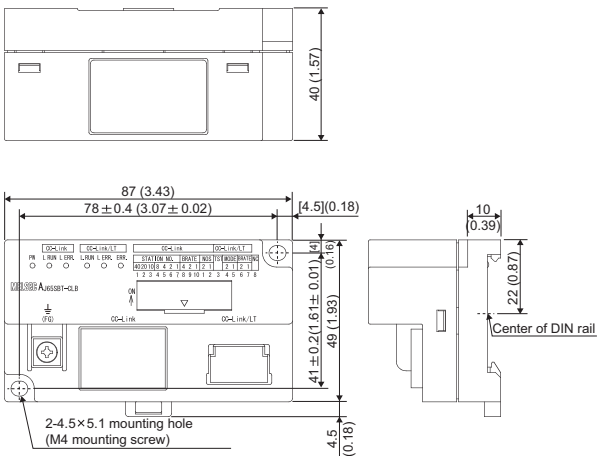
- (1) The station number is not relevant to the order of connecting the connection cables.
- (2) Be sure to place the AJ65SBT-CLB at one end of the main line. Also, connect the AJ65SBT-CLB side terminating resistor within 20cm of the AJ65SBT-CLB.
- (3) Always connect terminating resistors at both ends of the CC-Link/LT trunk line.
- (4) For required number of the connectors, refer to the AJ65SBT-CLB CC-Link - CC-Link/LT Bridge Module User's Manual.

5.1.4 How to mount the CC-Link/LT connection cable connector

For details of how to mount the CC-Link/LT connection cable connector, refer to the AJ65SBT-CLB CC-Link - CC-Link/LT Bridge Module User's Manual.

6. EXTERNAL DIMENSIONS

[AJ65SBT-CLB]



Unit: mm(inch)

WARRANTY

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

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| Poland | MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch ul. Krakowska 50, 32-083 Balice, Poland Tel : +48-12-347-65-00 | India | MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch Emerald House, EL-3, J Block, M.I.D.C., Bhosari, Pune-411026, Maharashtra, India Tel : +91-20-2710-2000 |
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