

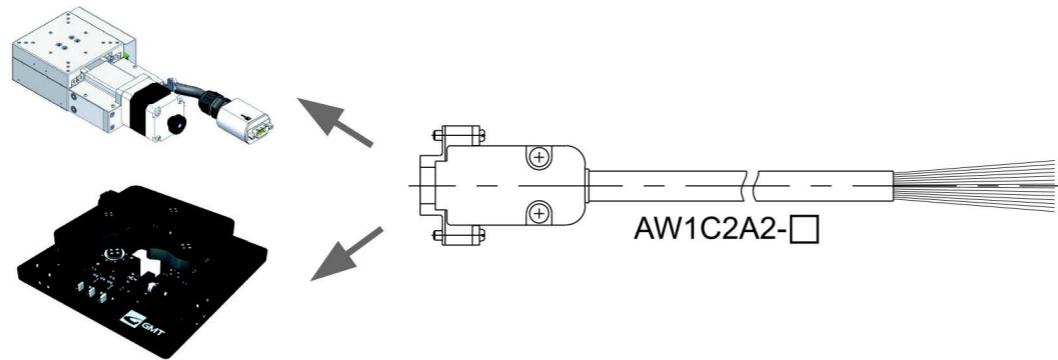
Connecting Cable

Description

A W 1 C 2 A 2 - 2

| Type | Form | Structure | Connector Category | Pins | Connector Type | Pins | Length |
|------|-----------|-----------|--------------------|---------------------------|-------------------------|-------------------------|----------|
| A | Accessory | W Cable | 1 Single terminal | B HRS(Female connector) | 0 12 | A Dispersed wires | 0 0.15 m |
| | | | 2 Double terminals | C D-SUB(Female connector) | 1 14 | B HRS(Female connector) | 1 14 |
| | | | | | G HRS(Male connector) | 2 15 | 4 4 m |
| | | | | | H D-SUB(Male connector) | 3 25 | 6 6 m |
| | | | | | K NJC(Female connector) | 4 16 | A 10 m |
| | | | | | L NJC(Male connector) | 5 8 | |
| | | | | | | 6 9 | |

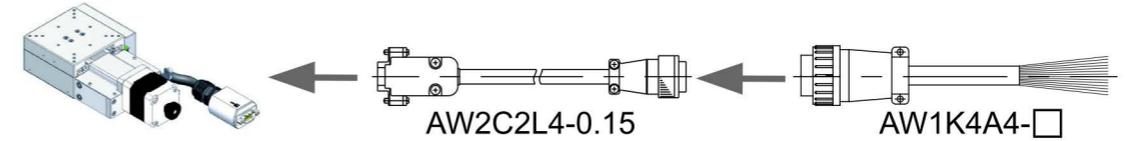
D-SUB Standard Connection Cable



※ Connecting cable standard length is 2 meters

| Pin Definition on the 4-Lead Bipolar 2-Phase Stepper Motor | | | Pin Definition On the 6/8-Lead Unipolar 2-Phase Stepper Motor | | | Pin Definition on 5/10-Lead 5-Phase Stepper Motor | | |
|--|-------|---------------------|---|-------|---------------------|---|-------|---------------------|
| Code | Color | Functions | Code | Color | Functions | Code | Color | Functions |
| 1 | Black | Lead A+ | 1 | Black | Lead A+ | 1 | Black | Lead A |
| 2 | Red | Lead A- | 2 | Red | Lead A- | 2 | Red | Lead B |
| 3 | Black | Lead B+ | 3 | Black | Lead B+ | 3 | Black | Lead C |
| 4 | Red | Lead B- | 4 | Red | Lead B- | 4 | Red | Lead D |
| 5 | Black | NONE | 5 | Black | Lead A_COM | 5 | Black | Lead E |
| 6 | Red | CWLS Output | 6 | Red | CWLS Output | 6 | Red | CWLS Output |
| 7 | Black | CCWLS Output | 7 | Black | CCWLS Output | 7 | Black | CCWLS Output |
| 8 | Red | CIRCLE ORG Output | 8 | Red | CIRCLE ORG Output | 8 | Red | CIRCLE ORG Output |
| 9 | Black | Power input V+(24V) | 9 | Black | Power input V+(24V) | 9 | Black | Power input V+(24V) |
| 10 | Red | ORG Output | 10 | Red | ORG Output | 10 | Red | ORG Output |
| 11 | Black | Power input V- | 11 | Black | Power input V- | 11 | Black | Power input V- |
| 12 | Red | FG | 12 | Red | FG | 12 | Red | FG |
| 13 | Black | NONE | 13 | Black | Lead B_COM | 13 | Black | NONE |
| 14 | Red | NONE | 14 | Red | NONE | 14 | Red | NONE |
| 15 | NONE | NONE | 15 | NONE | NONE | 15 | NONE | NONE |

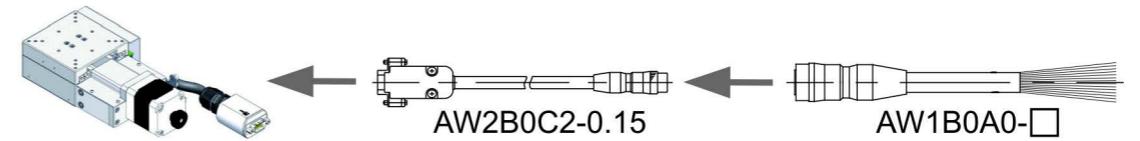
D-SUB TO NJC Converting Cable



※ Connecting cable standard length is 2 meters

| Pin Definition on 5/10-Lead 5-Phase Stepper Motor | | | D-SUB Male Connector Converted to NJC Male Connector | | Pin Definition on 5/10-Lead 5-Phase Stepper Motor | | |
|---|-------|---------------------|--|-------|---|-------|-------------------|
| Code | Color | Functions | Code | Color | Code | Color | Functions |
| 1 | Black | Lead A | 1 | Black | 1 | Black | Lead A |
| 2 | Red | Lead B | 2 | Red | 2 | Red | Lead B |
| 3 | Black | Lead C | 3 | Black | 3 | Black | Lead C |
| 4 | Red | Lead D | 4 | Red | 4 | Red | Lead D |
| 5 | Black | Lead E | 5 | Black | 5 | Black | Lead E |
| 6 | Red | CWLS Output | 6 | Red | 6 | Red | CWLS Output |
| 7 | Black | CCWLS Output | 7 | Black | 7 | Black | NONE |
| 8 | Red | CIRCLE ORG Output | 8 | Red | 8 | Black | NONE |
| 9 | Black | Power input V+(24V) | 9 | Black | 9 | Black | NONE |
| 10 | Red | ORG Output | 10 | Red | 10 | Black | NONE |
| 11 | Black | Power input V- | 11 | Black | 11 | Red | CIRCLE ORG Output |
| 12 | Red | FG | 12 | Red | 12 | Black | NONE |
| 13 | Black | NONE | 13 | Black | 13 | Red | NONE |
| 14 | Red | NONE | 14 | Red | 14 | Black | ORG Output |
| 15 | NONE | NONE | 15 | NONE | 15 | Black | Power input V- |
| | | | | | 16 | Red | FG |

D-SUB TO HRS Converting Cable



※ Connecting cable standard length is 2 meters

| Pin Definition on 5/10-Lead 5-Phase Stepper Motor | | | D-SUB Male Connector Converted to NJC Male Connector | | Pin Definition on 5/10-Lead 5-Phase Stepper Motor | | |
|---|-------|---------------------|--|-------|---|-------|---------------------|
| Code | Color | Functions | Code | Color | Code | Color | Functions |
| 1 | Black | Lead A | 1 | Black | 1 | Black | Lead A |
| 2 | Red | Lead B | 2 | Red | 2 | Red | Lead B |
| 3 | Black | Lead C | 3 | Black | 3 | Black | Lead C |
| 4 | Red | Lead D | 4 | Red | 4 | Red | Lead D |
| 5 | Black | Lead E | 5 | Black | 5 | Black | Lead E |
| 6 | Red | CWLS Output | 6 | Red | 6 | Red | CWLS Output |
| 7 | Black | CCWLS Output | 7 | Black | 7 | Black | CCWLS Output |
| 8 | Red | CIRCLE ORG Output | 8 | Red | 8 | Red | CIRCLE ORG Output |
| 9 | Black | Power input V+(24V) | 9 | Black | 9 | Black | Power input V+(24V) |
| 10 | Red | ORG Output | 10 | Red | 10 | Red | ORG Output |
| 11 | Black | Power input V- | 11 | Black | 11 | Black | Power input V- |
| 12 | Red | FG | 12 | Red | 12 | Red | FG |
| 13 | Black | NONE | 13 | Black | 13 | Black | NONE |
| 14 | Red | NONE | 14 | Red | 14 | Black | NONE |
| 15 | NONE | NONE | 15 | NONE | 15 | Black | NONE |

Recommendation of Motor / Driver

Stepper Motor / Driver

| Motor Type | 5-Phase | | 2-Phase Unipolar | | 2-Phase Bipolar | | |
|--------------------------|-----------------------|---------------|-----------------------|---------------|-----------------------|-----------------------|-----------------------|
| | TAMAGAWA | SANYO | TAMAGAWA | SANYO | GMT | | |
| Model No. | TS3664N1E2 | SH5281-7241 | TS3641N1E2 | SH2281-5271 | 2MS-N20U33A | 2MS-N35U36A | 2MS-N57U41A |
| | TS3667N11E3 | SH5281-7211 | TS3641N11E2 | SH2281-5231 | 2MS-N20D33A | 2MS-N35D36A | 2MS-N57D41A |
| | TS3667N3E7 | SH5285-7241 | TS3617N1E3 | SH2285-5271 | 2MS-N28U32A | 2MS-N42U33A | |
| | TS3667N13E7 | SH5285-7211 | TS3617N11E3 | SH2285-5231 | 2MS-N28D32A | 2MS-N42D33A | |
| | TS3624N3E5 | 103-4507-7010 | TS3617N3E8 | SH3537-12U40 | 2MS-N28U45A | 2MS-N42U47A | |
| | | 103F5505-8241 | TS3617N13E10 | SH3537-12U10 | 2MS-N28D45A | 2MS-N42D47A | |
| | | 103F5505-8211 | TS3606N4E10 | 103H5205-0469 | | | |
| | | 103F5510-8241 | | 103H5205-0411 | | | |
| | | 103F5510-8211 | | 103H5208-0469 | | | |
| | | | | 103H5208-0411 | | | |
| | | | 103H5210-0469 | | | | |
| | | | 103H5210-0411 | | | | |
| Driver Model No. | GTR515B | | GTR24M3 | | GTR22G-D | | DS2-032A |
| Power Input | 24-36VDC | | 12-40VDC | | 18-30VDC | | 18-40VDC |
| Driver Current | 0.36-1.4 A | | 0-4 A | | 0.5-2 A | | 0.5-3.2 A |
| Magnetizing Current Type | Half / Full step | | 200 micro-step | | 128 micro-step | | 512 micro-step |
| Signal Input Type | Open collector (100K) | | Open collector (200K) | | Open collector (200K) | | Open collector (200K) |
| Driver Model No. | TD-5D14C-PKG | | eTD-24A-PKG | | DS2-022A | DS2-032A | |
| Power Input | 12-40VDC | | 24VDC | | 18-40VDC | 18-40VDC | |
| Driver Current | 0.3-1.5 A | | 0.2-2 A | | 0.3-2.2 A | 0.5-3.2 A | |
| Magnetizing Current Type | Half / Full step | | 500 micro-step | | 512 micro-step | 512 micro-step | |
| Signal Input Type | Open collector (100K) | | Open collector (150K) | | Open collector (200K) | Open collector (200K) | |
| Driver Model No. | GTR514H-D | | | | | | |
| Power Input | 24-36VDC | | | | | | |
| Driver Current | 0.75-1.4 A | | | | | | |
| Magnetizing Current Type | 250 micro-step | | | | | | |
| Signal Input Type | Open collector (200K) | | | | | | |