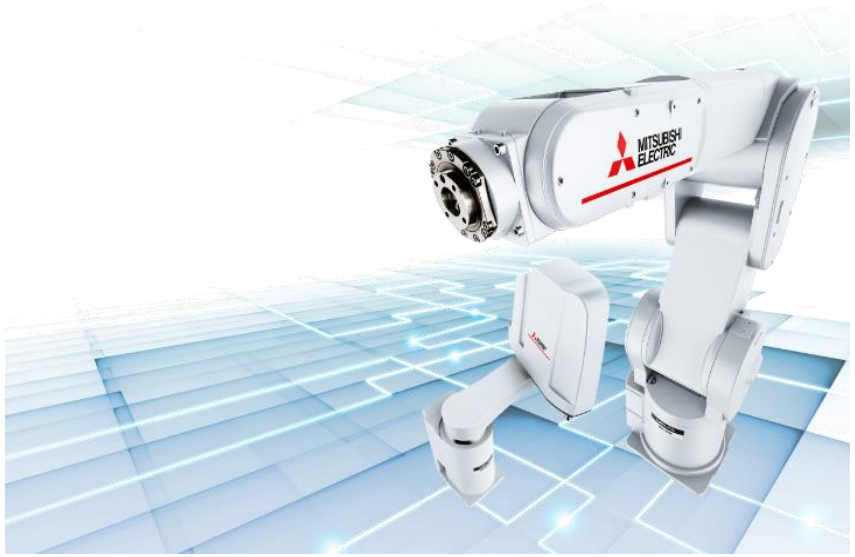
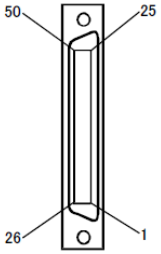



# MELFA - ROBOT

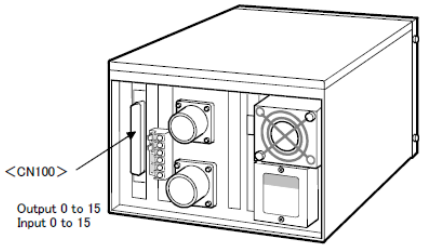
I/O connection conversion with adapter 2D-IOADAP from 50pin to 40pin

COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

# OLDER CONTROLLERS WITH 50-PIN EA CONNECTOR - CURRENT CR800 40-PIN




Connector pin layout

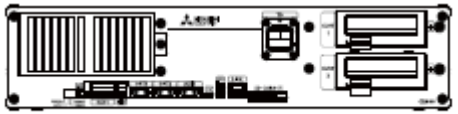



Controller back side

*The I/O card in the control unit is equal to the PIO unit of the option.
(Input 32/Output 32 points)

External I/O cable
- 2A-CBL05(5m)
- 2A-CBL15(15m)

CR700/800 Controller

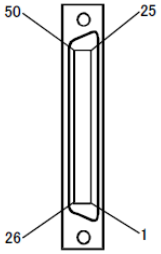


Parallel I/O interface
2D-TZ368 (Sink)
2D-TZ378 (Source)

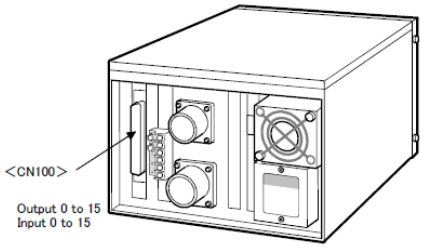
External I/O cable
- 2D-CBL05 (5m)
- 2D-CBL15 (15m)

COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

# CHANGE CONTROLLER WITH 50PIN EA CONNECTOR TO 40PIN WITH ADAPTER




Connector pin layout

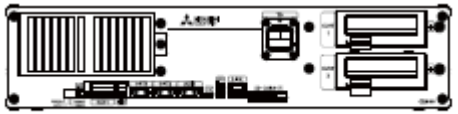



Controller back side

*The I/O card in the control unit is equal to the PIO unit of the option.
(Input 32/Output 32 points)

2A-CBL05
2A-CBL15

CR700/800 Controller



EA map
2D-TZ378 (Source)
2D-TZ368 (Sink)

2D-IOADAP-CBL02-GC

2A-CBL05
2A-CBL15

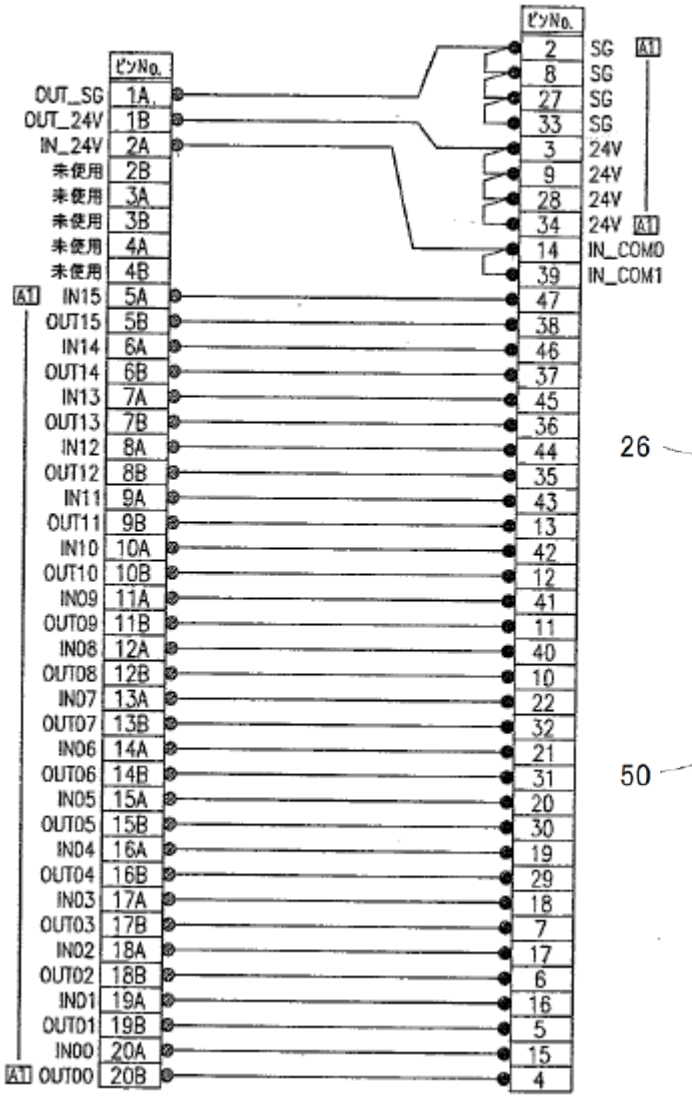
This means that when a robot is replaced, the system wiring with the 2A-CBLx can almost always be retained.

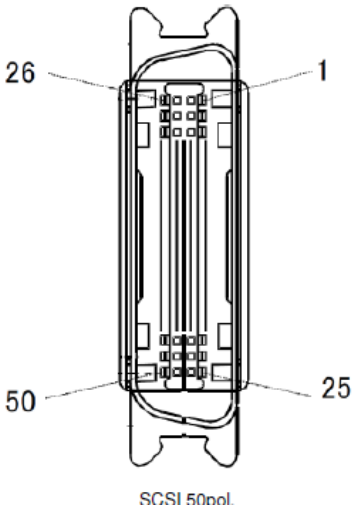
COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

# 2D-IOADAP-CBL

| Pin Nr. | Verwendung | Beschreibung | Aderfarbe | Pin Nr. |
|---|---|---|---|---|
| 1 | | FG | Weiß | |
| 2 | | 0V Ausgänge | Braun | 1A |
| 3 | | 24V Ausgänge | Grün | 1B |
| 4 | Ausgang 0 | Betrieb | Gelb | 20B |
| 5 | Ausgang 1 | Servo Ein | Grau | 19B |
| 6 | Ausgang 2 | Fehler | Rosa | 18B |
| 7 | Ausgang 3 | Betriebsrechte | Blau | 17B |
| 8 | | 0V | Rot | |
| 9 | | 24V | Schwarz | |
| 10 | Ausgang 8 | | Violett | 12B |
| 11 | Ausgang 9 | | Grau-rosa | 11B |
| 12 | Ausgang 10 | | Rot-blau | 10B |
| 13 | Ausgang 11 | | Weiß-grün | 9B |
| 14 | | 0V für Pins 15-22 | Braun-grün | 2A |
| 15 | Eingang 0 | Stopp | Weiß-gelb | 20A |
| 16 | Eingang 1 | Servo Aus | Gelb-braun | 19A |
| 17 | Eingang 2 | Fehler quittieren | Weiß-grau | 18A |
| 18 | Eingang 3 | Start | Grau-braun | 17A |
| 19 | Eingang 4 | Servo Ein | Weiß-rosa | 16A |
| 20 | Eingang 5 | Betriebsrechte | Rosa-braun | 15A |
| 21 | Eingang 6 | | Weiß-blau | 14A |
| 22 | Eingang 7 | | Braun-blau | 13A |
| 23 | | | Weiß-rot | |
| 24 | | | Braun-rot | |
| 25 | | | Weiß-schwarz | |
| 26 | | FG | Braun-schwarz | |
| 27 | | 0V | Grau-grün | |
| 28 | | 24V | Gelb-grau | |
| 29 | Ausgang 4 | | Rosa-grün | 16B |
| 30 | Ausgang 5 | | Gelb-rosa | 15B |
| 31 | Ausgang 6 | | Grün-blau | 14B |
| 32 | Ausgang 7 | | Gelb-blau | 13B |
| 33 | | 0V | Grün-rot | |
| 34 | | 24V | Gelb-rot | |
| 35 | Ausgang 12 | | Grün-schwarz | 8B |
| 36 | Ausgang 13 | | Gelb-schwarz | 7B |
| 37 | Ausgang 14 | | Grau-blau | 6B |
| 38 | Ausgang 15 | | Rosa-blau | 5B |
| 39 | | 0V für Pins 40-47 | Grau-rot | 2A !! |
| 40 | Eingang 8 | | Rosa-rot | 12A |
| 41 | Eingang 9 | | Grau-schwarz | 11A |
| 42 | Eingang 10 | | Rosa-schwarz | 10A |
| 43 | Eingang 11 | | Blau-schwarz | 9A |
| 44 | Eingang 12 | | Rot-schwarz | 8A |
| 45 | Eingang 13 | | Weiß-braun-schwarz | 7A |
| 46 | Eingang 14 | | Gelb-grün-schwarz | 6A |
| 47 | Eingang 15 | | Grau-rosa-schwarz | 5A |
| 48 | | | Blau-rot-schwarz | |
| 49 | | | Weiß-grün-schwarz | |
| 50 | | | Grün-braun-schwarz | |

Beispiel für CN100 und den Ein- Ausgängen 0-15.
Die Belegung gilt auch für CN300 und den Ein-Ausgängen 16-31

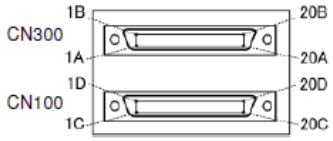


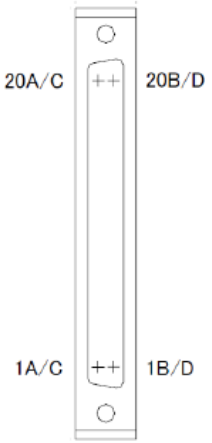




## Roboter E/A Belegung

**CR2-Serie nach D-Serie**

Eingänge und Ausgänge haben je nur noch einen Bezugspunkt 24V / 0V




Plug (Fujitsu Ltd) Connector : FCN-361J040-AU
Cover : FCN-360C040-B

COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

# ASSIGNMENT 2A-CBL

Table 3-7 : Standard parallel I/O interface CN100pin No. and signal assignment list <Source type> (2A-CBL □□ )

| Pin No. | Line color | Function name | | Pin No. | Line color | Function name | |
|---|---|---|---|---|---|---|---|
| | | General-purpose | Dedicated/power supply, common | | | General-purpose | Dedicated/power supply, common |
| 1 | Orange/Red A | | FG | 26 | Orange/Blue A | | FG |
| 2 | Gray/Red A | | 0V:For pins 4-7, 10-13 | 27 | Gray/Blue A | | 0V:For pins 29-32, 35-38 |
| 3 | White/Red A | | 12V/24V:For pins 4-7, 10-13 | 28 | White/Blue A | | 12V/24V:For pins 29-32, 35-38 |
| 4 | Yellow/Red A | General-purpose output 0 | Running | 29 | Yellow/Blue A | General-purpose output 4 | |
| 5 | Pink/Red A | General-purpose output 1 | Servo on | 30 | Pink/Blue A | General-purpose output 5 | |
| 6 | Orange/Red B | General-purpose output 2 | Error | 31 | Orange/Blue B | General-purpose output 6 | |
| 7 | Gray/Red B | General-purpose output 3 | Operation rights | 32 | Gray/Blue B | General-purpose output 7 | |
| 8 | White/Red B | | Reserved | 33 | White/Blue B | | Reserved |
| 9 | Yellow/Red B | | Reserved | 34 | Yellow/Blue B | | Reserved |
| 10 | Pink/Red B | General-purpose output 8 | | 35 | Pink/Blue B | General-purpose output 12 | |
| 11 | Orange/Red C | General-purpose output 9 | | 36 | Orange/Blue C | General-purpose output 13 | |
| 12 | Gray/Red C | General-purpose output 10 | | 37 | Gray/Blue C | General-purpose output 14 | |
| 13 | White/Red C | General-purpose output 11 | | 38 | White/Blue C | General-purpose output 15 | |
| 14 | Yellow/Red C | | COM0:For pins 15-22 Note1) | 39 | Yellow/Blue C | | COM1:For pins 40-47 Note1) |
| 15 | Pink/Red C | General-purpose input 0 | Stop(All slot) Note2) | 40 | Pink/Blue C | General-purpose input 8 | |
| 16 | Orange/Red D | General-purpose input 1 | Servo off | 41 | Orange/Blue D | General-purpose input 9 | |
| 17 | Gray/Red D | General-purpose input 2 | Error reset | 42 | Gray/Blue D | General-purpose input 10 | |
| 18 | White/Red D | General-purpose input 3 | Start | 43 | White/Blue D | General-purpose input 11 | |
| 19 | Yellow/Red D | General-purpose input 4 | Servo on | 44 | Yellow/Blue D | General-purpose input 12 | |
| 20 | Pink/Red D | General-purpose input 5 | Operation rights | 45 | Pink/Blue D | General-purpose input 13 | |
| 21 | Orange/Red E | General-purpose input 6 | | 46 | Orange/Blue E | General-purpose input 14 | |
| 22 | Gray/Red E | General-purpose input 7 | | 47 | Gray/Blue E | General-purpose input 15 | |
| 23 | White/Red E | | Reserved | 48 | White/Blue E | | Reserved |
| 24 | Yellow/Red E | | Reserved | 49 | Yellow/Blue E | | Reserved |
| 25 | Pink/Red E | | Reserved | 50 | Pink/Blue E | | Reserved |

Note1)Sink type:24V/12V(COM), Source type:0V(COM)
Note2)The assignment of the dedicated input signal "STOP" is fixed.

COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

# ASSIGNMENT 2D-CBL

Table 3-28 : Connector<1> pin assignment list and external I/O cable (2D-CBL**) color(SLOT1)

| Pin No. | Line color | Function name | | Pin No. | Line color | Function name | |
|---|---|---|---|---|---|---|---|
| | | General-purpose | Dedicated/power supply, common | | | General-purpose | Dedicated/power supply, common |
| 1C | Orange/Red a | | 24G/12G: For pins 5D-20D | 1D | Orange/Black a | | +24V/+12V(COM): For pins 5D-20D |
| 2C | Gray/Red a | | COM : For pins 5C-20C Note1) | 2D | Gray/Black a | | Reserved |
| 3C | White/Red a | | Reserved | 3D | White/Black a | | Reserved |
| 4C | Yellow/Red a | | Reserved | 4D | Yellow/Black a | | Reserved |
| 5C | Pink/Red a | General-purpose input 15 | | 5D | Pink/Black a | General-purpose output 15 | |
| 6C | Orange/Red b | General-purpose input 14 | | 6D | Orange/Black b | General-purpose output 14 | |
| 7C | Gray/Red b | General-purpose input 13 | | 7D | Gray/Black b | General-purpose output 13 | |
| 8C | White/Red b | General-purpose input 12 | | 8D | White/Black b | General-purpose output 12 | |
| 9C | Yellow/Red b | General-purpose input 11 | | 9D | Yellow/Black b | General-purpose output 11 | |
| 10C | Pink/Red b | General-purpose input 10 | | 10D | Pink/Black b | General-purpose output 10 | |
| 11C | Orange/Red c | General-purpose input 9 | | 11D | Orange/Black c | General-purpose output 9 | |
| 12C | Gray/Red c | General-purpose input 8 | | 12D | Gray/Black c | General-purpose output 8 | |
| 13C | White/Red c | General-purpose input 7 | | 13D | White/Black c | General-purpose output 7 | |
| 14C | Yellow/Red c | General-purpose input 6 | | 14D | Yellow/Black c | General-purpose output 6 | |
| 15C | Pink/Red c | General-purpose input 5 | Operation rights input signal Note2) | 15D | Pink/Black c | General-purpose output 5 | |
| 16C | Orange/Red d | General-purpose input 4 | Servo ON input signal Note2) | 16D | Orange/Black d | General-purpose output 4 | |
| 17C | Gray/Red d | General-purpose input 3 | Start input Note2) | 17D | Gray/Black d | General-purpose output 3 | Operation rights output signal Note2) |
| 18C | White/Red d | General-purpose input 2 | Error reset input signal Note2) | 18D | White/Black d | General-purpose output 2 | Error occurring output signal Note2) |
| 19C | Yellow/Red d | General-purpose input 1 | Servo OFF input signal Note2) | 19D | Yellow/Black d | General-purpose output 1 | In servo ON output signal Note2) |
| 20C | Pink/Red d | General-purpose input 0 | Stop input Note3) | 20D | Pink/Black d | General-purpose output 0 | Operating output Note2) |

Note1) Sink type: +24V/+12V(COM), Source type: 24G/12G
Note2) The dedicated signal is assigned at shipping. It can change with the parameter.
Note3) The dedicated input signal (STOP) is assigned at shipping. The signal number is fixing.

ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

# ARTICLE

**Former adapter, is no longer available**

230285 ~~2D-IOADAP-CBL~~ ~~I/O adapter cable CRnB to CRnD control 0.5m~~

**Adapter in 2 lengths: Attention these have plug instead of socket and are designed for a special customer (and could only be used with gender changer).**

404197 2D-IOADAP-CBL02 I/O adapter cable CRnB to CRnD control 2m (LIYCY 40x0,14)

404200 2D-IOADAP-CBL05 I/O adapter cable CRnB to CRnD control 5m (LIYCY 40x0,14)

**Current adapter including gender changer**

606814 2D-IOADAP-CBL02-GC I/O adapter cable CRnB to CRnD control 2m; with gender changer

Notice:

When using the adapter, the inputs or outputs each have only one reference point for 24V / 0V, Therefore, in addition to the wiring (different potentials), the load must also be checked. Otherwise the assignment is compatible.

COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED

MITSUBISHI ELECTRIC
Changes for the Better

# THANKS A LOT

COPYRIGHT © 2021 MITSUBISHI ELECTRIC EUROPE B.V. ALL RIGHTS RESERVED