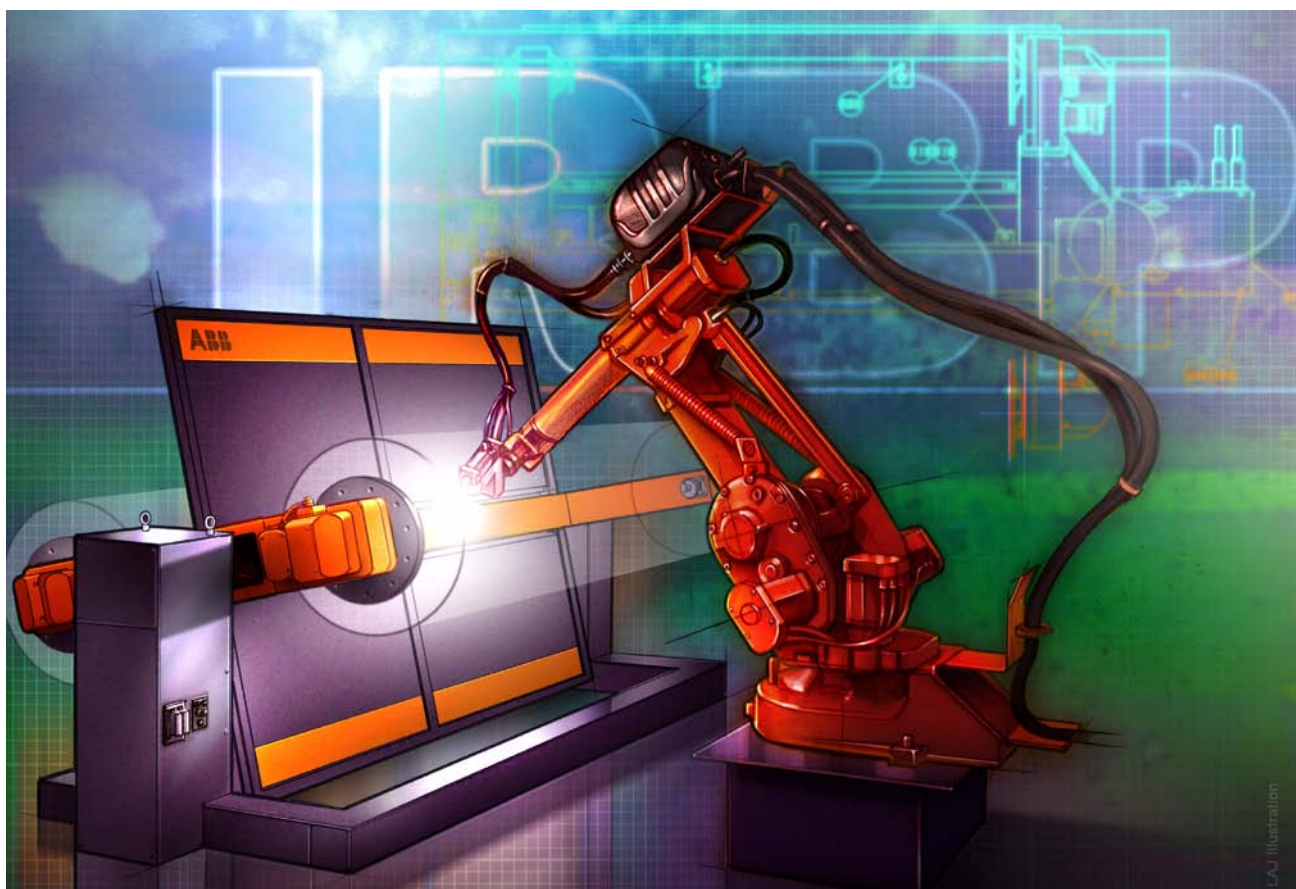


Signal Description

Arc Welding Products

IRC5 Design 2006

3HEA 802349-001 Rev . A



ABB

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Contents

| | | |
|---|--|----------|
| Signal Description Arc Welding Products IRC5 M2004 | 1 General I/O Description | 1 |
| | 2 Process Interface Arcitec/MigRob | 3 |
| | 2.1 I/O Board configuration | 3 |
| | 2.2 I/O Signals Configuration B_PROC_30 | 4 |
| | 2.2.1 Digital outputs | 4 |
| | 2.2.2 Digital inputs | 5 |
| | 2.2.3 Analogue outputs | 5 |
| | 2.2.4 Analogue inputs | 5 |
| | 2.3 I/O Signals Configuration B_AW_PROC_40 | 6 |
| | 2.3.1 Digital outputs | 6 |
| | 2.3.2 Digital inputs | 6 |
| | 2.3.3 Group outputs | 6 |
| | 2.3.4 Analogue inputs | 7 |
| | 2.4 I/O Signals Configuration B_AW_SIM | 7 |
| | 2.4.1 Digital output | 7 |
| | 3 Process Interface ARCITEC/MigRob, Robot 2 | 9 |
| | 3.1 I/O Board configuration | 9 |
| | 3.2 I/O Signals Configuration B_PROC_31 | 10 |
| | 3.2.1 Digital outputs | 10 |
| | 3.2.2 Digital inputs | 11 |
| 3.2.3 Analogue outputs | 11 | |
| 3.2.4 Analogue inputs | 11 | |
| 3.3 I/O Signals Configuration B_AW_PROC_41 | 12 | |
| 3.3.1 Digital outputs | 12 | |
| 3.3.2 Digital inputs | 12 | |
| 3.3.3 Group outputs | 12 | |
| 3.3.4 Analogue inputs | 13 | |
| 3.4 I/O Signals Configuration B_AW_SIM | 13 | |
| 3.4.1 Digital output | 13 | |
| 4 Process Interface RPB | 15 | |
| 4.1 I/O Board configuration | 15 | |
| 4.2 I/O Signals Configuration B_PROC_30 | 16 | |
| 4.2.1 Digital outputs | 16 | |
| 4.2.2 Digital inputs | 17 | |
| 4.2.3 Analogue outputs | 17 | |
| 4.2.4 Analogue inputs | 17 | |
| 5 Process Interface RPB, Robot 2 | 19 | |

| | |
|---|-----------|
| 5.1 I/O Board configuration | 19 |
| 5.2 I/O Signals Configuration B_PROC_31 | 20 |
| 5.2.1 Digital outputs | 20 |
| 5.2.2 Digital inputs | 21 |
| 5.2.3 Analogue outputs | 21 |
| 5.2.4 Analogue inputs | 21 |
| 6 Process Interface Fronius | 23 |
| <hr/> | |
| 6.0.1 Process Interface DeviceNet for Fronius | 23 |
| 6.1 I/O Board configuration | 23 |
| 6.2 I/O Signals Configuration FRON_BOARD_40 | 24 |
| 6.2.1 Digital outputs | 24 |
| 6.2.2 Digital inputs | 26 |
| 6.2.3 Analogue outputs | 26 |
| 6.2.4 Group outputs | 26 |
| 6.2.5 Group input | 27 |
| 6.3 I/O Signals Configuration BOARD20 | 27 |
| 6.3.1 Digital outputs | 27 |
| 6.3.2 Digital inputs | 27 |
| 7 Process Interface Fronius, Robot 2 | 29 |
| <hr/> | |
| 7.0.1 Process Interface DeviceNet for Fronius | 29 |
| 7.1 I/O Board configuration | 29 |
| 7.2 I/O Signals Configuration FRON_BOARD_41 | 30 |
| 7.2.1 Digital outputs | 30 |
| 7.2.2 Digital inputs | 31 |
| 7.2.3 Analogue outputs | 32 |
| 7.2.4 Group outputs | 32 |
| 7.2.5 Group input | 32 |
| 7.3 I/O Signals Configuration BOARD20 | 33 |
| 7.3.1 Digital outputs | 33 |
| 7.3.2 Digital inputs | 33 |
| 8 Positioner Interface IRBP A | 35 |
| <hr/> | |
| 8.1 I/O board Configuration for positioner | 35 |
| 8.2 Simulated outputs for B_POS_SIM | 36 |
| 8.2.1 Simulated outputs | 36 |
| 8.2.2 Simulated inputs | 36 |
| 8.3 I/O-Signals configuration for DRVIO_1 | 37 |
| 8.3.1 Digital outputs TB4 | 37 |
| 8.3.2 Digital inputs TB3 | 37 |
| 8.4 Configuration cross-connections | 38 |
| 9 Positioner Interface IRBP B/D | 39 |
| <hr/> | |

| | | |
|-----------|--|-----------|
| 9.1 | I/O board Configuration for positioner | 39 |
| 9.2 | Simulated outputs for B_POS_SIM | 40 |
| 9.2.1 | Simulated outputs | 40 |
| 9.2.2 | Simulated inputs | 40 |
| 9.3 | I/O-Signals configuration for DRVIO_1 | 41 |
| 9.3.1 | Digital outputs TB4 | 41 |
| 9.3.2 | Digital inputs TB3 | 41 |
| 9.4 | Configuration cross-connections | 42 |
| 10 | Positioner Interface IRBP C | 43 |
| <hr/> | | |
| 10.1 | I/O board Configuration for positioner | 43 |
| 10.2 | Simulated outputs for B_POS_SIM | 44 |
| 10.2.1 | Simulated outputs | 44 |
| 10.2.2 | Simulated inputs | 44 |
| 10.3 | I/O-Signals configuration for DRVIO_1 | 45 |
| 10.3.1 | Digital outputs TB4 | 45 |
| 10.3.2 | Digital inputs TB3 | 45 |
| 10.4 | Configuration cross-connections | 46 |
| 11 | Positioner Interface IRBP C Index | 47 |
| <hr/> | | |
| 11.1 | I/O board Configuration for positioner | 47 |
| 11.2 | Simulated outputs for B_POS_SIM | 48 |
| 11.2.1 | Simulated outputs | 48 |
| 11.2.2 | Simulated inputs | 48 |
| 11.3 | I/O-Signals configuration for B_POS_21 | 49 |
| 11.3.1 | Digital outputs TB4 | 49 |
| 11.3.2 | Digital inputs TB3 | 49 |
| 11.4 | Configuration cross-connections | 50 |
| 12 | Positioner Interface IRBP K/R | 51 |
| <hr/> | | |
| 12.1 | I/O board configuration for positioner | 51 |
| 12.2 | Simulated outputs for B_POS_SIM | 52 |
| 12.2.1 | Simulated outputs | 52 |
| 12.2.2 | Simulated inputs | 52 |
| 12.3 | I/O-Signals configuration for DRVIO_1 | 53 |
| 12.3.1 | Digital outputs TB4 | 53 |
| 12.3.2 | Digital inputs TB3 | 53 |
| 12.4 | Configuration cross-connections | 54 |
| 12.4.1 | K/R 3DU (3 axes) | 54 |
| 12.4.2 | K/R 1DU (1-axis) | 55 |
| 13 | Positioner Interface IRBP L | 57 |
| <hr/> | | |

| | | |
|-----------|--|-----------|
| 13.1 | I/O board configuration for positioner | 57 |
| 13.2 | Simulated outputs for B_POS_SIM | 58 |
| 13.2.1 | Simulated outputs | 58 |
| 13.2.2 | Simulated inputs | 58 |
| 13.3 | I/O-Signals configuration for DRVIO_1 | 59 |
| 13.3.1 | Digital outputs TB4 | 59 |
| 13.3.2 | Digital inputs TB3 | 59 |
| 13.4 | Configuration cross-connections | 60 |
| 14 | Operator Interface IRBP | 61 |
| <hr/> | | |
| 14.1 | I/O board Configuration | 61 |
| 14.2 | System functions | 61 |
| 14.2.1 | Inputs | 61 |
| 14.2.2 | Outputs | 61 |
| 14.3 | I/O-Signals configuration for B_OP_SIM | 62 |
| 14.3.1 | Digital outputs | 62 |
| 14.4 | I/O Signals configuration for B_OP_21, B_OP_22 | 62 |
| 14.4.1 | Digital outputs | 62 |
| 14.4.2 | Digital inputs | 62 |
| 15 | Safety interface SIB V for positioner B/C/D/K/R | 63 |
| <hr/> | | |
| 15.1 | I/O board Configuration SIB V | 63 |
| 15.2 | I/O-signal configuration for SIB_V_B1 | 64 |
| 15.2.1 | Digital inputs | 64 |
| 15.2.2 | Digital inputs | 65 |
| 15.2.3 | Configuration cross-connections | 65 |
| 16 | Safety interface SIB V for positioner C Index | 67 |
| <hr/> | | |
| 16.1 | I/O board Configuration SIB V | 67 |
| 16.2 | I/O-signal configuration for SIB_V_B2 | 68 |
| 16.2.1 | Digital inputs | 68 |
| 16.2.2 | Digital inputs | 69 |
| 16.2.3 | Configuration cross-connections | 69 |
| 17 | Safety interface SIB V for positioner A/L/S | 71 |
| <hr/> | | |
| 17.1 | I/O board Configuration SIB V | 71 |
| 17.2 | I/O-signal configuration for SIB_V_B3 | 72 |
| 17.2.1 | Digital inputs | 72 |
| 17.2.2 | Configuration cross-connections | 74 |

1 General I/O Description

General

This description covers all signals in a standard Arc Welding System based on the standard process interface delivered by ABB Automation Technology Products AB. By using the Arc Welding System Configuration diskette as a optional boot diskette, the I/O configuration for the selected process equipment, positioners and options will be installed.

Composition

There are four standard I/O-places inside the cabinet.

The system interface is equipped with the following I/O units as standard:

- Simulated I/O Board
- Process Interface Board
- Digital I/O Board
- Software I/O Board

Unused I/O board places can be equipped with any I/O unit described in the Product Specification for the robot.

Usage

The number of I/O signals to be used is determined by different welding cell configurations:

- Welding equipment
- Positioner(s)
- Operator panel
- Cleaning equipment
- Search sensor
- Other options

To minimize the number of I/O units and signals, a simulated I/O board is used for some system signals and operator ready signals. The operator ready function is performed by using I/O cross connections with logical conditions.

System configuration

The complete I/O configuration for a specific system setup is obtained during the boot sequence. After boot-up, it is advisable to save the system configuration by making a back-up of the whole system. This shall be made in the service menu.

References

- Physical connections of I/O signals are shown in the electrical drawing for the signal interface (inside the robot control cubicle) in the System Manual.
- I/O units, CAN-bus connection and address keying are described in *Installation and Commissioning* in the "Connecting Signals" chapter in the Product Manual for the robot.

Electrical data, see Product Specification for the robot.



Note: Signals without any names in the following tables are not configured.

2 Process Interface Arcitec/MigRob

General

This chapter describes the different standard process configurations delivered by ABB Automation Technologies AB.

Power source

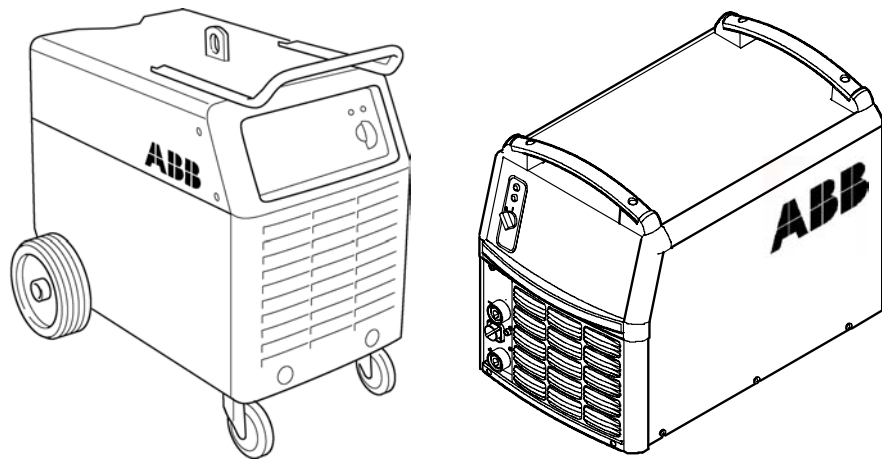


Figure 1. Power source LRC/MigRob

2.1 I/O Board configuration

| Address | Name | Board type | Digital Inputs | Digital Outputs | Analogue Inputs | Analogue Outputs |
|---------|--------------|-------------------------|----------------|-----------------|-----------------|------------------|
| 30 | B_PROC_30 | Process Interface Board | 16 | 16 | 3 | 3 |
| 40 | B_AW_PROC_40 | Power source | | | | |
| | B_SIM_AW | Simulated Digital I/O | | | | |

2.2 I/O Signals Configuration B_PROC_30

2.2.1 Digital outputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|-------------------|----------------|-----------------------------------|--------------------|------------------------|
| 48 | TB5:4 | doGAS | Activate gas valve | 42V AC | Welding equipment |
| 48 | TB5:12, TB5:13 | doGAS | Activate gas valve | closing contact | Welding equipment |
| 49 | TB5:3 | doACLN_TCH | Activate air cleaning of torch | 42V AC | Welding equipment |
| 49 | TB5:10, TB5:11 | doACLN_TCH | Activate air cleaning of torch | closing contact | Welding equipment |
| 50 | TB6:12 | doPIB6_12 | Activate push motor | 42V DC | - |
| 51 | TB4:3 | doMLUB_TCH | Activate torch lubrica- tion | 42V DC | Torch cleaner |
| 52 | TB4:4 | doMCLN_TCH | Activate mechanical cleaning | 42V DC | Torch cleaner |
| 53 | TB4:5 | doPIB4_5 | Activate wire cutter | 42V DC | - |
| 54 | TB11:4 | doPIB11_4 | Not used | 42V DC | - |
| 55 | TB5:14 | doPIB5_14 | Tig mode | 42V DC | - |
| 56 | TB5:16 | doPIB5_16 | Not used | 42V DC | - |
| 57 | TB3:1, TB3:2 | doLRB_FAN | Activate power source | closing contact | Welding equipment |
| 58 | - | doPIB_CYCLE_ON | CycleOn to PIB | logical | - |
| 59 | TB5:6 | doSE1_SEL | Select and activate sensor 1 | logical 24V DC | Internal search sensor |
| 60 | TB5:9 | doSE2_SEL | Select and activate sensor 2 | logical 24V DC | Internal search sensor |
| 61 | - | doSE_REF | Set (=Lock) reference | logical | Internal search sensor |
| 62 | - | doERR_ACK | Acknowledge error in PIB | logical | - |
| 63 | - | doFEED | Activate wire feeder | logical | Welding equipment |

2.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|--------------|----------------------------|---------|--------------------------|
| 48 | TB6:4 | diWR_EST | Water established | 42V AC | Welding equipment |
| 49 | TB6:5 | diGA_EST | Gas established | 42V AC | Welding equipment |
| 50 | TB6:3 | diARC_EST | Not used | 42V DC | Welding equipment |
| 51 | TB4:6 | diMCLN_FIN | Cleaning of torch finished | 42V DC | Torch cleaner |
| 52 | TB4:7 | sen1 | Welding wire detect | 42V DC | BullsEye |
| 53 | TB6:2 | diGUN_OK | Gun in position | 42V DC | Welding equipment |
| 54 | - | diSE1_DET | Surface detected | logical | Internal search sensor 1 |
| 55 | - | diSE2_DET | Surface detected | logical | Internal search sensor 2 |
| 56 | TB6:1 | diGUN_RESET | Gun resetted | 42V DC | Welding equipment |
| 57 | - | diSE_VALID | Sensor valid | logical | Internal search sensor |
| 58 | - | diERR_STROBE | Error indication | logical | - |
| 59 | TB6:8 | diMAN_WF | Start manual wire feed | 42V DCt | Welding equipment |
| 60 | - | diERROR_NO0 | Error code | logical | - |
| 61 | - | diERROR_NO1 | Error code | logical | - |
| 62 | - | diERROR_NO2 | Error code | logical | - |
| 63 | - | diERROR_NO3 | Error code | logical | - |

2.2.3 Analogue outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|-----------------------------|--------------|-------------------------------|-------------------|
| 0-15 | TB3:3, TB3 | aoWD_REF | MIG/MAG: voltage reference | Welding equipment |
| 16-31 | TB6:6, TB6:7, TB6:15, TB6:7 | aoFEED_REF | Wire feed reference | Welding equipment |
| 32-47 | TB3:5, TB3:4 | aoINDUCT_REF | MIG/MAG: inductance reference | Welding equipment |

2.2.4 Analogue inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|----------------|-------------|--------------------------|-------------------|
| 0-15 | TB3:7, TB3:8 | aiWDM_VOLT | Measured voltage | Welding equipment |
| 16-31 | TB11:1, TB11:2 | aiWDM_CURR | Measured current | Welding equipment |
| 32-47 | TB6:13, TB6:14 | aiWDM_SPEED | Measured wire feed speed | Welding equipment |

2.3 I/O Signals Configuration B_AW_PROC_40

2.3.1 Digital outputs

| UnitMap | Name | Description |
|---------|--------------|------------------------------------|
| 0 | doWELD | Activate ARCITEC power source |
| 1 | doQUICK_STOP | Quick stop of ARCITEC power source |
| 2 | doEmStop | Emergency stop |

2.3.2 Digital inputs

| UnitMap | Name | Description |
|---------|------------|----------------------|
| 48 | diARC_EST | Arc established |
| 49 | diWELD_EST | Power source welding |
| 56 | diWDU_Err | Weld data unit error |
| 57 | diPS_Err | Control board error |
| 64 | diERROR_1 | Error code |
| 65 | diERROR_2 | Error code |
| 66 | diERROR_3 | Error code |
| 67 | diERROR_4 | Error code |
| 68 | diERROR_5 | Error code |
| 69 | diERROR_6 | Error code |
| 70 | diERROR_7 | Error code |
| 71 | diERROR_8 | Error code |

2.3.3 Group outputs

| UnitMap | Name | Description |
|---------|--------------|--|
| 8-11 | goActWirFeed | Activate wire feed unit |
| 16-31 | goCAN_SCHED | Activate schedule number in ARCITEC power source |

2.3.4 Analogue inputs

| UnitMap | Name | Description |
|---------|-----------|-------------|
| 0-15 | aiVoltage | Voltage |
| 16-31 | aiCurrent | Current |
| 32-47 | aiPower | Power |

2.4 I/O Signals Configuration B_AW_SIM

2.4.1 Digital output

| UnitMap | Name | Description |
|---------|------------|--------------------|
| | doFEED_SIM | Activate wire feed |

Process Interface Arcitec/MigRob

I/O Signals Configuration B_AW_SIM

3 Process Interface ARCITEC/MigRob, Robot 2

General

This chapter describes the different standard process configurations delivered by ABB Automation Technologies AB.

Power source

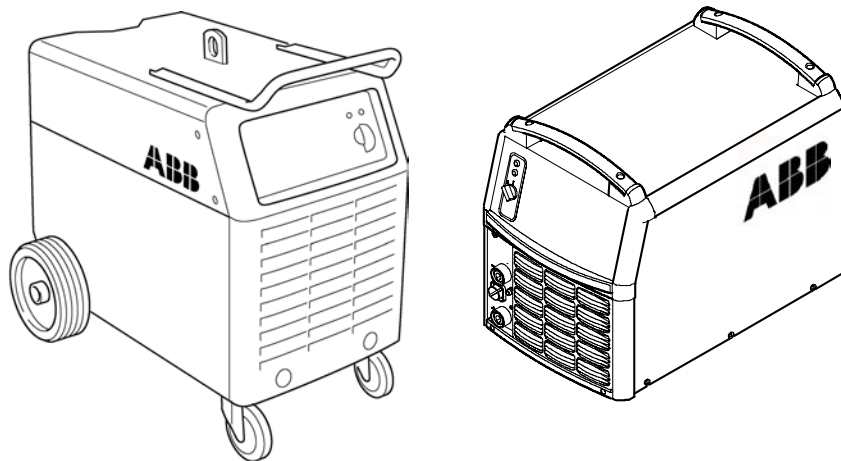


Figure 2. Power source LRC/MigRob

3.1 I/O Board configuration

| Address | Name | Board type | Digital Inputs | Digital Outputs | Analogue Inputs | Analogue Outputs |
|---------|--------------|-------------------------|----------------|-----------------|-----------------|------------------|
| 31 | B_PROC_31 | Process Interface Board | 16 | 16 | 3 | 3 |
| 41 | B_AW_PROC_41 | Power source | | | | |
| | B_SIM_AW | Simulated Digital I/O | | | | |

3.2 I/O Signals Configuration B_PROC_31

3.2.1 Digital outputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|-------------------|------------------|-----------------------------------|--------------------|------------------------|
| 48 | TB5:4 | doGAS_2 | Activate gas valve | 42V AC | Welding equipment |
| 48 | TB5:12, TB5:13 | doGAS_2 | Activate gas valve | closing contact | Welding equipment |
| 49 | TB5:3 | doACLN_TCH_2 | Activate air cleaning of torch | 42V AC | Welding equipment |
| 49 | TB5:10, TB5:11 | doACLN_TCH_2 | Activate air cleaning of torch | closing contact | Welding equipment |
| 50 | TB6:12 | doPIB6_12_2 | Activate push motor | 42V DC | - |
| 51 | TB4:3 | doMLUB_TCH_2 | Activate torch lubrica- tion | 42V DC | Torch cleaner |
| 52 | TB4:4 | doMCLN_TCH_2 | Activate mechanical cleaning | 42V DC | Torch cleaner |
| 53 | TB4:5 | doPIB4_5_2 | Activate wire cutter | 42V DC | - |
| 54 | TB11:4 | doPIB11_4_2 | Not used | 42V DC | - |
| 55 | TB5:14 | doPIB5_14_2 | Tig mode | 42V DC | - |
| 56 | TB5:16 | doPIB5_16_2 | Not used | 42V DC | - |
| 57 | TB3:1, TB3:2 | doLRB_FAN_2 | Activate power source | closing contact | Welding equipment |
| 58 | - | doPIB_CYCLE_ON_2 | CycleOn to PIB | logical | - |
| 59 | TB5:6 | doSE1_SEL_2 | Select and activate sensor 1 | logical 24V DC | Internal search sensor |
| 60 | TB5:9 | doSE2_SEL_2 | Select and activate sensor 2 | logical 24V DC | Internal search sensor |
| 61 | - | doSE_REF_2 | Set (=Lock) reference | logical | Internal search sensor |
| 62 | - | doERR_ACK_2 | Acknowledge error in PIB | logical | - |
| 63 | - | doFEED_2 | Activate wire feeder | logical | Welding equipment |

3.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|----------------|----------------------------|---------|--------------------------|
| 48 | TB6:4 | diWR_EST_2 | Water established | 42V AC | Welding equipment |
| 49 | TB6:5 | diGA_EST_2 | Gas established | 42V AC | Welding equipment |
| 50 | TB6:3 | diARC_EST_2 | Not used | 42V DC | Welding equipment |
| 51 | TB4:6 | diMCLN_FIN_2 | Cleaning of torch finished | 42V DC | Torch cleaner |
| 52 | TB4:7 | sen2 | Welding wire detect | 42V DC | BullsEye |
| 53 | TB6:2 | diGUN_OK_2 | Gun in position | 42V DC | Welding equipment |
| 54 | - | diSE1_DET_2 | Surface detected | logical | Internal search sensor 1 |
| 55 | - | diSE2_DET_2 | Surface detected | logical | Internal search sensor 2 |
| 56 | TB6:1 | diGUN_RESET_2 | Gun resetted | 42V DC | Welding equipment |
| 57 | - | diSE_VALID_2 | Sensor valid | logical | Internal search sensor |
| 58 | - | diERR_STROBE_2 | Error indication | logical | - |
| 59 | TB6:8 | diMAN_WF_2 | Start manual wire feed | 42V DCt | Welding equipment |
| 60 | - | diERROR_NO0_2 | Error code | logical | - |
| 61 | - | diERROR_NO1_2 | Error code | logical | - |
| 62 | - | diERROR_NO2_2 | Error code | logical | - |
| 63 | - | diERROR_NO3_2 | Error code | logical | - |

3.2.3 Analogue outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|-----------------------------|----------------|-------------------------------|-------------------|
| 0-15 | TB3:3, TB3 | aoWD_REF_2 | MIG/MAG: voltage reference | Welding equipment |
| 16-31 | TB6:6, TB6:7, TB6:15, TB6:7 | aoFEED_REF_2 | Wire feed reference | Welding equipment |
| 32-47 | TB3:5, TB3:4 | aoINDUCT_REF_2 | MIG/MAG: inductance reference | Welding equipment |

3.2.4 Analogue inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|----------------|---------------|--------------------------|-------------------|
| 0-15 | TB3:7, TB3:8 | aiPDM_VOLT_2 | Measured voltage | Welding equipment |
| 16-31 | TB11:1, TB11:2 | aiPDM_CURR_2 | Measured current | Welding equipment |
| 32-47 | TB6:13, TB6:14 | aiPDM_SPEED_2 | Measured wire feed speed | Welding equipment |

3.3 I/O Signals Configuration B_AW_PROC_41

3.3.1 Digital outputs

| UnitMap | Name | Description |
|---------|----------------|------------------------------------|
| 0 | doWELD_2 | Activate ARCITEC power source |
| 1 | doQUICK_STOP_2 | Quick stop of ARCITEC power source |
| 2 | doEmStop_2 | Emergency stop |

3.3.2 Digital inputs

| UnitMap | Name | Description |
|---------|--------------|----------------------|
| 48 | diARC_EST_2 | Arc established |
| 49 | diWELD_EST_2 | Power source welding |
| 56 | diWDU_Err_2 | Weld data unit error |
| 57 | diPS_Err_2 | Control board error |
| 64 | diERROR_1_2 | Error code |
| 65 | diERROR_2_2 | Error code |
| 66 | diERROR_3_2 | Error code |
| 67 | diERROR_4_2 | Error code |
| 68 | diERROR_5_2 | Error code |
| 69 | diERROR_6_2 | Error code |
| 70 | diERROR_7_2 | Error code |
| 71 | diERROR_8_2 | Error code |

3.3.3 Group outputs

| UnitMap | Name | Description |
|---------|----------------|--|
| 8-11 | goActWirFeed_2 | Activate wire feed unit |
| 16-31 | goCAN_SCHED_2 | Activate schedule number in ARCITEC power source |

3.3.4 Analogue inputs

| UnitMap | Name | Description |
|---------|-------------|-------------|
| 0-15 | aiVoltage_2 | Voltage |
| 16-31 | aiCurrent_2 | Current |
| 32-47 | aiPower_2 | Power |

3.4 I/O Signals Configuration B_AW_SIM

3.4.1 Digital output

| UnitMap | Name | Description |
|---------|------------|--------------------|
| | doFEED_SIM | Activate wire feed |

Process Interface ARCITEC/MigRob, Robot 2

I/O Signals Configuration B_AW_SIM

4 Process Interface RPB

General

This chapter describes the different standard process configurations delivered by ABB Automation Technologies AB.

Power source



Figure 3. Power source RPB

4.1 I/O Board configuration

| Address | Name | Board type | Digital Inputs | Digital Outputs | Analogue Inputs | Analogue Outputs |
|---------|-----------|-------------------------|----------------|-----------------|-----------------|------------------|
| 30 | B_PROC_30 | Process Interface Board | 16 | 16 | 3 | 3 |

4.2 I/O Signals Configuration B_PROC_30

4.2.1 Digital outputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|-------------------|----------------|-----------------------------------|--------------------|------------------------|
| 48 | TB5:4 | doGAS | Activate gas valve | 42V AC | Welding equipment |
| 48 | TB5:12, TB5:13 | doGAS | Activate gas valve | closing contact | Welding equipment |
| 49 | TB5:3 | doACLN_TCH | Activate air cleaning of torch | 42V AC | Welding equipment |
| 49 | TB5:10, TB5:11 | doACLN_TCH | Activate air cleaning of torch | closing contact | Welding equipment |
| 50 | TB6:12 | doPIB6_12 | Activate push motor | 42V DC | - |
| 51 | TB4:3 | doMLUB_TCH | Activate torch lubrica- tion | 42V DC | Torch cleaner |
| 52 | TB4:4 | doMCLN_TCH | Activate mechanical cleaning | 42V DC | Torch cleaner |
| 53 | TB4:5 | doPIB4_5 | Activate wire cutter | 42V DC | - |
| 54 | TB11:4 | doPIB11_4 | Not used | 42V DC | - |
| 55 | TB5:14 | doPIB5_14 | Tig mode | 42V DC | - |
| 56 | TB5:16 | doPIB5_16 | Not used | 42V DC | - |
| 57 | TB3:1, TB3:2 | doWELD | Activate power source | closing contact | Welding equipment |
| 58 | - | doPIB_CYCLE_ON | CycleOn to PIB | logical | - |
| 59 | TB5:6 | doSE1_SEL | Select and activate sensor 1 | logical 24V DC | Internal search sensor |
| 60 | TB5:9 | doSE2_SEL | Select and activate sensor 2 | logical 24V DC | Internal search sensor |
| 61 | - | doSE_REF | Set (=Lock) reference | logical | Internal search sensor |
| 62 | - | doERR_ACK | Acknowledge error in PIB | logical | - |
| 63 | - | doFEED | Activate wire feeder | logical | Welding equipment |

4.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|--------------|----------------------------|---------|--------------------------|
| 48 | TB6:4 | diWR_EST | Water established | 42V AC | Welding equipment |
| 49 | TB6:5 | diGA_EST | Gas established | 42V AC | Welding equipment |
| 50 | TB6:3 | diARC_EST | Not used | 42V DC | Welding equipment |
| 51 | TB4:6 | diMCLN_FIN | Cleaning of torch finished | 42V DC | Torch cleaner |
| 52 | TB4:7 | sen1 | Welding wire detect | 42V DC | BullsEye |
| 53 | TB6:2 | diGUN_OK | Gun in position | 42V DC | Welding equipment |
| 54 | - | diSE1_DET | Surface detected | logical | Internal search sensor 1 |
| 55 | - | diSE2_DET | Surface detected | logical | Internal search sensor 2 |
| 56 | TB6:1 | diGUN_RESET | Gun resetted | 42V DC | Welding equipment |
| 57 | - | diSE_VALID | Sensor valid | logical | Internal search sensor |
| 58 | - | diERR_STROBE | Error indication | logical | - |
| 59 | TB6:8 | diMAN_WF | Start manual wire feed | 42V DCt | Welding equipment |
| 60 | - | diERROR_NO0 | Error code | logical | - |
| 61 | - | diERROR_NO1 | Error code | logical | - |
| 62 | - | diERROR_NO2 | Error code | logical | - |
| 63 | - | diERROR_NO3 | Error code | logical | - |

4.2.3 Analogue outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|-----------------------------|--------------|-------------------------------|-------------------|
| 0-15 | TB3:3, TB3 | aoWD_REF | MIG/MAG: voltage reference | Welding equipment |
| 16-31 | TB6:6, TB6:7, TB6:15, TB6:7 | aoFEED_REF | Wire feed reference | Welding equipment |
| 32-47 | TB3:5, TB3:4 | aoINDUCT_REF | MIG/MAG: inductance reference | Welding equipment |

4.2.4 Analogue inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|----------------|-------------|--------------------------|-------------------|
| 0-15 | TB3:7, TB3:8 | aiPDM_VOLT | Measured voltage | Welding equipment |
| 16-31 | TB11:1, TB11:2 | aiPDM_CURR | Measured current | Welding equipment |
| 32-47 | TB6:13, TB6:14 | aiPDM_SPEED | Measured wire feed speed | Welding equipment |

Process Interface RPB

I/O Signals Configuration B_PROC_30

5 Process Interface RPB, Robot 2

General

This chapter describes the different standard process configurations delivered by ABB Automation Technologies AB.

Power source



Figure 4. Power source RPB

5.1 I/O Board configuration

| Address | Name | Board type | Digital Inputs | Digital Outputs | Analogue Inputs | Analogue Outputs |
|---------|-----------|-------------------------|----------------|-----------------|-----------------|------------------|
| 30 | B_PROC_31 | Process Interface Board | 16 | 16 | 3 | 3 |

5.2 I/O Signals Configuration B_PROC_31

5.2.1 Digital outputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|-------------------|----------------------|-----------------------------------|--------------------|------------------------|
| 48 | TB5:4 | doGAS_2 | Activate gas valve | 42V AC | Welding equipment |
| 48 | TB5:12, TB5:13 | doGAS_2 | Activate gas valve | closing contact | Welding equipment |
| 49 | TB5:3 | doACLN_TCH_2 | Activate air cleaning of torch | 42V AC | Welding equipment |
| 49 | TB5:10, TB5:11 | doACLN_TCH_2 | Activate air cleaning of torch | closing contact | Welding equipment |
| 50 | TB6:12 | doPIB6_12_2 | Activate push motor | 42V DC | - |
| 51 | TB4:3 | doMLUB_TCH_2 | Activate torch lubrica- tion | 42V DC | Torch cleaner |
| 52 | TB4:4 | doMCLN_TCH_2 | Activate mechanical cleaning | 42V DC | Torch cleaner |
| 53 | TB4:5 | doPIB4_5_2 | Activate wire cutter | 42V DC | - |
| 54 | TB11:4 | doPIB11_4_2 | Not used | 42V DC | - |
| 55 | TB5:14 | doPIB5_14_2 | Tig mode | 42V DC | - |
| 56 | TB5:16 | doPIB5_16_2 | Not used | 42V DC | - |
| 57 | TB3:1, TB3:2 | doWELD_2 | Activate power source | closing contact | Welding equipment |
| 58 | - | doPIB_CYCLE_ON_ 2 | CycleOn to PIB | logical | - |
| 59 | TB5:6 | doSE1_SEL_2 | Select and activate sensor 1 | logical 24V DC | Internal search sensor |
| 60 | TB5:9 | doSE2_SEL_2 | Select and activate sensor 2 | logical 24V DC | Internal search sensor |
| 61 | - | doSE_REF_2 | Set (=Lock) reference | logical | Internal search sensor |
| 62 | - | doERR_ACK_2 | Acknowledge error in PIB | logical | - |
| 63 | - | doFEED_2 | Activate wire feeder | logical | Welding equipment |

5.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|----------------|----------------------------|---------|--------------------------|
| 48 | TB6:4 | diWR_EST_2 | Water established | 42V AC | Welding equipment |
| 49 | TB6:5 | diGA_EST_2 | Gas established | 42V AC | Welding equipment |
| 50 | TB6:3 | diARC_EST_2 | Not used | 42V DC | Welding equipment |
| 51 | TB4:6 | diMCLN_FIN_2 | Cleaning of torch finished | 42V DC | Torch cleaner |
| 52 | TB4:7 | sen2 | Welding wire detect | 42V DC | BullsEye |
| 53 | TB6:2 | diGUN_OK_2 | Gun in position | 42V DC | Welding equipment |
| 54 | - | diSE1_DET_2 | Surface detected | logical | Internal search sensor 1 |
| 55 | - | diSE2_DET_2 | Surface detected | logical | Internal search sensor 2 |
| 56 | TB6:1 | diGUN_RESET_2 | Gun resetted | 42V DC | Welding equipment |
| 57 | - | diSE_VALID_2 | Sensor valid | logical | Internal search sensor |
| 58 | - | diERR_STROBE_2 | Error indication | logical | - |
| 59 | TB6:8 | diMAN_WF_2 | Start manual wire feed | 42V DCt | Welding equipment |
| 60 | - | diERROR_NO0_2 | Error code | logical | - |
| 61 | - | diERROR_NO1_2 | Error code | logical | - |
| 62 | - | diERROR_NO2_2 | Error code | logical | - |
| 63 | - | diERROR_NO3_2 | Error code | logical | - |

5.2.3 Analogue outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|-----------------------------|----------------|-------------------------------|-------------------|
| 0-15 | TB3:3, TB3 | aoWD_REF_2 | MIG/MAG: voltage reference | Welding equipment |
| 16-31 | TB6:6, TB6:7, TB6:15, TB6:7 | aoFEED_REF_2 | Wire feed reference | Welding equipment |
| 32-47 | TB3:5, TB3:4 | aoINDUCT_REF_2 | MIG/MAG: inductance reference | Welding equipment |

5.2.4 Analogue inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|----------------|---------------|--------------------------|-------------------|
| 0-15 | TB3:7, TB3:8 | aiPDM_VOLT_2 | Measured voltage | Welding equipment |
| 16-31 | TB11:1, TB11:2 | aiPDM_CURR_2 | Measured current | Welding equipment |
| 32-47 | TB6:13, TB6:14 | aiPDM_SPEED_2 | Measured wire feed speed | Welding equipment |

Process Interface RPB, Robot 2

I/O Signals Configuration B_PROC_31

6 Process Interface Fronius

General

This chapter describes the different standard process configurations delivered by ABB Automation Technologies AB.

6.0.1 Process Interface *DeviceNet* for Fronius

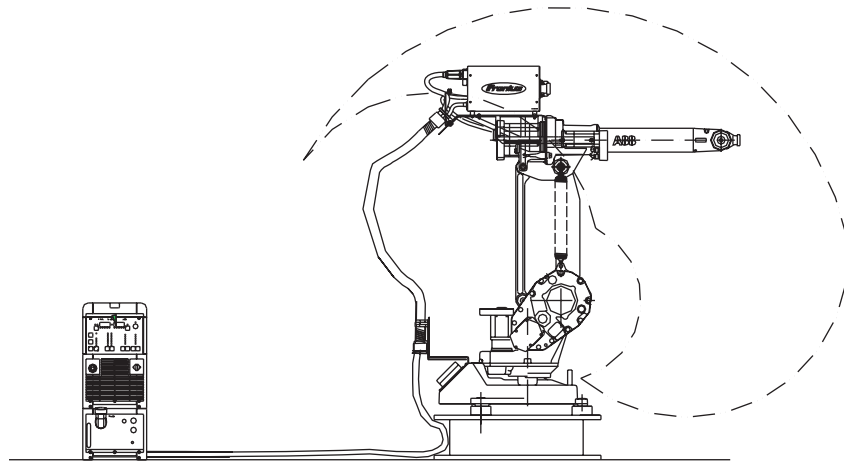


Figure 5. Welding equipment Fronius

6.1 I/O Board configuration

| Address | Name | Board type | Digital Inputs | Digital Outputs | Analogue Inputs | Analogue Outputs |
|---------|------------------|---------------|----------------|-----------------|-----------------|------------------|
| 40 | FRON_BOARD_40 | DiviceNet I/O | 96 | 96 | 4 | 4 |
| 20 | BOARD20 (Option) | Digital I/O | 16 | 16 | | |

6.2 I/O Signals Configuration FRON_BOARD_40

6.2.1 Digital outputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|--------------|--|------------------------------|-------------------|
| 0 | A204:X4 | doWeld | Welding start High active | Output 1:Bit 0 | Power source |
| 1 | A204:X4 | doQstop | Robot ready/ Fast stop High active/ low active | Output 1:Bit 1 | Power source |
| 2 | A204:X4 | doMODE_BIT1 | 000 Standard synergy 001 Pulsed synergy 010 Job mode 011 Param. selection Internal See system manual, flap 20. | Output 1:Bit 2 | Power source |
| 3 | A204:X4 | doMODE_BIT2 | | Output 1:Bit 3 | Power source |
| 4 | A204:X4 | doMODE_BIT3 | | Output 1:Bit 4 | Power source |
| 8 | A204:X4 | doGAS | Activate gas valve | Output 1:Bit 8 | Power source |
| 9 | A204:X4 | doFEED | Activate wire feeder forward | Output 1:Bit 9 | Power source |
| 10 | A204:X4 | doFEED_BWD | Activate wire feeder reverse | Output 1:Bit 10 | Power source |
| 11 | A204:X4 | doRESET_ERR | Resetting error | Output 1:Bit 11, Inverted | Power source |
| 12 | | doTOUCH_SENS | | | Power source |
| 13 | A204:X4 | do_AIR | Activate air cleaning of torch | Output 1:Bit 12 | Power source |
| 16 | A204:X4 | doJOB_BIT1 | Call job number 1 | Output 2:Bit 0 | Power source |
| 17 | A204:X4 | doJOB_BIT2 | Call job number 2 | Output 2:Bit 1 | Power source |
| 18 | A204:X4 | doJOB_BIT3 | Call job number 3 | Output 2:Bit 2 | Power source |
| 19 | A204:X4 | doJOB_BIT4 | Call job number 4 | Output 2:Bit 3 | Power source |
| 20 | A204:X4 | doJOB_BIT5 | Call job number 5 | Output 2:Bit 4 | Power source |
| 21 | A204:X4 | doJOB_BIT6 | Call job number 6 | Output 2:Bit 5 | Power source |
| 22 | A204:X4 | doJOB_BIT7 | Call job number 7 | Output 2:Bit 6 | Power source |
| 23 | A204:X4 | doJOB_BIT8 | Call job number 8 | Output 2:Bit 7 | Power source |
| 24 | A204:X4 | doPROG_BIT1 | Call in program (synergy) number 1 | Output 2:Bit 8 | Power source |
| 25 | A204:X4 | doPROG_BIT2 | Call in program (synergy) number 2 | Output 2:Bit 9 | Power source |
| 26 | A204:X4 | doPROG_BIT3 | Call in program (synergy) number 3 | Output 2:Bit 10 | Power source |

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|----------------|-------------------|-------------|---|-----------------|--------------------------|
| 27 | A204:X4 | doPROG_BIT4 | Call in program (syn- ergy) number 4 | Output 2:Bit 11 | Power source |
| 28 | A204:X4 | doPROG_BIT5 | Call in program (syn- ergy) number 5 | Output 1:Bit 0 | Power source |
| 29 | A204:X4 | doPROG_BIT6 | Call in program (syn- ergy) number 6 | Output 1:Bit 1 | Power source |
| 30 | A204:X4 | doPROG_BIT7 | Call in program (syn- ergy) number 7 | Output 1:Bit 2 | Power source |
| 31 | A204:X4 | doWELD_SIM | Simulate welding, high active | Output 1:Bit 3 | Power source |

Process Interface Fronius

I/O Signals Configuration FRON_BOARD_40

6.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|---------------|----------------------------------|------------------------------|-------------------|
| 0 | A204:X4 | diARC_EST | Welding current flow | Input 1: Bit 0 | Power source |
| 2 | A204:X4 | diPROC_ACTIVE | Welding process active | Input 1: Bit 2 | Power source |
| 3 | A204:X4 | diPOWER_ON | Main current signal | Input 1: Bit 3 | Power source |
| 4 | A204:X4 | diCOLL_SENS | Torch in position | Input 1: Bit 4 | Power source |
| 5 | A204:X4 | diPOWER_READY | Power source OK | Input 1: Bit 5, Iverterad | Power source |
| 6 | A204:X4 | diCOMM_READY | Communication OK | Input 1: Bit 6, Iverterad | Power source |
| 8 | A204:X4 | diERR_BIT1 | Error number 0-255, | Input 1: Bit 8 | Power source |
| 9 | A204:X4 | diERR_BIT2 | | Input 1: Bit 9 | Power source |
| 10 | A204:X4 | diERR_BIT3 | | Input 1: Bit 10 | Power source |
| 11 | A204:X4 | diERR_BIT4 | | Input 1: Bit 11 | Power source |
| 12 | A204:X4 | diERR_BIT5 | | Input 1: Bit 12 | Power source |
| 13 | A204:X4 | diERR_BIT6 | Error number 0-255, see above | Input 1: Bit 13 | Power source |
| 14 | A204:X4 | diERR_BIT7 | | Input 1: Bit 14 | Power source |
| 15 | A204:X4 | diERR_BIT8 | Error number 0-255, see above | Input 1: Bit 15 | Power source |

6.2.3 Analogue outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|----------------|---------------------------|-------------------|
| 1 | A204:X4 | aoPower | Power reference | Power source |
| 2 | A204:X4 | aoVoltage | Arc voltage correction | Power source |
| 3 | A204:X4 | awPulseCorr | Pulse/ Dynamic correction | Power source |
| 4 | A204:X4 | awBurnBackCorr | Burn back correction | Power source |

6.2.4 Group outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|--------|-------------------------|-------------------|
| 2-4 | A204:X4 | goMODE | Select work mode | Power source |
| 16-23 | A204:X4 | goJOB | Select job | Power source |
| 24-30 | A204:X4 | goPROG | Select program/ synergy | Power source |

6.2.5 Group input

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|----------|-------------|-------------------|
| 1 | A204:X4 | gi_error | Error codes | Power source |

6.3 I/O Signals Configuration BOARD20

6.3.1 Digital outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|------------|------------------------------|-------------------|
| 9 | X2:1 | doMCLN_TCH | Activate mechanical cleaning | TSC |
| 10 | X2:2 | doMLUB_TCH | Activate torch lubrication | TSC |
| 11 | X2:3 | doWIR_CUT | Activate wire cutter | TSC |

6.3.2 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|------------|----------------------------|-------------------|
| 1 | X3:1 | diMCLN_FIN | Cleaning of torch finished | TSC |

Process Interface Fronius

I/O Signals Configuration BOARD20

7 Process Interface Fronius, Robot 2

General

This chapter describes the different standard process configurations delivered by ABB Automation Technologies AB.

7.0.1 Process Interface *DeviceNet* for Fronius

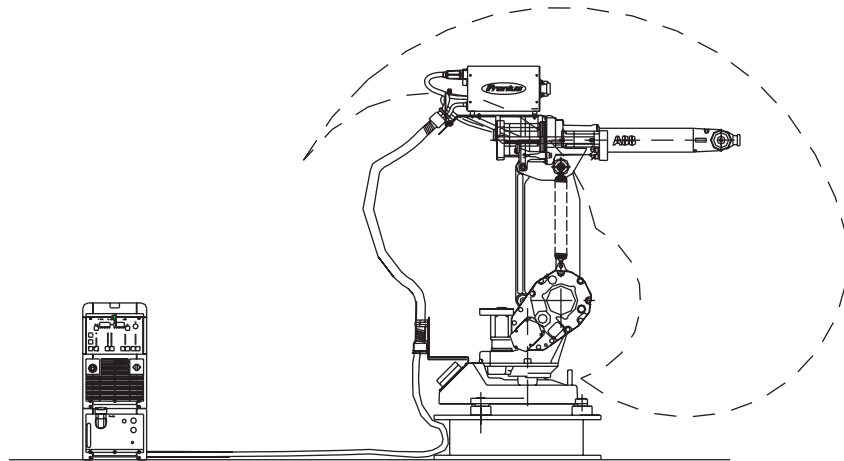


Figure 6. Welding equipment Fronius

7.1 I/O Board configuration

| Address | Name | Board type | Digital Inputs | Digital Outputs | Analogue Inputs | Analogue Outputs |
|---------|------------------|---------------|----------------|-----------------|-----------------|------------------|
| 41 | FRON_BOARD_41 | DeviceNet I/O | 96 | 96 | 4 | 4 |
| 20 | BOARD20 (Option) | Digital I/O | 16 | 16 | | |

Process Interface Fronius, Robot 2

I/O Signals Configuration FRON_BOARD_41

7.2 I/O Signals Configuration FRON_BOARD_41

7.2.1 Digital outputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|----------------|--|------------------------------|-------------------|
| 0 | A204:X4 | doWeld_2 | Welding start High active | Output 1:Bit 0 | Power source |
| 1 | A204:X4 | doQstop_2 | Robot ready/ Fast stop High active/ low active | Output 1:Bit 1 | Power source |
| 2 | A204:X4 | doMODE_BIT1_2 | 000 Standard synergy 001 Pulsed synergy 010 Job mode 011 Param. selection Internal See system manual, flap 20. | Output 1:Bit 2 | Power source |
| 3 | A204:X4 | doMODE_BIT2_2 | | Output 1:Bit 3 | Power source |
| 4 | A204:X4 | doMODE_BIT3_2 | | Output 1:Bit 4 | Power source |
| 8 | A204:X4 | doGAS_2 | Activate gas valve | Output 1:Bit 8 | Power source |
| 9 | A204:X4 | doFEED_2 | Activate wire feeder for- ward | Output 1:Bit 9 | Power source |
| 10 | A204:X4 | doFEED_BWD_2 | Activate wire feeder reverse | Output 1:Bit 10 | Power source |
| 11 | A204:X4 | doRESET_ERR_2 | Resetting error | Output 1:Bit 11, Inverted | Power source |
| 12 | | doTOUCH_SENS_2 | | | Power source |
| 13 | A204:X4 | do_AIR_2 | Activate air cleaning of torch | Output 1:Bit 12 | Power source |
| 16 | A204:X4 | doJOB_BIT1_2_2 | Call job number 1 | Output 2:Bit 0 | Power source |
| 17 | A204:X4 | doJOB_BIT2_2 | Call job number 2 | Output 2:Bit 1 | Power source |
| 18 | A204:X4 | doJOB_BIT3_2 | Call job number 3 | Output 2:Bit 2 | Power source |
| 19 | A204:X4 | doJOB_BIT4_2 | Call job number 4 | Output 2:Bit 3 | Power source |
| 20 | A204:X4 | doJOB_BIT5_2 | Call job number 5 | Output 2:Bit 4 | Power source |
| 21 | A204:X4 | doJOB_BIT6_2 | Call job number 6 | Output 2:Bit 5 | Power source |
| 22 | A204:X4 | doJOB_BIT7_2 | Call job number 7 | Output 2:Bit 6 | Power source |
| 23 | A204:X4 | doJOB_BIT8_2 | Call job number 8 | Output 2:Bit 7 | Power source |
| 24 | A204:X4 | doPROG_BIT1_2 | Call in program (syn- ergy) number 1 | Output 2:Bit 8 | Power source |
| 25 | A204:X4 | doPROG_BIT2_2 | Call in program (syn- ergy) number 2 | Output 2:Bit 9 | Power source |
| 26 | A204:X4 | doPROG_BIT3_2 | Call in program (syn- ergy) number 3 | Output 2:Bit 10 | Power source |

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|---------------|---|-----------------|-------------------|
| 27 | A204:X4 | doPROG_BIT4_2 | Call in program (syn- ergy) number 4 | Output 2:Bit 11 | Power source |
| 28 | A204:X4 | doPROG_BIT5_2 | Call in program (syn- ergy) number 5 | Output 1:Bit 0 | Power source |
| 29 | A204:X4 | doPROG_BIT6_2 | Call in program (syn- ergy) number 6 | Output 1:Bit 1 | Power source |
| 30 | A204:X4 | doPROG_BIT7_2 | Call in program (syn- ergy) number 7 | Output 1:Bit 2 | Power source |
| 31 | A204:X4 | doWELD_SIM_2 | Simulate welding, high active | Output 1:Bit 3 | Power source |

7.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Type | Connected to unit |
|---------|------------|-----------------|----------------------------------|----------------------------|-------------------|
| 0 | A204:X4 | diARC_EST_2 | Welding current flow | Input 1: Bit 0 | Power source |
| 2 | A204:X4 | diPROC_ACTIVE_2 | Welding process active | Input 1: Bit 2 | Power source |
| 3 | A204:X4 | diPOWER_ON_2 | Main current signal | Input 1: Bit 3 | Power source |
| 4 | A204:X4 | diCOLL_SENS_2 | Torch in position | Input 1: Bit 4 | Power source |
| 5 | A204:X4 | diPOWER_READY_2 | Power source OK | Input 1: Bit 5, Iverted | Power source |
| 6 | A204:X4 | diCOMM_READY_2 | Communication OK | Input 1: Bit 6, Iverted | Power source |
| 8 | A204:X4 | diERR_BIT1_2 | Error number 0-255, | Input 1: Bit 8 | Power source |
| 9 | A204:X4 | diERR_BIT2_2 | | Input 1: Bit 9 | Power source |
| 10 | A204:X4 | diERR_BIT3_2 | | Input 1: Bit 10 | Power source |
| 11 | A204:X4 | diERR_BIT4_2 | | Input 1: Bit 11 | Power source |
| 12 | A204:X4 | diERR_BIT5_2 | | Input 1: Bit 12 | Power source |
| 13 | A204:X4 | diERR_BIT6_2 | Error number 0-255, see above | Input 1: Bit 13 | Power source |
| 14 | A204:X4 | diERR_BIT7_2 | | Input 1: Bit 14 | Power source |
| 15 | A204:X4 | diERR_BIT8_2 | Error number 0-255, see above | Input 1: Bit 15 | Power source |

Process Interface Fronius, Robot 2

I/O Signals Configuration FRON_BOARD_41

7.2.3 Analogue outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|------------------|---------------------------|-------------------|
| 1 | A204:X4 | aoPower_2 | Power reference | Power source |
| 2 | A204:X4 | aoVoltage_2 | Arc voltage correction | Power source |
| 3 | A204:X4 | awPulseCorr_2 | Pulse/ Dynamic correction | Power source |
| 4 | A204:X4 | awBurnBackCorr_2 | Burn back correction | Power source |

7.2.4 Group outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|----------|-------------------------|-------------------|
| 2-4 | A204:X4 | goMODE_2 | Select work mode | Power source |
| 16-23 | A204:X4 | goJOB_2 | Select job | Power source |
| 24-30 | A204:X4 | goPROG_2 | Select program/ synergy | Power source |

7.2.5 Group input

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|------------|-------------|-------------------|
| 1 | A204:X4 | gi_error_2 | Error codes | Power source |

7.3 I/O Signals Configuration BOARD20

7.3.1 Digital outputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|--------------|------------------------------|-------------------|
| 9 | X2:1 | doMCLN_TCH_2 | Activate mechanical cleaning | TSC |
| 10 | X2:2 | doMLUB_TCH_2 | Activate torch lubrication | TSC |
| 11 | X2:3 | doWIR_CUT_2 | Activate wire cutter | TSC |

7.3.2 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------|--------------|----------------------------|-------------------|
| 1 | X3:1 | diMCLN_FIN_2 | Cleaning of torch finished | TSC |

Process Interface Fronius, Robot 2

I/O Signals Configuration BOARD20

8 Positioner Interface IRBP A

General

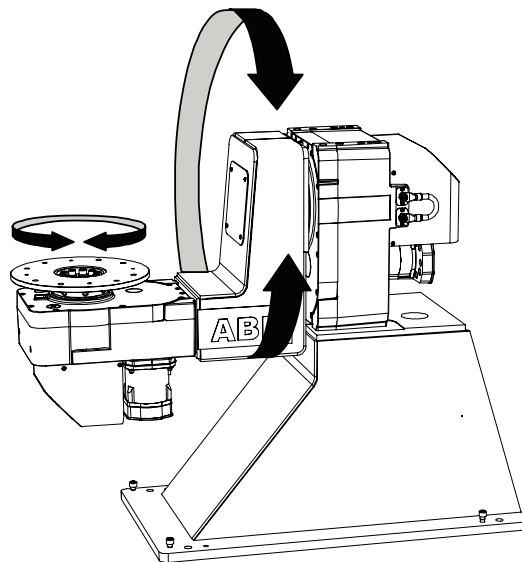
This chapter describes the I/O configurations for positioners delivered by ABB Technologies AB.

8.1 I/O board Configuration for positioner

| Address | Name | Board type | Digital inputs | Digital outputs | Digital inputs | Analogue outputs | Relay outputs |
|--------------|----------------------|-----------------------|----------------|-----------------|----------------|------------------|---------------|
| - | B_POS_SIM | Simulated digital I/O | | | | | |
| Internal bus | DRVIO_1 ¹ | Digital I/O | 7 | 12 | - | - | - |

1. The number relates to the drive module where the I/O board is located, the example shows DM1.

Positioner type IRBP A



Figur 7 Positioner type IRBP A

8.2 Simulated outputs for B_POS_SIM

8.2.1 Simulated outputs

| UnitMap | Name | Description |
|---------|------------|----------------------------|
| 0 | soACT_STN1 | Activate mechanical unit 1 |
| 1 | soACT_STN2 | Activate mechanical unit 2 |

8.2.2 Simulated inputs

| UnitMap | Name | Description |
|---------|------------|-----------------------------|
| 0 | siSTN1_ACT | Mechanical unit 1 activated |
| 1 | siSTN2_ACT | Mechanical unit 2 activated |

8.3 I/O-Signals configuration for DRVIO_1

8.3.1 Digital outputs TB4

| Output | UnitMap | Name | Description | Connected to unit |
|--------|---------|-----------------|----------------------------|-------------------|
| 1 | 0 | doACT_K1 | Activate mechanical unit 1 | Positioner |
| 2 | 1 | doACT_K2 | Activate mechanical unit 2 | Positioner |
| 3 | 2 | doACT_K3 | Activate mechanical unit 3 | Positioner |
| 4 | 3 | doACT_K4 | Activate mechanical unit 4 | Positioner |
| 5 | 4 | | | |
| 6 | 5 | doACT_K11 | Activate release break 1 | Positioner |
| 7 | 6 | doACT_K12 | Activate release break 2 | Positioner |
| 8 | 7 | doACT_K13 | Activate release break 3 | Positioner |
| 9 | 8 | doACT_K14 | Activate release break 4 | Positioner |
| 10 | 9 | | | |
| 11 | 10 | | | |
| 12 | 11 | | | |
| 13 | | 0V Output | | |
| 14 | | 24V Output 1-12 | | |

8.3.2 Digital inputs TB3

| Input | UnitMap | Name | Description | Connected to unit |
|-------|---------|---------------|-----------------------------|-------------------|
| 1 | 0 | diK1_ACT | Mechanical unit 1 activated | Positioner |
| 2 | 1 | diK2_ACT | Mechanical unit 2 activated | Positioner |
| 3 | 2 | diK3_ACT | Mechanical unit 3 activated | Positioner |
| 4 | 3 | diK4_ACT | Mechanical unit 4 activated | Positioner |
| 5 | 4 | | | |
| 6 | 5 | | | |
| 7 | 6 | | | |
| 8 | | 0 V input 1-7 | | |

8.4 Configuration cross-connections

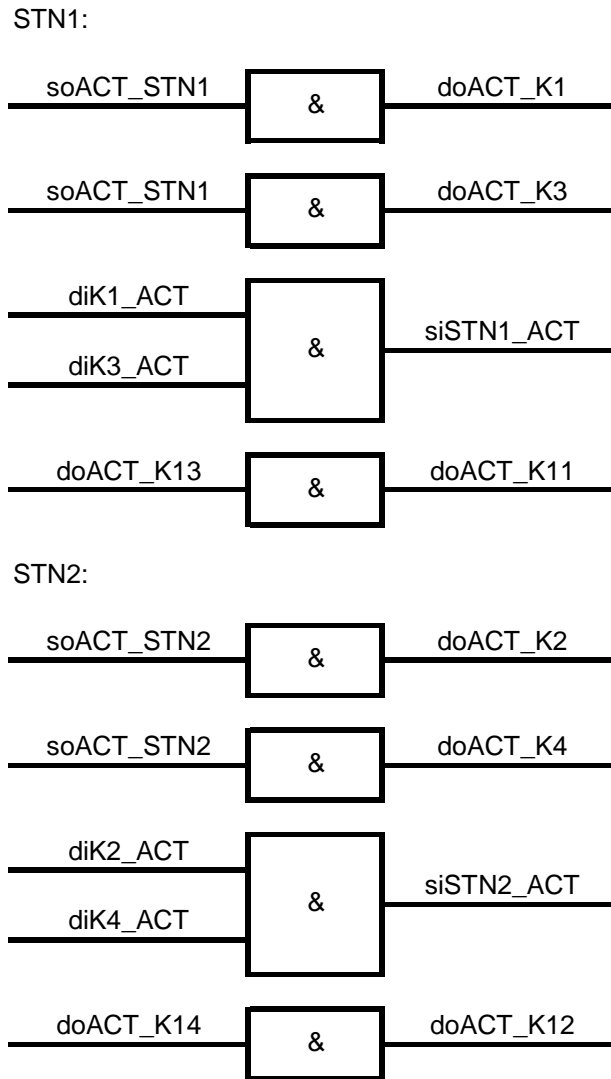


Figure 8. Cross-connection

9 Positioner Interface IRBP B/D

General

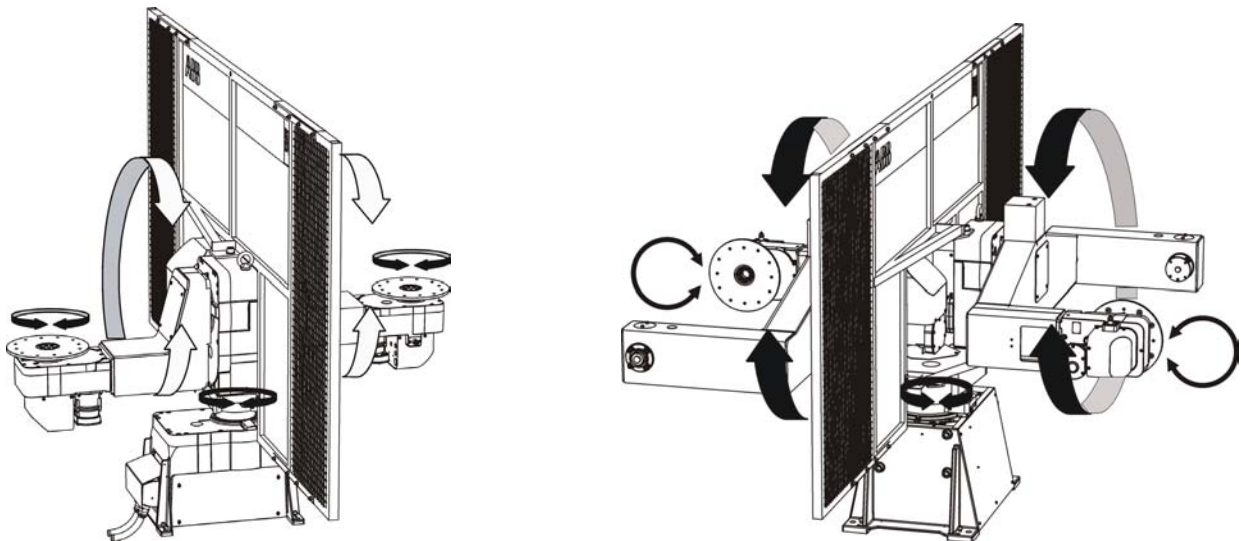
This chapter describes the I/O configurations for positioners delivered by ABB Technologies AB.

9.1 I/O board Configuration for positioner

| Address | Name | Board type | Digital inputs | Digital outputs | Digital inputs | Analogue outputs | Relay outputs |
|--------------|----------------------|-----------------------|----------------|-----------------|----------------|------------------|---------------|
| - | B_POS_SIM | Simulated digital I/O | | | | | |
| Internal bus | DRVIO_1 ¹ | Digital I/O | 7 | 12 | - | - | - |

1. The number relates to the drive module where the I/O board is located, the example shows DM1.

Positioner type IRBP B/D



Figur 9 Positioner type IRBP B/D

9.2 Simulated outputs for B_POS_SIM

9.2.1 Simulated outputs

| UnitMap | Name | Description |
|---------|-------------|----------------------------|
| 0 | soACT_STN1 | Activate mechanical unit 1 |
| 1 | soACT_STN2 | Activate mechanical unit 2 |
| 2 | soACT_INTCH | Activate mechanical unit 3 |

9.2.2 Simulated inputs

| UnitMap | Name | Description |
|---------|--------------|-----------------------------|
| 0 | siSTN1_ACT | Mechanical unit 1 activated |
| 1 | siSTN2_ACT | Mechanical unit 2 activated |
| 2 | si_INTCH_ACT | Mechanical unit 3 activated |

9.3 I/O-Signals configuration for DRVIO_1

9.3.1 Digital outputs TB4

| Output | UnitMap | Name | Description | Connected to unit |
|--------|---------|-----------------|----------------------------|-------------------|
| 1 | 0 | doACT_K1 | Activate mechanical unit 1 | Positioner |
| 2 | 1 | doACT_K2 | Activate mechanical unit 2 | Positioner |
| 3 | 2 | doACT_K3 | Activate mechanical unit 3 | Positioner |
| 4 | 3 | doACT_K4 | Activate mechanical unit 4 | Positioner |
| 5 | 4 | doACT_K5 | Activate mechanical unit 5 | Positioner |
| 6 | 5 | doACT_K11 | Activate release break 1 | Positioner |
| 7 | 6 | doACT_K12 | Activate release break 2 | Positioner |
| 8 | 7 | doACT_K13 | Activate release break 3 | Positioner |
| 9 | 8 | doACT_K14 | Activate release break 4 | Positioner |
| 10 | 9 | doACT_K15 | Activate release break 5 | Positioner |
| 11 | 10 | | | |
| 12 | 11 | | | |
| 13 | | 0V Output | | |
| 14 | | 24V Output 1-12 | | |

9.3.2 Digital inputs TB3

| Input | UnitMap | Name | Description | Connected to unit |
|-------|---------|---------------|-----------------------------|-------------------|
| 1 | 0 | diK1_ACT | Mechanical unit 1 activated | Positioner |
| 2 | 1 | diK2_ACT | Mechanical unit 2 activated | Positioner |
| 3 | 2 | diK3_ACT | Mechanical unit 3 activated | Positioner |
| 4 | 3 | diK4_ACT | Mechanical unit 4 activated | Positioner |
| 5 | 4 | diK5_ACT | Mechanical unit 5 activated | Positioner |
| 6 | 5 | | | |
| 7 | 6 | | | |
| 8 | | 0 V input 1-7 | | |

9.4 Configuration cross-connections

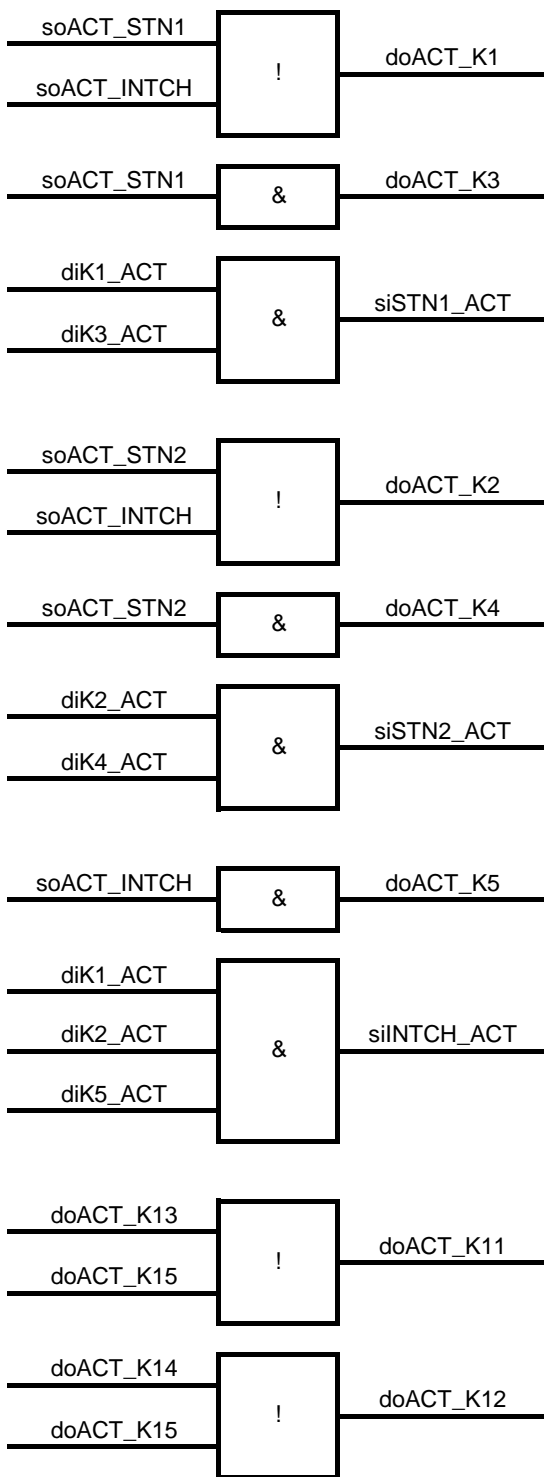


Figure 10. Cross-connections

10 Positioner Interface IRBP C

General

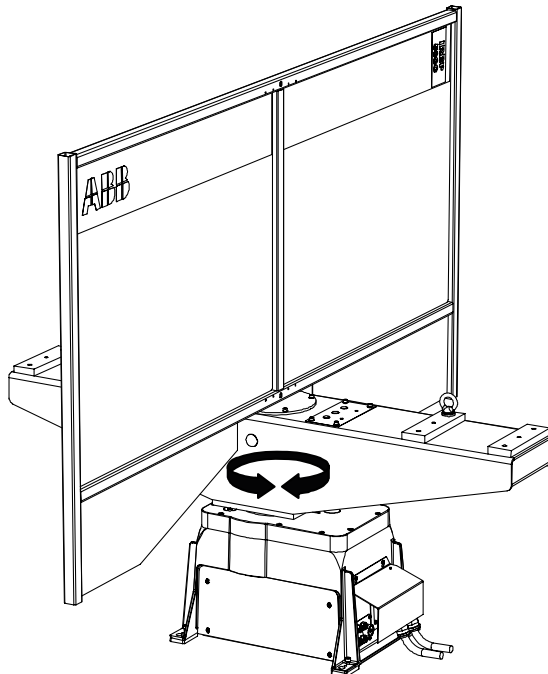
This chapter describes the I/O configurations for positioners delivered by ABB Technologies AB.

10.1 I/O board Configuration for positioner

| Address | Name | Board type | Digital inputs | Digital outputs | Analogue inputs | Analogue outputs | Relay outputs |
|--------------|----------------------|-----------------------|----------------|-----------------|-----------------|------------------|---------------|
| - | B_POS_SIM | Simulated digital I/O | | | | | |
| Internal bus | DRVIO_1 ¹ | Digital I/O | 7 | 12 | - | - | - |

1. The number relates to the drive module where the I/O board is located, the example shows DM1.

Positioner type IRBP C



Figur 11 Positioner type IRBP C

10.2 Simulated outputs for B_POS_SIM

10.2.1 Simulated outputs

| UnitMap | Name | Description |
|---------|------------|----------------------------|
| 0 | soACT_STN1 | Activate mechanical unit 1 |

10.2.2 Simulated inputs

| UnitMap | Name | Description |
|---------|------------|-----------------------------|
| 0 | siSTN1_ACT | Mechanical unit 1 activated |

10.3 I/O-Signals configuration for DRVIO_1

10.3.1 Digital outputs TB4

| Output | UnitMap | Name | Description | Connected to unit |
|--------|---------|-----------------|----------------------------|-------------------|
| 1 | 0 | | | |
| 2 | 1 | | | |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | doACT_K5 | Activate mechanical unit 1 | Positioner |
| 6 | 5 | | | |
| 7 | 6 | | | |
| 8 | 7 | | | |
| 9 | 8 | | | |
| 10 | 9 | doACT_K15 | Activate release break 1 | Positioner |
| 11 | 10 | | | |
| 12 | 11 | | | |
| 13 | | 0V Output | | |
| 14 | | 24V Output 1-12 | | |

10.3.2 Digital inputs TB3

| Input | UnitMap | Name | Description | Connected to unit |
|-------|---------|---------------|-----------------------------|--------------------------|
| 1 | 0 | | | |
| 2 | 1 | | | |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | diK5_ACT | Mechanical unit 1 activated | Positioner |
| 6 | 5 | diLS_1_INPOS | Limit switch station 1 | Station interchange unit |
| 7 | 6 | diLS_2_INPOS | Limit switch station 2 | Station interchange unit |
| 8 | | 0 V input 1-7 | | |

10.4 Configuration cross-connections

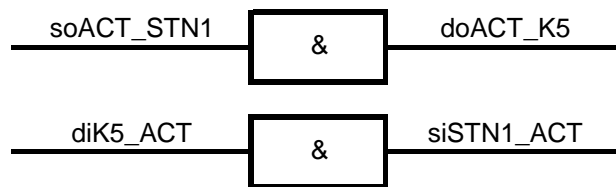


Figure 12. Cross-connections

11 Positioner Interface IRBP C Index

General

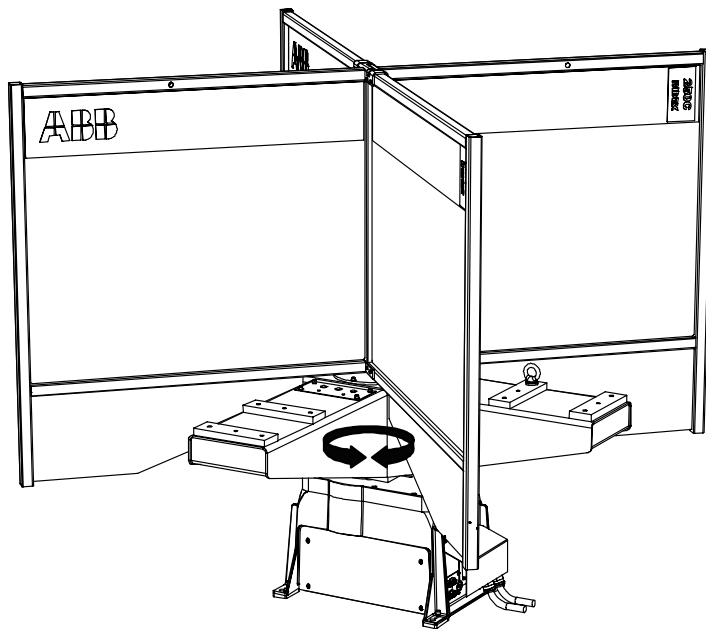
This chapter describes the I/O configurations for positioners delivered by ABB Technologies AB.

11.1 I/O board Configuration for positioner

| Address | Name | Board type | Digital inputs | Digital outputs | Analogue inputs | Analogue outputs | Relay outputs |
|--------------|----------------------|-----------------------|----------------|-----------------|-----------------|------------------|---------------|
| - | B_POS_SIM | Simulated digital I/O | | | | | |
| Internal bus | DRVIO_1 ¹ | Digital I/O | 7 | 12 | - | - | - |

1. The number relates to the drive module where the I/O board is located, the example shows DM1.

Positioner type IRBP C Index



Figur 13 Positioner type IRBP C Index

11.2 Simulated outputs for B_POS_SIM

11.2.1 Simulated outputs

| UnitMap | Name | Description |
|---------|------------|----------------------------|
| 0 | soACT_STN1 | Activate mechanical unit 1 |

11.2.2 Simulated inputs

| UnitMap | Name | Description |
|---------|------------|-----------------------------|
| 0 | siSTN1_ACT | Mechanical unit 1 activated |

11.3 I/O-Signals configuration for B_POS_21

11.3.1 Digital outputs TB4

| Output | UnitMap | Name | Description | Connected to unit |
|--------|---------|-----------------|----------------------------|-------------------|
| 1 | 0 | | | |
| 2 | 1 | | | |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | doACT_K5 | Activate mechanical unit 1 | Positioner |
| 6 | 5 | | | |
| 7 | 6 | | | |
| 8 | 7 | | | |
| 9 | 8 | | | |
| 10 | 9 | doACT_K15 | Activate release break 1 | Positioner |
| 11 | 10 | | | |
| 12 | 11 | | | |
| 13 | | 0V Output | | |
| 14 | | 24V Output 1-12 | | |

11.3.2 Digital inputs TB3

| Input | UnitMap | Name | Description | Connected to unit |
|-------|---------|---------------|-----------------------------|--------------------------|
| 1 | 0 | diLS_2_INPOS | Limit switch station 2 | Station interchange unit |
| 2 | 1 | diLS_4_INPOS | Limit switch station 4 | Station interchange unit |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | diK5_ACT | Mechanical unit 1 activated | Positioner |
| 6 | 5 | diLS_1_INPOS | Limit switch station 1 | Station interchange unit |
| 7 | 6 | diLS_3_INPOS | Limit switch station 3 | Station interchange unit |
| 8 | | 0 V input 1-7 | | |

11.4 Configuration cross-connections

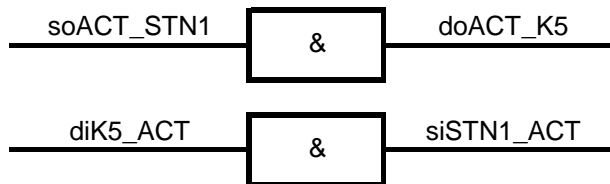


Figure 14. Cross-connections

12 Positioner Interface IRBP K/R

General

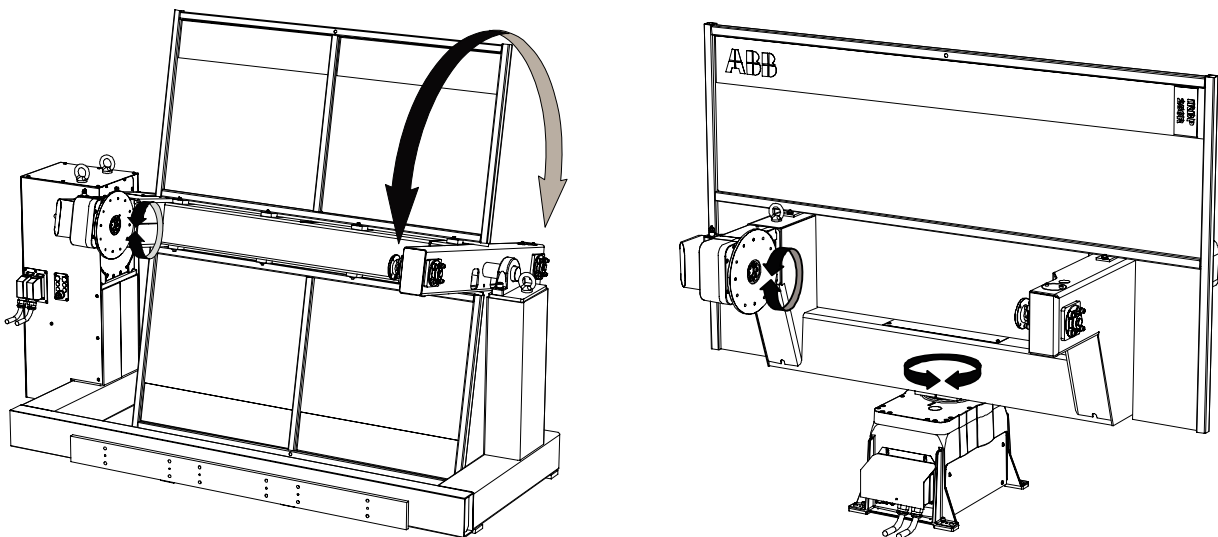
This chapter describes the I/O configurations for positioners delivered by ABB Technologies AB.

12.1 I/O board configuration for positioner

| Address | Name | Board type | Digital inputs | Digital outputs | Analogue inputs | Analogue outputs | Relay outputs |
|--------------|----------------------|-----------------------|----------------|-----------------|-----------------|------------------|---------------|
| - | B_POS_SIM | Simulated digital I/O | | | | | |
| Internal bus | DRVIO_1 ¹ | Digital I/O | 7 | 12 | - | - | - |

1. The number relates to the drive module where the I/O board is located, the example shows DM1.

Positioner type IRBP K/R



Figur 15 Positioner type IRBP R/K

Simulated outputs for B_POS_SIM

12.2 Simulated outputs for B_POS_SIM

12.2.1 Simulated outputs

| UnitMap | Name | Description |
|---------|-------------|----------------------------|
| 0 | soACT_STN1 | Activate mechanical unit 1 |
| 1 | soACT_STN2 | Activate mechanical unit 2 |
| 2 | soACT_INTCH | Activate mechanical unit 3 |

12.2.2 Simulated inputs

| UnitMap | Name | Description |
|---------|-------------|-----------------------------|
| 0 | siSTN1_ACT | Mechanical unit 1 activated |
| 1 | siSTN2_ACT | Mechanical unit 2 activated |
| 2 | siINTCH_ACT | Mechanical unit 3 activated |

12.3 I/O-Signals configuration for DRVIO_1

12.3.1 Digital outputs TB4

| Output | UnitMap | Name | Description | Connected to unit |
|--------|---------|-----------------|----------------------------|-------------------|
| 1 | 0 | doACT_K1 | Activate mechanical unit 1 | Positioner |
| 2 | 1 | doACT_K2 | Activate mechanical unit 2 | Positioner |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | doACT_K5 | Activate mechanical unit 3 | Positioner |
| 6 | 5 | doACT_K11 | Activate release break 1 | Positioner |
| 7 | 6 | doACT_K12 | Activate release break 2 | Positioner |
| 8 | 7 | | | |
| 9 | 8 | | | |
| 10 | 9 | doACT_K15 | Activate release break 3 | Positioner |
| 11 | 10 | | | |
| 12 | 11 | | | |
| 13 | | 0V Output | | |
| 14 | | 24V Output 1-12 | | |

12.3.2 Digital inputs TB3

| Input | UnitMap | Name | Description | Connected to unit |
|-------|---------|---------------|-----------------------------|--------------------------|
| 1 | 0 | diK1_ACT | Mechanical unit 1 activated | Positioner |
| 2 | 1 | diK2_ACT | Mechanical unit 2 activated | Positioner |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | diK5_ACT | Mechanical unit 3 activated | Positioner |
| 6 | 5 | diLS_1_INPOS | Limit switch station 1 | Station interchange unit |
| 7 | 6 | diLS_2_INPOS | Limit switch station 2 | Station interchange unit |
| 8 | | 0 V input 1-7 | | |

12.4 Configuration cross-connections

12.4.1 K/R 3DU (3 axes)

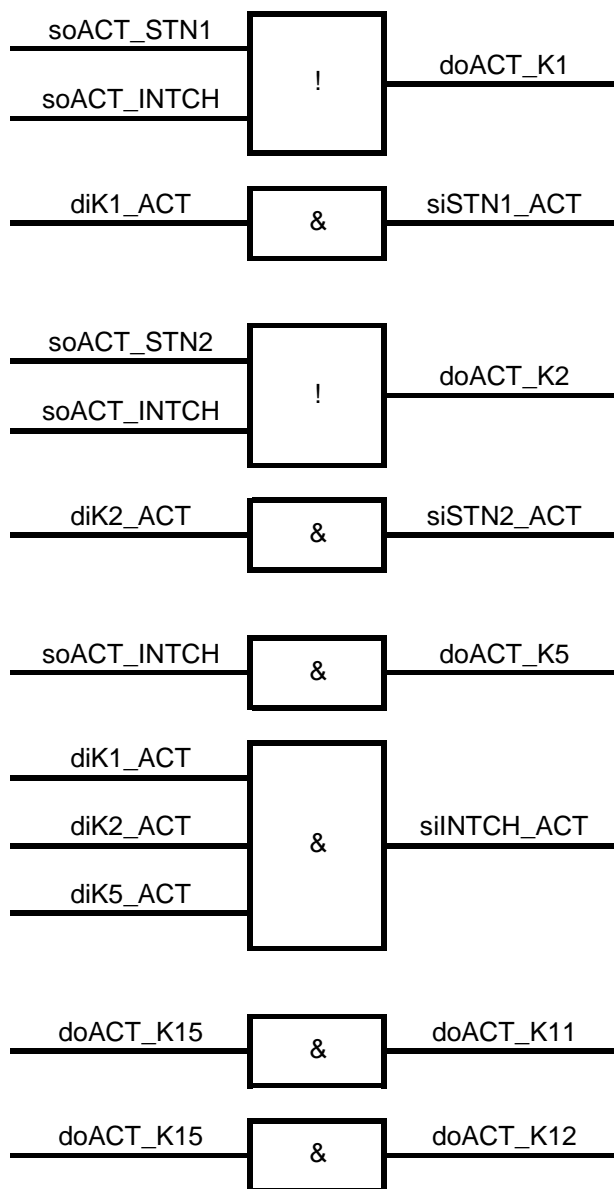


Figure 16. Cross-connections 3DU

12.4.2 K/R 1DU (1-axis)

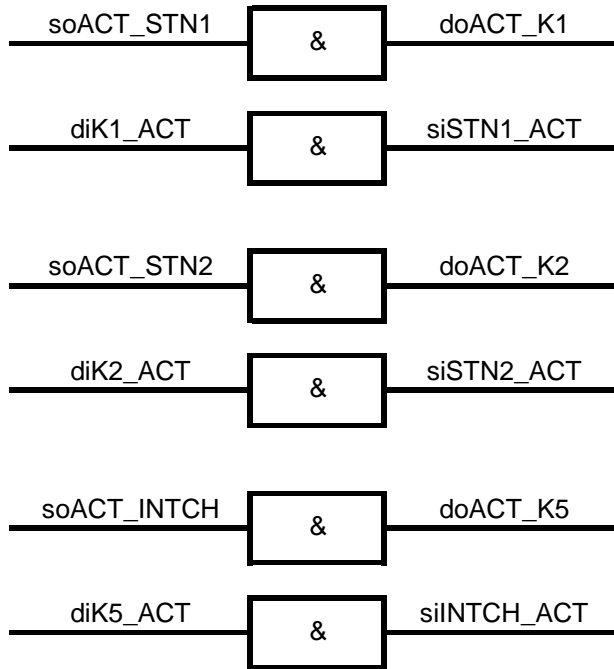


Figure 17. Cross-connections 1DU, (1-axis)

13 Positioner Interface IRBP L

General

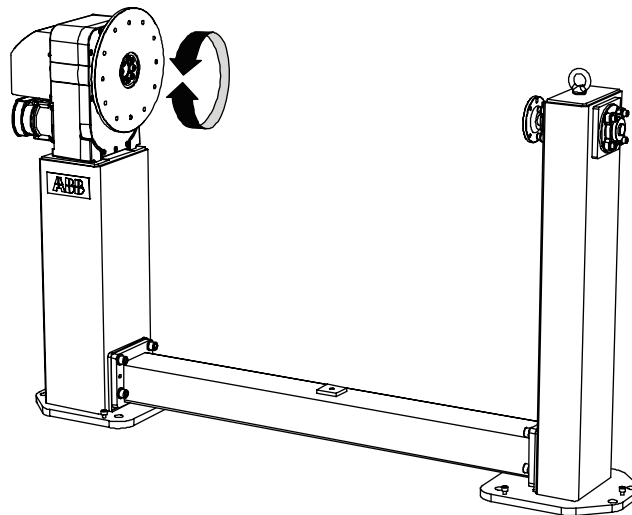
This chapter describes the I/O configurations for positioners delivered by ABB Technologies AB.

13.1 I/O board configuration for positioner

| Address | Name | Board type | Digital inputs | Digital outputs | Analogue inputs | Analogue outputs | Relay outputs |
|--------------|----------------------|-----------------------|----------------|-----------------|-----------------|------------------|---------------|
| - | B_POS_SIM | Simulated digital I/O | | | | | |
| Internal bus | DRVIO_1 ¹ | Digital I/O | 7 | 12 | - | - | - |

1. The number relates to the drive module where the I/O board is located, the example shows DM1.

Positioner type IRBP L



Figur 18 Positioner type IRBP L

13.2 Simulated outputs for B_POS_SIM

13.2.1 Simulated outputs

| UnitMap | Name | Description |
|---------|------------|----------------------------|
| 0 | soACT_STN1 | Activate mechanical unit 1 |
| 1 | soACT_STN2 | Activate mechanical unit 2 |

13.2.2 Simulated inputs

| UnitMap | Name | Description |
|---------|------------|-----------------------------|
| 0 | siSTN1_ACT | Mechanical unit 1 activated |
| 1 | siSTN2_ACT | Mechanical unit 2 activated |

13.3 I/O-Signals configuration for DRVIO_1

13.3.1 Digital outputs TB4

| Output | UnitMap | Name | Description | Connected to unit |
|--------|---------|-----------------|----------------------------|-------------------|
| 1 | 0 | doACT_K1 | Activate mechanical unit 1 | Positioner |
| 2 | 1 | doACT_K2 | Activate mechanical unit 2 | Positioner |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | | | |
| 6 | 5 | doACT_K11 | Activate release break 1 | Positioner |
| 7 | 6 | doACT_K12 | Activate release break 2 | Positioner |
| 8 | 7 | | | |
| 9 | 8 | | | |
| 10 | 9 | | | |
| 11 | 10 | | | |
| 12 | 11 | | | |
| 13 | | 0V Output | | |
| 14 | | 24V Output 1-12 | | |

13.3.2 Digital inputs TB3

| Input | UnitMap | Name | Description | Connected to unit |
|-------|---------|---------------|-----------------------------|-------------------|
| 1 | 0 | diK1_ACT | Mechanical unit 1 activated | Positioner |
| 2 | 1 | diK2_ACT | Mechanical unit 2 activated | Positioner |
| 3 | 2 | | | |
| 4 | 3 | | | |
| 5 | 4 | | | |
| 6 | 5 | | | |
| 7 | 6 | | | |
| 8 | | 0 V input 1-7 | | |

13.4 Configuration cross-connections

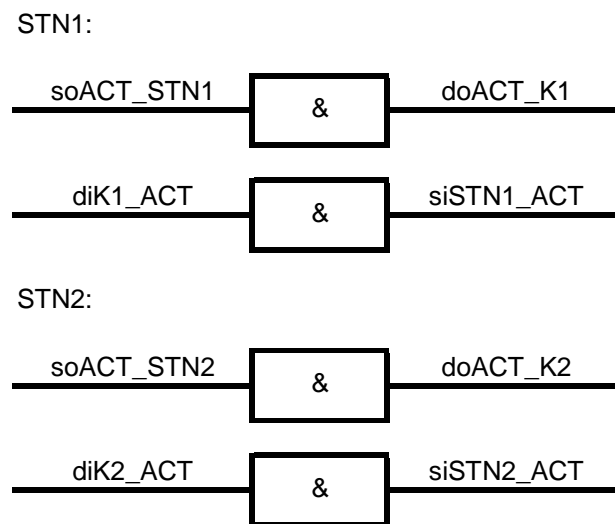


Figure 19. Cross-connections

14 Operator Interface IRBP

General

This chapter describes the I/O configurations for operator panels delivered by ABB Technologies AB.

14.1 I/O board Configuration

| Address | Name | Board type | Digital inputs | Digital outputs | Analogue outputs | Analogue outputs |
|---------|----------|-----------------------|----------------|-----------------|------------------|------------------|
| - | B_OP_SIM | Simulated digital I/O | | | | |
| 21 | B_OP_21 | Digital I/O | 12 | 7 | - | - |
| 22 | B_OP_22 | Digital I/O | 12 | 7 | - | - |

14.2 System functions

14.2.1 Inputs

| Signal name | Action |
|--------------|--------|
| diPROG_START | Start |
| diPROG_STOP | Stop |

14.2.2 Outputs

| Signal name | Status |
|-------------|---------|
| doCYCLE | CycleOn |
| doMON | MotorOn |
| doAUTO | AutoOn |

14.3 I/O-Signals configuration for B_OP_SIM

14.3.1 Digital outputs

| UnitMap | Name | Description |
|---------|---------|-------------|
| 10 | doCYCLE | CycleOn |
| 11 | doAUTO | AutoOn |
| 12 | doMON | MotorOn |

14.4 I/O Signals configuration for B_OP_21, B_OP_22

14.4.1 Digital outputs

| Output | UnitMap | Name | Description |
|--------|---------|--------------|---------------------------------------|
| 1 | 0 | doPROC1 | Operator ready activated on station 1 |
| 2 | 1 | doPROC2 | Operator ready activated on station 2 |
| 3 | 2 | doPERM_ENTR1 | Permit operator ready on station 1 |
| 4 | 3 | doPERM_ENTR1 | Permit operator ready on station 2 |

14.4.2 Digital inputs

| Input | Unit Map | Name | Description |
|-------|----------|--------------|--------------------------------|
| 1 | 0 | diPROC1 | Operator ready OK on station 1 |
| 2 | 1 | diPROC2 | Operator ready OK on station 2 |
| 3 | 2 | diPROG_START | Program start |
| 4 | 3 | diPROG_STOP | Program stop |

15 Safety interface SIB V for positioner B/C/D/K/R

General

This chapter describes the different I/O configurations for standard equipment for safety supervision SIB V, delivered by ABB Technologies AB.

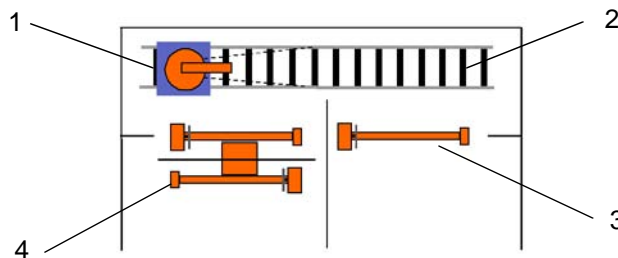
15.1 I/O board Configuration SIB V

| Address | Name | Board type | Digital inputs | Digital outputs |
|---------|----------|-------------------------------|----------------|-----------------|
| 8 | SIB_V_B1 | Safety Interface Board Type 1 | 56 | - |
| 9* | SIB_V_B1 | Safety Interface Board Type 1 | 56 | - |
| 8 | SIB_V_B2 | Safety Interface Board Type 2 | 56 | - |
| 9* | SIB_V_B2 | Safety Interface Board Type 2 | 56 | - |
| 8 | SIB_V_B3 | Safety Interface Board Type 3 | 56 | - |
| 9* | SIB_V_B3 | Safety Interface Board Type 3 | 56 | - |



*) Used as board No 2 in multi-stations applications or combinations between different types of positioners.
 Example: Robot welding station with one positioner type IRBP 250K and one positioner type IRBP 250L.

Exemple



Figur 20 Robot welding station with one positioner IRBP 250K and one positioner IRBP 250L

| Pos | Description | Pos | Description |
|-----|--------------|-----|-------------|
| 1 | Robot | 3 | IRBP 250L |
| 2 | Travel track | 4 | IRBP 250K |

15.2 I/O-signal configuration for SIB_V_B1

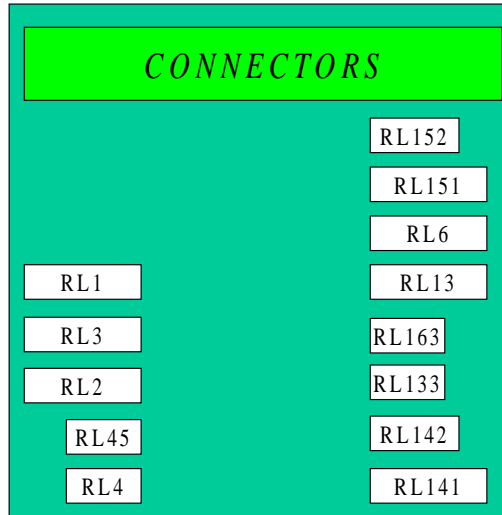


Figure 21. Unit for safety supervision SIB_V_B1

15.2.1 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|--------------------|-------------|---|--|
| 0 | TB1:8 | diASTOP_CHA | Run chain AS1- | Panel board/safety switch service door |
| 1 | TB1:4 | diASTOP_CHB | Run chain AS2+ | Panel board/safety switch service door |
| 2 | TB31:9, TB31:17 | diRL1 | Channel 1 active | Entrance protection area 1 |
| 3 | TB31:8, TB31:18 | diRL2 | Channel 2 active | Entrance protection area 1 |
| 4 | TB1:16 | diRL3 | Reset/control of function safety circuits | Entrance protection area 1 |
| 5 | TB4:4 | diRL4 | Activate entrance protection area 1 | Op-panel |
| 6 | TB2:9 | diRL13 | Indication station 1 at robot | Station interchange |
| 7 | TB2:10 | diRL133 | Indication station 1 at robot (inverted signal) | Station interchange |
| 9 | TB2:11 | diRL141 | Indication station 2 at robot | Station interchange |
| 10 | TB2:12 | diRL143 | Indication station 2 at robot (inverted signal) | Station interchange |

15.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|---------------------|-------------|--|----------------------------|
| 16 | TB1:1 | diGSTOP_CHA | Run chain GS2+ | Panel board |
| 17 | TB1:5 | diGSTOP_CHB | Run chain GS1- | Panel board |
| 24 | TB111:10, TB31:2 | diRL201 | Channel 1 active | Safety switch service door |
| 25 | TB111:8, TB31:4 | diRL202 | Channel 2 active | Safety switch service door |
| 26 | TB111:11, TB31:5 | diRL203 | Reset/control of function safety circuits | Safety switch service door |
| 27 | TB111:13, TB31:6 | diRL204 | Activate safety circuits ser- vice door | Pushbutton service door |

15.2.3 Configuration cross-connections

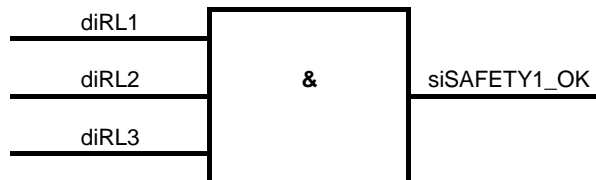


Figure 22. Cross-connections for unit for safety supervision SIB_V_typ 1

Safety interface SIB V for positioner B/C/D/K/R

Configuration cross-connections

16 Safety interface SIB V for positioner C Index

General

This chapter describes the different I/O configurations for standard equipment for safety supervision SIB V, delivered by ABB Technologies AB.

16.1 I/O board Configuration SIB V

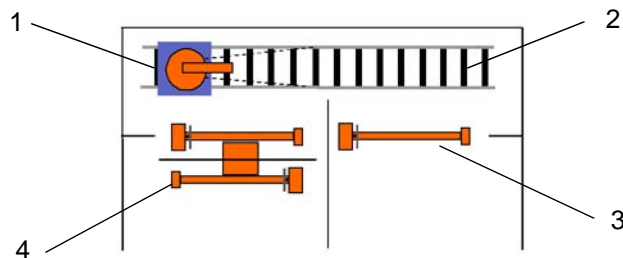
| Address | Name | Board type | Digital inputs | Digital outputs |
|---------|----------|-------------------------------|----------------|-----------------|
| 8 | SIB_V_B1 | Safety Interface Board Type 1 | 56 | - |
| 9* | SIB_V_B1 | Safety Interface Board Type 1 | 56 | - |
| 8 | SIB_V_B2 | Safety Interface Board Type 2 | 56 | - |
| 9* | SIB_V_B2 | Safety Interface Board Type 2 | 56 | - |
| 8 | SIB_V_B3 | Safety Interface Board Type 3 | 56 | - |
| 9* | SIB_V_B3 | Safety Interface Board Type 3 | 56 | - |



*) Used as board No 2 in multi-stations applications or combinations between different types of positioners.

Example: Robot welding station with one positioner type IRBP 250K and one positioner type IRBP 250L.

Exemple



Figur 23 Robot welding station with one positioner IRBP 250K and one positioner IRBP 250L

| Pos | Description | Pos | Description |
|-----|--------------|-----|-------------|
| 1 | Robot | 3 | IRBP 250L |
| 2 | Travel track | 4 | IRBP 250K |

16.2 I/O-signal configuration for SIB_V_B2

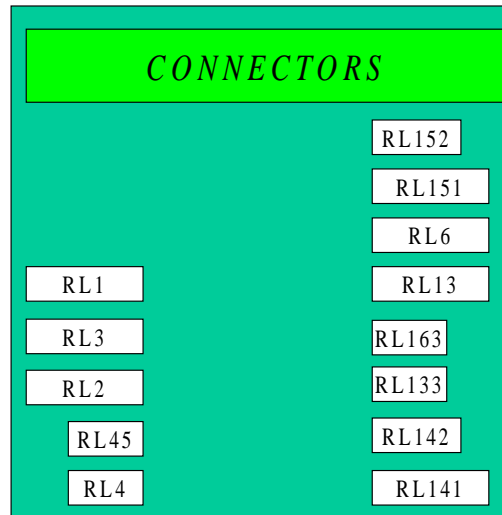


Figure 24. Unit for safety supervision SIB_V_B2

16.2.1 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|--------------------|-------------|---|--|
| 0 | TB1:8 | diASTOP_CHA | Run chain AS1- | Panel board/safety switch service door |
| 1 | TB1:4 | diASTOP_CHB | Run chain AS2+ | Panel board/safety switch service door |
| 2 | TB31:9, TB31:17 | diRL1 | Channel 1 active | Entrance protection area 1 |
| 3 | TB31:8, TB31:18 | diRL2 | Channel 2 active | Entrance protection area 1 |
| 4 | TB1:16 | diRL3 | Reset/control of function safety circuits | Entrance protection area 1 |
| 5 | TB4:4 | diRL4 | Activate entrance protection area 1 | Op-panel |
| 6 | TB2:9 | diRL13 | Indication station 1 at robot | Station interchange |
| 7 | TB2:10 | diRL133 | Indication station 1 at robot (inverted signal) | Station interchange |
| 9 | TB2:11 | diRL141 | Indication station 2 at robot | Station interchange |
| 10 | TB2:12 | diRL143 | Indication station 2 at robot (inverted signal) | Station interchange |

16.2.2 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|---------------------|-------------|---|----------------------------|
| 11 | TB2:13 | diRL151 | Indication station 2 at robot | Station interchange |
| 12 | TB2:14 | diRL153 | Indication station 2 at robot (inverted signal) | Station interchange |
| 13 | TB2:15 | diRL16 | Indication station 4 at robot | Station interchange |
| 14 | TB2:16 | diRL163 | Indication station 4 at robot (inverted signal) | Station interchange |
| 16 | TB1:1 | diGSTOP_CHA | Run chain GS2+ | Panel board |
| 17 | TB1:5 | diGSTOP_CHB | Run chain GS1- | Panel board |
| 24 | TB111:10, TB31:2 | diRL201 | Channel 1 active | Safety switch service door |
| 25 | TB111:8, TB31:4 | diRL202 | Channel 2 active | Safety switch service door |
| 26 | TB111:11, TB31:5 | diRL203 | Reset/control of function safety circuits | Safety switch service door |
| 27 | TB111:13, TB31:6 | diRL204 | Activate safety circuits service door | Pushbutton service door |

16.2.3 Configuration cross-connections

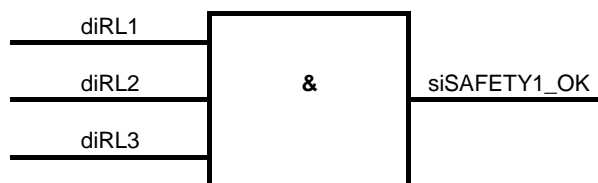


Figure 25. Cross-connections for unit for safety supervision SIB_V_typ 2

Safety interface SIB V for positioner C Index

Configuration cross-connections

17 Safety interface SIB V for positioner A/L/S

General

This chapter describes the different I/O configurations for standard equipment for safety supervision SIB V, delivered by ABB Technologies AB.

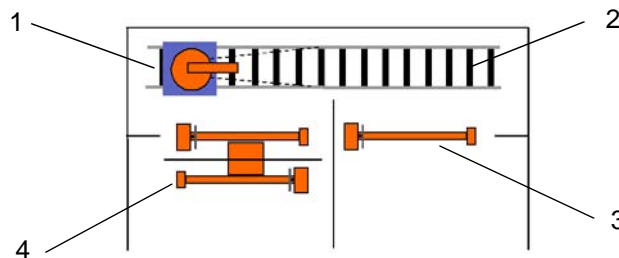
17.1 I/O board Configuration SIB V

| Address | Name | Board type | Digital inputs | Digital outputs |
|---------|----------|-------------------------------|----------------|-----------------|
| 8 | SIB_V_B1 | Safety Interface Board Type 1 | 56 | - |
| 9* | SIB_V_B1 | Safety Interface Board Type 1 | 56 | - |
| 8 | SIB_V_B2 | Safety Interface Board Type 2 | 56 | - |
| 9* | SIB_V_B2 | Safety Interface Board Type 2 | 56 | - |
| 8 | SIB_V_B3 | Safety Interface Board Type 3 | 56 | - |
| 9* | SIB_V_B3 | Safety Interface Board Type 3 | 56 | - |



*) Used as board No 2 in multi-stations applications or combinations between different types of positioners.
 Example: Robot welding station with one positioner type IRBP 250K and one positioner type IRBP 250L.

Exemple



Figur 26 Robot welding station with one positioner IRBP 250K and one positioner IRBP 250L

| Pos | Description | Pos | Description |
|-----|--------------|-----|-------------|
| 1 | Robot | 3 | IRBP 250L |
| 2 | Travel track | 4 | IRBP 250K |

17.2 I/O-signal configuration for SIB_V_B3

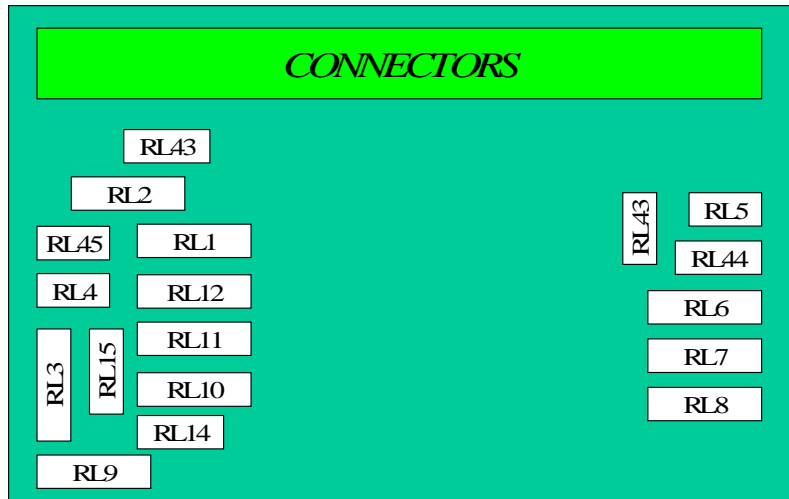


Figure 27. Unit for safety supervision SIB_V_B3

17.2.1 Digital inputs

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|----------------|-------------|---|---|
| 0 | TB1:8 | diASTOP_CHA | Run chain AS1- | Panel board/safety switch service door |
| 1 | TB1:4 | diASTOP_CHB | Run chain AS2+ | Panel board/safety switch service door |
| 2 | TB31:2,TB31:15 | diRL1 | Channel 1 active | Entrance protection area 1 |
| 3 | TB31:1,TB31:16 | diRL2 | Channel 2 active | Entrance protection area 1 |
| 4 | TB31:9 | diRL3 | Reset/control of function safety circuits | Entrance protection area 1 |
| 5 | TB33:14 | diRL11 | Channel 1 active | Station indikation switch robot in area 2 |
| 6 | TB33:15 | diRL12 | Channel 2 active | Station indikation switch robot in area 2 |
| 7 | | diRL15 | Reset/control of function safety circuits | Safety relays robot in area 2 |
| 9 | TB33:12 | diRL9 | Channel 1 active | Station indikation switch robot in area 1 |
| 10 | TB33:13 | diRL10 | Channel 2 active | Station indikation switch robot in area 1 |

| UnitMap | Connection | Name | Description | Connected to unit |
|---------|------------------------|---------------|---|-------------------------------|
| 11 | | diRL14 | Reset/control of function safety circuits | Safety relays robot in area 1 |
| 12 | TB4:4 | diRL4 | Activate entrance protection area 1 | Op-panel |
| 13 | TB4:1 | diRL5 | Activate entrance protection area 2 | Op-panel |
| 14 | TB32:9 | diRL6 | Reset/control of function safety circuits | Entrance protection area 2 |
| 16 | TB32:1,TB32:16 | diRL7 | Channel 1 active | Entrance protection area 2 |
| 17 | TB32:2,TB32:15 | diRL8 | Channel 2 active | Entrance protection area 2 |
| 18 | TB2:4, TB34:5 | diGSTOP_CHA_1 | Run chain GS2+ area1 | Panel board |
| 19 | TB1:1, TB34:3 | diGSTOP_CHA_2 | Run chain GS2+ area2 | Panel board |
| 20 | TB2:8, TB34:11 | diGSTOP_CHB_1 | Run chain GS1- area 1 | Panel board |
| 21 | TB1:5, TB34:9 | diGSTOP_CHB_2 | Run chain GS1- area 2 | Panel board |
| 24 | TB111:10, TB33:2 | diRL201 | Channel 1 active | Safety switch service door |
| 25 | TB111:8, TB33:4 | diRL202 | Channel 2 active | Safety switch service door |
| 26 | TB111:11, TB33:5 | diRL203 | Reset/control of function safety circuits | Safety switch service door |
| 27 | TB111:13, TB33:6 | diRL204 | Activate safety circuits service door | Pushbutton service door |
| 32 | TB112:10, TB33:8 | diRL401 | Channel 1 active | Home position switch |
| 33 | TB112:8,TB33:9 | diRL402 | Channel 2 active | Home position switch |
| 34 | TB112:11*), TB112:12*) | diRL403 | Reset/control of function safety circuits | Home position switch |

17.2.2 Configuration cross-connections

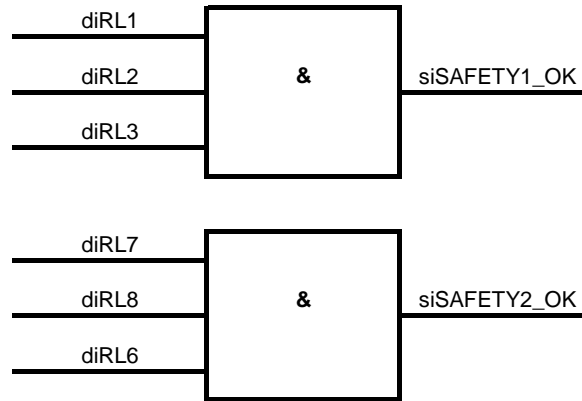


Figure 28. Cross-connections for unit for safety supervision SIB_V_typ 3

