## Addressing

An address must be set for each module to enable the basic unit to correctly access the inputs and outputs.

**A detailed description about "Addressing" can be found in the chapter "Addressing" of the basic units and couplers.**

The address setting is accomplished with the DIL switch located under the slide cover on the right side of the module housing.

When using basic units 07 KR 91, 07 KT 92 to 07 KT 97 as bus master, the following address assignments apply:

| Basic units   07 KR 91 / 07 KT 92 to 97 | | | |
|---|---|---|---|
| Terminal | Input | Terminal | Input |
| 5 | E n,00 | 30 | E n+1,00 |
| 6 | E n,01 | 31 | E n+1,01 |
| 7 | E n,02 | 32 | E n+1,02 |
| 8 | E n,03 | 33 | E n+1,03 |
| 9 | E n,04 | 34 | E n+1,04 |
| 10 | E n,05 | 35 | E n+1,05 |
| 11 | E n,06 | 36 | E n+1,06 |
| 12 | E n,07 | 37 | E n+1,07 |
| | | | |
| 15 | E n,08 | 40 | E n+1,08 |
| 16 | E n,09 | 41 | E n+1,09 |
| 17 | E n,10 | 42 | E n+1,10 |
| 18 | E n,11 | 43 | E n+1,11 |
| 19 | E n,12 | 44 | E n+1,12 |
| 20 | E n,13 | 45 | E n+1,13 |
| 21 | E n,14 | 46 | E n+1,14 |
| 22 | E n,15 | 47 | E n+1,15 |

n: Module address, can be set with address DIL
   switch with switches 2...7.
   Recommended module addresses
   for  07 KR 91 / 07 KT 92 to 97 as bus master:
   08, 10, 12....60 (even-numbered addresses)

The module occupies **two** addresses on the CS31 system bus for inputs.

Switches 1 and 8 of the address DIL switch must be set to OFF.

Fig 4.1-3: Addresses of the channels

Note:

Module 07 DI 92 reads the position of the address switch **only** during the initialization after the power was switched on, which means, that changes of the setting during operation will remain ineffective until the next initialization.

## Input/output configuration

No configuration data are required for the 07 DI 92.

## Normal operation

- The module automatically initializes after the power has been switched on. During that time, all LEDs are switched on.

- When the CS31 system bus does not run, LED ③ flashes

- The LED ③ goes out again after the system bus runs correctly and the unit does not detect any error.

- The 32 green LEDs ① show the signal status of the 32 inputs.

## Displays

By pressing the test button, an LED test is initiated. All LEDs must light up. Following that, the position of the address switch is displayed for about 3 seconds by LEDs 00 to 07 which was set by module 07 DI 92 during the initialization. In this case LED 00 shows the setting of switch 1 (LEDs 0...7 are assigned to switches 1...8 ).

## Technical data 07 DI 92

In general, the technical system data listed under "System data and system configuration" in chapter 1 of volume 2 of the Advant Controller 31 system description are valid. Additional data or data which are different from the system data are listed as follows.

### Technical data for the complete unit

| | |
|---|---|
| Permissible temperature range during operation | 0...55 °C |
| Rated supply voltage | 24 V DC |
| Nominal signal voltage at inputs | 24 V DC |
| Max. current consumption | 0.15 A |
| Max. nominal load capacity for supply terminals | 4.0 A |
| Max. power dissipation inside the unit | 10 W |
| Protection against incorrect polarity of supply voltage | yes |

Conductor cross section
    for removable connectors

| | |
|---|---|
|         power supply | max. 2.5 mm$^2$ |
|         CS31 system bus | max. 2.5 mm$^2$ |
|         signal terminals | max. 1.5 mm$^2$ |
|         reference potentials ZP0, ZP1, ZP2, ZP3 | max. 1.5 mm$^2$ |

| | | |
|---|---|---|
| Number of inputs | | 32 |
| Electrical isolation | CS31 system bus | from the rest of the unit |
| | inputs | group from group, all groups from the rest of the unit |
| Reference potential for inputs | | each group has a separate reference potential see Fig. 4.1-2 |
| Number of interfaces | | 1 CS31 system bus interface |
| Address setting | | Coding switch under the cover located on the right side of the housing |
| Operation and error displays | | a total of 33 LEDs |

### Technical data for the digital inputs

| | |
|---|---|
| Number of channels per module | 32 |
| Division of channels into groups | 4 groups with 8 channels each, channels En,00...En,07 and En,08...En,15 channels En+1,00...En+1,07 and En+1,08...En+1,15 |
| Reference potentials for the inputs | ZP0, ZP1, ZP2 and ZP3 |
| Electrical isolation | group from group, all groups from the rest of the unit |
| Input signal delay | typ. 7 ms |
| Signalization of the input signals | one green LED per channel, LEDs activated according to the input signal |

Input signal voltage

| | |
|---|---|
|     0 signal | 24 V DC<br>- 30 V...+ 5 V |
|     1 signal | + 13 V...+ 30 V |
|     residual ripple  for 0 signal | within - 30 V...+ 5 V |
|                 for 1 signal | within + 13 V...+ 30 V |

Input current per channel
    input voltage = + 24 V                    typ.  7.0 mA
    input voltage = +  5 V                    $\geq$     0.2 mA
    input voltage = + 13 V                    $\geq$     2.0 mA
    input voltage = + 30 V                    $\leq$     9.0 mA

Conductor cross section
    for the removable terminal blocks          max. 1.5 mm$^2$ (distance between terminals 3.81 mm)

## Connection to the CS31 system bus

Interface standard                          EIA RS-485

Electrical isolation                        against supply voltage, inputs and outputs

Conductor cross section
    for the removable terminal blocks          max. 2.5 mm$^2$ (grid space 5.08 mm)

## Mechanical data

Mounting and DIN rail                    according to DIN EN 50022–35, 15 mm deep.
                                                The DIN rail is centrally positioned between upper
                                                and lower edge of the module.

Mounting with screws                    4 screws M4

Width x height x depth                  120 x 140 x 85 mm

Connection method                    removable connectors with screw-type terminals
        cross section                 max. 2.5 mm$^2$ (grid space 5.08 mm)
                                            max. 1.5 mm$^2$ (grid space 3.81 mm)

Weight                                  450 g

Dimensions for installation             see illustration on next page

## Installation instructions

Mounting position                      vertical, connectors must point upward and downward

Cooling                             The natural convection cooling must not be obstructed
                                            by cable ducts or other components in the cabinet

## Ordering data

Module 07 DI 92                      Order No. GJR5 2524 00 R0101

Scope of delivery                      Digital input module 07 DI 92
                                  1 5-pin connector (grid space 5.08 mm)
                                  1 3-pin connector (grid space 5.08 mm)
                                  4 10-pin connectors (grid space 3.81 mm)