

# CHANNEL LIST

## DAAB CONTROL UNIT EP104 V4.08

The installer's guide for EP104

For complete instructions refer to the instruction manual of EP104 and other documentation that accompanies delivery




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## Connections

- Safety

 The electrical connections may only be made by a qualified electrician, who accepts responsibility for ensuring that the electric connections have been carried out in accordance with the applicable standards and this instruction manual.

Always disconnect the power supply when connecting the control box.

Mechanical installation of the control unit must be carried out by persons with the necessary knowledge for the task.

- Installation

The location of the control unit must be selected with regard to the protection class of the enclosure, at least IP54. A heating and/or cooling element should be included if necessary to maintain the operating temperature stated in the technical specification.

The control unit must be securely fixed to a wall or a bracket intended for this purpose, using screw joints. The fixing holes are on the rear or underside of the enclosure.

Cables into and out of the enclosure must have cable entry seals that are approved for use with the particular cable. Cables outside the enclosure must be securely fixed to the surrounding structure. They must not hang loose and there must be no possibility of them catching on passing objects.

- High current

The power supply must be connected via a lockable main switch, and have T10A protection.

Connect the incoming earth to the earth bar.

Check that the power supply and motor voltage are compatible.

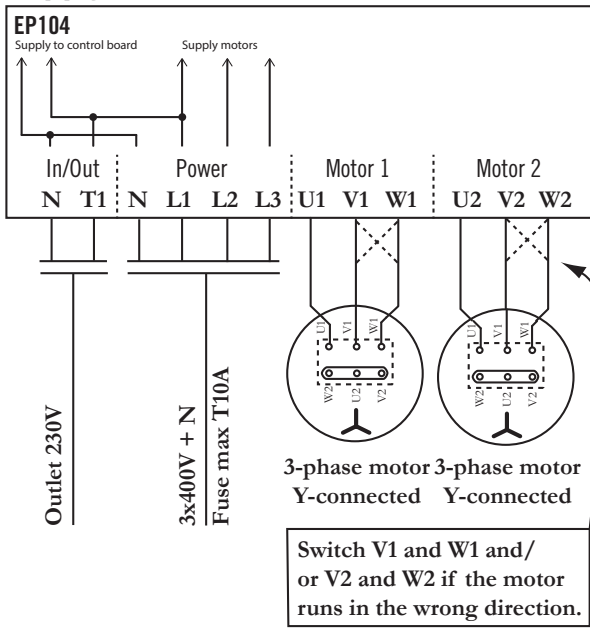
### Motors

The largest motor that can be connected is 1.5 kW (3-phase 3x400 V).

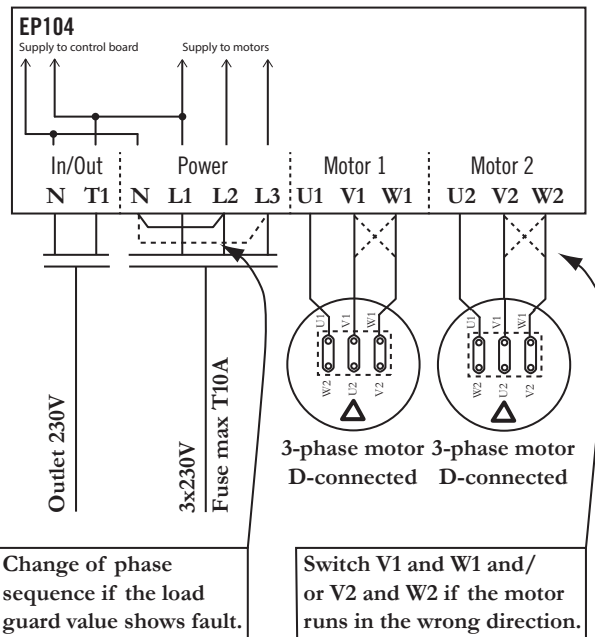
See "Commissioning" for details of how to check the direction of rotation.

### Connecting motors to the EP104

#### Supply 3x400V with neutral

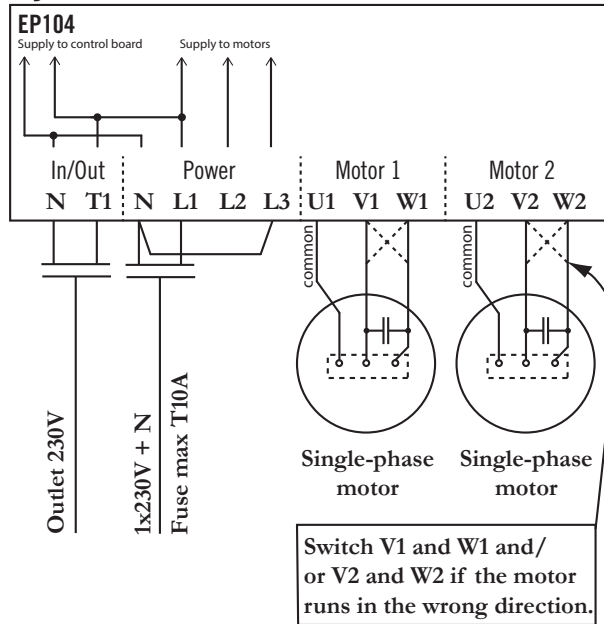


#### Supply 3x230V without neutral



For information about connecting to the frequency converter, see the instructions for add-in card DB409.

### Supply 1x230V with neutral (symmetrical)

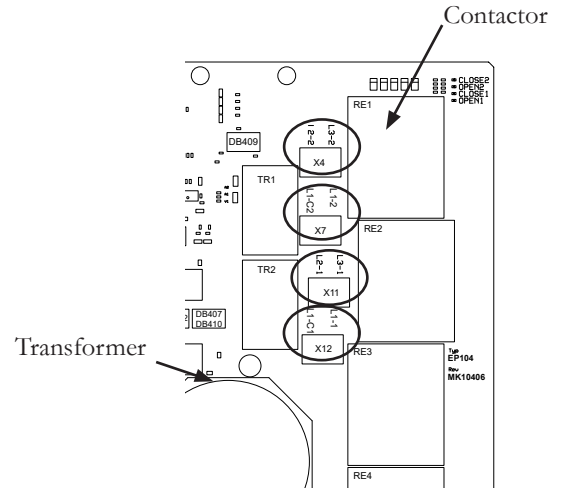


If a symmetrical single-phase motor is used (as shown on the left) make the following changes.

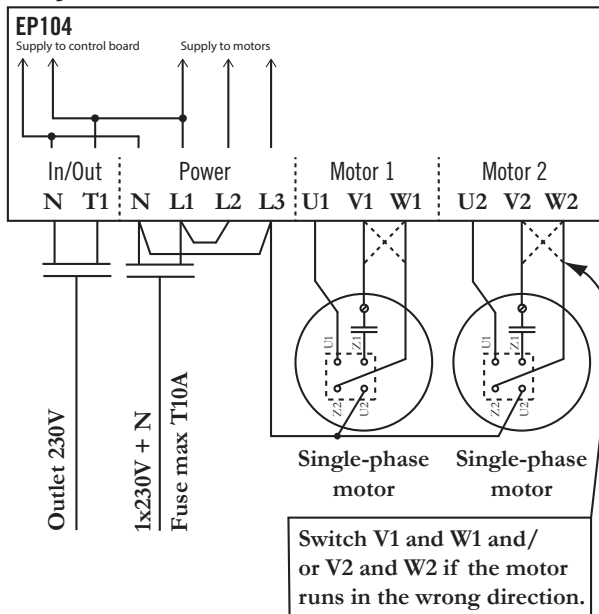
**EP104-1:** Swap the cable at X12: L1-1 with X12: L1-CUR1.

**EP104-2:** Remove the cable between X11: L2-1 and X4: L2-2.

Swap the cable at X12: L1-1 with X12: L1-CUR1. Swap the cable at X7: L1-2 with X7:L1-CUR2. See the diagram below for the terminal locations.



### Supply 1x230V with neutral (asymmetrical)



• Connecting a safety edge

The safety edge resistor must be installed in the safety edge so that an open-circuit in the resistor or the cable is interpreted as actuation of the device. See the wiring diagram below. SE.C1 and SE.O1 must be used for a safety edge connected to the half to which motor 1 is connected, and SE.C2 and SE.O2 to the half to which motor 2 is connected.

The resistor can be between 1.0-8.2 kΩ with a 1% tolerance and a power capability of at least ½ W. FAAC Nordic AB recommends an impedance of 8.2 kΩ. A safety edge can only be connected in series.

When connecting in series, only one resistor is used in the outermost safety edge, as shown in the wiring diagram below. The maximum number of safety edges connected in series with an impedance of 8.2 kΩ is six per input.

Note that the impedance used for a safety edge must be checked and entered into the EP104 during commissioning, see Commissioning below.

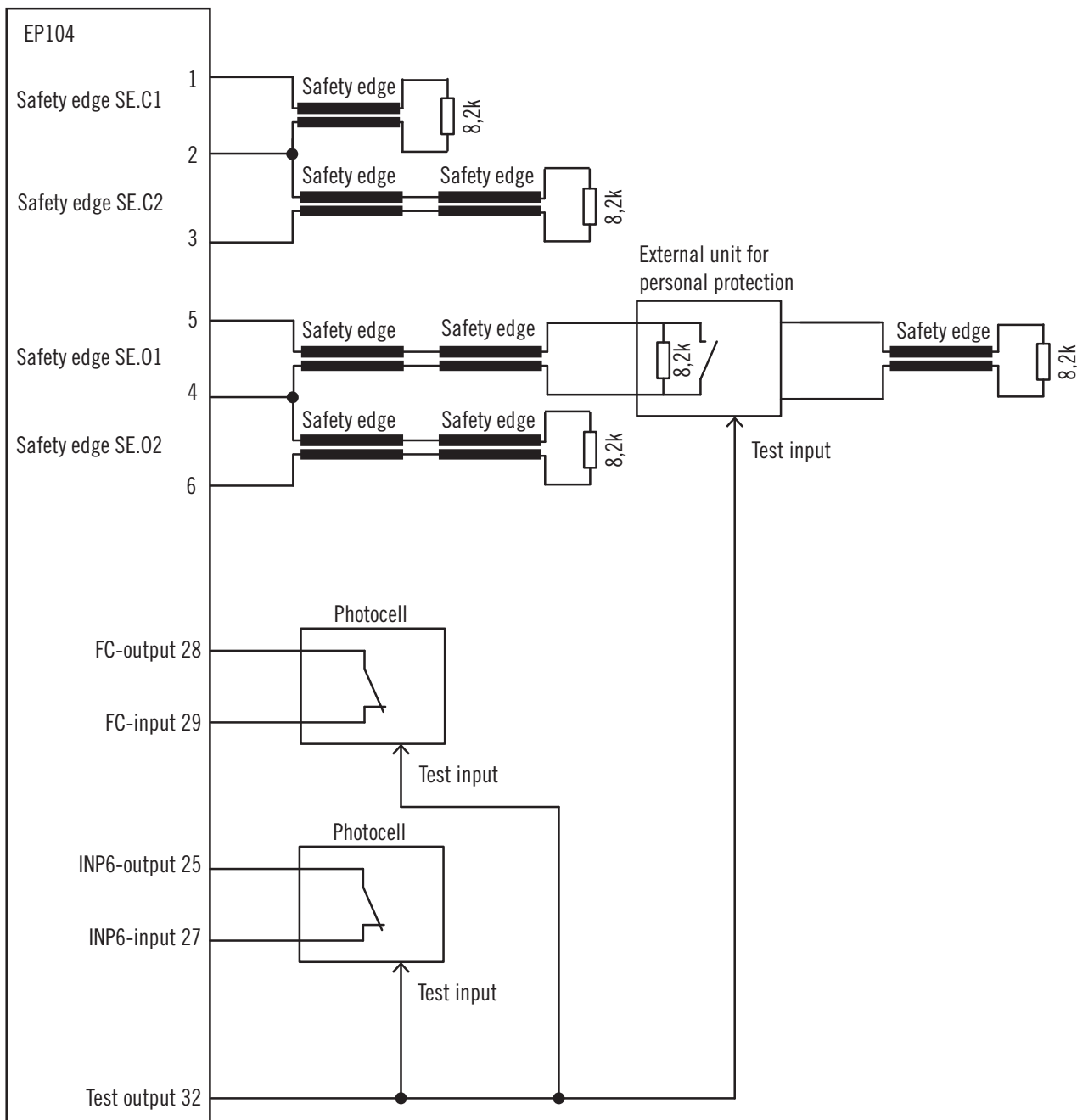
 Other types of impedance safety edge must not be connected directly to the safety edge inputs – they require an external control unit.

See the instruction manual for these safety edges.

Use only safety edges approved by FAAC Nordic AB.

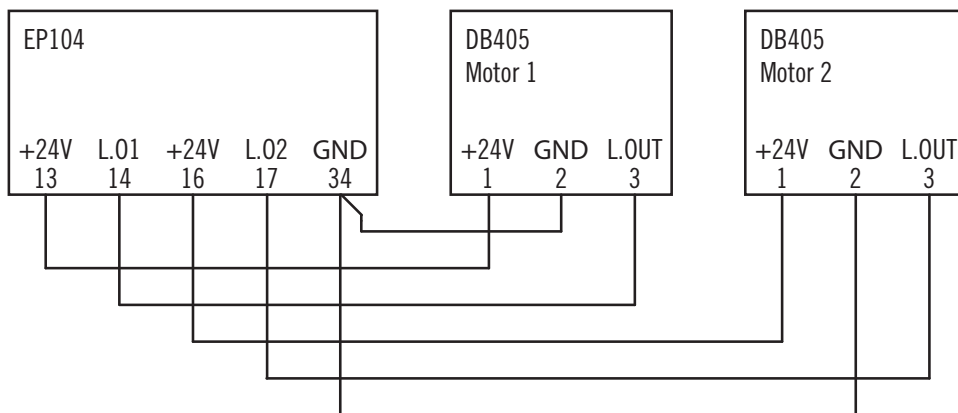
• Connecting safety edges and photocells

The diagram below illustrates how to connect an external safety edge unit.

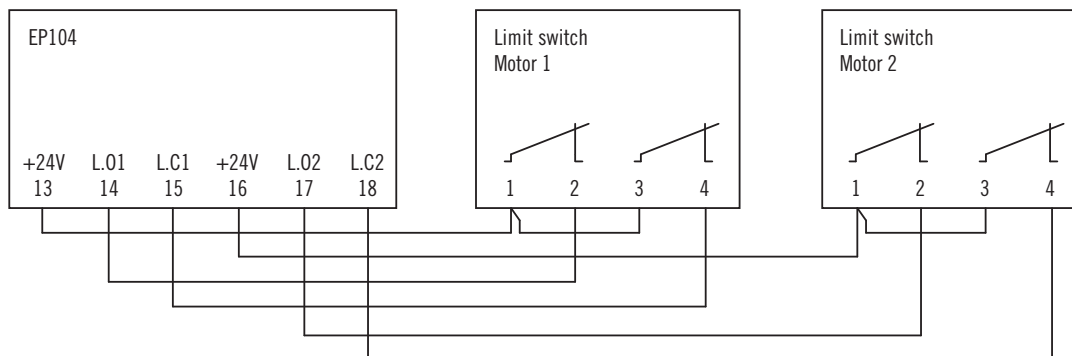


• **Connecting an encoder (electronic limit switch)**

EP104 supports DB405 type encoders. The encoder uses the same terminals as a conventional mechanical limit switch. The two diagrams below illustrate how to connect the encoder, and they also show which is the left and right motor from the point of view of the automatic control unit. Make sure the cable to the encoder does not share the same buried pipe as the motor power supply.

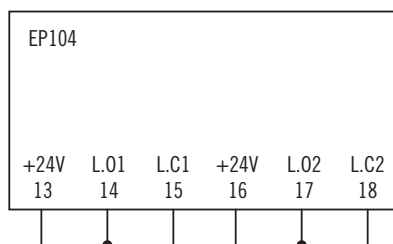


• **Connecting a mechanical limit switch (microswitch)**

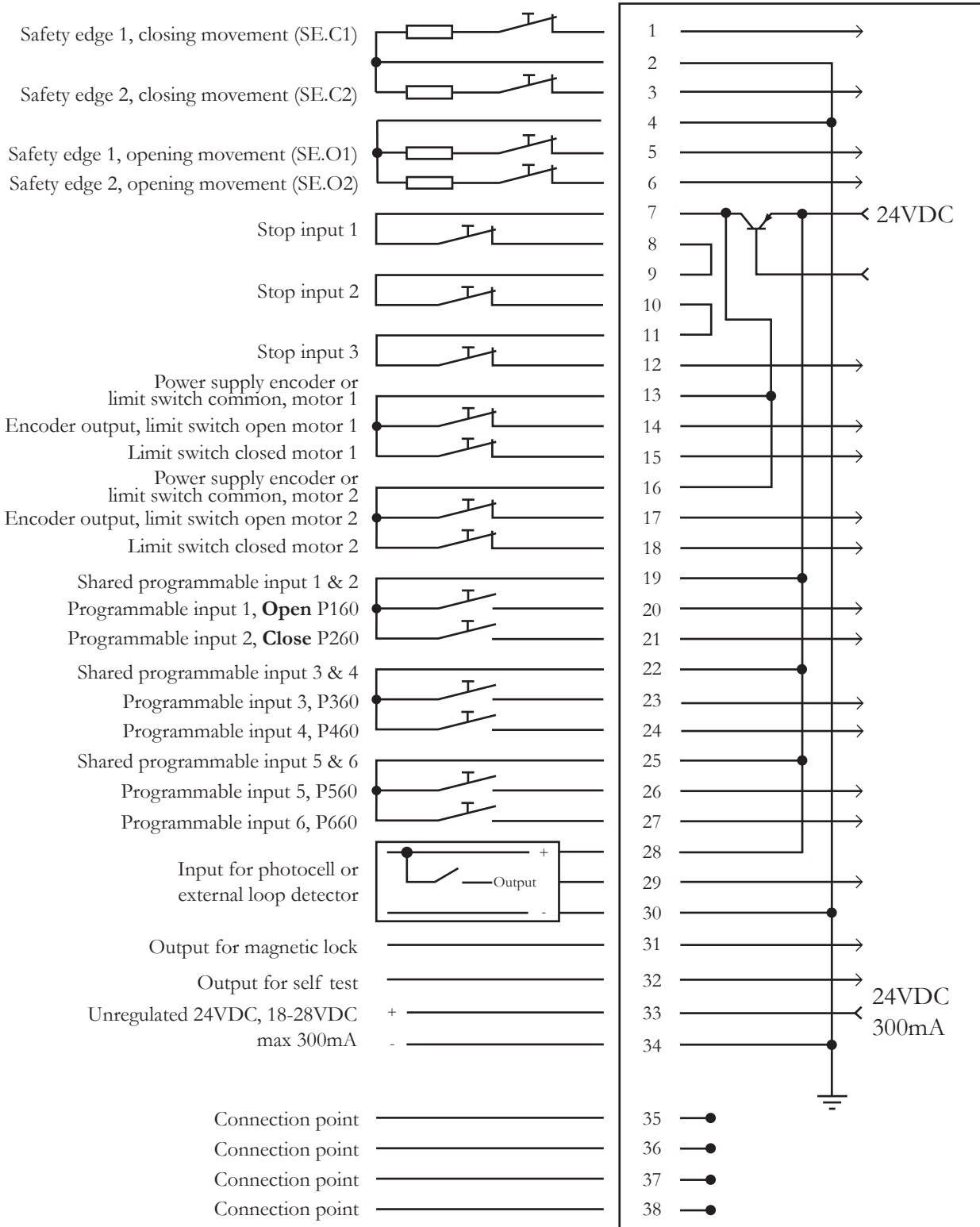


• **Connecting timer control limit switches**


Limit switches can still be used with timer control – they are connected as shown above (mechanical limit switch) but only for the open position. If there is no limit switch, make the connections as shown below. A mechanical stop in the open position must be fitted.



• Signal reference




• Low current

 The safety circuit, safety edge or limit switch must not be connected to, or used for, any other function. If signals from the EP104 are needed, a separate output card must be used.

The connection instructions are the same for all types of application, but not all signals may be needed.

If stop signals are unused, the associated input signals must be jumpered on the terminal block, see "Signal reference".

 Note that the 24 V for the stop circuit must not be combined with other 24 V circuits.



## Technical specification

|                                       |  |
|---------------------------------------|--|
| Dimensions (WxHxD)                    | 190x224x60 mm.   |
| Power supply                          | 3-phase or single-phase.   |
| Power supply                          | 3x400 V+N+PE, 3x230 V+PE, 1x230 V+N+PE, 3x400 V+PE (requires an external transformer)  |
| Permitted voltage variation           | ±10%   |
| Frequency                             | 50 Hz.   |
| Motor in 3-phase operation<br>3x400 V | 3-phase asynchronous motor 0.18-1.5 kW.  |
| Motor in 3-phase operation<br>3x230 V | 3-phase asynchronous motor 0.18-0.75 kW.   |
| Motor in single-phase<br>operation    | Single-phase motor with capacitor 0.18-0.37 kW.  |
| Fuses                                 | External fuse max. T10A.   |
| Power consumption                     | Automatic control unit 22 VA + electric motors.  |
| Operating mode                        | Intermittent operation 50% / maximum period of operation 4 minutes   |
| Temperature range                     | 0 to 45 °C.  |
| Safety edge                           | 2 closing inputs SE.C1 and SE.C2 for a safety edge while closing.<br>2 opening inputs SE.O1 and SE.O2 for a safety edge while opening.<br>Variable impedance 1.0-9.9 kΩ, power capability at least 0,5 W.  |
| Safety circuit                        | Maximum resistance 3 Ω in total throughout the safety circuit.<br>Cable length 0.75 mm <sup>2</sup> max. 60 m. Cable length 1.5 mm <sup>2</sup> max. 120 m.  |
| Internal motor protection             | Setting range 0.5-6 A.   |
| Load guard                            | Setting range 0.05-1.99 kW.  |
| Programmable inputs                   | 6 pieces<br>Low level 0-8 VDC, High level 12-30 VDC.<br>Input current 5 mA at 24 VDC.<br>Cable length 200 meter at the cable area 0,75 mm <sup>2</sup> (Ø 1 mm)  |
| Limit switch/Encoder                  | 2+2 inputs<br>Input current 2 mA at 24 VDC<br>Cable length mechanical limit switches maximum of 200 meters at the cable area 0,75 mm <sup>2</sup> (Ø 1 mm)<br>Cable length DB405 maximum 50 meters at the cable area 0,75 mm <sup>2</sup> (Ø 1 mm) |
| Photocell                             | 1 input<br>Low level 0-8 VDC, High level 12-30 VDC.<br>Input current 5 mA at 24 VDC.<br>Cable length 200 meter at the cable area 0,75 mm <sup>2</sup> (Ø 1 mm)<br>Supply voltage 24 VDC max 50 mA.   |
| External supply                       | Unregulated 24VDC, 18-28VDC, max 300mA   |
| Communication                         | RS-485 between 2x EP104. Cable length max. 1000m.  |
| Protection class                      | The PCB is designed for an enclosure rating of at least IP54.  |

## Channel reference

There are seven channel categories, each with its own letter and each handling different functions in the card.

- C-channels: General readout and configuration channels.
- d-channels: Channels relating to the DB402 vehicle detector.
- F-channels: Channels relating to settings for frequency converter, DB409
- L-channels: Channels relating to limit switches and timer control and the DB405 encoder.
- o-channels: Channels relating to output cards DB407 and DB410.
- P-channels: Channels relating to programmable inputs.
- r-channels: Channels relating to function of the DB411 radio card.

There is a reference column for each channel, showing where you can find more details and examples of how to use the channel, and the functions you can access with the channel.

Channels with a grey background are readout channels so they cannot be changed.

The  symbol means that the channel is a safety setting, and any change in value must be documented in the log book, with a name and date.

### • General, C-channels

#### General readout channels

| No.  | Name                                | Range                             | Factory | Setting |
|------|-------------------------------------|-----------------------------------|---------|---------|
| C001 | Software version                    |                                   |         |         |
| C002 | Release of software version         |                                   |         |         |
| C005 | Voltage after stop circuit          | 00.0 – 30.0 V                     |         |         |
| C014 | Number of openings x1               | 000-999                           |         |         |
| C015 | Number of openings x1000            | 000-999                           |         |         |
| C019 | Time remaining to automatic closing | 0.00-9.59 minutes                 |         |         |
| C020 | Most recent cause of motor stop     |                                   |         |         |
|      | 01                                  | Limit switch motor 1 open         |         |         |
|      | 02                                  | Limit switch motor 1 closed       |         |         |
|      | 03                                  | Limit switch motor 2 open         |         |         |
|      | 04                                  | Limit switch motor 2 closed       |         |         |
|      | 10                                  | Stop                              |         |         |
|      | 21                                  | Photocell during opening movement |         |         |
|      | 22                                  | Photocell during closing movement |         |         |
|      | 31                                  | Loop 1 during opening movement    |         |         |
|      | 32                                  | Loop 1 during closing movement    |         |         |
|      | 33                                  | Loop 2 during opening movement    |         |         |
|      | 34                                  | Loop 2 during closing movement    |         |         |
|      | 41                                  | Safety edge opening reverse       |         |         |
|      | 42                                  | Safety edge opening stop          |         |         |
|      | 43                                  | Safety edge closing reverse       |         |         |
|      | 44                                  | Safety edge closing stop          |         |         |
|      | 46                                  | SE.O2 Stop in closing or opening  |         |         |
|      | 51                                  | Photocell input 6 opening         |         |         |
|      | 52                                  | Photocell input 6 closing         |         |         |
|      | 90                                  | Mains voltage loss                |         |         |
|      | 91                                  | Low 24VDC                         |         |         |



## General configuration channels

| No.    | Name                             | Range   | Factory | Setting |
|--------|----------------------------------|---|---------|---------|
| ▲ C033 | Pulse/hold-to-run                | 0 - 5   | 5       |         |
|        | 0                                | Open and close with hold-to-run and load guard inactive   |         |         |
|        | 1                                | Open with pulse and close with hold-to-run and load guard active  |         |         |
|        | 2                                | Open with hold-to-run and close with pulse and load guard active  |         |         |
|        | 3                                | Open and close with pulse and load guard active   |         |         |
|        | 4                                | Open and close with hold-to-run and load guard active   |         |         |
|        | 5                                | Service mode, only internal open/close buttons with hold-to-run.<br>Enables L001/2 to be set to 4, operation without limit switch. Load guard inactivated |         |         |
| C063   | Reverse priority during movement | 0 - 3   | 1       |         |
|        | 0                                | None  |         |         |
|        | 1                                | Open  |         |         |
|        | 2                                | Close   |         |         |
|        | 3                                | Open and close  |         |         |

## Safety edge

| No.    | Name   | Range  | Factory | Setting |
|--------|--|--|---------|---------|
| ▲ C101 | Safety edge acknowledgement SE.C1  | 0 – 1  | 0       |         |
|        | 0  | Disabled   |         |         |
|        | 1  | Enabled  |         |         |
| ▲ C102 | Function of output for external protection   | 0 – 4  | 0       |         |
|        | 0  | Check disabled, open output, setting of C113, C123, C133, C143, C343, P643 is disabled.  |         |         |
|        | 1  | Closed to GND on activation, normally open.  |         |         |
|        | 2  | Closed to +24 VDC on activation, normally open.  |         |         |
|        | 3  | Open on activation, normally closed to GND.  |         |         |
| ▲ C103 | Function of safety edge input during test of external safety edge unit                           | 1 – 2  | 1       |         |
|        | 1  | Low resistance during test   |         |         |
|        | 2  | High resistance during test  |         |         |
| ▲ C104 | Connection and safety edge function  | 1 – 3  | 1       |         |
|        | 1  | SE.C1 or SE.C2 can be connected to either motor 1 or motor 2.<br>SE.O1 or SE.O2 can be connected to either motor 1 or motor 2.<br>Both safety edges reverse/stop an active motor |         |         |
|        | 2  | SE.C1 and SE.O1 must be connected to motor 1<br>SE.C2 and SE.O2 must be connected to motor 2<br>The safety edge function is attached to the motor concerned                      |         |         |
| C105   | Halved speed or activated safety edge<br>(Only when using a frequency converter)                 | 0 - 1  | 0       |         |
|        | 0  | Disabled   |         |         |
|        | 1  | Active   |         |         |
| ▲ C111 | Function for safety edge in closing direction, SE.C1   | 0 - 2  | 2       |         |
|        | 0  | Disabled   |         |         |
|        | 1  | Resistance according to set value in C115  |         |         |
| ▲ C112 | Reverse/stop with activated safety edge SE.C1  | 1 - 2  | 1       |         |
|        | 1  | Reverse  |         |         |
|        | 2  | Stop   |         |         |
| ▲ C113 | Control of external protection connected to SE.C1  | 0 - 1  | 1       |         |
|        | 0  | No check   |         |         |
|        | 1  | Test of protection connected to SE.C1  |         |         |
| C114   | Reading resistance SE.C1   | 00.0-99.9 kΩ   |         |         |
| ▲ C115 | Resistance value for safety edge connected to SE.C1<br>Viewed and used only if C111 is set to 1. | 1.0-9.9 kΩ   | 8.2     |         |

| No.    | Name  | Range                                     | Factory | Setting |
|--------|---|---|---------|---------|
| ▲ C121 | Function for safety edge in closing direction, SE.C2  | 0 - 2                                     | 2       |         |
|        | 0   | Disabled                                  |         |         |
|        | 1   | Resistance according to set value in C125 |         |         |
|        | 2   | Resistance between 5 kohm and 15 kohm     |         |         |
| ▲ C122 | Reverse/stop with activated safety edge SE.C2   | 1 - 2                                     | 1       |         |
|        | 1   | Reverse                                   |         |         |
|        | 2   | Stop                                      |         |         |
| ▲ C123 | Control of external protection connected to SE.C2   | 0 - 1                                     | 1       |         |
|        | 0   | No check                                  |         |         |
|        | 1   | Test of protection connected to SE.C2     |         |         |
| C124   | Reading resistance SE.C2  | 00.0-99.9 kΩ                              |         |         |
| ▲C125* | Resistance value for safety edge connected to SE.C2<br>Viewed and used only if C121 is set to 1.  | 1.0-9.9 kΩ                                | 8.2     |         |
| ▲ C131 | Function for safety edge in opening direction, SE.O1  | 0 - 2                                     | 0       |         |
|        | 0   | Disabled                                  |         |         |
|        | 1   | Resistance according to set value in C135 |         |         |
|        | 2   | Resistance between 5 kohm and 15 kohm     |         |         |
| ▲ C132 | Reverse/stop with activated safety edge SEO1  | 1 - 2                                     | 1       |         |
|        | 1   | Reverse                                   |         |         |
|        | 2   | Stop                                      |         |         |
| ▲ C133 | Control of external protection connected to SE.O1   | 0 - 1                                     | 1       |         |
|        | 0   | No check                                  |         |         |
|        | 1   | Test of protection connected to SE.O1     |         |         |
| C134   | Reading resistance SE.O1  | 00.0-99.9 kΩ                              |         |         |
| ▲C135  | Resistance value for safety edge connected to SE.O1.<br>Viewed and used only if C131 is set to 1. | 1.0-9.9 kΩ                                | 8.2     |         |
| ▲ C141 | Function for safety edge in opening direction, SE.O2  | 0 - 2                                     | 0       |         |
|        | 0   | Disabled                                  |         |         |
|        | 1   | Resistance according to set value in C145 |         |         |
|        | 2   | Resistance between 5 kohm and 15 kohm     |         |         |
| ▲ C142 | Reverse/stop with activated safety edge SE.O2   | 1 - 2                                     | 1       |         |
|        | 1   | Reverse                                   |         |         |
|        | 2   | Stop                                      |         |         |
| ▲ C143 | Control of external protection connected to SE.O2   | 0 - 1                                     | 1       |         |
|        | 0   | No check                                  |         |         |
|        | 1   | Test of protection connected to SE.O2     |         |         |
| C144   | Reading resistance SE.O2  | 00.0-99.9 kΩ                              |         |         |
| ▲C145  | Resistance value for safety edge connected to SE.O2.<br>Viewed and used only if C141 is set to 1. | 1.0-9.9 kΩ                                | 8.2     |         |

## Load guard and motor settings

| No.                  | Name   | Range   | Factory | Setting |
|----------------------|--|---|---------|---------|
| ▲ C200               | Load guard function  | 0 – 4   | 3       |         |
|                      | 0  | Disabled Service and troubleshooting only                                   |         |         |
|                      | 1  | Reverse when closing, stop when opening                                     |         |         |
|                      | 2  | Stop when closing and reverse when opening                                  |         |         |
|                      | 3  | Reverse when closing and opening  |         |         |
|                      | 4  | Stop when closing and opening   |         |         |
| ▲ C202               | Type of power supply   | 0 - 5   | 0       |         |
|                      | 0  | 3x400 V with neutral  |         |         |
|                      | 1  | 3x230 V without neutral   |         |         |
|                      | 2  | 1x230 V with neutral, asymmetric  |         |         |
|                      | 3  | 3x400 V without neutral (see separate instructions)                         |         |         |
|                      | 4  | 1x230 V with neutral, Frequency converter (see separate instructions DB409) |         |         |
|                      | 5  | 1x230 V with neutral, symmetric   |         |         |
| ▲ C205               | Load guard for personal protection active during the closing movement. Superior to C200. | 0-1   | 1       |         |
|                      | 0  | Disabled  |         |         |
|                      | 1  | Active  |         |         |
| ▲ C211               | Load guard delay   | 0.01-2.50 seconds   | 0.06    |         |
| ▲ C212               | Load guard, connection delay on start, all starts  | 0.1-2.5 seconds   | 1.0     |         |
| ▲ C221               | Motor protection delay   | 3.0-5.0 seconds   | 5.0     |         |
| ▲ C230 <sup>AB</sup> | Set motor power readout for personal protection, motor 1                                 | 0.00 and 0.12-0.35 kW   | 0.20    |         |
| C231 <sup>B</sup>    | Motor power readout, motor 1   | 0.00-1.99 kW  |         |         |
| ▲ C232 <sup>B</sup>  | Set load guard limit for motor 1 opening   | 0.05-1.99 kW  | 0.70    |         |
| ▲ C233 <sup>B</sup>  | Set load guard limit for motor 1 closing   | 0.05-1.99 kW  | 0.70    |         |
| ▲ C240 <sup>AC</sup> | Set motor power readout for personal protection, motor 2                                 | 0.00 and 0.12-0.35 kW   | 0.20    |         |
| C241 <sup>C</sup>    | Motor power readout, motor 2   | 0.00-1.99 kW  |         |         |
| ▲ C242 <sup>C</sup>  | Set load guard limit for motor 2 opening   | 0.05-1.99 kW  | 0.70    |         |
| ▲ C243 <sup>C</sup>  | Set load guard limit for motor 2 closing   | 0.05-1.99 kW  | 0.70    |         |
| C251 <sup>B</sup>    | Motor current readout, motor 1   | 0.0-20.0A   |         |         |
| ▲ C252 <sup>B</sup>  | Set motor current readout, motor 1 opening   | 0.0 and 0.5-6.0A  | 0,8     |         |
| ▲ C253 <sup>B</sup>  | Set motor current readout, motor 1 closing   | 0.0 and 0.5-6.0A  | 0,8     |         |
| C261 <sup>C</sup>    | Motor current readout, motor 2   | 0.0-20.0A   |         |         |
| ▲ C262 <sup>C</sup>  | Set motor current readout, motor 2 opening   | 0.0 and 0.5-6.0A  | 0,8     |         |
| ▲ C263 <sup>C</sup>  | Set motor current readout, motor 2 closing   | 0.0 and 0.5-6.0A  | 0,8     |         |
| C271 <sup>AB</sup>   | Power factor readout motor 1   | 0.00-0.99 cos φ   |         |         |
| C281 <sup>AC</sup>   | Power factor readout motor 2   | 0.00-0.99 cos φ   |         |         |

A = Not displayed when C202 = 4, B = Not displayed when L001 = 0, C = Not displayed when L002 = 0

## Photocell

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| C340 | Safety function in closing movement                                   | 0 – 3   | 1       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Reverse to fully open   |         |         |
|      | 2   | Stop with automatic restart of automatic closing                                    |         |         |
|      | 3   | Stop, wait for new control signal or time in C520 and thereafter automatic closing. |         |         |
| C341 | Safety during run-on time or disengagement angle in closing movement. | 0 - 1   | 1       |         |
|      | 0   | Disabled when both halves are in run-on or disengagement angle                      |         |         |
|      | 1   | Activated according to C340   |         |         |
| C342 | Safety function in opening movement                                   | 0 – 4   | 0       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Reverse to fully closed.  |         |         |
|      | 2   | Stop with automatic restart of automatic closing                                    |         |         |
|      | 3   | Stop, wait for new control signal or time in C520 and thereafter automatic closing. |         |         |
|      | 4   | Stop with restart of opening  |         |         |
| C343 | Check of external protection connected to PHOTO                       | 0 - 1   | 1       |         |
|      | 0   | No check  |         |         |
|      | 1   | Test of protection connected to PHOTO   |         |         |
| C351 | PHOTO closing   | 0 – 1   | 0       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Enabled and subordinated to C340  |         |         |
| C354 | Type of closing with PHOTO  | 1 – 2   | 2       |         |
|      | 1   | Close immediately if PHOTO is clear   |         |         |
|      | 2   | Open first then close if PHOTO is clear   |         |         |

## General time channels.

| No.    | Name   | Range  | Factory | Setting |
|--------|--|--|---------|---------|
| C401** | Running time readout, motor 1  | 000-999 seconds  |         |         |
| C402** | Running time readout, motor 2  | 000-999 seconds  |         |         |
| C403** | Setting limited running time (Not used with encoder)   | 001-999 seconds  | 001     |         |
| C412** | Set limited opening, motor 1 with limit switch   | 00.3-99.9 seconds  | 05.0    |         |
| C414** | Set limited opening, motor 2 with limit switch   | 00.3-99.9 seconds  | 05.0    |         |
| C422** | Run-on time following limit switch open, motor 1   | 0.00-7.99 seconds  | 0.00    |         |
| C423** | Run-on time following limit switch closed, motor 1   | 0.00-7.99 seconds  | 0.00    |         |
| C432** | Run-on time following limit switch open, motor 2   | 0.00-7.99 seconds  | 0.00    |         |
| C433** | Run-on time following limit switch closed, motor 2   | 0.00-7.99 seconds  | 0.00    |         |
| ▲ C436 | Type of stop during run-on time when closing, subordinated to C448 and C449                          | 0 - 3  | 3       |         |
|        | 0  | Time   |         |         |
|        | 1  | Time or load guard   |         |         |
|        | 2  | Time or safety edge  |         |         |
|        | 3  | Time, load guard or safety edge                                    |         |         |
| ▲ C448 | Safety edge reverse during run-on time in the closing movement, C423, C433, L117, L127               | 0 - 2  | 2       |         |
|        | 0  | Function disabled  |         |         |
|        | 1  | Safety edge reverse during run-on time                             |         |         |
|        | 2  | Safety edge reverse during run-on time and during the time in C492 |         |         |
| ▲ C449 | Reversing during run-on time with triggered load guard, C423, C433, L117, L127                       | 0 - 1  | 1       |         |
|        | 0  | Disabled   |         |         |
|        | 1  | Reversing in closing movement                                      |         |         |
| C460   | Delay of open motor 2 and close motor 1. Used with magnetic locks or if the door halves overlap      | 0.1-9.9 seconds  | 0.1     |         |
| C470   | Delay before first motor starts, used for magnetic locks that need to lose residual magnetisation    | 0.00-0.99 seconds  | 0.00    |         |
| ▲ C492 | Reverse delay if PHOTO, LOOP1, LOOP2 or control signal are activated.                                | 0.1-4.0 seconds  | 0.8     |         |
| ▲ C493 | Reverse delay if safety edge or load guard are activated   | 0.03-2.00 seconds  | 0.10    |         |
| ▲ C494 | Closing time after activated protection function, safety edge or load protection, in opening motion. | 0.1-2.0 seconds  | 1.0     |         |
| C495   | Engagement time for brake, motor 1   | 00, 10-50 ms   | 00      |         |
| C496   | Engagement time for brake, motor 2   | 00, 10-50 ms   | 00      |         |

\*\* = Only displayed if L001 and/or L002 are set to 2 or 3.



## Automatic closing

| No.  | Name   | Range  | Factory | Setting |
|------|--|--|---------|---------|
| C500 | Time before automatic closing  | 0.00-9.59 minutes  | 0.00    |         |
| C501 | Short time before automatic closing                                  | 0.0-9.9 seconds  | 0.0     |         |
| C510 | Time before, after passage, at LOOP1, LOOP2 and PHOTO closing        | 00-99 seconds  | 00      |         |
| C520 | Blocking time for automatic closing after the stop button is pressed | 0.00 and 0.20-9.59 minutes   | 0.00    |         |
| C591 | Direction sensing for internal closing pulse                         | 00 - 14  | 00      |         |
|      | 00   | Disabled   |         |         |
|      | 01   | Presence detection, LOOP1 must first be activated, signal when LOOP1 is disabled.  |         |         |
|      | 02   | Presence detection, LOOP2 must first be activated, signal when LOOP2 is disabled.  |         |         |
|      | 03   | Presence detection, LOOP1 or LOOP2 must first be activated, signal when either LOOP1 or LOOP2 is activated.  |         |         |
|      | 04   | Presence detection, PHOTO must first be activated, signal when PHOTO is disabled.  |         |         |
|      | 05   | Presence detection, PHOTO and LOOP1 must first be activated simultaneously, signal when either PHOTO or LOOP1 is clear.                                |         |         |
|      | 06   | Presence detection, PHOTO and LOOP2 must first be activated simultaneously, signal when either PHOTO or LOOP2 is clear.                                |         |         |
|      | 07   | Presence detection, PHOTO LOOP1 and LOOP2 must first be activated simultaneously, signal when either PHOTO, LOOP1 or LOOP2 is clear.                   |         |         |
|      | 08   | Presence detection, LOOP1 and LOOP2 must first be activated simultaneously, signal when either LOOP1 or LOOP2 is clear.                                |         |         |
|      | 09   | Direction sensing, LOOP1 must first be activated, during the time LOOP2 must be activated, then LOOP1 must be disabled, signal when LOOP2 is disabled. |         |         |
|      | 10   | Direction sensing, LOOP1 must first be activated, during the time PHOTO must be activated, then LOOP1 must be disabled, signal when PHOTO is disabled. |         |         |
|      | 11   | Direction sensing, LOOP2 must first be activated, during the time LOOP1 must be activated, then LOOP2 must be disabled, signal when LOOP1 is disabled. |         |         |
|      | 12   | Direction sensing, LOOP2 must first be activated, during the time PHOTO must be activated, then LOOP2 must be disabled, signal when PHOTO is disabled. |         |         |
|      | 13   | Direction sensing, PHOTO must first be activated, during the time LOOP1 must be activated, then PHOTO must be disabled, signal when LOOP1 is disabled. |         |         |
|      | 14   | Direction sensing, PHOTO must first be activated, during the time LOOP2 must be activated, then PHOTO must be disabled, signal when LOOP2 is disabled. |         |         |

## Interlock block

| No.  | Name                             | Range   | Factory | Setting |
|------|----------------------------------|---|---------|---------|
| C664 | Block of local door              | 0 – 3   | 0       |         |
|      | 0                                | No block  |         |         |
|      | 1                                | Block of open on local door until remote door is closed                               |         |         |
|      | 2                                | Block of open on local door until remote door is open                                 |         |         |
|      | 3                                | Blocking of close on local door until remote door is closed                           |         |         |
| C665 | In block of local door           | 0 – 3   | 3       |         |
|      | 0                                | Local door does not remember open and stop, stop does not cancel block of remote door |         |         |
|      | 1                                | Local door remembers open and stop, stop does not cancel block of remote door         |         |         |
|      | 2                                | Local door does not remember open and stop, stop cancels block of remote door         |         |         |
|      | 3                                | Local door remembers open and stop, stop cancels block of remote door                 |         |         |
| C695 | Network number for communication | 0 – 2   | 0       |         |
|      | 0                                | Disabled  |         |         |
|      | 1                                | Automatic control unit no. 1 in communication   |         |         |
|      | 2                                | Automatic control unit no. 2 in communication   |         |         |

## Service channels

| No.  | Name  | Range  | Factory | Setting |
|------|---|--|---------|---------|
| C900 | Service channel, for service personnel only Random number | 000-999  |         |         |
| C901 | Service channel, for service personnel only               | 00-99  |         |         |
| C902 | Service channel, for service personnel only, checksum     | 0000-FFFF  |         |         |
| C903 | Error code list showing the most recent error messages.   |  |         |         |
|      | 0000  | Start of the list, followed by the oldest error message  |         |         |
|      | ...   | Error messages, use + and - to step up or down.  |         |         |
|      | 9999  | End of the list, after the last error message  |         |         |
| C999 | View mode.  |  | 2       |         |
|      | 0   | All channels are viewed.   |         |         |
|      | 1   | Shows only channels that differ from factory settings, use + and - to step up or down. The button to the far left is used for rapid advance, which has no function in this mode. |         |         |
|      | 2   | Shows only channels for power supply, motor protection and positioning of opened and closed positions.   |         |         |
|      | 3   | Shows only channels for safety edges, load guard, motor protection, gear ratio and limit switches.   |         |         |



- DB402, Vehicle detector, d-channels

- Vehicle loop 1

| No.  | Name  | Range  | Factory | Setting |
|------|---|--|---------|---------|
| d100 | Loop 1  | 0 – 1  | 0       |         |
|      | 0   | Input disabled   |         |         |
|      | 1   | Input enabled  |         |         |
| d101 | Loop reading x1   | 000-999  |         |         |
| d102 | Loop reading x1000  | 00-99  |         |         |
| d103 | Impact from vehicle at passage  | 000-999  |         |         |
| d110 | Detection level of vehicle at loop passage  | 05-99  | 15      |         |
| d111 | Detection level hysteresis  | 00-50  | 03      |         |
| d120 | Loop presence reset   | 000 and 005-240 minutes  | 120     |         |
| d121 | Fast loop presence reset  | 00-99 sec  | 00      |         |
| d131 | Compensation for activation from door half motor 1 on the loop in the closed position | 00-50  | 03      |         |
| d132 | Compensation for activation from door half motor 2 on the loop in the closed position | 00-50  | 03      |         |
| d140 | Safety function in closing movement   | 0 - 4  | 1       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Reverse  |         |         |
|      | 2   | Stop with automatic restart of automatic closing   |         |         |
|      | 3   | Stop without automatic restart of automatic closing, wait for new control signal                 |         |         |
|      | 4   | Safety only in open position. Used when the gate passes over the loop in the closing movement.   |         |         |
| d141 | Safety during run-on time or disengagement angle in closing movement.                 | 0 – 1  | 1       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Activated according to d140  |         |         |
| d142 | Safety function in opening movement   | 0 - 4  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Reverse to fully closed  |         |         |
|      | 2   | Stop with automatic restart of automatic closing   |         |         |
|      | 3   | Stop without automatic restart of automatic closing, wait for new control signal                 |         |         |
|      | 4   | Safety only in closed position. Used when the gate passes over the loop in the opening movement. |         |         |
| d151 | Loop-based closing  | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Active   |         |         |
| d154 | Type of closing   | 1 - 2  | 2       |         |
|      | 1   | Close immediately when loop is clear   |         |         |
|      | 2   | Continue to fully open, then close   |         |         |
| d160 | Control function  | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Open   |         |         |

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| d161 | Type of control signal when activated   | 1 - 2   | 1       |         |
|      | 1   | Pulse   |         |         |
|      | 2   | Constant signal when loop is activated  |         |         |
| d162 | Half operation  | 1 - 3   | 3       |         |
|      | 1   | Motor 1   |         |         |
|      | 2   | Motor 2   |         |         |
|      | 3   | Motors 1 and 2  |         |         |
| d163 | Limited opening   | 0 - 1   | 0       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Opening for the time set in channels C412 and C414 or L116 and L126                       |         |         |
| d170 | Allows the opening function, via LOOP1, using a programmable input.   | 0 - 6   | 0       |         |
|      | 0   | Disabled, normal opening/closing function. (Programmable input has no function for LOOP1) |         |         |
|      | 1   | Opening possible only if there is a signal at programmable input 1                        |         |         |
|      | 2   | Opening possible only if there is a signal at programmable input 2                        |         |         |
|      | 3   | Opening possible only if there is a signal at programmable input 3                        |         |         |
|      | 4   | Opening possible only if there is a signal at programmable input 4                        |         |         |
|      | 5   | Opening possible only if there is a signal at programmable input 5                        |         |         |
|      | 6   | Opening possible only if there is a signal at programmable input 6                        |         |         |
| d175 | Opening via loop after activation for the set time, the loop will not open the gate until it has been activated for the set time. | 0.0-9.0 sec   | 0.0     |         |
| d190 | Interlock opening   | 0 - 1   | 0       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Sends a normal open signal to the remote door   |         |         |

## Vehicle loop 2

| No.  | Name  | Range  | Factory | Setting |
|------|---|--|---------|---------|
| d200 | Loop 2  | 0 - 1  | 0       |         |
|      | 0   | Input disabled   |         |         |
|      | 1   | Input enabled  |         |         |
| d201 | Loop reading x1   | 000-999  |         |         |
| d202 | Loop reading x1000  | 00-99  |         |         |
| d203 | Impact from vehicle at passage  | 000-999  |         |         |
| d210 | Detection level of vehicle at loop passage  | 05-99  | 15      |         |
| d211 | Detection level hysteresis  | 00-50  | 03      |         |
| d220 | Loop presence reset   | 000 and 005-240 minutes  | 120     |         |
| d221 | Fast loop presence reset  | 00-99 sec  | 00      |         |
| d231 | Compensation for activation from door half motor 1 on the loop in the closed position | 00-50  | 03      |         |
| d232 | Compensation for activation from door half motor 2 on the loop in the closed position | 00-50  | 03      |         |
| d240 | Safety function in closing movement   | 0 - 4  | 1       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Reverse  |         |         |
|      | 2   | Stop with automatic restart of automatic closing   |         |         |
|      | 3   | Stop without automatic restart of automatic closing, wait for new control signal                 |         |         |
|      | 4   | Safety only in open position. Used when the gate passes over the loop in the closing movement.   |         |         |
| d241 | Safety during run-on time or disengagement angle in closing movement.                 | 0 - 1  | 1       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Activated according to d240  |         |         |
| d242 | Safety function in opening movement   | 0 - 4  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Reverse to fully closed  |         |         |
|      | 2   | Stop with automatic restart of automatic closing   |         |         |
|      | 3   | Stop without automatic restart of automatic closing, wait for new control signal                 |         |         |
|      | 4   | Safety only in closed position. Used when the gate passes over the loop in the opening movement. |         |         |
| d251 | Loop-based closing  | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Enabled  |         |         |
| d254 | Type of closing with loop   | 1 - 2  | 2       |         |
|      | 1   | Close immediately when loop is clear   |         |         |
|      | 2   | Open fully first, then close   |         |         |
| d260 | Control function  | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Open   |         |         |



| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| d261 | Type of control signal when activated   | 1 - 2   | 1       |         |
|      | 1   | Pulse   |         |         |
|      | 2   | Signal when loop is activated   |         |         |
| d262 | Half operation  | 1 - 3   | 3       |         |
|      | 1   | Motor 1   |         |         |
|      | 2   | Motor 2   |         |         |
|      | 3   | Motors 1 and 2  |         |         |
| d263 | Limited opening   | 0 - 1   | 0       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Opening for the time set in channels C412 and C414 or L116 and L126                       |         |         |
| d270 | Allows the opening function, via LOOP2, using a programmable input.   | 0 - 6   | 0       |         |
|      | 0   | Disabled, normal opening/closing function. (Programmable input has no function for LOOP2) |         |         |
|      | 1   | Opening possible only if there is a signal at programmable input 1                        |         |         |
|      | 2   | Opening possible only if there is a signal at programmable input 2                        |         |         |
|      | 3   | Opening possible only if there is a signal at programmable input 3                        |         |         |
|      | 4   | Opening possible only if there is a signal at programmable input 4                        |         |         |
|      | 5   | Opening possible only if there is a signal at programmable input 5                        |         |         |
|      | 6   | Opening possible only if there is a signal at programmable input 6                        |         |         |
| d275 | Opening via loop after activation for the set time, the loop will not open the gate until it has been activated for the set time. | 0.0-9.9 sec   | 0.0     |         |
| d290 | Interlock opening   | 0 - 1   | 0       |         |
|      | 0   | Disabled  |         |         |
|      | 1   | Sends a normal open signal to the remote door   |         |         |

- DB409, Frequency Converter Board, F-channels

| No.   | Name  | Range                   | Factory | Setting |
|-------|---|-------------------------|---------|---------|
| F001  | Communication with frequency converter  | 0 - 1                   | 1       |         |
|       | 0   | Communication disabled  |         |         |
|       | 1   | Communication activated |         |         |
| F002  | Acceleration time from closed position from 0-100Hz                                 | 0,5 - 9,9 Seconds       | 1,0     |         |
| F003  | Acceleration time from all positions except closed position from 0-100Hz            | 0,5 - 9,9 Seconds       | 3,0     |         |
| F004  | Acceleration time when P500 is set to 2 and the input is activated, battery backup  | 5,0 - 12,0 Seconds      | 7,0     |         |
| F005  | Retardation time at open and close position and at change of direction from 100-0Hz | 0,5 - 9,9 Seconds       | 3,0     |         |
| F006  | Retardation time at photocell and vehicle loops from 100-0Hz                        | 0,5 - 9,9 Seconds       | 1,0     |         |
| F008  | Low-speed frequency for opening movement  | 5 - 20 Hz               | 10      |         |
| F009  | Low-speed frequency for closing movement  | 5 - 20 Hz               | 10      |         |
| F012  | Opening frequency / Opening speed for motor 1                                       | 21 - 99 Hz              | 60      |         |
| F013  | Closing frequency / Closing speed for motor 1                                       | 21 - 99 Hz              | 30      |         |
| F014* | Number of degrees with low-speed frequency before opened position for motor 1       | 0 - 60 Degrees          | 0       |         |
| F015* | Number of degrees with low-speed frequency before closed position for motor 1       | 0 - 60 Degrees          | 0       |         |
| F022  | Opening frequency / Opening speed for motor 2                                       | 21 - 99 Hz              | 60      |         |
| F023  | Closing frequency / Closing speed for motor 2                                       | 21 - 99 Hz              | 30      |         |
| F024* | Number of degrees with low-speed frequency before opened position for motor 2       | 0 - 60 Degrees          | 0       |         |
| F025* | Number of degrees with low-speed frequency before closed position for motor 2       | 0 - 60 Degrees          | 0       |         |

F-channels are viewed only if C202=4, frequency converter

| No.   | Name                                      | Range   | Factory | Setting |
|-------|---|---|---------|---------|
| F030* | Choice of ratio for motor 1               | 0 - 9   | 0       |         |
|       | 0   | Not selected, in this position the motor only rotates at 25Hz |         |         |
|       | 1   | MK with pulleys 40/71 (ratio 1320:1)                          |         |         |
|       | 2   | MK with pulleys 50/71 (ratio 1100:1)                          |         |         |
|       | 3   | MK with pulleys 71/71 (ratio 792:1)                           |         |         |
|       | 4   | MK with pulleys 100/71 (ratio 566:1)                          |         |         |
|       | 5   | MK with pulleys 125/71 (ratio 457:1)                          |         |         |
|       | 6   | MK with pulleys 140/71 (ratio 410:1)                          |         |         |
|       | 7   | MT (ratio 800:1)  |         |         |
|       | 8   | M10 with pulleys 71/71 and motor 1400 rpm (ratio 2970:1)      |         |         |
|       | 9   | M10 with pulleys 71/71 and motor 2800 rpm (ratio 1485:1)      |         |         |
| F031* | Measured ratio motor 1. Only when F030=0. | 0 - 9999  |         |         |
| F040* | Choice of ratio for motor 2               | 0 - 9   | 0       |         |
|       | 0   | Not selected, in this position the motor only rotates at 25Hz |         |         |
|       | 1   | MK with pulleys 40/71 (ratio 1320:1)                          |         |         |
|       | 2   | MK with pulleys 50/71 (ratio 1100:1)                          |         |         |
|       | 3   | MK with pulleys 71/71 (ratio 792:1)                           |         |         |
|       | 4   | MK with pulleys 100/71 (ratio 566:1)                          |         |         |
|       | 5   | MK with pulleys 125/71 (ratio 457:1)                          |         |         |
|       | 6   | MK with pulleys 140/71 (ratio 410:1)                          |         |         |
|       | 7   | MT (ratio 800:1)  |         |         |
|       | 8   | M10 with pulleys 71/71 and motor 1400 rpm (ratio 2970:1)      |         |         |
|       | 9   | M10 with pulleys 71/71 and motor 2800 rpm (ratio 1485:1)      |         |         |
| F041* | Measured ratio motor 2. Only when F040=0. | 0 - 9999  |         |         |

\* = Appears only when L001 and/or L002 are set to 1 encoder.

F-channels are viewed only if C202=4, frequency converter

- Limit switch, L-channels

| No.   | Name   | Range  | Factory | Setting |
|-------|--|--|---------|---------|
| L001  | Choice of limit switch type for motor 1  | 0-3  | 0       |         |
|       | 0  | Disabled   |         |         |
|       | 1  | Encoder  |         |         |
|       | 2  | Limit switch   |         |         |
|       | 3  | Time   |         |         |
|       | 4  | Hold-to-run without limit switches. NOTE! Only one half at a time can be run. C033 must be set to 5. |         |         |
| L002  | Choice of limit switch type for motor 2  | 0-3  | 0       |         |
|       | 0  | Disabled   |         |         |
|       | 1  | Encoder  |         |         |
|       | 2  | Limit switch   |         |         |
|       | 3  | Time   |         |         |
|       | 4  | Hold-to-run without limit switches. NOTE! Only one half at a time can be run. C033 must be set to 5. |         |         |
| L110* | Placement of motor 1, viewed from the motor side   | 0-2  | 1       |         |
|       | 0  | Disabled   |         |         |
|       | 1  | Left   |         |         |
|       | 2  | Right  |         |         |
| L111* | Position angle readout, motor 1  | 000-360 degrees  |         |         |
| L112* | Open position angle, motor 1   | 145-330 degrees  | 260     |         |
| L113* | Closed position angle, motor 1   | 015-180 degrees  | 90      |         |
| L116* | Angle for limited opening, motor 1.  | 0-200 degrees  | 45      |         |
| L117* | Angle for the disconnection of safety edges, load guard and photocells from the end of the closing movement, motor 1 in combination with C436, C341 and C448 | 0-30 degrees   | 0       |         |
| L118* | Angle for the disconnection of vehicle loops from the end of the closing movement, motor 1 in combination with d141 or d241.                                 | 0-45 degrees   | 0       |         |

\* = Only when L001 are set to 1.

| No.    | Name   | Range             | Factory | Setting |
|--------|--|-------------------|---------|---------|
| L120*  | Placement of motor 2, viewed from the motor side   | 0-2               | 2       |         |
|        | 0  | Disabled          |         |         |
|        | 1  | Left              |         |         |
|        | 2  | Right             |         |         |
| L121*  | Position readout, motor 2  | 000-360 degrees   |         |         |
| L122*  | Open position angle, motor 2   | 145-330 degrees   | 260     |         |
| L123*  | Closed position angle, motor 2   | 015-180 degrees   | 90      |         |
| L126*  | Angle for limited opening, motor 2   | 0-200 degrees     | 45      |         |
| L127*  | Angle for the disconnection of safety edges, load guard and photocells from the end of the closing movement, motor 2 in combination with C436, C341 and C448 | 0-30 degrees      | 0       |         |
| L128*  | Angle for the disconnection of vehicle loops from the end of the closing movement, motor 2 in combination with d141 or d241                                  | 0-45 degrees      | 0       |         |
| L311   | Time readout for motor 1   | 00.1-99.9 seconds |         |         |
| L312** | Set time for motor 1   | 00.1-99.9 seconds | 00.1    |         |
| L321   | Time readout for motor 2   | 00.1-99.9 seconds |         |         |
| L322** | Set time for motor 2   | 00.1-99.9 seconds | 00.1    |         |

\* = Only displayed if L002 are set to 1.

\*\* = Only displayed if L001 and/or L002 are set to 2 or 3.

- DB407, DB410, Output Board, o-channels

### Programmable output 1

| No.  | Name   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| o100 | Function of output 1   | 0 - 4   | 1       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Position indication/Movement/Warning. Signal as configured in o110 – o122 |         |         |
|      | 2  | Presence detection/Direction sensing. Signal as configured in o191        |         |         |
|      | 3  | Lock  |         |         |
|      | 4  | Alarm output Signal as configured in o130 – o142                          |         |         |
| o110 | Open position  | 0 - 1   | 1       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o111 | Mid position   | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o112 | Closed position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o113 | Movement   | 0 - 4   | 4       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal in the opening movement                                   |         |         |
|      | 2  | Constant signal in the closing movement                                   |         |         |
|      | 3  | Constant signal in the opening and closing movement                       |         |         |
|      | 4  | No signal during movement, used in combination with o110, o111 and o112.  |         |         |
| o114 | Delayed switch-off Switch off after the specified time<br>For example to switch off lighting a specified time<br>after closing | 0.00-9.59 minutes   | 0.00    |         |
| o120 | Warning time before start  | 0.00-9.59 minutes   | 0.00    |         |
| o121 | Warning function in combination with o120  | 1 - 4   | 2       |         |
|      | 1  | Constant signal before automatic closing                                  |         |         |
|      | 2  | Constant signal before park and automatic closing                         |         |         |
|      | 3  | Constant signal before close signal, park and automatic closing           |         |         |
|      | 4  | Constant signal before all signals  |         |         |
| o122 | Function during warning time   | 1 - 2   | 1       |         |
|      | 1  | Output signal disabled during warning in other output                     |         |         |
|      | 2  | Output signal as configured in o110-o113                                  |         |         |



| No.   | Name   | Range               | Factory | Setting |
|-------|--|---------------------|---------|---------|
| o130* | Alarm delay. Alarms in channels o131 - o142 must be active this time to give an output signal. | 0.00-9.59 minutes   | 0.00    |         |
| o131* | Alarm for faulty safety edge.  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o132* | Alarm for critical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o133* | Alarm if stop circuit interrupted  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o134* | Alarm if door open   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o135* | Alarm if door is in mid position   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o136* | Alarm if door is in closed position  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o137* | Alarm if vehicle loop 1 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o138* | Alarm if vehicle loop 2 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o139* | Alarm if photocell interrupted   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o142* | Alarm for uncritical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o183  | Selection of contact function for output   | 1 - 2               | 1       |         |
|       | 1  | Normally open, NO   |         |         |
|       | 2  | Normally closed, NC |         |         |

\* = Only when o100 is set to 4.

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| o191 | Function when LOOP1, LOOP2 or PHOTO are activated | 01 - 14   | 01      |         |
|      | 01  | Presence detection Signal when LOOP1 is activated, remains until LOOP1 is clear.  |         |         |
|      | 02  | Presence detection Signal when LOOP2 is activated, remains until LOOP2 is clear.  |         |         |
|      | 03  | Presence detection Signal when both LOOP1 and LOOP2 are activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 04  | Presence detection Signal when PHOTO is activated, remains until PHOTO is clear.  |         |         |
|      | 05  | Presence detection Signal when PHOTO and LOOP1 are activated, remains until either PHOTO or LOOP1 is clear.               |         |         |
|      | 06  | Presence detection Signal when PHOTO and LOOP2 are activated, remains until either PHOTO or LOOP2 is clear.               |         |         |
|      | 07  | Presence detection Signal when PHOTO, LOOP1 and LOOP2 are activated, remains until either PHOTO, LOOP1 or LOOP2 is clear. |         |         |
|      | 08  | Presence detection Signal when either LOOP1 or LOOP2 is activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 09  | Direction sensing Signal when first LOOP1 and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |
|      | 10  | Direction sensing Signal when first LOOP1 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 11  | Direction sensing Signal when first LOOP2 and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 12  | Direction sensing Signal when first LOOP2 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 13  | Direction sensing Signal when first PHOTO and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 14  | Direction sensing Signal when first PHOTO and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |

## Programmable output 2

| No.  | Name   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| o200 | Function of output 2   | 0 - 4   | 1       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Position indication/Movement/Warning. Signal as configured in o210 – o222 |         |         |
|      | 2  | Presence detection/Direction sensing. Signal as configured in o291        |         |         |
|      | 3  | Lock  |         |         |
|      | 4  | Alarm output Signal as configured in o230 – o242                          |         |         |
| o210 | Open position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o211 | Mid position   | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o212 | Closed position  | 0 - 1   | 1       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o213 | Movement   | 0 - 4   | 4       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal in the opening movement                                   |         |         |
|      | 2  | Constant signal in the closing movement                                   |         |         |
|      | 3  | Constant signal in the opening and closing movement                       |         |         |
|      | 4  | No signal during movement, used in combination with o210, o211 and o212.  |         |         |
| o214 | Delayed switch-off Switch off after the specified time<br>For example to switch off lighting a specified time<br>after closing | 0.00-9.59 minutes   | 0.00    |         |
| o220 | Warning time before start  | 0.00-9.59 minutes   | 0.00    |         |
| o221 | Warning function in combination with o220  | 1 - 4   | 2       |         |
|      | 1  | Constant signal before automatic closing                                  |         |         |
|      | 2  | Constant signal before park and automatic closing                         |         |         |
|      | 3  | Constant signal before close signal, park and automatic closing           |         |         |
|      | 4  | Constant signal before all signals  |         |         |
| o222 | Function during warning time   | 1 - 2   | 1       |         |
|      | 1  | Output signal disabled during warning in other output                     |         |         |
|      | 2  | Output signal as configured in o210-o213                                  |         |         |

| No.   | Name   | Range               | Factory | Setting |
|-------|--|---------------------|---------|---------|
| o230* | Alarm delay. Alarms in channels o231 - o242 must be active this time to give an output signal. | 0.00-9.59 minutes   | 0.00    |         |
| o231* | Alarm for faulty safety edge.  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o232* | Alarm for uncritical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o233* | Alarm if stop circuit interrupted  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o234* | Alarm if door open   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o235* | Alarm if door is in mid position   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o236* | Alarm if door is in closed position  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o237* | Alarm if vehicle loop 1 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o238* | Alarm if vehicle loop 2 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o239* | Alarm if photocell interrupted   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o242* | Alarm for uncritical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o283  | Selection of contact function for output   | 1 - 2               | 1       |         |
|       | 1  | Normally open, NO   |         |         |
|       | 2  | Normally closed, NC |         |         |

\* = Only when o200 is set to 4.

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| o291 | Function when LOOP1, LOOP2 or PHOTO are activated | 01 - 14   | 01      |         |
|      | 01  | Presence detection Signal when LOOP1 is activated, remains until LOOP1 is clear.  |         |         |
|      | 02  | Presence detection Signal when LOOP2 is activated, remains until LOOP2 is clear.  |         |         |
|      | 03  | Presence detection Signal when both LOOP1 and LOOP2 are activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 04  | Presence detection Signal when PHOTO is activated, remains until PHOTO is clear.  |         |         |
|      | 05  | Presence detection Signal when PHOTO and LOOP1 are activated, remains until either PHOTO or LOOP1 is clear.               |         |         |
|      | 06  | Presence detection Signal when PHOTO and LOOP2 are activated, remains until either PHOTO or LOOP2 is clear.               |         |         |
|      | 07  | Presence detection Signal when PHOTO, LOOP1 and LOOP2 are activated, remains until either PHOTO, LOOP1 or LOOP2 is clear. |         |         |
|      | 08  | Presence detection Signal when either LOOP1 or LOOP2 is activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 09  | Direction sensing Signal when first LOOP1 and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |
|      | 10  | Direction sensing Signal when first LOOP1 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 11  | Direction sensing Signal when first LOOP2 and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 12  | Direction sensing Signal when first LOOP2 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 13  | Direction sensing Signal when first PHOTO and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 14  | Direction sensing Signal when first PHOTO and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |

## Programmable output 3

| No.  | Name   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| o300 | Function of output 3   | 0 - 4   | 1       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Position indication/Movement/Warning. Signal as configured in o310 – o322 |         |         |
|      | 2  | Presence detection/Direction sensing. Signal as configured in o391        |         |         |
|      | 3  | Lock  |         |         |
|      | 4  | Alarm output Signal as configured in o330 – o342                          |         |         |
| o310 | Open position  | 0 - 1   | 1       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o311 | Mid position   | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o312 | Closed position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o313 | Movement   | 0 - 4   | 4       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal in the opening movement                                   |         |         |
|      | 2  | Constant signal in the closing movement                                   |         |         |
|      | 3  | Constant signal in the opening and closing movement                       |         |         |
|      | 4  | No signal during movement, used in combination with o310, o311 and o312.  |         |         |
| o314 | Delayed switch-off Switch off after the specified time For example to switch off lighting a specified time after closing | 0.00-9.59 minutes   | 0.00    |         |
| o320 | Warning time before start  | 0.00-9.59 minutes   | 0.00    |         |
| o321 | Warning function in combination with o320  | 1 - 4   | 2       |         |
|      | 1  | Constant signal before automatic closing                                  |         |         |
|      | 2  | Constant signal before park and automatic closing                         |         |         |
|      | 3  | Constant signal before close signal, park and automatic closing           |         |         |
|      | 4  | Constant signal before all signals  |         |         |
| o322 | Function during warning time   | 1 - 2   | 1       |         |
|      | 1  | Output signal disabled during warning in other output                     |         |         |
|      | 2  | Signal as configured in o310-o313   |         |         |

| No.   | Name   | Range               | Factory | Setting |
|-------|--|---------------------|---------|---------|
| o330* | Alarm delay. Alarms in channels o331 - o342 must be active this time to give an output signal. | 0.00-9.59 minutes   | 0.00    |         |
| o331* | Alarm for faulty safety edge.  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o332* | Alarm for critical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o333* | Alarm if stop circuit interrupted  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o334* | Alarm if door open   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o335* | Alarm if door is in mid position   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o336* | Alarm if door is in closed position  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o337* | Alarm if vehicle loop 1 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o338* | Alarm if vehicle loop 2 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o339* | Alarm if photocell interrupted   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o342* | Alarm for uncritical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o383  | Selection of contact function for output   | 1 - 2               | 1       |         |
|       | 1  | Normally open, NO   |         |         |
|       | 2  | Normally closed, NC |         |         |

\* = Only when o300 is set to 4.

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| o391 | Function when LOOP1, LOOP2 or PHOTO are activated | 01 - 14   | 01      |         |
|      | 01  | Presence detection Signal when LOOP1 is activated, remains until LOOP1 is clear.  |         |         |
|      | 02  | Presence detection Signal when LOOP2 is activated, remains until LOOP2 is clear.  |         |         |
|      | 03  | Presence detection Signal when both LOOP1 and LOOP2 are activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 04  | Presence detection Signal when PHOTO is activated, remains until PHOTO is clear.  |         |         |
|      | 05  | Presence detection Signal when PHOTO and LOOP1 are activated, remains until either PHOTO or LOOP1 is clear.               |         |         |
|      | 06  | Presence detection Signal when PHOTO and LOOP2 are activated, remains until either PHOTO or LOOP2 is clear.               |         |         |
|      | 07  | Presence detection Signal when PHOTO, LOOP1 and LOOP2 are activated, remains until either PHOTO, LOOP1 or LOOP2 is clear. |         |         |
|      | 08  | Presence detection Signal when either LOOP1 or LOOP2 is activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 09  | Direction sensing Signal when first LOOP1 and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |
|      | 10  | Direction sensing Signal when first LOOP1 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 11  | Direction sensing Signal when first LOOP2 and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 12  | Direction sensing Signal when first LOOP2 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 13  | Direction sensing Signal when first PHOTO and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 14  | Direction sensing Signal when first PHOTO and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |



## Programmable output 4

| No.  | Name   | Range  | Factory | Setting |
|------|--|--|---------|---------|
| o400 | Function of output 4   | 0 - 4  | 0       |         |
|      | 0  | Disabled   |         |         |
|      | 1  | Position indication/Movement/Warning. Signal as configured in o410 – o422                    |         |         |
|      | 2  | Presence detection/Direction sensing. Signal as configured in o491                           |         |         |
|      | 3  | Lock   |         |         |
|      | 4  | Alarm output Signal as configured in o430 – o442   |         |         |
| o410 | Open position  | 0 - 2  | 0       |         |
|      | 0  | Disabled   |         |         |
|      | 1  | Constant signal  |         |         |
|      | 2*   | Flashing signal, invalid selection for DB410   |         |         |
| o411 | Mid position   | 0 - 2  | 1       |         |
|      | 0  | Disabled   |         |         |
|      | 1  | Constant signal  |         |         |
|      | 2*   | Flashing signal, invalid selection for DB410   |         |         |
| o412 | Closed position  | 0 - 2  | 1       |         |
|      | 0  | Disabled   |         |         |
|      | 1  | Constant signal  |         |         |
|      | 2*   | Flashing signal, invalid selection for DB410   |         |         |
| o413 | Movement   | 0 - 7  | 0       |         |
|      | 0  | Disabled   |         |         |
|      | 1  | Constant signal in the opening movement  |         |         |
|      | 2  | Constant signal in the closing movement  |         |         |
|      | 3  | Constant signal in the opening and closing movement  |         |         |
|      | 4  | No signal during movement, used in combination with o410, o411 and o412.                     |         |         |
|      | 5*   | Flashing signal in the opening movement, invalid selection for DB410                         |         |         |
|      | 6*   | Flashing signal in the closing movement, invalid selection for DB410                         |         |         |
|      | 7*   | Flashing signal in the opening and closing movement, invalid selection for DB410             |         |         |
| o414 | Delayed switch-off Switch off after the specified time For example to switch off lighting a specified time after closing | 0.00-9.59 minutes  | 0.00    |         |
| o420 | Warning time before start  | 0.00-9.59 minutes  | 0.00    |         |
| o421 | Warning function in combination with o420  | 1 - 8  | 2       |         |
|      | 1  | Constant signal before automatic closing   |         |         |
|      | 2  | Constant signal before park and automatic closing  |         |         |
|      | 3  | Constant signal before close signal, park and automatic closing                              |         |         |
|      | 4  | Constant signal before all signals   |         |         |
|      | 5*   | Flashing signal before automatic closing, invalid selection for DB410                        |         |         |
|      | 6*   | Flashing signal before park and automatic closing, invalid selection for DB410               |         |         |
|      | 7*   | Flashing signal before close signal, park and automatic closing, invalid selection for DB410 |         |         |
|      | 8*   | Flashing signal before all signals, invalid selection for DB410                              |         |         |

\* WARNING! This setting is possible, but NOT permitted for DB410! Selecting it means that the relay output will cease to function. The channel selection for flashing function may be used only together with DB407.

| No.   | Name   | Range   | Factory | Setting |
|-------|--|---|---------|---------|
| o422  | Function during warning time   | 1 - 2   | 1       |         |
|       | 1  | Output signal disabled during warning in other output |         |         |
|       | 2  | Output signal as configured in o410-o413              |         |         |
| o423  | Flashing frequency   | 0.1-2.0 seconds                                       | 0.5     |         |
| o430* | Alarm delay. Alarms in channels o431 - o442 must be active this time to give an output signal. | 0.00-9.59 minutes                                     | 0.00    |         |
| o431* | Alarm for faulty safety edge.  | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o432* | Alarm for critical error message in display  | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o433* | Alarm if stop circuit interrupted  | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o434* | Alarm if door open   | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o435* | Alarm if door is in mid position   | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o436* | Alarm if door is in closed position  | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o437* | Alarm if vehicle loop 1 is activated   | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o438* | Alarm if vehicle loop 2 is activated   | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o439* | Alarm if photocell interrupted   | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o442* | Alarm for uncritical error message in display  | 0 - 1   | 0       |         |
|       | 0  | Disabled  |         |         |
|       | 1  | Constant signal                                       |         |         |
| o483  | Selection of contact function for output   | 1 - 2   | 1       |         |
|       | 1  | Normally open, NO                                     |         |         |
|       | 2  | Normally closed, NC                                   |         |         |

\* = Only when o400 is set to 4.

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| o491 | Function when LOOP1, LOOP2 or PHOTO are activated | 01 - 14   | 01      |         |
|      | 01  | Presence detection Signal when LOOP1 is activated, remains until LOOP1 is clear.  |         |         |
|      | 02  | Presence detection Signal when LOOP2 is activated, remains until LOOP2 is clear.  |         |         |
|      | 03  | Presence detection Signal when both LOOP1 and LOOP2 are activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 04  | Presence detection Signal when PHOTO is activated, remains until PHOTO is clear.  |         |         |
|      | 05  | Presence detection Signal when PHOTO and LOOP1 are activated, remains until either PHOTO or LOOP1 is clear.               |         |         |
|      | 06  | Presence detection Signal when PHOTO and LOOP2 are activated, remains until either PHOTO or LOOP2 is clear.               |         |         |
|      | 07  | Presence detection Signal when PHOTO, LOOP1 and LOOP2 are activated, remains until either PHOTO, LOOP1 or LOOP2 is clear. |         |         |
|      | 08  | Presence detection Signal when either LOOP1 or LOOP2 is activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 09  | Direction sensing Signal when first LOOP1 and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |
|      | 10  | Direction sensing Signal when first LOOP1 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 11  | Direction sensing Signal when first LOOP2 and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 12  | Direction sensing Signal when first LOOP2 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 13  | Direction sensing Signal when first PHOTO and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 14  | Direction sensing Signal when first PHOTO and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |

## Programmable output 5

| No.  | Name   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| o500 | Function of output 1   | 0 - 4   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Position indication/Movement/Warning. Signal as configured in o510 – o522 |         |         |
|      | 2  | Presence detection/Direction sensing. Signal as configured in o591        |         |         |
|      | 3  | Lock  |         |         |
|      | 4  | Alarm output Signal as configured in o530 – o542                          |         |         |
| o510 | Open position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o511 | Mid position   | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o512 | Closed position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o513 | Movement   | 0 - 4   | 4       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal in the opening movement                                   |         |         |
|      | 2  | Constant signal in the closing movement                                   |         |         |
|      | 3  | Constant signal in the opening and closing movement                       |         |         |
|      | 4  | No signal during movement, used in combination with o510, o511 and o512.  |         |         |
| o514 | Delayed switch-off Switch off after the specified time For example to switch off lighting a specified time after closing | 0.00-9.59 minutes   | 0.00    |         |
| o520 | Warning time before start  | 0.00-9.59 minutes   | 0.00    |         |
| o521 | Warning function in combination with o520  | 1 - 4   | 2       |         |
|      | 1  | Constant signal before automatic closing                                  |         |         |
|      | 2  | Constant signal before park and automatic closing                         |         |         |
|      | 3  | Constant signal before close signal, park and automatic closing           |         |         |
|      | 4  | Constant signal before all signals  |         |         |
| o522 | Function during warning time   | 1 - 2   | 1       |         |
|      | 1  | Output signal disabled during warning in other output                     |         |         |
|      | 2  | Output signal as configured in o510-o513                                  |         |         |

| No.   | Name   | Range               | Factory | Setting |
|-------|--|---------------------|---------|---------|
| o530* | Alarm delay. Alarms in channels o531 - o542 must be active this time to give an output signal. | 0.00-9.59 minutes   | 0.00    |         |
| o531* | Alarm for faulty safety edge.  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o532* | Alarm for critical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o533* | Alarm if stop circuit interrupted  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o534* | Alarm if door open   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o535* | Alarm if door is in mid position   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o536* | Alarm if door is in closed position  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o537* | Alarm if vehicle loop 1 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o538* | Alarm if vehicle loop 2 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o539* | Alarm if photocell interrupted   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o542* | Alarm for uncritical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o583  | Selection of contact function for output   | 1 - 2               | 1       |         |
|       | 1  | Normally open, NO   |         |         |
|       | 2  | Normally closed, NC |         |         |

\* = Only when o500 is set to 4.

| No.  | Name  | Range   | Factory | Setting |
|------|---|---|---------|---------|
| o591 | Function when LOOP1, LOOP2 or PHOTO are activated | 01 - 14   | 01      |         |
|      | 01  | Presence detection Signal when LOOP1 is activated, remains until LOOP1 is clear.  |         |         |
|      | 02  | Presence detection Signal when LOOP2 is activated, remains until LOOP2 is clear.  |         |         |
|      | 03  | Presence detection Signal when both LOOP1 and LOOP2 are activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 04  | Presence detection Signal when PHOTO is activated, remains until PHOTO is clear.  |         |         |
|      | 05  | Presence detection Signal when PHOTO and LOOP1 are activated, remains until either PHOTO or LOOP1 is clear.               |         |         |
|      | 06  | Presence detection Signal when PHOTO and LOOP2 are activated, remains until either PHOTO or LOOP2 is clear.               |         |         |
|      | 07  | Presence detection Signal when PHOTO, LOOP1 and LOOP2 are activated, remains until either PHOTO, LOOP1 or LOOP2 is clear. |         |         |
|      | 08  | Presence detection Signal when either LOOP1 or LOOP2 is activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |
|      | 09  | Direction sensing Signal when first LOOP1 and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |
|      | 10  | Direction sensing Signal when first LOOP1 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 11  | Direction sensing Signal when first LOOP2 and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 12  | Direction sensing Signal when first LOOP2 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |
|      | 13  | Direction sensing Signal when first PHOTO and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |
|      | 14  | Direction sensing Signal when first PHOTO and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |

## Programmable output 6

| No.  | Name   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| o600 | Function of output 1   | 0 - 4   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Position indication/Movement/Warning. Signal as configured in o610 – o622 |         |         |
|      | 2  | Presence detection/Direction sensing. Signal as configured in o691        |         |         |
|      | 3  | Lock  |         |         |
|      | 4  | Alarm output Signal as configured in o630 – o642                          |         |         |
| o610 | Open position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o611 | Mid position   | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o612 | Closed position  | 0 - 1   | 0       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal   |         |         |
| o613 | Movement   | 0 - 4   | 4       |         |
|      | 0  | Disabled  |         |         |
|      | 1  | Constant signal in the opening movement                                   |         |         |
|      | 2  | Constant signal in the closing movement                                   |         |         |
|      | 3  | Constant signal in the opening and closing movement                       |         |         |
|      | 4  | No signal during movement, used in combination with o610, o611 and o612.  |         |         |
| o614 | Delayed switch-off Switch off after the specified time For example to switch off lighting a specified time after closing | 0.00-9.59 minutes   | 0.00    |         |
| o620 | Warning time before start  | 0.00-9.59 minutes   | 0.00    |         |
| o621 | Warning function in combination with o620  | 1 - 4   | 2       |         |
|      | 1  | Constant signal before automatic closing                                  |         |         |
|      | 2  | Constant signal before park and automatic closing                         |         |         |
|      | 3  | Constant signal before close signal, park and automatic closing           |         |         |
|      | 4  | Constant signal before all signals  |         |         |
| o622 | Function during warning time   | 1 - 2   | 1       |         |
|      | 1  | Output signal disabled during warning in other output                     |         |         |
|      | 2  | Output signal as configured in o610-o613                                  |         |         |

| No.   | Name   | Range               | Factory | Setting |
|-------|--|---------------------|---------|---------|
| o630* | Alarm delay. Alarms in channels o631 - o642 must be active this time to give an output signal. | 0.00-9.59 minutes   | 0.00    |         |
| o631* | Alarm for faulty safety edge.  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o632* | Alarm for critical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o633* | Alarm if stop circuit interrupted  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o634* | Alarm if door open   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o635* | Alarm if door is in mid position   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o636* | Alarm if door is in closed position  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o637* | Alarm if vehicle loop 1 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o638* | Alarm if vehicle loop 2 is activated   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o639* | Alarm if photocell interrupted   | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o642* | Alarm for uncritical error message in display  | 0 - 1               | 0       |         |
|       | 0  | Disabled            |         |         |
|       | 1  | Constant signal     |         |         |
| o683  | Selection of contact function for output   | 1 - 2               | 1       |         |
|       | 1  | Normally open, NO   |         |         |
|       | 2  | Normally closed, NC |         |         |

\* = Only when o600 is set to 4.



| No.  | Name  | Range   | Factory | Setting |
|------|---|---------|---------|---------|
| o691 | Function when LOOP1, LOOP2 or PHOTO are activated   | 01 - 14 | 01      |         |
| 01   | Presence detection Signal when LOOP1 is activated, remains until LOOP1 is clear.  |         |         |         |
| 02   | Presence detection Signal when LOOP2 is activated, remains until LOOP2 is clear.  |         |         |         |
| 03   | Presence detection Signal when both LOOP1 and LOOP2 are activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |         |
| 04   | Presence detection Signal when PHOTO is activated, remains until PHOTO is clear.  |         |         |         |
| 05   | Presence detection Signal when PHOTO and LOOP1 are activated, remains until either PHOTO or LOOP1 is clear.               |         |         |         |
| 06   | Presence detection Signal when PHOTO and LOOP2 are activated, remains until either PHOTO or LOOP2 is clear.               |         |         |         |
| 07   | Presence detection Signal when PHOTO, LOOP1 and LOOP2 are activated, remains until either PHOTO, LOOP1 or LOOP2 is clear. |         |         |         |
| 08   | Presence detection Signal when either LOOP1 or LOOP2 is activated, remains until either LOOP1 or LOOP2 is clear.          |         |         |         |
| 09   | Direction sensing Signal when first LOOP1 and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |         |
| 10   | Direction sensing Signal when first LOOP1 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |         |
| 11   | Direction sensing Signal when first LOOP2 and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |         |
| 12   | Direction sensing Signal when first LOOP2 and then PHOTO are activated. The signal remains until PHOTO is clear.          |         |         |         |
| 13   | Direction sensing Signal when first PHOTO and then LOOP1 are activated. The signal remains until LOOP1 is clear.          |         |         |         |
| 14   | Direction sensing Signal when first PHOTO and then LOOP2 are activated. The signal remains until LOOP2 is clear.          |         |         |         |

- Programmable inputs, P channels

### Programmable input 1

| No.    | Name  | Range   | Factory | Setting |
|--------|---|---|---------|---------|
| P100   | Channels in programmable input 1  | 0 - 1   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Enabled   |         |         |
| P160   | Control function  | 0-5   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Open  |         |         |
|        | 2   | Close   |         |         |
|        | 3   | Stop  |         |         |
|        | 4   | Open/close  |         |         |
|        | 5   | Open/stop/close   |         |         |
| ▲ P161 | Type of control signal when activated   | 1 - 2   | 1       |         |
|        | 1   | Pulse (hold-to-run mode not possible)   |         |         |
|        | 2   | Signal for as long as the input is activated  |         |         |
| P162   | Half operation  | 1 - 3   | 3       |         |
|        | 1   | Motor 1   |         |         |
|        | 2   | Motor 2   |         |         |
|        | 3   | Motors 1 and 2  |         |         |
| P163   | Limited opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used.                  |         |         |
| P170   | Motor lock  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | The barrier cannot be operated without a signal at programmable input 1. If the signal disappears the barrier is stopped. |         |         |
| P175   | Opening via input after activation during set time, input will not open the barrier until it has been activated for the set time. | 0.0-9.9 seconds   | 0.0     |         |
| P180   | Keep open   | 0 - 2   | 2       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Automatic closing disabled after the input is activated, reset by another control signal                                  |         |         |
|        | 2   | Automatic closing disabled by a constant signal   |         |         |
| P190   | Interlock opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opens the local door if P160 is set to open, and passes the signal on to the remote door                                  |         |         |
| P196   | Blocking disabled for local and remote doors. Works only with a constant signal.  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |
| P198   | Automatic closing disabled for remote door Only works if there is a constant signal   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |

## Programmable input 2

| No.    | Name  | Range   | Factory | Setting |
|--------|---|---|---------|---------|
| P200   | Channels in programmable input 2  | 0 - 1   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Enabled   |         |         |
| P260   | Control function  | 0-5   | 2       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Open  |         |         |
|        | 2   | Close   |         |         |
|        | 3   | Stop  |         |         |
|        | 4   | Open/close  |         |         |
|        | 5   | Open/stop/close   |         |         |
| ▲ P261 | Type of control signal when activated   | 1 - 2   | 1       |         |
|        | 1   | Pulse (hold-to-run mode not possible)   |         |         |
|        | 2   | Signal for as long as the input is activated  |         |         |
| P262   | Half operation  | 1 - 3   | 3       |         |
|        | 1   | Motor 1   |         |         |
|        | 2   | Motor 2   |         |         |
|        | 3   | Motors 1 and 2  |         |         |
| P263   | Limited opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used.                  |         |         |
| P270   | Motor lock  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | The barrier cannot be operated without a signal at programmable input 2. If the signal disappears the barrier is stopped. |         |         |
| P275   | Opening via input after activation during set time, input will not open the barrier until it has been activated for the set time. | 0.0-9.9 seconds   | 0.0     |         |
| P280   | Keep open   | 0 - 2   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Automatic closing disabled after the input is activated, reset by another control signal                                  |         |         |
|        | 2   | Automatic closing disabled by a constant signal   |         |         |
| P290   | Interlock opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opens the local door if P260 is set to open, and passes the signal on to the remote door                                  |         |         |
| P296   | Blocking disabled for local and remote doors. Works only with a constant signal.  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |
| P298   | Automatic closing disabled for remote door Only works if there is a constant signal   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |

## Programmable input 3

| No.    | Name  | Range   | Factory | Setting |
|--------|---|---|---------|---------|
| P300   | Channels in programmable input 3  | 0 - 1   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Enabled   |         |         |
| P360   | Control function  | 0-5   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Open  |         |         |
|        | 2   | Close   |         |         |
|        | 3   | Stop  |         |         |
|        | 4   | Open/close  |         |         |
|        | 5   | Open/stop/close   |         |         |
| ▲ P361 | Type of control signal when activated   | 1 - 2   | 1       |         |
|        | 1   | Pulse (hold-to-run mode not possible)   |         |         |
|        | 2   | Signal for as long as the input is activated  |         |         |
| P362   | Half operation  | 1 - 3   | 3       |         |
|        | 1   | Motor 1   |         |         |
|        | 2   | Motor 2   |         |         |
|        | 3   | Motors 1 and 2  |         |         |
| P363   | Limited opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used.                  |         |         |
| P370   | Motor lock  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | The barrier cannot be operated without a signal at programmable input 3. If the signal disappears the barrier is stopped. |         |         |
| P375   | Opening via input after activation during set time, input will not open the barrier until it has been activated for the set time. | 0.0-9.9 seconds   | 0.0     |         |
| P380   | Keep open   | 0 - 2   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Automatic closing disabled after the input is activated, reset by another control signal                                  |         |         |
|        | 2   | Automatic closing disabled by a constant signal   |         |         |
| P390   | Interlock opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opens the local door if P360 is set to open, and passes the signal on to the remote door                                  |         |         |
| P396   | Blocking disabled for local and remote doors. Works only with a constant signal.  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |
| P398   | Automatic closing disabled for remote door Only works if there is a constant signal   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |

## Programmable input 4

| No.    | Name  | Range   | Factory | Setting |
|--------|---|---|---------|---------|
| P400   | Channels in programmable input 4  | 0 - 1   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Enabled   |         |         |
| P460   | Control function  | 0-5   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Open  |         |         |
|        | 2   | Close   |         |         |
|        | 3   | Stop  |         |         |
|        | 4   | Open/close  |         |         |
|        | 5   | Open/stop/close   |         |         |
| ▲ P461 | Type of control signal when activated   | 1 - 2   | 1       |         |
|        | 1   | Pulse   |         |         |
|        | 2   | Signal for as long as the input is activated  |         |         |
| P462   | Half operation  | 1 - 3   | 3       |         |
|        | 1   | Motor 1   |         |         |
|        | 2   | Motor 2   |         |         |
|        | 3   | Motors 1 and 2  |         |         |
| P463   | Limited opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used.                  |         |         |
| P470   | Motor lock  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | The barrier cannot be operated without a signal at programmable input 4. If the signal disappears the barrier is stopped. |         |         |
| P475   | Opening via input after activation during set time, input will not open the barrier until it has been activated for the set time. | 0.0-9.9 seconds   | 0.0     |         |
| P480   | Keep open   | 0 - 2   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Automatic closing disabled after the input is activated, reset by another control signal                                  |         |         |
|        | 2   | Automatic closing disabled by a constant signal   |         |         |
| P490   | Interlock opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opens the local door if P460 is set to open, and passes the signal on to the remote door                                  |         |         |
| P496   | Blocking disabled for local and remote doors. Works only with a constant signal.  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |
| P498   | Automatic closing disabled for remote door Only works if there is a constant signal   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |

## Programmable input 5

| No.    | Name  | Range   | Factory | Setting |
|--------|---|---|---------|---------|
| P500   | Channels in programmable input 5  | 0 - 1   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Activated (Only channels P560-P598 activated)   |         |         |
|        | 2   | Battery operation, only together with frequency converter (Channels P560-P598 inactivated)                                |         |         |
| P560   | Control function  | 0-5   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Open  |         |         |
|        | 2   | Close   |         |         |
|        | 3   | Stop  |         |         |
|        | 4   | Open/close  |         |         |
|        | 5   | Open/stop/close   |         |         |
| ▲ P561 | Type of control signal when activated   | 1 - 2   | 1       |         |
|        | 1   | Pulse   |         |         |
|        | 2   | Signal for as long as the input is activated  |         |         |
| P562   | Half operation  | 1 - 3   | 3       |         |
|        | 1   | Motor 1   |         |         |
|        | 2   | Motor 2   |         |         |
|        | 3   | Motors 1 and 2  |         |         |
| P563   | Limited opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used.                  |         |         |
| P570   | Motor lock  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | The barrier cannot be operated without a signal at programmable input 5. If the signal disappears the barrier is stopped. |         |         |
| P575   | Opening via input after activation during set time, input will not open the barrier until it has been activated for the set time. | 0.0-9.9 seconds   | 0.0     |         |
| P580   | Keep open   | 0 - 2   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Automatic closing disabled after the input is activated, reset by another control signal                                  |         |         |
|        | 2   | Automatic closing disabled by a constant signal   |         |         |
| P590   | Interlock opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opens the local door if P560 is set to open, and passes the signal on to the remote door                                  |         |         |
| P596   | Blocking disabled for local and remote doors. Works only with a constant signal.  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |
| P598   | Automatic closing disabled for remote door Only works if there is a constant signal   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Active  |         |         |

## Programmable input 6

| No.    | Name  | Range   | Factory | Setting |
|--------|---|---|---------|---------|
| P600   | Channels in programmable input 6                                      | 0 - 1   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Activated (Only channels P660-P698 activated)   |         |         |
|        | 2   | Safety input (Only channels P640-P643 activated)  |         |         |
| P640   | Safety function in closing movement                                   | 0 - 3   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Reverse to fully open   |         |         |
|        | 2   | Stop with automatic restart of automatic closing  |         |         |
|        | 3   | Stop, wait for new control signal or time in C520 and thereafter automatic closing.                                       |         |         |
| P641   | Safety during run-on time or disengagement angle in closing movement. | 0 - 1   | 0       |         |
|        | 0   | Disabled when both halves are in run-on or disengagement angle  |         |         |
|        | 1   | Activated according to P640   |         |         |
| P642   | Safety function in opening movement                                   | 0 - 4   | 1       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Reverse to fully closed   |         |         |
|        | 2   | Stop with automatic restart of automatic closing  |         |         |
|        | 3   | Stop, wait for new control signal or time in C520 and then automatic closing.   |         |         |
|        | 4   | Stop with restart of opening  |         |         |
| P643   | Control of external protection connected to INP6                      | 0 - 1   | 1       |         |
|        | 0   | No check  |         |         |
|        | 1   | Test of protection connected to INP6  |         |         |
| P660   | Control function  | 0-5   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Open  |         |         |
|        | 2   | Close   |         |         |
|        | 3   | Stop  |         |         |
|        | 4   | Open/close  |         |         |
|        | 5   | Open/stop/close   |         |         |
| ▲ P661 | Type of control signal when activated                                 | 1 - 2   | 1       |         |
|        | 1   | Pulse   |         |         |
|        | 2   | Signal for as long as the input is activated  |         |         |
| P662   | Half operation  | 1 - 3   | 3       |         |
|        | 1   | Motor 1   |         |         |
|        | 2   | Motor 2   |         |         |
|        | 3   | Motors 1 and 2  |         |         |
| P663   | Limited opening   | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | Opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used.                  |         |         |
| P670   | Motor lock  | 0 - 1   | 0       |         |
|        | 0   | Disabled  |         |         |
|        | 1   | The barrier cannot be operated without a signal at programmable input 6. If the signal disappears the barrier is stopped. |         |         |

| No.  | Name  | Range  | Factory | Setting |
|------|---|--|---------|---------|
| P675 | Opening via input after activation during set time, input will not open the barrier until it has been activated for the set time. | 0.0-9.9 seconds  | 0.0     |         |
| P680 | Keep open   | 0 - 2  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Automatic closing disabled after the input is activated, reset by another control signal |         |         |
|      | 2   | Automatic closing disabled by a constant signal  |         |         |
| P690 | Interlock opening   | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Opens the local door if P660 is set to open, and passes the signal on to the remote door |         |         |
| P696 | Blocking disabled for local and remote doors. Works only with a constant signal.  | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Active   |         |         |
| P698 | Automatic closing disabled for remote door Only works if there is a constant signal   | 0 - 1  | 0       |         |
|      | 0   | Disabled   |         |         |
|      | 1   | Active   |         |         |





- DB411, Radio board, r-channels  
Programmable wireless input 1

| No.  | Name                                   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| r001 | Readout of received wireless input     | 0 - 4   | 0       |         |
|      | 0                                      | No wireless reception   |         |         |
|      | 1                                      | Wireless input 1 is receiving a wireless signal   |         |         |
|      | 2                                      | Wireless input 2 is receiving a wireless signal   |         |         |
|      | 3                                      | Wireless input 3 is receiving a wireless signal   |         |         |
|      | 4                                      | Wireless input 4 is receiving a wireless signal   |         |         |
| r160 | Control function                       | 0 - 5   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Open  |         |         |
|      | 2                                      | Close   |         |         |
|      | 3                                      | Stop  |         |         |
|      | 4                                      | Open/close  |         |         |
|      | 5                                      | Open/stop/close   |         |         |
| r162 | Half operation                         | 1 - 3   | 3       |         |
|      | 1                                      | Motor 1   |         |         |
|      | 2                                      | Motor 2   |         |         |
|      | 3                                      | Motor 1 and Motor 2   |         |         |
| r163 | Limited opening                        | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Time opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used. |         |         |
| r170 | Disable operation at wireless input 1. | 0 - 6   | 0       |         |
|      | 0                                      | Disabled, normal operation. (Programmable input has no function for wireless input 1)                         |         |         |
|      | 1                                      | Operate only if there is a signal at programmable input 1   |         |         |
|      | 2                                      | Operate only if there is a signal at programmable input 2   |         |         |
|      | 3                                      | Operate only if there is a signal at programmable input 3   |         |         |
|      | 4                                      | Operate only if there is a signal at programmable input 4   |         |         |
|      | 5                                      | Operate only if there is a signal at programmable input 5   |         |         |
|      | 6                                      | Operate only if there is a signal at programmable input 6   |         |         |
| r180 | Park                                   | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Park without automatic closing Reset by another control signal  |         |         |
| r190 | Interlock opening                      | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Sends a normal open signal to the remote door   |         |         |

## Programmable wireless input 2

| No.  | Name                                   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| r001 | Readout of received wireless input     | 0 - 4   | 0       |         |
|      | 0                                      | No wireless reception   |         |         |
|      | 1                                      | Wireless input 1 is receiving a wireless signal   |         |         |
|      | 2                                      | Wireless input 2 is receiving a wireless signal   |         |         |
|      | 3                                      | Wireless input 3 is receiving a wireless signal   |         |         |
|      | 4                                      | Wireless input 4 is receiving a wireless signal   |         |         |
| r260 | Control function                       | 0 - 5   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Open  |         |         |
|      | 2                                      | Close   |         |         |
|      | 3                                      | Stop  |         |         |
|      | 4                                      | Open/close  |         |         |
|      | 5                                      | Open/stop/close   |         |         |
| r262 | Half operation                         | 1 - 3   | 3       |         |
|      | 1                                      | Motor 1   |         |         |
|      | 2                                      | Motor 2   |         |         |
|      | 3                                      | Motor 1 and Motor 2   |         |         |
| r263 | Limited opening                        | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Time opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used. |         |         |
| r270 | Disable operation at wireless input 2. | 0 - 6   | 0       |         |
|      | 0                                      | Disabled, normal operation. (Programmable input has no function for wireless input 2)                         |         |         |
|      | 1                                      | Operate only if there is a signal at programmable input 1   |         |         |
|      | 2                                      | Operate only if there is a signal at programmable input 2   |         |         |
|      | 3                                      | Operate only if there is a signal at programmable input 3   |         |         |
|      | 4                                      | Operate only if there is a signal at programmable input 4   |         |         |
|      | 5                                      | Operate only if there is a signal at programmable input 5   |         |         |
|      | 6                                      | Operate only if there is a signal at programmable input 6   |         |         |
| r280 | Park                                   | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Park without automatic closing Reset by another control signal  |         |         |
| r290 | Interlock opening                      | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Sends a normal open signal to the remote door   |         |         |

## Programmable wireless input 3

| No.  | Name                                   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| r001 | Readout of received wireless input     | 0 - 4   | 0       |         |
|      | 0                                      | No wireless reception   |         |         |
|      | 1                                      | Wireless input 1 is receiving a wireless signal   |         |         |
|      | 2                                      | Wireless input 2 is receiving a wireless signal   |         |         |
|      | 3                                      | Wireless input 3 is receiving a wireless signal   |         |         |
|      | 4                                      | Wireless input 4 is receiving a wireless signal   |         |         |
| r360 | Control function                       | 0 - 5   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Open  |         |         |
|      | 2                                      | Close   |         |         |
|      | 3                                      | Stop  |         |         |
|      | 4                                      | Open/close  |         |         |
|      | 5                                      | Open/stop/close   |         |         |
| r362 | Half operation                         | 1 - 3   | 3       |         |
|      | 1                                      | Motor 1   |         |         |
|      | 2                                      | Motor 2   |         |         |
|      | 3                                      | Motor 1 and Motor 2   |         |         |
| r363 | Limited opening                        | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Time opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used. |         |         |
| r370 | Disable operation at wireless input 3. | 0 - 6   | 0       |         |
|      | 0                                      | Disabled, normal operation. (Programmable input has no function for wireless input 3)                         |         |         |
|      | 1                                      | Operate only if there is a signal at programmable input 1   |         |         |
|      | 2                                      | Operate only if there is a signal at programmable input 2   |         |         |
|      | 3                                      | Operate only if there is a signal at programmable input 3   |         |         |
|      | 4                                      | Operate only if there is a signal at programmable input 4   |         |         |
|      | 5                                      | Operate only if there is a signal at programmable input 5   |         |         |
|      | 6                                      | Operate only if there is a signal at programmable input 6   |         |         |
| r380 | Park                                   | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Park without automatic closing Reset by another control signal  |         |         |
| r390 | Interlock opening                      | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Sends a normal open signal to the remote door   |         |         |

## Programmable wireless input 4

| No.  | Name                                   | Range   | Factory | Setting |
|------|--|---|---------|---------|
| r001 | Readout of received wireless input     | 0 - 4   | 0       |         |
|      | 0                                      | No wireless reception   |         |         |
|      | 1                                      | Wireless input 1 is receiving a wireless signal   |         |         |
|      | 2                                      | Wireless input 2 is receiving a wireless signal   |         |         |
|      | 3                                      | Wireless input 3 is receiving a wireless signal   |         |         |
|      | 4                                      | Wireless input 4 is receiving a wireless signal   |         |         |
| r460 | Control function                       | 0 - 5   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Open  |         |         |
|      | 2                                      | Close   |         |         |
|      | 3                                      | Stop  |         |         |
|      | 4                                      | Open/close  |         |         |
|      | 5                                      | Open/stop/close   |         |         |
| r462 | Half operation                         | 1 - 3   | 3       |         |
|      | 1                                      | Motor 1   |         |         |
|      | 2                                      | Motor 2   |         |         |
|      | 3                                      | Motor 1 and Motor 2   |         |         |
| r463 | Limited opening                        | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Time opening according to set time in channel C412/C414 or number of degrees in L116/L126 if encoder is used. |         |         |
| r470 | Disable operation at wireless input 4. | 0 - 6   | 0       |         |
|      | 0                                      | Disabled, normal operation. (Programmable input has no function for wireless input 4)                         |         |         |
|      | 1                                      | Operate only if there is a signal at programmable input 1   |         |         |
|      | 2                                      | Operate only if there is a signal at programmable input 2   |         |         |
|      | 3                                      | Operate only if there is a signal at programmable input 3   |         |         |
|      | 4                                      | Operate only if there is a signal at programmable input 4   |         |         |
|      | 5                                      | Operate only if there is a signal at programmable input 5   |         |         |
|      | 6                                      | Operate only if there is a signal at programmable input 6   |         |         |
| r480 | Park                                   | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Park without automatic closing Reset by another control signal  |         |         |
| r490 | Interlock opening                      | 0 - 1   | 0       |         |
|      | 0                                      | Disabled  |         |         |
|      | 1                                      | Sends a normal open signal to the remote door   |         |         |

## Error messages

Grey background means that the automatic control unit must be restarted (power off) in order to reset the error message.

| Error code | Meaning   | Possible cause   |
|------------|---|--|
| EP-1       | Not an error code – indicates the type of EP104 in use                      |  |
| EP-2       | Not an error code – indicates the type of EP104 in use                      |  |
| E000       | No error, shown to acknowledge a change in the service channel.             |  |
| E003       | Limited running time exceeded   | Gears slipping? Check C403   |
| E008       | Momentary loss of 24 V  | Momentary 24VDC short circuit?   |
| E015       | Loss of mains power   | Has there been a power failure? Mains power switch operated?   |
| E016       | Momentary loss of mains power   | Short mains power failure less than 0,5 seconds  |
| E017       | Safety edge or load guard triggered five times in succession                | Is something preventing the door reaching the closed position?   |
| E020       | Voltage too high in safety circuit  | The voltage measured by the automatic control unit is too high.  |
| E021       | Voltage too low in safety circuit   | Check external safety circuit, terminal 7-12   |
| E025       | Incorrect setting for personal protection, motor 1                          | Check C200 and C230, the load guard cannot be disabled with personal protection activated. Check C211, it cannot be longer than 0.06 seconds. C212 cannot be longer than 2 seconds. C493 cannot be longer than 0.20 seconds. |
| E026       | Incorrect setting for personal protection, motor 2                          | Check C200 and C240, the load guard cannot be disabled with personal protection activated. Check C211, it cannot be longer than 0.06 seconds. C212 cannot be longer than 2 seconds. C493 cannot be longer than 0.20 seconds. |
| E027       | Incorrect setting for motor protection, low limit inactive                  | If C202 is not set to 4 C201 may not be set to 1. C201 is only used with a frequency converter.  |
| E028       | Brake selected when using a frequency converter                             | Check that C495/C496 is set to 0.  |
| E032       | Limit switch L.O1 has lost its position                                     | Is the limit switch cam bypassing the switch? Loose connection in switch?  |
| E033       | Limit switch L.C1 has lost its position                                     | Is the limit switch cam bypassing the switch? Loose connection in switch?  |
| E034       | Limit switch L.O2 has lost its position                                     | Is the limit switch cam bypassing the switch? Loose connection in switch?  |
| E035       | Limit switch L.C2 has lost its position                                     | Is the limit switch cam bypassing the switch? Loose connection in switch?  |
| E040       | Invalid selection in the service channel                                    |  |
| E044       | Hidden channels shown   |  |
| E046       | Opening counter reset   |  |
| E047       | Factory reset of all channels   |  |
| E048       | Error code list reset   |  |
| E050       | Unknown circuit board, EP104 or Light not fully equipped                    | Contact FAAC Nordic AB   |
| E051       | Incorrect software, full version programmed in EPLight                      | Contact FAAC Nordic AB   |
| E052       | Incorrect software, EPLight software programmed into a fully equipped EP104 | Contact FAAC Nordic AB   |
| E116       | No safety edge acknowledgement  | Only applies to up-and-over control, fault in safety edge? Correct run-on time?  |
| E141       | SE.O2 is disabled when C104=3   |  |

| Error code | Meaning   | Possible cause  |
|------------|---|---|
| E201       | Motor protection triggered for motor 1  | Motor is taking more than 1.5x motor current. Motor is sluggish or stops. Faulty fuse? Phase failure in an incoming phase? Break in cable to motor or motor winding? Check the motor protection setting.  |
| E202       | Motor protection triggered for motor 2  |   |
| E203       | Motor protection triggered four times in a row, control unit locked for 3 minutes | Is there an obstacle? Fault in electric motor? Check the configuration of channels C252, C253, C262, C263.  |
| E204       | Current through motor 1, which is switched off                                    | Check that the power supply cables to the frequency converters are connected according to the wiring diagram for DB409  |
| E205       | Current through motor 2, which is switched off                                    |   |
| E206       | No current or low current in motor 1  | The electric motor is running at less than half the motor protection setting. Check the motor protection setting. Phase failure in an incoming phase? Faulty fuse? Break in cable to electric motor? Voltage drop in stop circuit/limit switch circuit? |
| E207       | No current or low current in motor 2  |   |
| E221       | Start load too low, motor 1   | Check that the motor is correctly connected.  |
| E222       | Start load too low, motor 2   | Check that the motor is correctly connected.  |
| E223       | Normal power too low, motor 1   | Check C230.   |
| E224       | Normal power too low, motor 2   | Check C240.   |
| E225       | The load guard has been tripped three times in a row                              | Obstacle in the way? Mechanical fault preventing closing? Check the load guard settings.  |
| E318       | Error in loop 1   | Are the loop and connectors electrically continuous?<br>For more troubleshooting tips, see the instruction manual for the vehicle detector  |
| E319       | Error in loop 2   |   |
| E614       | Communication error   | Correct polarity in communication cables? Break in communication cable? Correct settings in both automatic control units? Is the external unit switched on?   |
| E651       | No response from frequency converter motor 1                                      | Check the connection and the settings as described in Instruction Manual for DB409. Address must be set for the frequency converter.  |
| E652       | No response from frequency converter motor 2                                      | Check the connection and the settings as described in Instruction Manual for DB409. Address must be set for the frequency converter.  |
| E661       | Incorrect value sent to frequency converter motor 1                               | Contact FAAC Nordic AB  |
| E662       | Incorrect value sent to frequency converter motor 2                               | Contact FAAC Nordic AB  |
| E671       | Incorrect response from frequency converter motor 1                               | Contact FAAC Nordic AB  |
| E672       | Incorrect response from frequency converter motor 2                               | Contact FAAC Nordic AB  |
| E901       | Extraneous voltage at safety edge input SE.C1                                     | Contact FAAC Nordic AB.   |
| E902       | Extraneous voltage at safety edge input SE.C2                                     | Contact FAAC Nordic AB.   |
| E903       | Extraneous voltage at safety edge input SE.O1                                     | Contact FAAC Nordic AB.   |
| E904       | Extraneous voltage at limit switch input  | Contact FAAC Nordic AB.   |
| E905       | Extraneous voltage in stop circuit  | Contact FAAC Nordic AB.   |
| E906       | Extraneous voltage at safety edge input SE.O2                                     | Contact FAAC Nordic AB.   |
| E907       | Extraneous voltage on limit switch L.O1   | Contact FAAC Nordic AB.   |
| E908       | Extraneous voltage on limit switch L.O2   | Contact FAAC Nordic AB.   |
| E909       | Internal watchdog triggered   | Contact FAAC Nordic AB.   |
| E910       | Clock monitoring error  | Contact FAAC Nordic AB.   |
| E911       | Repeated restart attempts   | Short circuit in limit switch or stop circuit? After the problem is corrected, the unit makes a new attempt to restart after 20 seconds.  |

| Error code | Meaning   | Possible cause   |
|------------|---|--|
| E912       | Incorrect checksum in flash memory  | Contact FAAC Nordic AB.  |
| E913       | Memory error in RAM   | Contact FAAC Nordic AB.  |
| E914       | Memory error in EEPROM  | Contact FAAC Nordic AB.  |
| E915       | Incorrect EEPROM version  | Contact FAAC Nordic AB.  |
| E916       | Internal test not completed in time   | Contact FAAC Nordic AB.  |
| E917       | Incorrect order of execution  | Contact FAAC Nordic AB.  |
| E918       | All error codes deleted due to an internal fault  |  |
| E921       | Contact for motor 1 activated before the previously activated contactor has been deactivated. | Contact FAAC Nordic AB.  |
| E922       | Contact for motor 2 activated before the previously activated contactor has been deactivated. | Contact FAAC Nordic AB.  |
| E931       | Stop at the same time as an open/close operation.   |  |
| E932       | Open operation at the same time as a close operation.   |  |
| E941       | Motor 1 running in the wrong direction according to the encoder setting.                      | Check that channel L110 is set to the correct side. Check the motor is running in the right direction. |
| E942       | Motor 2 running in the wrong direction according to the encoder setting.                      | Check that channel L120 is set to the correct side. Check the motor is running in the right direction. |
| E943       | No movement encoder 1   | Check connection to the encoder.   |
| E944       | No movement encoder 2   | Check connection to the encoder.   |
| E961       | SE.C1 did not change to low during the external test.   | Check that the safety edge is functional, if the safety edge is not functional, set channel C113 to 0. |
| E962       | SE.C2 did not change to low during the external test.   | Check that the safety edge is functional, if the safety edge is not functional, set channel C123 to 0. |
| E963       | SE.O1 did not change to low during the external test.   | Check that the safety edge is functional, if the safety edge is not functional, set channel C133 to 0. |
| E964       | PHOTO did not change to low during the external test.   | Check that the safety edge is functional, if the safety edge is not functional, set channel C343 to 0. |
| E965       | Photocell did not change to low during the external test.                                     | Check that the safety edge is functional, if the safety edge is not functional, set channel P643 to 0. |
| E966       | SE.O2 did not change to low during the external test.   | Check that the safety edge is functional, if the safety edge is not functional, set channel C143 to 0. |
| E971       | SE.C1 did not change to high during the external test.  | Check that the safety edge is functional, if the safety edge is not functional, set channel C113 to 0. |
| E972       | SE.C2 did not change to high during the external test.  | Check that the safety edge is functional, if the safety edge is not functional, set channel C123 to 0. |
| E973       | SE.O1 did not change to high during the external test.  | Check that the safety edge is functional, if the safety edge is not functional, set channel C133 to 0. |
| E976       | SE.O2 did not change to high during the external test.  | Check that the safety edge is functional, if the safety edge is not functional, set channel C143 to 0. |



## Troubleshooting

At each service, please check all the functions described in the relevant section on commissioning.

| Problem  | Possible cause, tip  |
|--|--|
| Error message in the display (Ennn)  | See the section above on error messages.   |
| The door reverses and the red LEDs M1/M2 start flashing.                               | Is the load guard correctly installed?<br>Has the correct supply voltage been set? Mechanical fault?<br>Does the door move easily when decoupled?  |
| Are the red LEDs SE.C1, SE.C2, SE.O1 or SE.O2 on or flashing?                          | Check the channels for the safety edge value. Is the impedance correct?<br>Adjust the safety edge switch if necessary? Are all the safety edge units in use? Are any of the limit switch LEDs on?<br>The safety edge will not work unless the limit switches are connected at the time the power is switched on.<br>Is the stop LED on? The safety edge will not work unless the stop circuit is uninterrupted at the time the power is switched on.   |
| The door will not open or close.   | Are all the green LEDs that should be lit on? Have unused stop inputs been jumpered? Are any of the LEDs INP1-INP6 on? They should not usually be on (unless the system is parked at certain times). The limit switch LEDs must light up before the door can be operated. Example: L.O1 is on = motor 1 can start. The limit switches are connected in series with the stop circuit. Fault/interruption in the wicket door contact or other contact in the stop circuit. Check that the warning is configured. Check that the block is configured. |
| The door will not close but it will open.  | The PHOTO LED should be on. Are any safety edge indications on? They should normally be off. Suspect an incorrect connection to the safety edge. Alternatively, an adjustment may be necessary. Check the channel for pulse operation.   |
| No automatic closing.  | Suspect an interruption somewhere in the stop circuit. Wicket door contact? Stop button? Check the setting for restart after stopping.   |
| The display and LEDs do not switch on  | Are all supply phases present? Possibly a short circuit to earth in a low current connection. Switch off at the main switch for 1 minute and remove all jackable terminals. Switch on the power again with the jackable terminals disconnected.  |
| You will need to hold down the run button to operate.                                  | Check that the automatic control unit is in pulse mode. Is the PHOTO LED on? Are any of the safety edge LEDs on? Is LOOP1 or LOOP2 lit? These should only be on if a vehicle is over the loop.   |
| Does the door inexplicably close "by itself"? (without an error message or alarm LEDs) | Try to operate the door again, opening and closing. Also check C020 for the most recent stop cause. Cross-check the number with the channel reference to find out what stopped the door.   |

### • Resetting/replacing tripped fuses

If the fuse protecting the power supply to the automatic control unit trips, FAAC Nordic AB recommends following these steps to reset/replace it.

- Switch off the main switch to the automatic control unit.
- Decouple the motor winder.
- Reset or replace the fuse.
- Switch on the main switch to the automatic control unit.
- Check that none of the motor winders start before receiving the control signal.
- Check that the motor winders can be started and stopped from the control buttons.
- If the motor winder cannot be stopped, contact FAAC Nordic AB.



**FAAC**