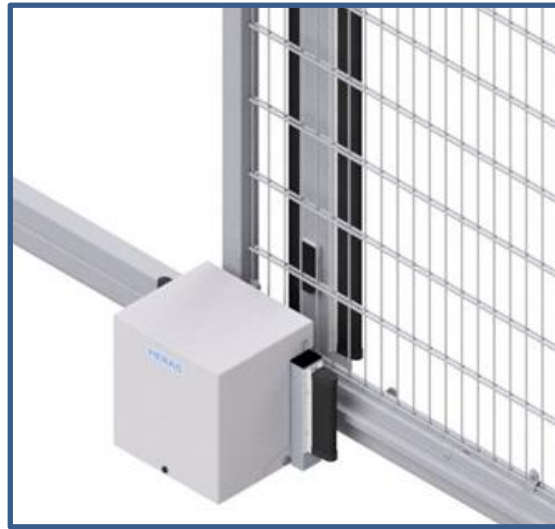
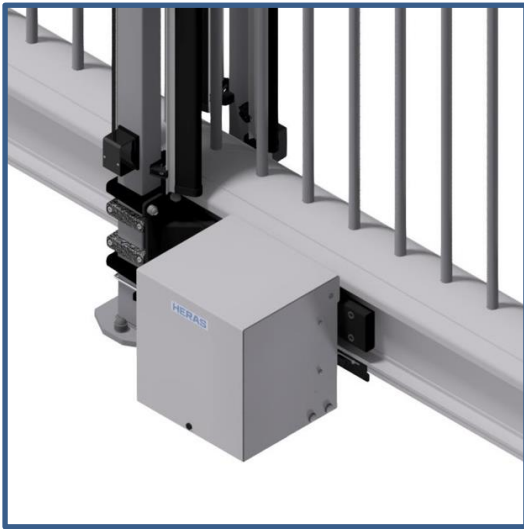




User Manual

Gate with drive HMDLP Basic, Condor



Please read this original user manual before using this gate for the first time! Act in accordance with the manual and keep it in a safe place for later use or for the following owner.



CONTENTS

FOREWORD	7
1 PREFACE.....	8
1.1 MANUFACTURER / SUPPLIER.....	8
1.2 SERVICE / MAINTENANCE	8
1.3 DEFINITIONS: USER / OPERATOR / ENGINEER	8
1.4 PRESCRIBED USE / APPLICATION	9
1.5 CONFORMITY WITH EUROPEAN DIRECTIVES.....	9
1.6 DELIVERY	9
1.7 GENERAL INFORMATION REGARDING THE ELECTRICAL CONNECTIONS.....	10
1.8 DELIVERY OF DRIVE UNIT	10
1.9 HMDLP BASIC.....	11
1.10 HMD BASIC/CONDOR	11
2 SAFETY.....	12
2.1 EXPLANATION OF THE SYMBOLS	12
2.2 SAFETY DISTANCES	12
2.3 GENERAL SAFETY INSTRUCTIONS	12
2.4 SAFETY PROVISIONS EMPLOYED.....	13
2.5 INTENDED USE.....	13
2.6 SAFETY DURING USE.....	14
2.7 SAFETY DURING INSTALLATION, MAINTENANCE AND DISASSEMBLY	15
3 OPERATION.....	16
3.1 OPENING/CLOSING SLIDING GATE - NORMAL USE	16
3.2 OPEN /CLOSE SLIDING GATE DELTA/CONDOR MANUALLY.....	16
3.2.1 Motor/gate unlocking.....	16
3.2.2 Locking the motor/gate	17
4 DESCRIPTION	18
4.1 DELTA	18
4.2 CONDOR.....	19
4.3 SAFETY EDGES	19
4.4 PHOTOCELLS.....	20
4.5 ACCESSOIRES	20
4.5.1 Loop detection (optional)	20
4.5.2 Traffic light (optional).....	20
4.5.3 Flash light (optional*)	20
4.5.4 Remote control (optional)	20
4.6 OPERATING MODES.....	21
4.6.1 Hold-to-run-control	21
4.6.2 Automatic mode	21
4.7 AUTOMATICALLY CHANGING OPERATING MODES.....	22

5	CONTROL UNIT AND DISPLAY READINGS	23
5.1	TOTAL VIEW OF HMDLP BASIC/HMD BASIC DRIVE UNIT	23
5.2	FULL VIEW OF THE CONTROL SYSTEM	24
5.3	ROTARY AND SELECTION SWITCH	25
5.4	LCD DISPLAY	25
5.4.1	<i>Operating mode display</i>	<i>26</i>
5.4.2	<i>Sensor display</i>	<i>27</i>
5.4.3	<i>Error/event display</i>	<i>28</i>
5.4.4	<i>Selecting the menu system</i>	<i>29</i>
5.4.5	<i>Menu system.....</i>	<i>29</i>
5.4.6	<i>Entering the password.....</i>	<i>29</i>
5.5	MENU OVERVIEW	30
5.6	MENU STRUCTURE, DISPLAYED TEXTS AND REFERENCES	32
5.7	SETTING THE NATIONAL LANGUAGE.....	37
6	INSTALLATION OF THE CONTROL SYSTEM	37
6.1	ELECTRICAL CONNECTION	37
6.2	POWER SUPPLY FROM THE ELECTRICITY GRID	38
6.2.1	<i>Connection of the motor</i>	<i>38</i>
6.3	CONNECTING THE INPUTS AND OUTPUTS.....	39
6.3.1	<i>Supply of external devices with 24 V_{DC}</i>	<i>39</i>
6.4	OPERATING DEVICES AND LIMIT SWITCHES	40
6.4.1	<i>Limit switches</i>	<i>41</i>
6.4.2	<i>Operating keys for hold-to-run operation</i>	<i>41</i>
6.4.3	<i>Stop function.....</i>	<i>42</i>
6.4.4	<i>Operating keys OPEN</i>	<i>42</i>
6.4.5	<i>Operating keys CLOSE.....</i>	<i>42</i>
6.4.6	<i>Setting up the partOPEN function (pedestrian passage)</i>	<i>43</i>
6.4.7	<i>Control element switchover impulse pushbutton (toggle)</i>	<i>43</i>
6.5	FIXED SAFETY CONTACT STRIPS	44
6.5.1	<i>Indus system with accompanying safety contact strips</i>	<i>44</i>
6.5.2	<i>Fixed safety contact strips (SKL).....</i>	<i>45</i>
6.5.3	<i>Accompanying safety contact strips (ISK)</i>	<i>45</i>
6.5.4	<i>Photo cell.....</i>	<i>45</i>
6.5.5	<i>Connecting a photo cell</i>	<i>46</i>
6.5.6	<i>Overview installation plan of the inputs</i>	<i>47</i>
6.6	RELAY OUTPUTS	47
6.7	RADIO RECEIVER AND ARIAL	48
7	PROGRAMMING AND SETTINGS	50
7.1	CHANGING THE DIRECTION OF ROTATION OF THE DRIVE.....	50
7.2	CONNECTION OF A JCM RADIO SYSTEM	50
7.3	OPERATING FUNCTIONS AT THE INPUTS IN3 AND IN4.....	52
7.4	REFERENCE RUN	53
7.5	CONNECTING FLASHLIGHTS.....	54

7.6	GATE STATUS INDICATIONS.....	55
7.7	SETTING THE TIMERS.....	55
7.7.1	<i>Hold-open time.....</i>	55
7.7.2	<i>Closure from the partOPEN position</i>	56
7.7.3	<i>Closing from intermediate positions.....</i>	56
7.7.4	<i>Closing run shortening with a photo cell.....</i>	57
7.7.5	<i>Slow movement before the limit positions.....</i>	57
7.8	MAINTENANCE EVENTS.....	57
7.8.1	<i>Cycle counter</i>	58
7.8.2	<i>Motor runtime counter.....</i>	58
7.8.3	<i>Maintenance interval</i>	58
7.8.4	<i>Maintenance request with flashlight.....</i>	59
7.8.5	<i>Reset maintenance request.....</i>	59
7.9	BACKING UP PARAMETERS	60
7.10	RELOADING PARAMETERS.....	60
7.11	RADIO REMOTE CONTROL	60
7.11.1	<i>Displaying the number of transmitters.....</i>	61
7.11.2	<i>Registering new transmitters.....</i>	61
7.11.3	<i>Registering key functions.....</i>	62
7.11.4	<i>Deleting a transmitter</i>	63
7.11.5	<i>Deleting a transmission location</i>	63
7.11.6	<i>Deleting all transmitters</i>	64
7.12	DIAGNOSTIC SUPPORT	64
7.12.1	<i>Version display</i>	64
7.12.2	<i>Gate status display</i>	65
7.12.3	<i>Sensor status.....</i>	66
7.12.4	<i>Temperature status.....</i>	66
7.12.5	<i>Motor current display</i>	66
7.12.6	<i>Log system</i>	66
8	FAULTS.....	68
8.1	DEFECTIVE PHOTOCCELL OR SAFETY EDGE	68
8.2	PARAMETERS REFERENCE/ERROR NUMBERS	68
9	EMERGENCY STOP	72
10	MAINTENANCE INSTRUCTIONS	72
10.1	GATE MAINTENANCE	72
10.2	DRIVE UNIT MAINTENANCE	73
10.3	CLEANING.....	73
11	DECOMMISSIONING AND REMOVAL	74
12	SPARE PARTS	74
13	TECHNICAL DATA	75
13.1	SLIDING GATE DESCRIPTION	75



13.2	DRIVE DESCRIPTION	75
APPENDIX A:	DECLARATIONS DOP / DOC	77



FOREWORD

This manual enables you to operate and maintain the gate correctly. Possible options are briefly described. The Operation chapter explains the control unit. Among other things, it describes how you can change various settings. The Maintenance chapter is extremely important to ensure that you can continue to operate your gate problem free in the long term.

This manual is intended for the Delta sliding gate in combination with the drive unit HMD Basic and also for the Condor sliding gate. Both gates differ on a number of points but share the same controls. Check carefully what applies to you as a user.

Please read this user manual carefully before using the gate.

Store the manual in a safe place to be able to refer to it later if required. This description is intended for the operator of the gate. The installer uses a separate manual to assemble and install the gate.

The installer uses an installation scheme for the drive concerned and works according to the applicable standards. In the event of a fault, you should contact a Heras certified technician. A connection diagram can be found at the end of this document.



1 PREFACE

1.1 MANUFACTURER / SUPPLIER

Manufacturer: Heras B.V.
Hekdam 1, 5688 JE Oirschot
Netherlands
Tel.: +31(0)499-551255
www.heras.com

Technical Construction File: Heras B.V. manager, PD

1.2 SERVICE / MAINTENANCE

In the event of problems, failures or questions you can contact:

Heras Netherlands	Telephone	+31(0) 882 740 274
Heras Germany	Telephone	+49 (0) 2872 94980
Heras UK	Telephone	+44(0) 808 164 2250
Heras France	Telephone	+33(0) 3 88 067 000
Heras Norway	Telephone	+47(-) 22 900 555
Heras Denmark	Telephone	+45(0) 7586 8296
Heras Sweden	Telephone	+46(0) 77 1506050
Heras Export	Telephone	+31(0) 499 551 523

1.3 DEFINITIONS: USER / OPERATOR / ENGINEER

User: Anyone using the gate.

Operator: A user who is familiar with all safety aspects dealt with in this manual. Operators are not allowed to carry out any installation work on the gate unless explicitly specified.

Engineer: The engineer is a Heras fitter (or an engineer employed by the customer who has been given explicit permission in writing from Heras) who is qualified to perform technical interventions on the gate.



1.4 PRESCRIBED USE / APPLICATION

Only the correct installation and maintenance by an authorised/qualified company or person in agreement with the user manual, logbook, checklists and maintenance lists can ensure the safe operation of the system.

A qualified person is, according to EN 12604 and EN 12453, a person who has the required training, qualified knowledge and practical experience required to install, test and maintain a sliding gate system correctly and safely.

1.5 CONFORMITY WITH EUROPEAN DIRECTIVES

The installation complies with the following EU Directives/ regulations:

EU	2006/42/	Machine Directive
EU	2014/30	EMC Directive (electromagnetic compatibility)
EU	305/2011	Construction Product Regulation

UK	Supply of Machinery (Safety) Regulations 2008
UK	Electromagnetic Compatibility Regulations 2016
UK	Construction Products Regulations 2013

The design and production has been executed compliant with the applicable product standard EN 13241 and EN 12453.

A Declaration of Performance (DoP) and Declaration of Conformity (DoC) are obligatory for this product. The DoP and DoC are included in Appendix A.

The CE or UKCA mark is located on the rear of the bottom rail of the gate.

1.6 DELIVERY

The sliding gate and the gate drive and control unit must be installed, connected, set up and tuned by a fitter or an engineer who also connects and programs any accessories. The gate control unit is adjusted to the options/accessories agreed with the user. The relevant options are laid down during hand-over.

Of course, you can add optional/accessories afterwards. Contact your supplier for this.

Gates are always delivered fully tested.

1.7 GENERAL INFORMATION REGARDING THE ELECTRICAL CONNECTIONS

Electrical connections must be made compliant with the supplied wiring diagram.

It is important that the system is correctly earthed (Protective grounding in accordance with DIN VDE).

Because EMC-related suppression components can leak current to the earth cable, it is advisable that you do not protect the control unit with a Residual Current Device. When switching on the system, a high starting current can be generated due to the charging of the intermediate circuit.

If after measurement during commissioning it appears that the leakage current exceeds the permitted 3.5 mA, an additional grounding, in accordance with EN 60335-1 and IEC 30364-5-54, must be provided. Measurement is made according to EN 60335-2-103. Consult your installer for this.

Take into account good shielding, for example an automatic circuit breaker 16A B characteristic.



Ensure that the feeder cables are not carrying power during commissioning.

1.8 DELIVERY OF DRIVE UNIT



After installation and commissioning, by a Heras technician or a technician trained by Heras, the cover of the drive unit must be closed. This is done to prevent unauthorised access.

1.9 HMDLP BASIC

The HMDLP Basic will be delivered as a complete drive and control unit, including gear wheel module 6.

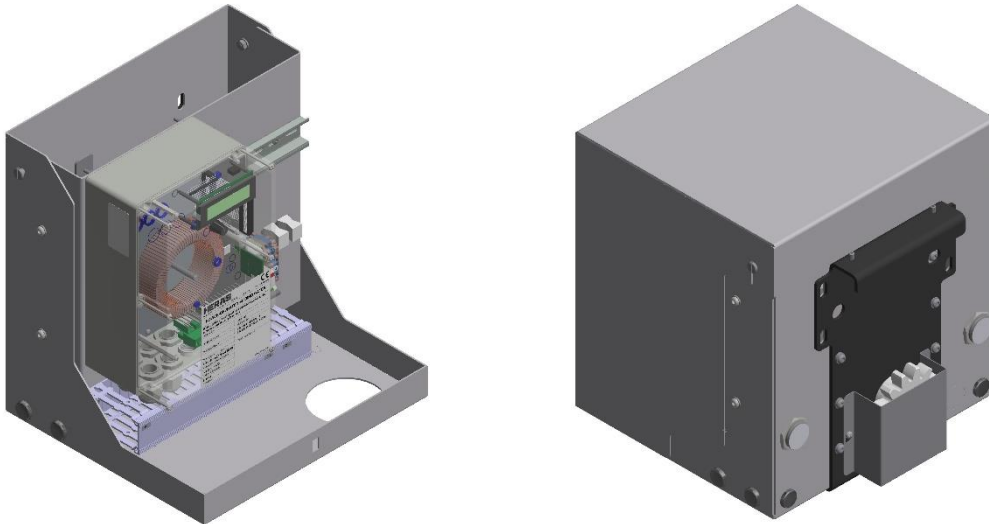


Illustration 1: HMDLP Basic: cover, cabinet and gear wheel

1.10 HMD BASIC/CONDOR

The HMD Basic will be delivered as a complete drive and control unit, including gear wheel module 6.

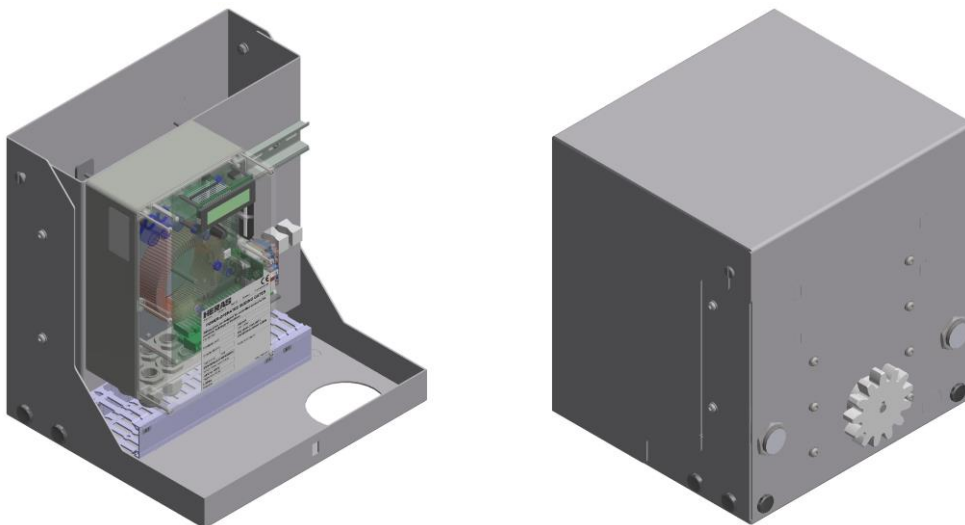


Illustration 2: HMD Basic: cover, cabinet and gear wheel

2 SAFETY

2.1 EXPLANATION OF THE SYMBOLS



Caution: To prevent personal injury, you must observe the safety instructions below.



Note: To prevent material damage, you must observe the safety instructions below.



Information: This is followed by further information or by a reference to other documents.



Warning: Risk of limbs getting crushed



Warning: Risk of injury to hands by gear wheels

2.2 SAFETY DISTANCES

Safety distances apply for the area into which the gate slides in accordance with EN 12453 for electrically driven gates.

2.3 GENERAL SAFETY INSTRUCTIONS



- The operator must read the entire user manual before the gate is used for the first time. The instructions stated in the user manual must be observed and complied with. All other forms of use can cause unexpected hazards and are forbidden.
- It is forbidden to apply the drive unit to gates other than those stated in this manual, without Heras' permission.
- Applying a third-party drive unit and/or safety edge will affect safety and will invalidate the CE mark and UKCA mark.
- The gate must only be put into use if all safety facilities are in place and connected, and work properly.
- All faults which might present a source of danger to the user or to third persons must be eliminated immediately.
- All warnings and safety notices on the equipment must be in place and

clearly legible at all times.

- Closing the gate infill openings in any way, such as by means of banners, advertising signs etc, is not allowed as this may negatively affect the safe operation of the gate.
- All alterations or extensions to the gate must be carried out by qualified personnel using parts which the manufacturer has defined as suitable for such alterations or extensions. Any failure to comply with these instructions will be considered as non-compliant behavior and will invalidate the manufacturer's guarantee, as a result of which the risk entirely transfers to the user.
- For a double sliding gate, it is strictly forbidden to remove the central slam support (mounted on the floor in the opening). This is important for the stability of the gate when closed.
- Improper usage or servicing or ignoring the operating instructions can be a source of danger for persons, and/or result in material damage.
- If the meaning of any part of these installation and operating instructions is not clear, then please contact your supplier before you use the equipment.
- The control system may only be installed and commissioned by specialist personnel familiar with its operating instructions and the currently applicable health and safety at work regulations as well as the accident prevention regulations. The instructions and notes in the manual **MUST** be observed and complied with.

2.4 SAFETY PROVISIONS EMPLOYED

- To protect people and goods from injury or damage, the gate is fitted with safety provisions including safety edges and/or photocells. These serve as emergency provisions that immediately stop and reverse the movement of the gate. It is forbidden to use these provisions to stop the gate normally.
- For a gate with hold-to-run control, the above-mentioned safety provisions are not necessary and will therefore not be standard provisions. With this type of operation, the gate stops immediately as soon as the switch is released.

2.5 INTENDED USE

Giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.

2.6 SAFETY DURING USE



Children or people with a disability must not operate the gate. Parents must supervise their children to prevent them playing with the gate.

→ PARENTS ARE RESPONSIBLE FOR THEIR CHILDREN ←



- Keep a safe distance from the moving gate. Warning icons to this effect have been installed in various locations.



- Only pass through the gate when it is completely open.

- The Delta gate must not be operated in windy conditions, wind force ≥ 9 Beaufort. This also applies to the Condor gate from wind force ≥ 7 Beaufort. The gate leaf can swing in a way that can result in damage to the construction.

- The safety edges serve as emergency facilities to immediately stop and reverse the gate movement. Using them as a regular gate stop feature is not allowed. Since the head stiles of the gate have safety edges that cannot cover their full height, there is still some risk of people getting trapped by the gate here.

- When hold-to-run-control is employed, the gate must only be operated if it can be seen completely, directly and in real-time. Operation must be via a permanently installed operating device, for instance a key switch or push button. This operating device must be located in such a way that the operator's position is safe. The gate must stop immediately when the button or key is released. Other operating devices are not allowed.

- The gate must be able to move freely without there being obstacles in the gate opening passage or anywhere else on the moving trajectory of the gate. Do not stick any objects through, over or under the gate which might block the gate.

- The gate running surface must always be free from snow, ice or dirt that might affect its sliding behaviour. In the event of frost, check this before commissioning the gate. If the running surface is blocked, the gate will not move at all or will not complete its movement. An irregular running surface may cause damage to the drive and/or road wheels.

- In certain circumstances, the sun can temporarily distort the gate. When closing the gate, the leaf is guided to its neutral position. When opening the gate, the leaf will move around somewhat. This has no adverse consequences for the construction.

- Climbing the gate is strictly forbidden as people climbing the gate could be hurt if the gate is started unexpectedly.

- Always lock the drive unit cabinet during use.

2.7 SAFETY DURING INSTALLATION, MAINTENANCE AND DISASSEMBLY



- When work is carried out, while cleaning the gate or operating it manually, the power supply to the system must be switched off and it must be ensured that it cannot be switched on unexpectedly.



- The gate is driven by means of a gear wheel. This is located under the beam and it is partly screened off by the drive unit cabinet. Beware of moving parts when carrying out maintenance under the gate at the drive unit cabinet.
- The EN 12453 and EN 13241 standard must be taken into consideration during installation and maintenance. To achieve a good safety level, the above standard and the national regulations must be taken into account in non-EC countries.



The Delta gate has highly tensioned cables fitted in the bottom rail. If these cables are damaged, they can snap with great force. This can lead to serious injury. Therefore, it is prohibited to drill into or grind these rails.

!! Only people trained by Heras are allowed to disassemble the bottom rail.

If the gate is damaged, always contact the supplier for an inspection.

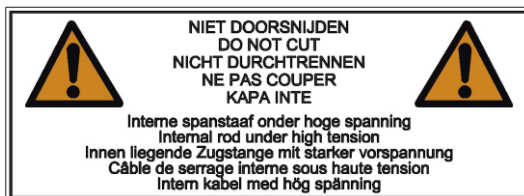


Illustration 3: Warning sticker bottom rail

3 OPERATION

3.1 OPENING/CLOSING SLIDING GATE - NORMAL USE

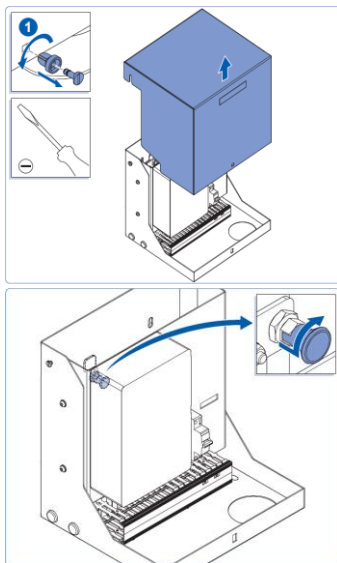
The gate can be operated using pulse operation, for instance via a button or key switch. The location of the operating device depends on the customer's choice or the operating mode.

- **OPEN:**
Press the "Open" button. The gate slides open to the next end position. This can be completely or partially open (if the "Partially open" function has been programmed).
- **CLOSE:**
Press the "Close" button. The gate closes completely.
- **STOP:**
Press the "Stop" button. The gate will stop immediately, irrespective of its direction of travel. To restart the gate press "Open" or "Close".

3.2 OPEN /CLOSE SLIDING GATE DELTA/CONDOR MANUALLY

In an emergency, the gate can also be operated from the drive unit. To do this the cover of the motor unit must be opened.

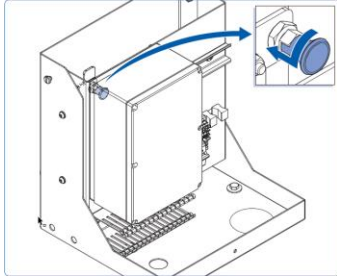
3.2.1 Motor/gate unlocking



- Unlock the cabinet
- Lift the hood vertically off
- Pull the knob and turn it slightly to the left or right
- The motor falls down and the gate is manually operated. Close the cabinet again.

Illustration 4: unlocking motor and gate

3.2.2 Locking the motor/gate



- Unlock the cabinet
- Lift the hood vertically off
- Turn the knob back as shown in the illustration
- Lift the motor until the pin falls in the hole again
- Close the cabinet, the gate is now electrically operated again

Illustration 5: locking motor and gate

4 DESCRIPTION

4.1 DELTA

The Delta is a cantilever sliding gate with a modular construction for openings up to 9.5 meters in a single version and up to 19 meters in a double version.

Applications include port areas, company buildings, office buildings, storage sites, garden and landscape areas, high-risk sites, airports, transport and distribution sites, and parking garages.

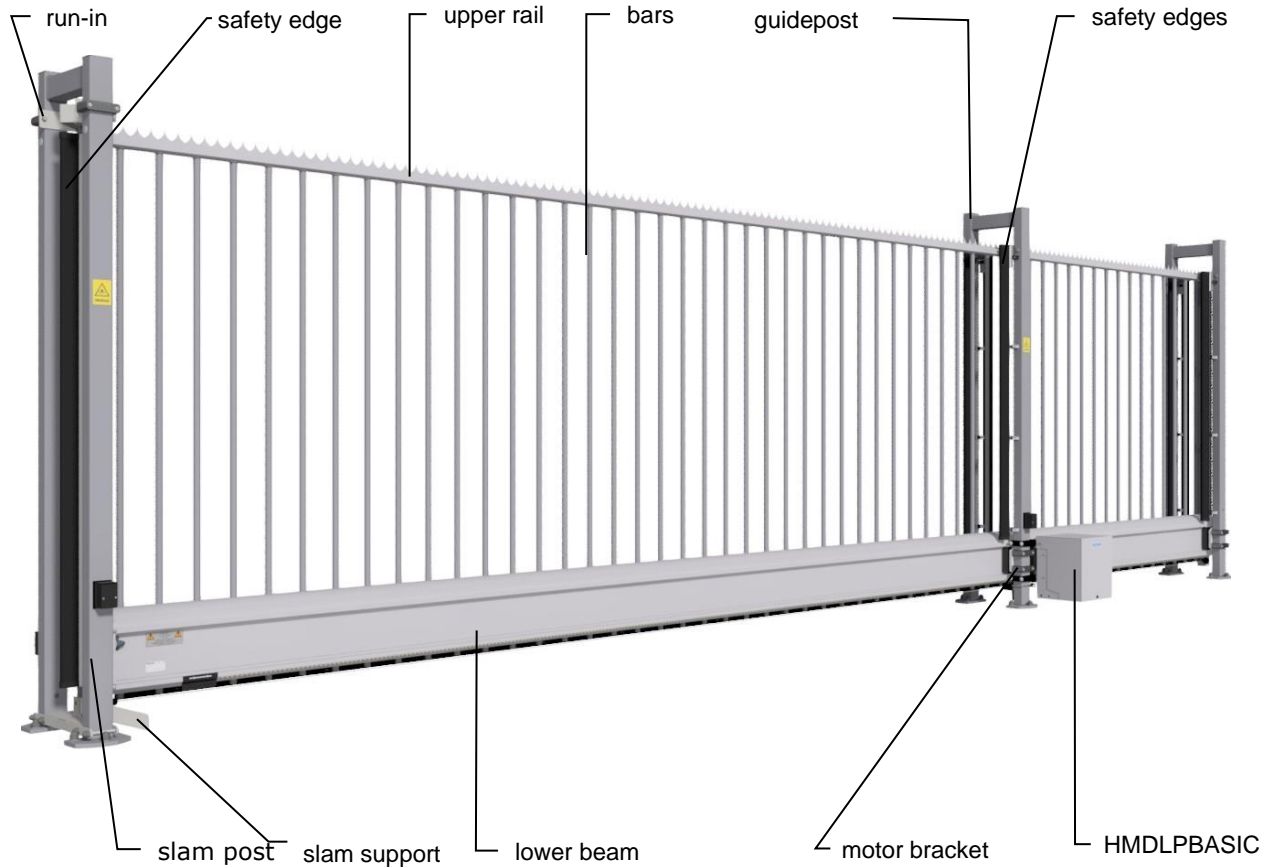


Illustration 6: Delta sliding gate terms

4.2 CONDOR

The Condor is a fully assembled cantilever sliding gate for passageways up to 6 meters.

Applications are construction sites, industrial buildings, storage areas and garden & landscape.

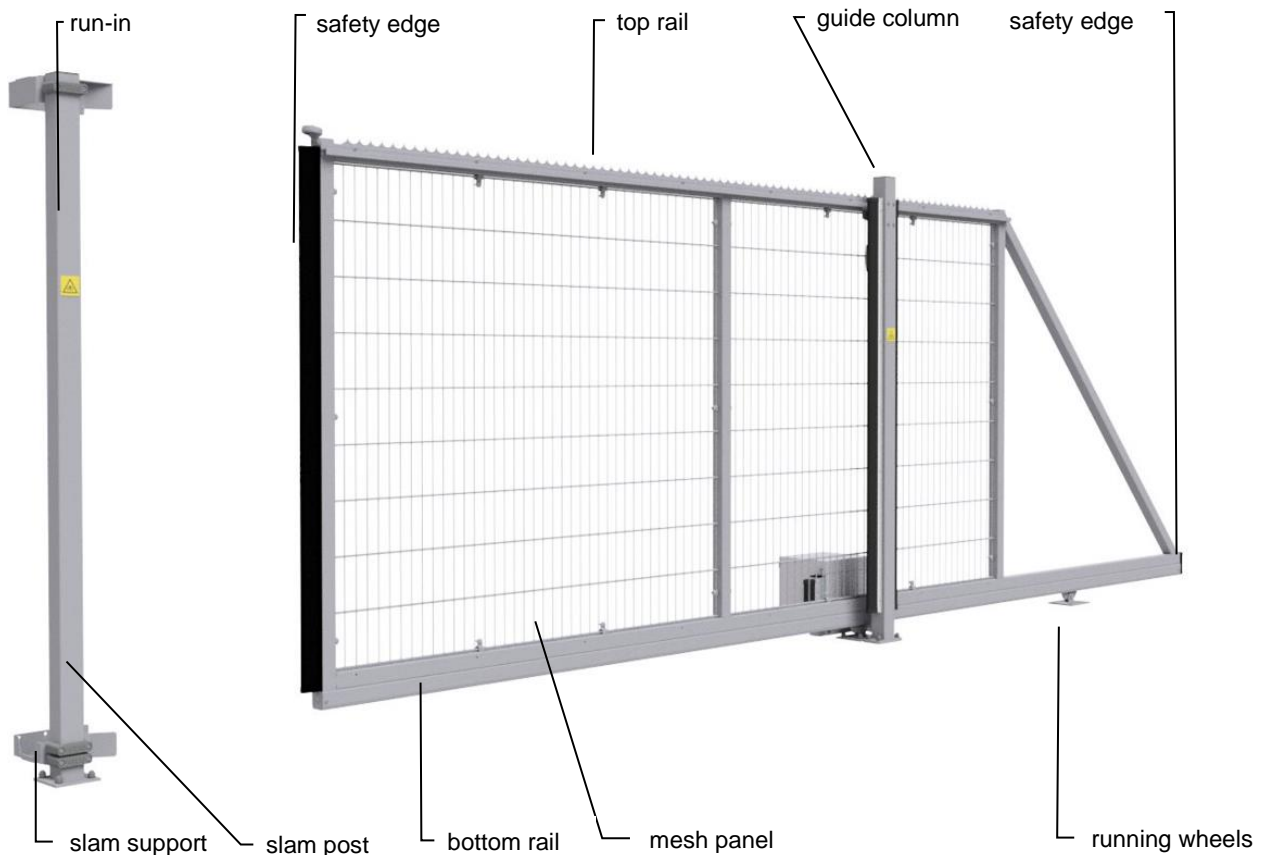


Illustration 7: Condor sliding gate terms

4.3 SAFETY EDGES

Electrically driven Heras gates are protected by safety edges. The type of device and the speed of movement depend on the motor control unit used. If the safety device touches an obstacle, the gate will immediately stop and reverse.

Dependent on the device, the gate will restart. The safety edges have been fitted to the stationary and/or moving part or parts of the gate. They are not required for hold-to-run-control. These strips serve as safety components. The number of safety edges depends on the situation.

Before the gate is moved, the control system checks the status of the safety

edges. If one of the safety edges is faulty, the gate can only be opened and closed in hold-to-run-mode. In that case, consult a qualified engineer.



See the chapter 1.2 "SERVICE /MAINTENANCE"

4.4 PHOTOCELLS

Photocells detect whether there are obstacles in the path taken by the gate. If an obstacle is detected, the gate will stop immediately and slide open to its original starting point (OPEN or PARTIALLY OPEN). Dependent on the device, the gate will restart. The photocell(s) is/are only active when the gate is being closed. Gates can be fitted with multiple photocells.

4.5 ACCESSOIRES

4.5.1 Loop detection (optional)

A detection loop is an induction loop embedded in the road surface that, with the assistance of electronics, can detect a vehicle. When the loop detects a vehicle, the gate will open and/or stay open. Detection loops do not detect people.

4.5.2 Traffic light (optional)

Red/green signal lights that indicate the open/closed position statuses. People are only allowed to pass through the gate opening when the green light is on.

4.5.3 Flash light (optional*)

A flashing beacon to ensure extra attention before and while the gate is opening/closing. A technician can program the switching time.



* In some countries, a flashing light is obligatory.

4.5.4 Remote control (optional)

Remote control to open, stop and close the gate.



See the chapter "REMOTE CONTROL"



Ensure that the remote control cannot come within reach of children and that it can only be accessed by authorised people. Only use the remote control in the vicinity of the gate, so that you can see the entire gate.

Note that the button of the remote control can be pressed accidentally, for instance, when it is in a pocket and this can lead to undesired gate movements.

4.6 OPERATING MODES

The control software is divided into separate function modules and is available to users in two possible operating modes:

- hold-to-run-mode
- automatic mode

4.6.1 Hold-to-run-control

The gate motor drive can be operated in hold-to-run operating mode with limited comfort. In hold-to-run operating mode, the gate does not require safety edges. The gate will move as long as an OPEN or CLOSE key is pressed.



it shall only be possible to operate the manual actuators in such a position that allows full, direct and permanent real-time view of the door during the leaf movement and ensures that the person controlling the door is not in a hazardous position. No controls other than manual actuators are to be installed. The door leaf shall stop when the manual actuators is released.

4.6.2 Automatic mode

If the safety facilities have been installed completely, the motor drive will usually work in this automatic mode. The user can only use all motor drive functions in automatic mode. Total safety of the gate is guaranteed here by the activated safety facilities.

Opening or closing the gate can be initiated in automatic mode by means of:

- Dead man's buttons OPEN and CLOSE
- impulse inputs for OPEN and PARTLY OPEN
- impulse input for TOGGLE function OPEN, STOP, CLOSE, STOP

- Command coming from the remote control

Every movement command causes the full action that has been selected to be performed (open gate, close gate etc.). Every action is stopped immediately by a stop command or a signal from the safety facilities.

Activating the safety edge causes the gate to immediately move in the opposite direction. If a photocell is interrupted while the gate is closing, this will cause the gate to be opened as far as the point where the closing movement started (OPEN or PARTLY OPEN).

A movement command for the opposite direction will gradually decelerate the gate and then cause it to move in opposite direction.

Automatic mode if the gate has not been installed fully yet:



If the gate has not been fully installed yet, or if motor drive programming has not been completed yet, the motor drive will work in a special safety mode (e.g.: the end positions of the gate have not been defined yet). The gate will then only run at dead man's mode speed. Only after the OPEN and CLOSED end positions have been set and after a measuring run at dead man's mode speed has been performed, will the system switch over to the automatic mode speed. If the power supply to the drive has been interrupted, the gate will also only run at dead man's mode speed until the first time when an end position has been reached.

4.7 AUTOMATICALLY CHANGING OPERATING MODES

If electronic safety facilities on the gate are out of operation (e.g. faulty photocell), the motor drive can automatically switch over from automatic mode to hold-to-run-control. This automatic switch-over will take place only for the individual motor movement that has been started and only if the key provided for hold-to-run-control is pressed. After this, the motor drive will switch over to automatic mode again, but if a new fault occurs or if the fault is not remedied, the system can switch over to hold-to-run-control again for the next movement. Changing between operating modes is possible in the following directions:

- Automatic mode -> Hold-to-run-control mode
- Dead man's mode -> Automatic mode (if safety has been restored)

5 CONTROL UNIT AND DISPLAY READINGS

5.1 TOTAL VIEW OF HMDLP BASIC/HMD BASIC DRIVE UNIT

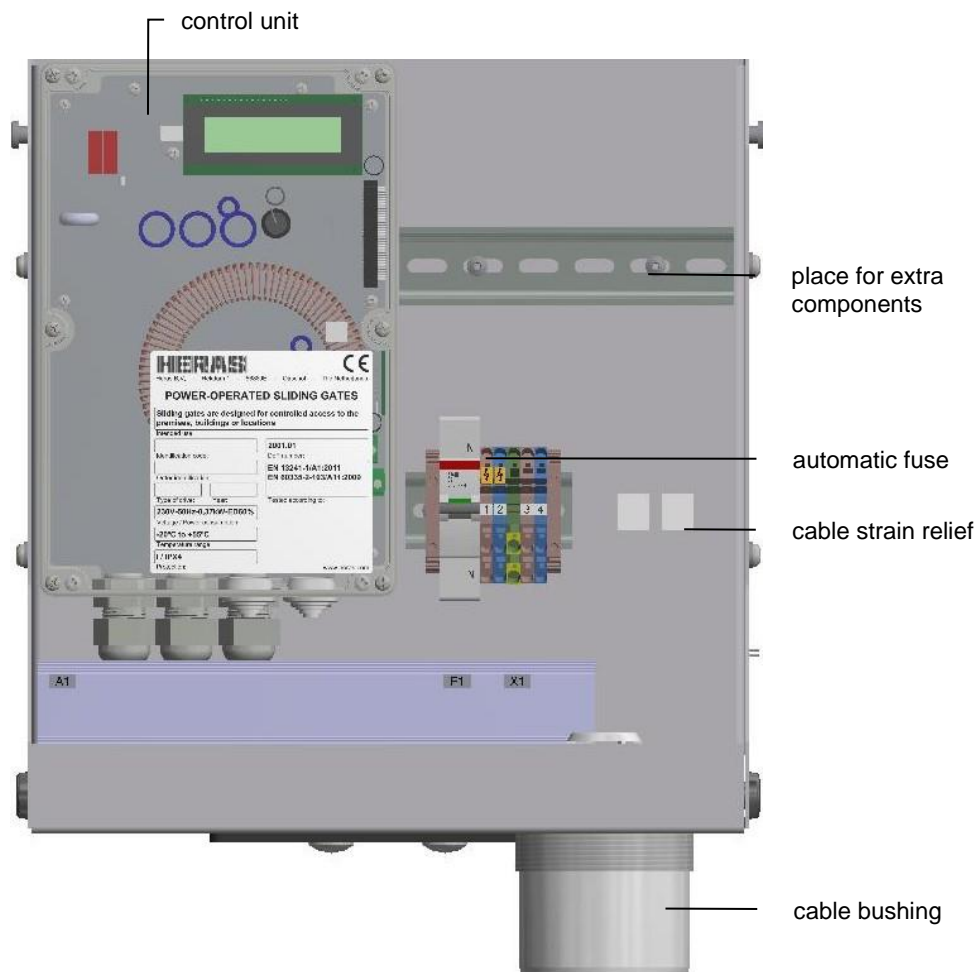


Illustration 8: view of HMDLP Basic/HMD Basic drive unit

5.2 FULL VIEW OF THE CONTROL SYSTEM

The drawing showing a full view of the control system provides an overview of all its relevant parts referred to in the text of these operating instructions.

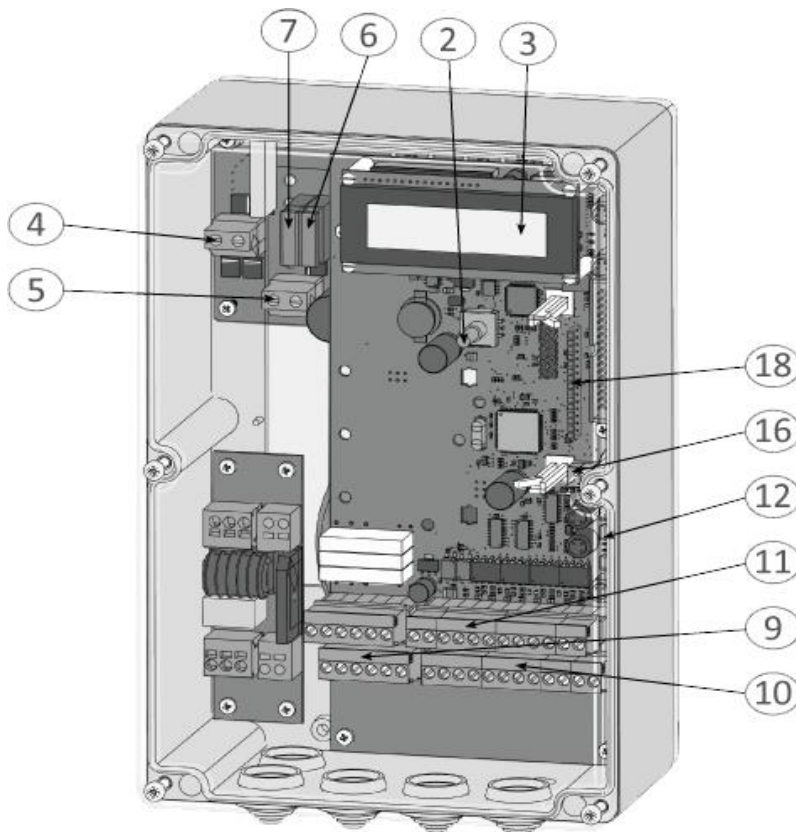


Illustration 9: view of control unit

Designations of the figure numbers:

- 2 Rotary switches and pushbuttons for display selection and settings
- 3 2-line LC text display
- 4 Motor connection
- 5 Power supply connection (20 – 35 V_{DC})
- 6 Fuse F2 for the control electronics (1 A/black)
- 7 Fuse F1 for the power electronics and the motor (15 A/blue)
- 9 Connections for the relay outputs Rel1 to Rel3
- 10 Connections for the supply of the external 24 V_{DC} devices and control elements as well as for the fixed safety contact strips
- 11 Connections for the inputs of the command devices, photo cell and ISK coil core
- 12 Electrical evaluation unit for the accompanying safety contact strips: INDUS onboard 70-757 board

- 16 Aerial connection of the receiver for the radio remote control system (optional)
- 18 Slot for radio receiver module (optional)

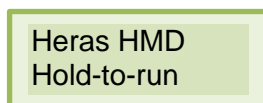
5.3 ROTARY AND SELECTION SWITCH

The control system displays can be influenced using the rotary and selection switch. This rotary and selection switch can also be used to control the parameterisation of the control system by means of the integrated menu system. This control knob has two functions. The knob can be rotated to change the value of a displayed variable: turn the knob to the right [clockwise] to increase the value and to the left [anti-clockwise] to decrease it. By rotating the knob in this way, it is also possible to browse forwards and backwards within a displayed table or within a memory area.

If the knob is pressed down, a displayed value is accepted, a different mode selected or a display or selection (menu) exited.

5.4 LCD DISPLAY

To show detailed information on the control system, an LC display with 2 lines of 16 characters each is provided. This display shows in plain text format, for example, the currently active operating mode of the control system or the movement status of the motor (Open, Close).



The background lighting of the display is active for as long as inputs are being made using the rotary and selection switch. The lighting goes off 20 seconds after the most recent operation. It can, however, be switched back on at any time by rotating the selection switch.



Information: The display lighting flashes for a few seconds after the control system has been switched back on, or following a software reset. This signals the start-up process of the program.

5.4.1 Operating mode display

The following displays are possible in the operating mode display of the LCD:

Display	Meaning
ATC150 Pe:x.xxr	Start indicator of the periphery controller program (during synchronisation with the motor controller)
Heras HMD Basic Hold-to-run operation	Hold-to-run operating mode Rest status
Hold-to-run operation Open	Hold-to-run operation; Gate opening is active
Hold-to-run operation Close	Hold-to-run operation; Gate closing is active
Heras HMD basic Automatic mode	Automatic operating mode; Rest status
Automatic mode Open	Automatic mode; Gate opening is active
Automatic mode Close	Automatic mode; Gate closing is active
Automatic mode Immediate stop	Automatic mode; Gate is being stopped
Automatic mode Close: tt	Automatic mode; Gate will automatically close in tt seconds
Auto.Closing- run ON -----?	The control system is waiting for the first movement command after switching on or reset

5.4.2 Sensor display

Using the display, it is also possible to obtain detailed information about the configured sensors. Pressing the rotary and selection switch lists the current status of the preset sensors. Rotating the switch displays the individual sensors one after another.

The first line always shows the sensor from the parameter list.

The second line shows the current status of the sensor. A "1" represents an active sensor; a "0" represents an inactive sensor. These displays are continuously updated and make fault finding easy. They are overwritten by the operating mode display 60 seconds after the most recent operation of the rotary switch.

Sensors that have not been installed (specified by parameters in the program) are not displayed.

Display	Meaning
Sensors Start	Rotating the selection switch to the left reaches the first entry in the sensor table
Limit switch OPEN Value: 2 => x	Current value of the limit switch for the OPEN direction of the gate
Limit switch CLOSE Value: 1 => x	Current value of the limit switch for the CLOSE direction of the gate
Fixed.StripOPEN N Value: 1 => x	Status of the fixed safety contact strip for the OPEN direction of the gate
Fixed.StripCLOSE SE Value: 1 => x	Status of the fixed safety contact strip for the CLOSE direction of the gate
Acc.StripOPEN Value: 1 => x	Status of the accompanying safety contact strip for the OPEN direction of the gate
Acc.StripCLOSE E Value: 1 => x	Status of the accompanying safety contact strip for the CLOSE direction of the gate
Photo cell Value: 1 => x	Current status of the photo cell
Max. motor current	Left-hand value (xx): maximum current during the last motor movement

Display	Meaning
xx/yy A	Right-hand value (yy): maximum current since last resetting of the values
Sensors end	The final entry in this sensor table is reached by turning the selection switch to the right

5.4.3 Error/event display

Information about some error messages and special events for the control system and/or the gate is proactively displayed without the user having to first scroll through the diagnosis menu or the sensor display.

How does the proactive display work?

Events are only shown on the display during operating mode display. During sensor display or in the menu view, the event and error display is not active.

If several events are active at the same time, they are shown for 2 seconds each, one after the other.

The messages displayed relate to the section "Parameter reference or error numbers" (Section 8.2) of this document.

Examples of proactive display

- Immediately after the control system is switched on, the message "250 ProgramInit" is displayed for a short time to indicate that the control system has started correctly.
- If both of the control system's hold-to-run pushbuttons are held down for more than 2 seconds at the same time, the message "161 Immediate Stop" is displayed.
- If both limit switches (OPEN and CLOSE) are activated (not at +24 V level) then "215 End Positions Undef." appears in the display to indicate faulty function or incorrect connection. This important error display is not removed until the control system is restarted, or a functioning motor run started.
- If some particular inputs are activated for an extended time (longer than normal), the reference is also displayed:
If, for example, the stop button is active for longer than 2 seconds, "161 Immediate Stop" is displayed. The safety contact strips or the photo cell are also displayed after an extended operation period.

5.4.4 Selecting the menu system

The HMD Basic menu system is accessed by pressing the twist and selector switch for approx. 2 seconds while the operating mode is displayed. The display then shows the text "Main menu".

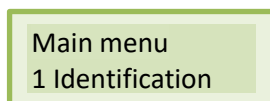
Turn the selector switch to select the individual menu options and then press the switch to activate the selected option. The first menu option in a menu level always brings you back one level, "Return in menu". The "Exit main menu" option in the main menu closes the menu display and restarts the control software.

5.4.5 Menu system

Large parts of the control functions of the HMD Basic control system are realized by means of adjustable parameters stored in the device. These parameters are loaded into the control system in the factory and provide for the specific behaviour for a defined gate. Many of these parameters can be made accessible to users or gate control system fitters via the menu system.

5.4.6 Entering the password

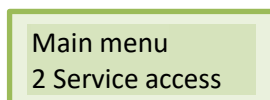
The selection of the menu and navigation to the password input should be demonstrated here from the operating mode display. The display shows "automatic mode" and the rotary and selection switch is held down for 2 seconds and released again upon the appearance of the menu display. This leads to the following display:



All activity of the drive is halted immediately: The motor is stopped and all running timers are deactivated.

In this status, the individual menu items can be brought up by rotating the selection switch, and then selected by a pressing the switch. The first menu item within each menu level returns users to the previous level.

Rotating the selection switch clockwise to the right by one detent causes the following display to appear:



This menu item can be activated by briefly pressing the selection switch, taking the user one menu level deeper into the service menu:

Service access
1 Password input

Again, this menu item is activated by pressing the selection switch, taking the user to the password input field:

Password input
Value: 3xxxx

The displayed value can be changed by rotating the knob. Turning the knob faster, causes the values to change more quickly. Pressing the switch saves the value that has been set in this way; the previous menu item is once again displayed:

Service access
1 Password input

If the correct password has been entered (not: 33333), the menu items and inputs that were previously hidden can be selected immediately. A valid password remains active for 10 minutes and then automatically resets to the value 33333. If any number other than a correct password is set, this number remains saved and is not reset to the value 33333 after 10 minutes.

It is possible to directly select the main menu item

Main menu
END

at any time by holding down the selection switch for 2 seconds from within the menu entries. When this menu item is confirmed the control system software resets the program and returns to the active operating mode.

5.5 MENU OVERVIEW

The menu system of the HMD Basic control system offers the following options (overview):

1. Identification

- | | |
|---|--|
| <input type="checkbox"/> Full version | Program versions installed |
| <input type="checkbox"/> Gate version | Control system variant |
| <input type="checkbox"/> Serial number | Individual serial number of the control system and PAN |
| <input type="checkbox"/> Motor controller | Program version of the motor controller |

- Peri.controller Program version of the periphery controller
- Parameter set Version of the installed parameter table
- Bootloader motor Version of the bootloader program of the motor controller
- Bootloader peri. Version of the bootloader program of the periphery controller

2. Service access

- Password input Access (password) for the service engineer and activation of additional performance features
- National language Selection of a different display language in the LC display
- Motor dir. of rotation Change of the motor direction of rotation left/right
- Time pre-limit switch Setting of the time for the braking curve before the limit positions are reached

3. Diagnosis

- Gate status Status of control system /gate, inputs and outputs and of maintenance information
- Sensor status Setting and status of connectable sensors
- System log book Table of the most recent events and faults including their time stamp (operating time)
- Temperature Display of the temperatures of the power electronics
- Motor current Display of the maximum motor currents that have occurred

4. Settings

- Set timer Menu for setting various different timers (closing movement times etc.)
- Input: In3/4 Selection of functions at the two inputs In3 and In4
- Safety Selection of the installed safety sensors on the gate
- Special parameters Settings for maintenance requirements
- Operating mode Selection of hold-to-run operation or automatic mode
- Parameter backup Menu for parameter backup settings
- Status notification Settings for gate status notifications as relay output

5. Radio remote control

- Active transmitters Display of the number of registered radio transmitters
- Register transmitter Register new handheld transmitters with the functions predefined in the program
- Register trans. OPEN Register new handheld transmitter (key) for the OPEN function

- ❑ Register trans.CLOSE Register new handheld transmitter (key) for the CLOSE function
- ❑ Register partOPEN Register new handheld transmitter (key) for the partOPEN function (pedestrian passage)
- ❑ Register trans.TOGG Register new handheld transmitter (key) for the switchover impulse function (toggle)
- ❑ Delete transmitter Delete a handheld transmitter (key) that has already been registered and saved by renewed reception
- ❑ Delete trans. position Delete a handheld transmitter (key) from the listed table
- ❑ Delete all Delete all saved handheld transmitters (keys)

5.6 MENU STRUCTURE, DISPLAYED TEXTS AND REFERENCES

After the menu has been selected, the main menu level appears. This offers a choice of several submenus. The menu system can be exited again using the first menu item "END". Reset takes the user back to the active operating mode of the control system. The depth of the menus depends upon the entry of the correct password. From the submenus of the first level there are branch-offs to submenus of the second level.

The entries in the submenu in the following list with a **colored** background can only be accessed by entering the correct password.

Main menu	Menu level 1	Menu level 2
Quit menu		

1 Identification		(Chap: 7.12.1)
	Menu terug	
	1 Master version	
	2 Gate profile	
	3 Serial number	
	4 Motor Controller	

Main menu	Menu level 1	Menu level 2
	<ul style="list-style-type: none"> 5 Peri.Controller 6 Parameter set 7 Bootloader Motor 8 Bootloader Peri. 	

2 Service menu	Menu back	
	1 Enter password	(Chap: 5.4.6)
	2 Language	(Chap:5.7)
		Menu back
		1 Dutch
		2 English
		3 German
		4 French
		5 Norwegian
		6 Swedish
	7 Danish	
	3 Mot. Rotation	(Chap:7.1)
	4 TimeToEndPos	(Chap:7.7.5)

3 Diagnosis	Menu back	
-------------	-----------	--

Main menu	Menu level 1	Menu level 2
	1 Gate state	(Chap: 7.12.2)
		Menu back
		1 Gate state
		2 Inp: 87654321
		3 Outp: --321
		4 Completed cycles
		5 Moor runtime
		6 Last Service
		7 RESET Service (Chap:7.8.5)
	2 Sensor Status	(Chap:7.12.3)
	3 System Logbook	(Chap:7.12.6)
	4 Temperatures	Menu back
		1 DC Temperature (Chap:7.12.4)
		3 RESET.Min/Max
	5 Motor current	Menu back
		1 MAX.motor current
		2 RESET MoCurrent

4 Settings		
	Menu back	
	1 Set timer	
		Menu back

Main menu	Menu level 1	Menu level 2
		1 TMR keep Open (Chap:7.7.1) 2 TMR part Open (Chap:7.7.2) 3 TMR Auto. Close (Chap:7.7.3) 4 Secondary Time (Chap:7.7.4) 5 Flash prewarn (Chap:7.5) 6 Runtime to prt OPEN(Chap:6.4.6)
	2 Input: In3/4	Menu back 1 Inp.Variant 1 2 Inp.Variant 2 3 Inp.Variant 3 (Chap:7.3)
	3 Safeties	Menu back 1 Lightbarrier (Chap: Fout! Verwijzingsbron niet gevonden.) 2 ISK activation (Chap:6.5.1) 3 JCM activation (Chap:7.2) 4 Referentie run (Chap:7.4)
	4 Spec. Parameter	Menu back 1 Cycles to service (Chap:7.8.1) 2 RuntimeToService (Chap:7.8.2)

Main menu	Menu level 1	Menu level 2
		3 Ser.Interv. M (Chap:7.8.3)
		4 Service action (Chap:7.8.4)
	5 Operation mode	
		Menu back
		1 Hold-to-run (Chap:4.6.1)
		2 Automatic mode (Chap:4.6.2)
	6 Param.Backup	
		Menu back
		1 Restore (Chap:7.10)
		2 Save (Chap:7.9)
	7 Status indicat.	(Chap:7.6)
		Menu back
		1 Gate status 1
		2 Gate status 1 Outp.
		3 Gate status 2
		4 Gate status 2 Outp.

5 RF Remote		
	Menu back	
	1 Active transm.	(Chap:7.11.1)
	2 Prog transmi	(Chap:7.11.2)
	3 Prog key OPEN	(Chap:7.11.3)
	4 Prog key CLOSE	(Chap:7.11.3)

Main menu	Menu level 1	Menu level 2
	5 Prog part OPEN	(Chap:7.11.3)
	6 Prog key TOGGLE	(Chap:7.11.3)
	7 Delete transmi	(Chap:7.11.4)
	8 Delete pos no	(Chap:7.11.5)
	9 Delete all	(Chap:7.11.6)

5.7 SETTING THE NATIONAL LANGUAGE

After entering the password, technicians can change the language used in the control system display. If the menu and the other displays are not shown in the desired language, a different language can be selected from the 7 saved languages as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Service Access", "National Language": select language.

Once the language has been selected, the display immediately changes to the new language.

6 INSTALLATION OF THE CONTROL SYSTEM

This chapter describes the preparatory commissioning of the HMD Basic, in terms of both mechanical assembly and electrical installation.

6.1 ELECTRICAL CONNECTION



For safety reasons, the electrical installation must always be carried out by an authorised specialist.

Work on the control system is only permissible if there is an all-pole shutdown of the power supply system. For such an all-pole shutdown, a power cut-off switch

or the use of a plug is to be provided for. The power cut-off switch or mains plug must be easy to access.

The items listed in the section on Safety must be observed. The parallel routing of signal and energy lines should be avoided where possible. All cables are to be dimensioned in accordance with their power consumption.

The cable glands used in the housing must be handled such that the protection against the penetration of water and foreign bodies still corresponds to the cited IP class after the cables have been fed through.

Damaged cable glands must be replaced immediately by undamaged glands.

6.2 POWER SUPPLY FROM THE ELECTRICITY GRID

The power electronics of the HMD Basic are designed for an input voltage of around 24 V_{DC} at the **24 V DC In** terminal. This is used to produce the regulated 5 V_{DC}, 7 V_{DC} and 24 V_{DC} required for the external connection elements and the motor current.

The 24 V input current for the control system can be produced from a single-phase power network (230 V_{AC} / 50 Hz) with the aid of a suitable transformer. The alternating voltage present at the output of this transformer must be converted into a pulsing direct voltage by a suitable rectifier. The output of the rectifier is then wired to the two input terminals (24 V DC In) of the power electronics.



Care should be taken to ensure that the **+** and **-** terminals are correctly connected to the input of the electronics.



Likewise, great care should be taken to ensure that the grid power supply to the transformer, and the **protective ground**, are connected correctly.

6.2.1 Connection of the motor

The output voltage for the 24 V DC motor of the gate drive is produced by the control system from the supply voltage of the power electronics with pulse-width modulation.

To this end, the motor is connected to the **Motor A | B** terminal. The electrical output to the motor is protected by the left-hand blade-type fuse (10 A safety fuse).

The current drawn from the DC power electronics of the control system by the motor is continuously measured and monitored. To ensure that the entire system

(power supply, electronics and motor) is protected against excessive loading, the maximum permissible current can be limited from within the software.

6.3 CONNECTING THE INPUTS AND OUTPUTS

There are two adjacent terminal blocks on the control system for the connection of external devices. The left-hand block is intended for relay outputs, whereas the right-hand block is for command devices and sensors. The terminal designation is printed onto the board just below the terminals.

For better identification, these terminals are shown in the figure below with further details.

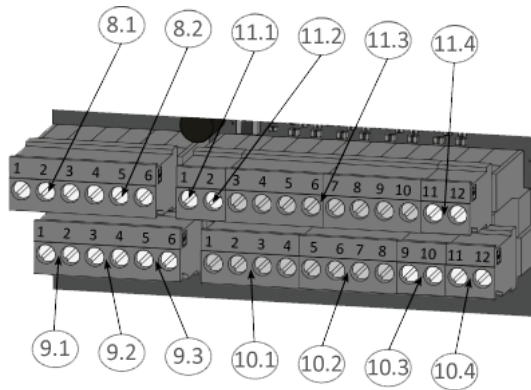


Illustration 10: Connection of external devices

6.3.1 Supply of external devices with 24 V_{DC}

The control system features an isolated and voltage-stabilized 24 V_{DC} power supply able to supply a maximum current of 500 mA for the supply of the external devices, command devices and sensors. This supply voltage is fused on the printed circuit board by an automatically resetting fuse.

The 24 volts are available on the bottom terminal strip at the left-hand terminals numbered 1 to 4 with the designation "+24V".

Adjacent to this, on the right-hand side, is the associated ground potential at the terminals numbered 5 to 8 with the designation "0V".

Fig. no.	Terminal no.	Designation	Description/function
10.1	1 to 4	+24 V	+24 V direct voltage supply

Fig. no.	Terminal no.	Designation	Description/function
10.2	5 to 8	0 V	Ground potential for the external 24 V loads

6.4 OPERATING DEVICES AND LIMIT SWITCHES

The inputs for the command devices of the control system are designated "In1" to "In8" on the top terminal strip and used for the following functions:

Fig. no.	Terminal no.	Designation	Input function
11.3	3	In8	Hold-to-run OPEN pushbutton (e.g. key switch on the gate)
11.3	4	In7	Hold-to-run CLOSE pushbutton (e.g. key switch at the gate)
11.3	5	In6	STOP pushbutton (normally closed contact)
11.3	6	In5	OPEN impulse
11.3	7	In4	PartOPEN impulse (pedestrian passage)
11.3	8	In3	TOGGLE switchover impulse (OPEN/STOP/CLOSE/STOP)
11.3	9	In2	Limit switch for OPEN position (normally closed contact)
11.3	10	In1	Limit switch for CLOSED position (normally closed contact)

For the functions open, close and switchover impulse (toggle), (pushbuttons) with a normally open contact are connected as command devices. For the functions OPEN [In5] or partOPEN [In4], it is also possible to have a switch with a static normally open contact (e.g. timer) to keep the gate open.

Only command devices with a normally closed contact are used for the STOP function. Several normally closed contacts can be connected in series to form a stop chain.

The limit switches for the OPEN and CLOSED position of the gate are also normally closed contacts.

The two input functions with the grey background in the table represent **variant 1**. Section 7.3 describes how these two inputs can also be assigned other functions.

In order to meet the specific requirements for hold-to-run operation, inputs "In7" and "In8" may only be used for pushbuttons for which safe use and a full view of the gate system are guaranteed during operation.

6.4.1 Limit switches

The HMD Basic control system is preconfigured for operation on doors and gates with limit switches. It is possible to use limit switches of various types (proximity switches, mechanical switches, etc.) but these must all be designed as normally closed contacts. Section "6.5.6 Overview installation plan of the inputs" of this documentation shows the electrical connection of both limit switches for the positions "Gate open" and "Gate closed". The gate limit switches are connected and checked as follows during set-up:

- Switch off the power supply to the motor drive.
- Mechanically fit the two limit switches into the correct limit positions of the gate.
- Connect the signal line from the CLOSE limit switch to terminal IN1.
- Connect the signal line from the OPEN limit switch to terminal IN2.
- Connect the power supply of the limit switch to 24V.
- If a ground connection is required for the limit switch, connect this to 0 V.
- Switch on power supply and check that the limit switch is connected correctly.

6.4.2 Operating keys for hold-to-run operation

Before a gate can be put into operation, at least one OPEN and one CLOSE pushbutton must be connected for operation without self-locking (hold-to-run operation). These keys are necessary for setting up the limit positions. To install these keys, perform the following steps in the order shown:

- Switch off the power supply to the motor drive.
- Connect the power supply for the pushbuttons to 24V.
- Connect the OPEN pushbutton [hold-to-run key] to the input terminal In8 (normally open contact).
- Connect the CLOSE pushbutton [hold-to-run key] to input terminal In7 (normally open contact).
- Switch on the power supply to the control system and check the function of the keys in hold-to-run operation.

In automatic mode these pushbuttons are similar to the command devices for operation with self-locking. Even a brief impulse triggers gate movement, which

does not stop when the motor pushbutton is released. Of course, this requires that the gate fuse is intact.

6.4.3 Stop function

To stop a running motor or to prevent a motor from starting, a STOP pushbutton or switch can be connected to the input "In6". This element must be designed as a normally closed contact. It is also possible for several normally closed elements to be connected in series one after another in the form of a STOP-chain (e.g. motor temperature switch, access switch, EMERGENCY STOP).

If no STOP operating function is desired on the gate, a wire bridge should be provided between 24 V and the input.

The STOP input of the control system should be connected as follows:

- Switch off the power supply to the motor drive.
- Connect the power supply of the pushbutton/switch to 24V.
- Connect the signal line from STOP to terminal IN6.
- Switch on control system's power supply and check function.

6.4.4 Operating keys OPEN

To open the gate in automatic mode (with self-locking), an 'OPEN' pushbutton (normally open contact) can be connected to the "In5" input. The input is configured such that, when activated, it moves the gate in the OPEN direction until the limit switch is reached. During this movement, if an installed safety strip is activated for this direction of travel, the motor brakes quickly, moves in the opposite direction and then stops.

This contact could also be operated by a timer, loop detector or similar electronics.

- Switch off the power supply to the motor drive.
- Connect the keys to the 24V power supply.
- Connect the OPEN key to input terminal IN5 (normally open contact).
- Switch on the power supply of the motor drive.
- Check that the keys work.

6.4.5 Operating keys CLOSE

At the input "In3" (Variant 2) or "In4" (Variant 3), a button can be connected that generates a move command in the CLOSE direction of the gate. This function is only supported in automatic mode.

- Switch off the power supply to the motor drive.
- Connect the keys to the 24V power supply.
- Connect the CLOSE key to input terminal IN3 or IN 4 (normally open contact).
- Switch on the power supply of the motor drive.
- Check that the keys work.

6.4.6 Setting up the partOPEN function (pedestrian passage)

A pushbutton or switching contact (normally open contact) is connected to input In4 of **variants 1 and 2** for setting up a partOPEN function (pedestrian passage).

- Switch off the power supply to the motor drive.
- Connect the keys to the 24V power supply.
- Connect the PARTLY OPEN key to input terminal IN 4 (normally open contact).
- Switch on the power supply of the motor drive.
- Check that the keys work.

The opening width of the gate from the CLOSED position to the partOPEN position depends on the preset motor runtime for this path. This preset runtime can be changed in the menu as follows:

- Menu: "Settings", "Set timer", "Runtime to partOPEN": select lower or higher value (increase or decrease opening width).
- Exit menu.
- Move gate from the CLOSED position to the partOPEN position and check opening width.

6.4.7 Control element switchover impulse pushbutton (toggle)

At the input "In3" (variants 1 and 3) a pushbutton can be connected which generates the movement commands OPEN, STOP, CLOSE, STOP by means of a switchover impulse (toggle function). Every time a key is operated, either a new motor operation is started or an ongoing operation is interrupted by a stop command. The new movement direction is always in the opposite direction to the last one. This function is only supported in automatic mode.

- Switch off the power supply to the motor drive.
- Connect the keys to the 24V power supply.
- Connect the TOGGLE key to input terminal IN3 (normally open contact).
- Switch on the power supply of the motor drive.
- Check that the keys work.

6.5 FIXED SAFETY CONTACT STRIPS

The fixed safety contact strips (8.2 kΩ) for the protection of the gate can be connected directly to the plug-in terminals at the bottom right on the input terminal block.

Terminals nos. 9 and 10 are labelled "SKL open" on the printed circuit board. The strip can be connected in the OPEN direction of the gate at these terminals.

Terminals nos. 11 and 12, labelled "SKL close", are provided for the connection of the safety contact strip in the CLOSE direction.

Fig. no.	Terminal no.	Designation	Input function
10.3	9, 10	SKL open	Fixed safety contact strips (OPEN direction)
10.4	11, 12	SKL close	Fixed safety contact strip (CLOSE direction)

The contact strip signals are evaluated in the control system software.

6.5.1 Indus system with accompanying safety contact strips

The evaluation of the ISK inductive cable transmission system from manufacturer ASO GmbH for the gate-accompanying safety contact strips (8.2 kΩ) is already integrated into the control system, if the INDUS onboard 70-757 board (5.2 FULL VIEW OF THE CONTROL SYSTEM no. 12) is plugged in. The SPK55 fixed coil core can be connected directly to the two right-hand terminals, numbered 11 and 12, on the upper input terminal block with the designation "ISK". The signals from the accompanying safety contact strips will then be evaluated in terms of safety in the control system.

Fig. no.	Terminal no.	Designation	Input function
11.4	11, 12	ISK	INDUS onboard 70-757 input (fixed coil core)

The evaluation of a connected ISK system is activated by default. To retrospectively activate the ISK system (and deactivate JCM), the menu item

“Activate ISK” must be selected in the menu “Settings”; “Safety”.

6.5.2 Fixed safety contact strips (SKL)

The evaluation of the fixed safety contact strips (SKL) are always activated by the manufacturer. The strips are connected as follows:

- Switch off the power supply to the motor drive.
- Connect the contact strip(s) for the OPEN direction to the terminal SKL open.
- Connect the contact strip(s) for the CLOSE direction to the terminal SKL close.
- Switch on the power supply to the control system.
- Check that the strips are correctly connected by checking the “Sensor display” screen and the response of the gate for the corresponding direction of movement in “Automatic mode”.

6.5.3 Accompanying safety contact strips (ISK)

The evaluation of the accompanying safety contact strips (SKL), connected via the ISK system, is also always activated by the manufacturer. The ISK system (fixed SPK55 coil core only) is connected as follows:

- Switch off the power supply to the motor drive.
- Connect the ISK system (fixed coil core) to the ISK terminal.
- Switch on the power supply to the control system.
- Check that the accompanying strips are correctly connected by checking the “Sensor Display” screen and the response of the gate for the corresponding direction of movement in “Automatic mode”.

If the evaluation of the ISK system is not activated in the control system, it is switched on by the following procedure:

- Menu: “Service Access”, “Password Input”: Enter password.
- Menu: “Settings”, “Safety”, “Activate ISK”
- Exit menu

6.5.4 Photo cell

It is possible to connect one-way photo cells as well as reflex photo cells that work with an operating voltage of 24 V_{DC} directly to the control system. The input signal of the photo cell is connected to terminal no. 2 with the designation “LB in”.

Fig. no.	Terminal no.	Designation	Input function
11.1	1	24 V $\overline{ _ _}$	Output test signal (e.g. for photo cell)
11.2	2	LB in	Input signal from the photo cell

The upper left-hand terminal no. 1 with the designation "24V $\overline{|_|_}$ " is a 24-volt supply, which is briefly switched off at periodic intervals for test purposes. The transmitter of a photo cell, for example, can be connected to this power supply. The function of the photo cell input signal is checked during the brief switch-off phase.

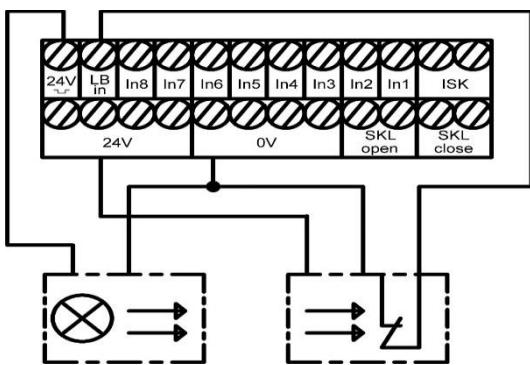
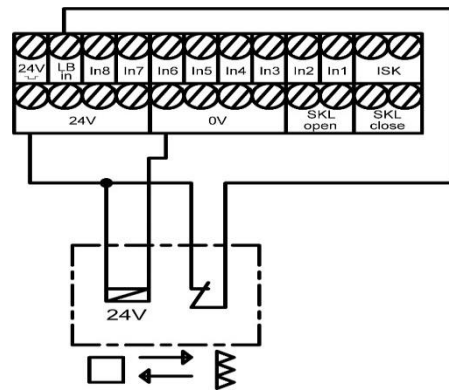


Illustration 11: Connection of tested one-way photo cell



Connection of reflex photo cell

The two representations show, as examples, the different connections of a one-way photo cell tested by blocking the transmitter and an untested reflex photo cell.

6.5.5 Connecting a photo cell

A one-way photo cell, as connected in the installation overview in Section 6.5.6, is installed and parameterised in the following way:

- De-energize the control system.
- Fit the transmitter and receiver of the photo cell in a mechanically sound manner.
- Connect both modules to the 0 V of the electrical power supply and 24 V from the control system.

- Connect the signal line from the receiver module to the 'LB in' terminal.
- Switch on the power supply to the control system.
- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Safety", set "Photo cell" to the value 1.
- Exit menu
- Check that the photo cell is correctly connected by the "Sensor display" screen and check the response of the gate during gate movement in the CLOSE direction in "automatic mode".

In the HMD Basic, this is the default value in the menu.

6.5.6 Overview installation plan of the inputs

The HMD Basic is configured for operation with limit switches. The following drawing shows a typical configuration for the connection of the command devices and sensors to the inputs:

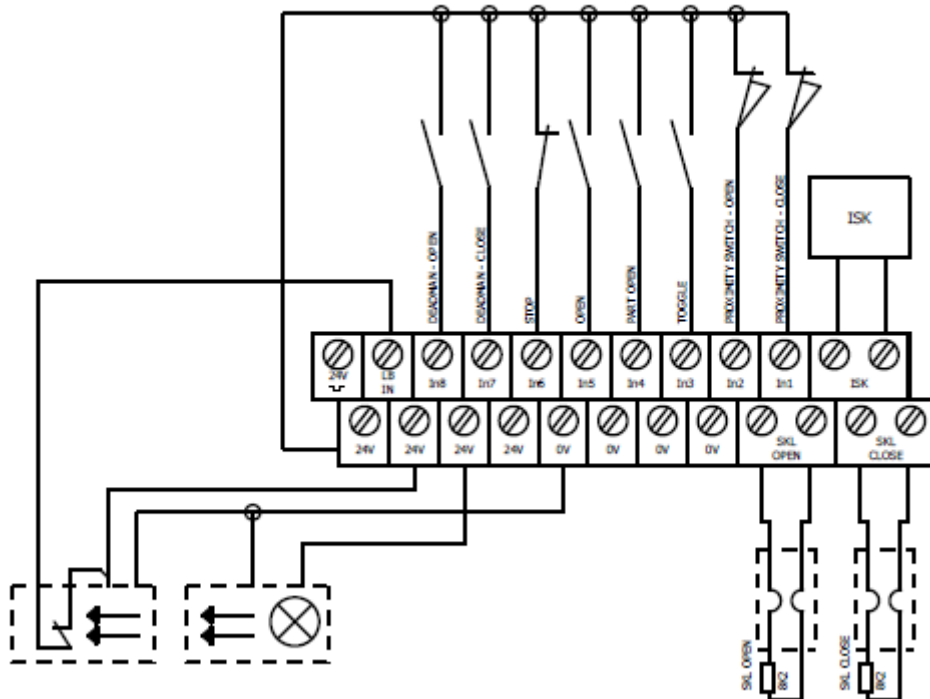


Illustration 13: Example installation with limit switches, photo cell and safety contact strips

6.6 RELAY OUTPUTS

HMD Basic provides three relays with normally open contacts for signalling and

lighting purposes. The switching contacts are potential-free and can switch ohmic loads of at most 250 W.

The relays are pre-allocated with the following functions:

Fig. no.	Terminal no.	Designation	Output function
9.1	1, 2	Rel1	Flashlight or rotating beacon
9.2	3, 4	Rel2	Gate OPEN status display
9.3	5, 6	Rel3	Gate CLOSED status display

The output of Rel1 with warning light function is permanently switched on during every gate movement and at the start of the pre-warning period. The flashing function must be effected by the connected lamp.

Indicator lamps with a supply voltage of 24 V can be connected as shown in the figure below.

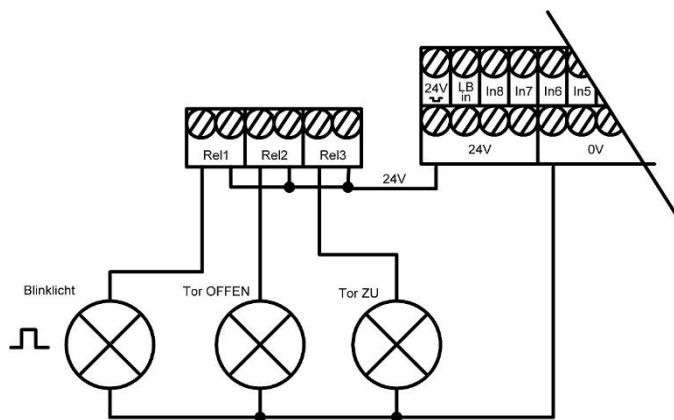


Illustration 14: Connection of relay to 24 VDC



Attention: When connecting external loads to the 24 V power supply from the control system, the maximum current carrying capacity of 500 mA must be observed. In addition, the maximum load of 250 W must be observed for each individual relay.

6.7 RADIO RECEIVER AND ARIAL

Optionally, the control system can be equipped with a radio receiver for handheld transmitters for the remote control of the gate. The radio receiver of the HMD

Basic operates at 868 MHz with FM modulation. The radio receiver is plugged into the female connector strip to the right of the slot for the communication interface.

An external aerial can be connected to this receiver underneath the module using the plug-in terminal.

The internal conductor of the coaxial cable from the aerial is connected to the right-hand terminal no.2 (towards the housing side). The shielding of the aerial cable is connected to the left-hand terminal no. 1 (towards the centre of the board).

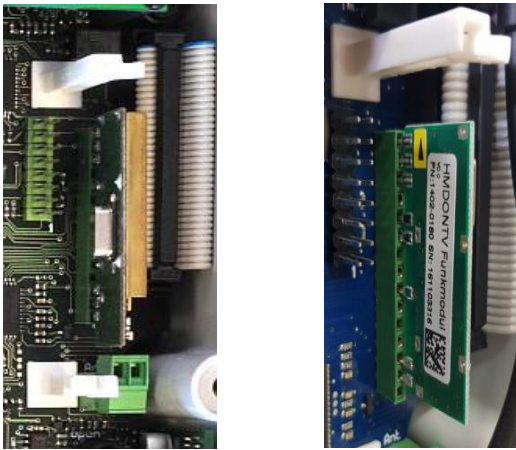


Illustration 15: Electrical connection of radio-frequency receiver module



Information: Only handheld transmitters approved by the manufacturer can be registered by the control system.

7 PROGRAMMING AND SETTINGS

The following installations and, where applicable, parameter settings are useful or necessary for commissioning the control system and setting up the gate. All configurations and displays that should be accessible only to a trained technician are protected by a password.

7.1 CHANGING THE DIRECTION OF ROTATION OF THE DRIVE

If the gate moves in the wrong direction when the gate motor is started up for the first time, the direction of rotation of the motor can be changed by switching the two motor supply lines.

The direction of rotation of the motor can also be changed by a software setting in the control system. This change can be made as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Service access", "Motor direction of rotation": Change value to "1".
- Exit menu and check that the gate is now moving in the correct direction!

7.2 CONNECTION OF A JCM RADIO SYSTEM

Integrating other sensors into the safety circuit for the fixed contact strips makes it possible for the control system to also perform a safety evaluation of, for example, accompanying safety contact strips that transmit their status by radio signal. The relevant relay of the radio receiver that signals the status of these accompanying strip(s) is connected in series with the 8.2 k Ω of the SKL input in question (open or close) in the form of a normally closed contact. The activation of the safety strip on the radio system opens the safety circuit with the 8.2 k Ω resistor, thereby triggering the corresponding safety function in the control system.

In order to operate a JCM radio transmission system for safety strips on the HMD Basic control system, the hardware must be installed for the OPEN as well as the CLOSE direction in accordance with the descriptions supplied. An example of the wiring of a JCM radio receiver "RB3R868" to the control system is shown in the following circuit diagram and figure:

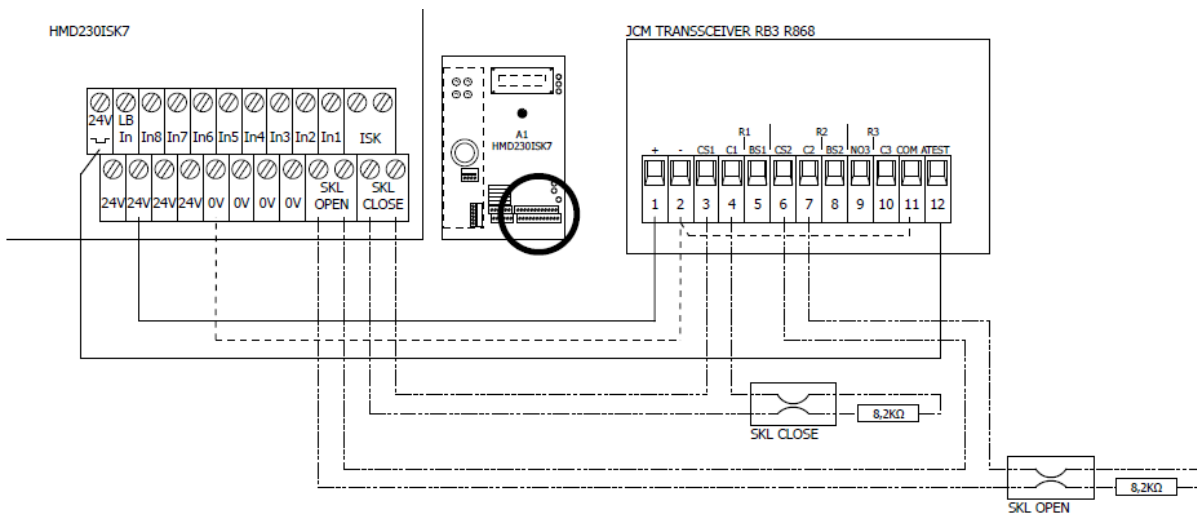


Illustration 16: Example installation with connection of JCM transceiver RB3R868 to the control system

The four DIP switches of "SW1" on the radio receiver are set to "Off, Off, Off, On".

The two accompanying safety contact strips on the gate are connected to terminals S1 and S2 on the associated transmitter of the JCM "RB3T868" radio transmission system as shown in the following figure:



Illustration 17: Example connection of safety contact strips to the JCM RB3R86 transmitter

The three DIP switches of "SW1" on the radio transmitter are switched to OFF, ON, OFF.

Following a correct hardware installation, the control system is switched on and configured for the JCM radio system as follows:

- Switch on the power supply to the control system.
- Menu: "Service Access", "Password Input": Enter password.

- Menu: "Settings", "Safety", "Activate JCM".
- Exit menu
- Programming and teaching the JCM system in accordance with the JCM user manuals for the RB3 system.
- Check that the accompanying strips are correctly connected by checking the "Sensor Display" screen and the response of the gate for the corresponding direction of movement in "Automatic mode".

7.3 OPERATING FUNCTIONS AT THE INPUTS IN3 AND IN4

In the "Settings" menu, three different combinations can be selected for the two command inputs In3 and In4 by selecting the sub-menu "Input: In3/4". Variants 1 to 3 are available, which are listed in the following three tables.

Variant 1

Terminal no.	Designation	Input function
3	In8	Hold-to-run OPEN pushbutton (e.g. key switch on the gate)
4	In7	Hold-to-run CLOSE pushbutton (e.g. key switch at the gate)
5	In6	STOP pushbutton (normally closed contact)
6	In5	OPEN impulse
7	In4	PartOPEN impulse (pedestrian passage)
8	In3	TOGGLE switchover impulse (OPEN/STOP/CLOSE/STOP)
9	In2	Limit switch for OPEN position (normally closed contact)
10	In1	Limit switch for CLOSED position (normally closed contact)

By default, the partOPEN command function is found at input terminal In4 in variant 1. The input In3 is used for the function 'toggle switchover impulse'. For the two inputs "In4" and "In3", marked in colour, the following alternative input functions can be selected under the "Settings" menu item:

Variant 2

Terminal no.	Designation	Input function
7	In4	PartOPEN impulse (pedestrian passage)
8	In3	CLOSE impulse

Variant 3

Terminal no.	Designation	Input function
7	In4	CLOSE impulse
8	In3	TOGGLE switchover impulse (OPEN/STOP/CLOSE/STOP)



Attention: The variant selected in the menu and therefore activated will not be read back and displayed again by the program. If you go into the selection menu a second time, the menu cursor will initially be back at **variant 1**, even though **variant 3**, for example, had previously been activated.

7.4 REFERENCE RUN

To ensure that the drive motor can reduce its maximum speed just before reaching the limit switches, the control system must measure the motor runtime between the gate's limit positions by performing a reference movement. It can then use this runtime to estimate the movement path of the gate, taking the previous limit switch as a reference point, and reduce the gate's speed as it approaches its limit positions.

This reference movement is pre-set upon the delivery of the control system, as soon as the automatic mode is selected for the first time.

If it is necessary to activate this reference movement again, this can be done as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Safety", "Reference movement": set value to "2".
- Menu: "Settings", "Operating mode", "Automatic mode" (*If not already active*).
- Exit the menu. The control system carries out a reset and is in automatic mode.

- Press CLOSE pushbutton. Gate moves towards the CLOSED position.
- On reaching the CLOSED limit switch, the gate will stop and then move automatically and slowly in the OPEN direction.
- On reaching the OPEN limit switch, the gate stops once again and saves the measured runtime. The control system then performs a restart.
- Check that the gate moves more slowly when approaching the two limit positions and the motor stops when the gate has reached the end positions.



Attention: The registering of the motor runtime always starts when the gate moves away from the CLOSED position. The runtime is then measured from the CLOSED position to the OPEN position.

The mechanically free running of the gate must not be impaired during the two movements to measure the motor current. Otherwise, incorrect reference values will be saved and subsequent mechanically poor running of the gate will not be recognised early enough.

7.5 CONNECTING FLASHLIGHTS

The output of relay 'Rel1' has been set up for the flashing function by the manufacturer.

A self-flashing light for +24 V is connected to relay 'Rel1' as follows.

- Switch on the power supply to the control system.
- Connect +24 V power supply to 'Rel1' output relay.
- Connect flashlight to the output relay 'Rel1' and to GND (0 volt).
- Switch on the power supply to the control system.

The flashlight is switched on by the control system as soon as a movement command is recognized and can be executed by the control system. It remains active for as long as the motor is being driven.

Three seconds before an automatic closing run of the gate, the relay for the flashlight is also switched on and remains activated throughout the closing run of the gate.

In some countries there is a regulation that this pre-warning must be activated for three seconds before any gate movement (even before opening). Only then will the motor be driven and the gate moved. This general pre-warning can be switched on and off as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Set timer", "Pre-warning flashlight":
- Value 0: general pre-warning time switched off

- Value 1: general pre-warning time switched on

If a parameterised maintenance event is reached for the gate and the operator of the gate system is to be alerted to this, the flashlight can be configured accordingly. Section "7.8.4 Maintenance request with flashlight" describes the procedure for this in further detail.

7.6 GATE STATUS INDICATIONS

The HMD Basic can signal two different gate conditions via relay outputs. The output relay "Rel2" is pre-set by the manufacturer such that it is active, i.e. the contact is closed, when the gate OPEN position is reached. The same applies for the "Rel3" output relay in the CLOSED gate position.

7.7 SETTING THE TIMERS

Some gate movements can be triggered automatically by predefined time settings in automatic mode. The parameterisation of these times for each menu is described below.

7.7.1 Hold-open time

When the OPEN limit position is reached, the gate can be automatically closed again by the control system after an adjustable time period (0 to 3600 seconds). If a value of 0 is entered, the closing-run timer is switched off and the gate remains open until the next CLOSE command.

- Menu: "Settings", "Set timer", "TMR hold open": set to "xxx".

Example: If the "TMR hold open" parameter is set to 5 and the system is in automatic mode, a time counter starts when the gate reaches the OPEN limit position that automatically initiates the gate closure movement after 5 seconds. If during this time a further OPEN command is issued, or an installed photo cell is activated, the time counter is re-started.

This value can also be entered by the customer without entering a password.



The closing-run timer is not activated if the maximum number of reversals for the CLOSE direction has been reached:

If the gate is moving in the CLOSE direction and does not reach the CLOSED position because the relevant safety contact strip (not a photo cell) is activated, the gate moves back into the OPEN position. The closing-run timer then restarts.

Such an action can occur a maximum of 5 times in a row. After this, the gate remains open and the time counter no longer starts. Only when the next CLOSE command is issued and the CLOSED position has been reached is the reversal counter reset to 0; the closing-run timer starts up again the next time the gate opens.

7.7.2 Closure from the partOPEN position

When the partOPEN position is reached, the control system can automatically close the gate again after an adjustable time period (0 to 255 seconds). If a value of 0 is entered, the closing-run timer is switched off and the gate remains in the PartOPEN position until the next CLOSE or OPEN command.

- Menu: "Settings", "Set timer", "TMR partOPEN": set to "xxx".

Example: If the "TMR partOPEN Stop" parameter is set to 5 and the system is in automatic mode, a time counter starts when the gate reaches the partOPEN limit position that automatically initiates the gate closure movement after 5 seconds. If a further partOPEN command is issued during this period, or if there is a static partOPEN persistent command, the time counter is re-started.

This value can also be entered by the customer without entering a password.



The conditions for reversing upon the activation of a safety strip are the same for this closing-run timer as those already described for the "hold-open time".

7.7.3 Closing from intermediate positions

If the gate must always close again automatically after an adjustable time period (0 to 255 seconds) (automatic closure run), irrespective of the two previously described gate positions, this may be set using the "TMR Autom. Close" parameter. This function applies to all gate positions, except the OPEN limit position and partOPEN. If the value 0 is entered here, the gate remains in the intermediate position until the next movement command.

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Set timer", "TMR Autom. Close": set to "xxx".

Example: If the pre-set time is 20 and the system is in automatic mode, when the motor stops outside the CLOSED limit position (**and is not stopped with the STOP key**) a time counter starts that automatically closes the gate again after 20 seconds.

This value can only be changed if the password has been entered.

7.7.4 Closing run shortening with a photo cell

When a photo cell is used, the control system can enter a shorter hold-open time (OPEN limit position) after the gate has passed through the photo cell.

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Set timer", "Sec. time (s)": set to "xxx".

Example: If the pre-set time is 5 and the gate is in the OPEN position, after the gate has passed through the photo cell (signal active and then inactive again), a time counter is started that allows the gate to close again after 5 seconds.



The default for this parameter is 0 (no closing run shortening).

This value can only be changed if the password has been entered.

7.7.5 Slow movement before the limit positions

If, in the case of gates with a large opening width in the OPEN direction, the moment at which the gate is braked before reaching the OPEN limit switch is too late, this pre-set time value can be increased. In the factory setting the default time is 600. The value can be altered as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Service access", "Time pre-limit switch": Set a value between 50 and 1000.
- Menu: "Settings", "Safety", "Reference movement": set value to "2".
- Exit menu.
- Perform reference movement.
- Check braking distance before the OPEN and CLOSED limit positions.



This value can only be changed if the password has been entered.

The effects of the new value only become discernible after a new reference movement has been performed.

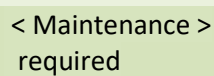
7.8 MAINTENANCE EVENTS

To ensure that the gate is maintained regularly, some options are provided to set up a maintenance requirement in the control system software. Individual or multiple items from the events listed below can be selected for a maintenance

requirement. The event that occurs first activates the control system's maintenance requirement.

7.8.1 Cycle counter

A maintenance requirement can be triggered after a certain number gate movements. When the defined number of gate movements is reached or exceeded, the event "maintenance request" is triggered in the control system. In the event of an active maintenance request the display shows the message



< Maintenance >
required

. In the delivery state, the value for the number of gate movements is pre-set at 5000 movements. The maintenance after gate cycles can be changed as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Settings", "Special parameters", "Maint.foll. cycles": set to "zz"

The entry "zz" defines a number of cycles (in 1000 cycles) in which the gate moves "Open" and then "Closed" again. The counter is incremented every time the "CLOSE" limit position is reached. If the counter reaches the pre-set value of "zz", the maintenance request is activated by the control system.

The value "zz" is the maximum number of gate cycles (in 1000 cycles) (CLOSE, OPEN, CLOSE) until the service request. The adjustable values mean:

- 0 = no maintenance request after number of movement cycles
- 25 = 25000 complete OPEN and CLOSE movements

7.8.2 Motor runtime counter

A maintenance requirement based upon the motor runtime (in hours) is also possible with the aid of an adjustable parameter. In the delivery state, this option is not used and the value is pre-set to 0 hours. Maintenance based upon the motor runtime can be parametrised as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Settings", "Special parameters", "Maintenance run time": set to a value in number of hours

7.8.3 Maintenance interval

For maintenance of the gate at regular intervals, a maintenance requirement may be defined after a certain time has elapsed (number of months). When the

defined time is reached or exceeded, the event "maintenance request" is triggered in the control system. In the delivery state, the value for the interval is pre-set at 12 months. The maintenance interval can be parametrised as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Settings", "Special parameters", "Maint. interval": set to "mm"

The input "mm" defines the number of months to the maintenance request. The value 0 means: no maintenance request based upon time period. The maximum value that can be pre-set is 60, which corresponds to 5 years.

7.8.4 Maintenance request with flashlight

A control system maintenance request may trigger an additional action by the flashlight.

In this case, as soon as the condition for the maintenance request is fulfilled, the flashlight remains active for a few extra seconds after each movement into the gate's limit position (flashlight does not go out until 4, 8 or 12 seconds after motor standstill).

The additional activation of the flashlight for the maintenance request can be parametrised as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Settings", "Special parameters", "Maintenance action": set 0 to 3.

The following actions are linked to the parameter value set here:

Parameter value	Function of flashlight when maintenance requirement is active
0	No extended flashlight function
1	Flashlight remains switched on for 4 seconds longer after the gate position OPEN or CLOSED has been reached
2	Flashlight remains switched on for 8 seconds longer
3	Flashlight remains switched on for 12 seconds longer

7.8.5 Reset maintenance request

The text "< MAINTENANCE > required" will be shown periodically in the LC display until a maintenance request has been dealt with and acknowledged in the control



system menu by the service engineer. In addition, the flashlight will be kept active for a few extra seconds following each movement to the gate's limit position (if this is parameterised).

Following technical maintenance of the gate and a check of the safety functions by qualified personnel, this can be acknowledged in the control system, and the maintenance request thus reset, in the following way:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Diagnosis", "Gate status", activate "RESET Maintenance"

The time counter for the number of months that have elapsed, the cycle counter for the number of gate movements and also the motor runtime counter will be reset to 0.

7.9 BACKING UP PARAMETERS

A backup copy of the operating parameters of the control system that are currently set can be saved in a separate memory area. If there is any doubt following a subsequent change of the parameters, this backup copy of the parameter set can be retrieved as a functioning set of parameters. The parameters are backed up as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Param. Backup", activate "Backup".

7.10 RELOADING PARAMETERS

The parameters stored as a backup copy in a separate memory area can be re-activated as current operating parameters of the control system. Following an incorrect configuration of the HMD Basic it is therefore possible to retrieve the (functional) set of backed-up parameters as follows:

- Menu: "Service Access", "Password Input": Enter password.
- Menu: "Settings", "Param. Backup", activate "Retrieve".
- On completion of this copying process, the software automatically performs a re-start of the control system in order to work with the new parameters.

7.11 RADIO REMOTE CONTROL

The control system variant complete with fitted radio receiver includes integrated software permitting the reception of the signals from handheld radio transmitters and the use of these signals to conveniently operate the gate in automatic mode.

The handheld transmitter must match the radio receiver and the pre-set decoding software (in this case: HERAS radio transmitter: 868 MHz FM; coding "Rolling Code").

Editing options (such as register or delete handheld transmitter) are available in the control system by menu operation. A maximum of 150 handheld transmitters (or individual key

functions) can be registered.

7.11.1 Displaying the number of transmitters

In order to carry out a gate action using a radio-controlled handheld transmitter, the transmitter must first be made known to (registered with) the control system. The number of registered transmitters (memory locations used) can be displayed by means of this menu item.

- Menu: "RadioRemoteControl", activate "Active transmitters"

The display shows the number of registered transmitters (or individual key functions).

7.11.2 Registering new transmitters

The following pre-defined gate functions can be executed with HERAS handheld radio transmitters using three keys:

1. Key top left "Gate OPEN function"
2. Key top right "Gate CLOSE function"
3. Large key in the middle "Gate STOP function"



Proceed as follows to make the control system aware of (register) a (new) transmitter with precisely these functions:

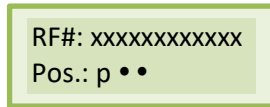
- Menu: select "RadioRemoteControl", "Register transmitter"

The display will then show the text:

Register
transmitter

The operator now has 20 seconds to press a key on the handheld transmitter to be registered, in order to make it known to the control system. If the transmitter is recognized, a memory location in the control system is used at which the three key functions are stored automatically.

For 2 seconds the display shows the decoded numeric value of the radio signal received and the memory location (position) where this transmitter was stored:



In this way, it may be verified that the handheld transmitter signal has actually been received. After 2 seconds the display will then jump back to the menu. By activating this menu item once again, additional transmitters may be registered one after another.

If the program does not recognize any valid code within 20 seconds of the registration process being activated, the display automatically jumps back to the menu.

7.11.3 Registering key functions

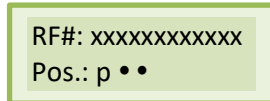
If you do not wish to use the pre-defined key functions from the registering process described above, but want to define the individual keys and their gate actions for yourself, a dedicated memory location is used for each key to be registered.

The registering of the individual key functions of a transmitter can be carried out using the following menu items.

Menu item	Function
3 Register transmitter OPEN	Program a gate OPEN function
4 Register transmitter CLOSE	Program a gate CLOSE function
5 Register partOPEN	Program a partOPEN function of the gate (pedestrian passage)
6 Register transmitter SWITCH	Program a switchover function (OPEN – STOP – CLOSE – STOP)

Following selection, the top line of the display shows the function to be registered. The operator now has 20 seconds to press the required key on the handheld transmitter. Each individual key function occupies one memory location.

The transmitter coding received with the specific key pressed is stored in the memory of the control system as a reference value. For 2 seconds the display shows the encrypted numeric value of the radio signal received and the memory location where this transmitter was stored:



RF#: xxxxxxxxxxxx
Pos.: p ••

The display then jumps back to the menu. By activating this menu item once again, additional transmitters may be registered one after another.

If the program does not recognize any valid code within 20 seconds of the registration process being activated, the display jumps back to the menu.

7.11.4 Deleting a transmitter

If a certain handheld radio transmitter or a specific transmitter key is to be deleted from the control system memory, this can be realized via the menu item "Delete transmitter".

- Menu: "RadioRemoteControl", activate "Delete transmitter"

The top line of the display shows "Delete transmitter". The operator now has 20 seconds to press the required key on the handheld transmitter to delete the transmitter from the control system memory. After deletion the display jumps back to the menu.

If the program does not recognize any valid and stored code within 20 seconds after the deletion process being activated, the display jumps back to the menu.

7.11.5 Deleting a transmission location

If a certain handheld radio transmitter or a specific transmitter key is to be deleted from the control system memory and the corresponding handheld transmitter is not available, this can be realized via the menu item "Delete transmitter location".

- Menu: "RadioRemoteControl", activate "Delete transmitter location"

A list of all programmed handheld transmitters and functions is shown. The memory location to be deleted is selected by turning the selection switch. After the rotary button has been pressed, the display shows the query "Delete entry?". Pressing the rotary button again will delete this entry and this is then confirmed by the display indication "Done".

Pressing the rotary button once again causes the menu to jump back to the selection "Delete transmitter location".

7.11.6 Deleting all transmitters

The menu function "Delete all" removes all handheld radio transmitters from the control system memory. Neither the transmitters in question, nor a radio receiver, are required for this. After this menu item has been called up, the remote control of the gate by handheld radio transmitters is no longer possible until the next registering process. The following menu item can be used to delete all transmitters.

- Menu: "RadioRemoteControl", activate "Delete all"

7.12 DIAGNOSTIC SUPPORT

The HMD Basic has a diagnosis menu which can be used to put the control system into operation and rectify any errors that have occurred.

7.12.1 Version display

The version of the control system can be displayed as follows:

- Menu: "Identification", "Full version": The combination of letters and numbers displayed here uniquely identifies the software used.
- Menu: "Identification", "Gate version": The text displayed shows the designation of the gate for which the control system, software and the stored parameters are defined.
- Menu: "Identification", "Serial number": The serial number of the control system is displayed.

Following entry of the correct password, the following version parameters are also visible:

- Version of the motor controller firmware.
- Version of the periphery controller firmware.
- Version of the parameter table data loaded.
- Version of the bootloader software of the motor controller.
- Version of the bootloader software of the periphery controller.

7.12.2 Gate status display

The gate status menu summarizes all information representing the current status of the control system in connection with the gate.

The menu is accessed via "Diagnosis", "Gate status" and has the following sub-items for information:

Display	Meaning
Gate status STOP	The current gate status detected by the software is displayed. (OPEN/CLOSE/PartOPEN/STOP)
Input: 87654321 Value: 00100010	The logical signal levels at the input terminals of the control system are displayed. The sequence corresponds to the inputs In8 to In1. An input with signal level high is displayed as "1". In the example, the inputs In2 and In6 are at a potential of +24 V.
Output: --321 Value: --100	The status of the output relay is shown with its logical values. An activated relay is marked with "1". The sequence corresponds to the outputs Rel3 to Rel1. In this example, relay Rel3 is active.
Movement cycles 5217 / 19	The total number of movements, and the number of movements since the last maintenance, are shown.
Motor op. Hrs 26 / 3	The total number of motor operating hours and the number of hours since the maintenance are shown here.
Last maintenance 7 months	The number of months that have elapsed since the last maintenance is shown here.

To ensure the regular maintenance of the gate, a maintenance interval can be defined based upon elapsed time, number of gate movements or motor runtime. Combinations of these three conditions are also possible. When one of these events is reached, the message "< Maintenance > required" appears in the display.

Such a maintenance request can be reset using the last menu item from this gate status menu (see Section: 7.8.5)

7.12.3 Sensor status

The sensor status is displayed under "Diagnosis", "Sensor status". The menu structure is identical to the display in the operating state as shown in the Section "5.4.2 Sensor display".

7.12.4 Temperature status

The current temperatures, and the minimum and maximum temperatures that have occurred in the power electronics, can be shown via the Diagnosis menu. The display for this can be accessed as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Diagnosis", "Temperature", "DC temperature" shows the temperatures that have occurred in the DC performance module of the control system. The current temperature, and the minimum and maximum temperatures since the last reset, are shown.
- Menu: "Diagnosis", "Temperatures", activate "RESETMin/Max", sets the minimum and maximum value of the displays in question to the current temperature.

7.12.5 Motor current display

The maximum current from the last motor movement and the maximum motor current in the power electronics since the reset can be displayed. The display for this can be accessed as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Diagnosis", "Temperatures", "Max. motor current" shows the motor currents that have arisen in the DC performance module of the control system. The maximum current from the last motor movement is shown on the left and the maximum motor current of the power electronics since the reset is shown on the right.
- Menu: "Diagnosis", "Motor current", activate "RESET.MoCurrent" sets the maximum value of the current display back to 0.

7.12.6 Log system

The log book system is a ring memory with up to 254 entries. The relevant events of the control system software are permanently stored in the memory with their reference number and time stamp and are available even after a restart or

power failure. The entered time relates to the number of hours that have passed since the control system was put into operation for the first time. This log shows the last actions of the gate and any errors that have occurred.

The first line of the display shows the time of the entry. The second line starts with a number with up to three digits that corresponds to a reference number from the parameter table. This is followed by a corresponding text that is also stored in the parameter table. By turning the selection switch it is possible to scroll through the entries in this log memory in chronological order. The very first entry in this log always contains information about the program initialisation ([250] ProgramInit.). The specific deletion of this data is not possible. Only the initialisation of the entire parameter memory will reset this system log book.

The system log book is displayed as follows:

- Menu: "Service Access", "Password Input": Enter password
- Menu: "Diagnosis", activate "System log book"

Display	Meaning
Log system Start	Rotating the selection switch to the left takes you to the start of the sensor table
0 => 250 ProgramInit	Program initialisation (first entry in the memory)
...	
HHH => 253 RESET	Log entry due to a reset of control system (e.g. after exiting the menu)
...	
Log system End	End of the log system memory reached

8 FAULTS

8.1 DEFECTIVE PHOTOCELL OR SAFETY EDGE

If a photocell or safety device is defective, the gate can only be opened and closed using the hold-to-run switch. In this case, consult a qualified technician.



See chapter "SERVICE / MAINTENANCE"

8.2 PARAMETERS REFERENCE/ERROR NUMBERS

The possible entries in the log system described above for events and/or errors are listed in the table below:

Reference Error no.	Text	Meaning
25	Fixed.StripOPEN	Fixed safety contact strip OPEN was activated (a '0' is stored immediately after the text if the motor was not active)
26	Fixed.StripCLOSE	Fixed safety contact strip CLOSE was activated (a '0' is stored immediately after the text if the motor was not active)
27	Trav.EdgeOPEN	Accompanying safety contact strip OPEN was activated (a '0' is stored immediately after the text if the motor was not active)
28	TravEdgeCLOSE	Accompanying safety contact strip CLOSE was activated (a '0' is stored immediately after the text if the motor was not active)
40	Light barrier	The light barrier was activated during the CLOSE movement
86	Number of reversals	The maximum number of reversals for a movement direction (without reaching the limit position) was reached
130	Scstrip OPENTsterr	Error in test result for the fixed safety contact strip OPEN was detected
131	Scstrip CLOSE tsterr	Error in test result for the fixed safety contact strip CLOSE was detected

Reference Error no.	Text	Meaning
143	Auto.Closing-run ON ----- ?	After a restart of the program, the gate is in the OPEN position and awaits the activation of the closing-run timer
161	Immediate stop	The stop function is activated for longer than 2 seconds (STOP input or hold-to-run OPEN and CLOSE are active at the same time). This is only entered in the system log when activated with the motor running
171	OPEN	The OPEN limit switch was activated during the OPEN movement and deactivated again before the motor had come to a halt
172	CLOSE	The CLOSE limit switch was activated during the OPEN movement and deactivated again before the motor had come to a halt
197	START	Restart of the program
201	ROM error	The motor controller has detected a program memory error (fatal exception error)
202	EEPROM Bcc	An error occurred when accessing the EEPROM (may occur sporadically after reset, e.g. if menu was not correctly exited)
203	StackReg.err	The motor controller has detected a stack registry error (fatal exception error)
204	Stack.err:low	The motor controller has detected a stack registry error (fatal exception error)
205	Stack.err:high	The motor controller has detected a stack registry error (fatal exception error)
206	Watchdog.err:low	The motor controller has detected a watchdog error (fatal exception error)
207	Watchdog.err:high	The motor controller has detected a watchdog error (fatal exception error)
208	Watchdog error	The motor controller has detected a watchdog error (fatal exception error)
209	WDG Reset	The motor controller was restarted by the watchdog

Reference Error no.	Text	Meaning
210	Mot.runtime.err.	The motor was stopped because the maximum motor runtime for this gate movement was reached (limit switch was not reached in the maximum runtime) [Gate check required]
211	main-cnt.err.	The main loop counter of the motor controller has overflowed (fatal exception error)
212	Undef.state	The variable of the state machine has reached an invalid value (fatal exception error)
213	Lim.sw.err.	The gate did not leave the limit switch within the maximum permissible time period (4 sec.) (gate disengaged or very difficult to operate) [gate check required]
214	MAINTENANCE required	One of the specified maintenance events (gate cycles, maintenance interval) has occurred
215	Limit positions undef.	The limit positions of the gate are undefined for the control system software (e.g. both limit switch contacts open)
217	EEPR.err.Txt	The sought-after display text was not found in the memory
218	EEPR.err.wr.	An error occurred when writing a text into the memory
219	EEPR.err. language	An error occurred in relation to a pointer address for a text in memory
220	Motor.err.	The motor was stopped due to a motor monitoring signal (return signals not plausible)
224	DC voltage.err	The supply voltage at the DC power module is too low (e.g. current switched off; battery too weak)
225	DC Fault	The DC power module has detected a short circuit to the motor
226	DC Temp.err:	The DC power module has detected an excessively high operating temperature
228	REL+err.High	The voltage monitoring system for the release signal has measured an excessively high value
229	REL+ Low	The voltage monitoring system for the release signal has measured an excessively low value

Reference Error no.	Text	Meaning
230	REL+err.Idl	The voltage monitoring system for the release signal has measured an excessively high value for the idle voltage
231	DCtstCuHigh	The test current at the DC power module is too high
232	DCtstCuLow	The test current at the DC power module is too low
233	DcCuHigh	The DC power module has detected an excessively high motor current
234	INC-Sensor OP	Incremental sensor value in OPEN direction too low
235	INC-Sensor CL	Incremental sensor values in CLOSE direction too low
236	Reference active	A reference movement of the gate was activated
238	OPEN/CLOSE-StartActive	The program start of the motor controller was interrupted due to an active movement command (Check inputs)
239	Lightbarrier Tst.err	The photo cell test has shown up an error
240	EMERGENCY tst.err	The self-test failed at the emergency input
241	SPI BCC err	A checksum error occurred during communication between the controllers
242	SPI ID Val	A data error was detected during communication between the controllers
243	Parameter.err	An error occurred when writing data into the memory
244	EMERGENCYSTOP t.err	The self-test on the EMERGENCY STOP input failed
247	Variants.err	The loaded parameter set and the program variant of the controller do not match
248	Param.Load.err.	An error was detected when transferring the parameter set from the periphery controller to the motor controller (CRC16 checksum)

Reference Error no.	Text	Meaning
249	Menu pointer err	Menu program pointer error (Error in menu structure branching)
250	ProgramInit.	In system log: The program was initialised (deletion and initialisation of the parameter memory)
251	EMERGENCYactiv	The special emergency operating mode has been activated
253	RESET	Software restart triggered by the program

9 EMERGENCY STOP

The HMD Basic does not have an emergency stop system. According to the Machine Directive 2006/42/EC, annex 1, article 1.2.4.3., this is not necessary if the emergency stop system would not lower the risk. However, an emergency stop system can be connected to the HMD Basic. Please refer to the instruction in the installation manual.

10 MAINTENANCE INSTRUCTIONS



- When working on the gate or cleaning it, the power supply to the system must be switched off and protected from unauthorized switching on.
- If the gate must be moved manually, first turn the system circuit breaker in the motor cabinet to the "off" position and protect it from being switched on (e.g. by locking the cabinet).

10.1 GATE MAINTENANCE

Under normal conditions and with regular maintenance, Delta sliding gates have a life of at least 200,000 cycles and 50,000 for Condor sliding gates. To ensure that your gate operates safely, reliably and in compliance with all relevant legislation

and laws, for Delta we recommend a MINIMUM of one maintenance check every 12 months or after 10,000 operating cycles and for Condor every 12 months or after 5,000 operating cycles, whichever is the sooner. However, to ensure safety and proper operation of the gate, more frequent maintenance checks are recommended during the lifetime of the gate.

Any maintenance work, including repair, replacement, modification and upgrade MUST be conducted by a Heras trained, qualified, competent and certified technician using Heras approved tools and spare parts.

Failure to ensure that the gate is used in accordance with User manual provided, or any faults or damage caused by wilful misuse, will result in any warranty becoming void.

Please note, Heras does not accept and liability for any personal injury, material damage or consequential loss caused by misuse of the gate.

During maintenance, essential points of the sliding gate must be periodically checked using an inspection protocol.

- Correct operations and adjustment.
- Check all anchor and bolted connections.
- Check wear of running wheels, upper guide wheels and the surface on which they run
- Check welded joints, damage to coating and zinc
- Check for damage and the operation of safety edges and photocell(s).

10.2 DRIVE UNIT MAINTENANCE



The entire gate system must be checked regularly, in accordance with DIN EN 12453.

To remind the operating company/user of this maintenance requirement, the message

< Maintenance >
required

is shown in the display by the software of the control system.

10.3 CLEANING

The gate and the outside of the drive unit cabinet can be cleaned using a non-aggressive detergent and a soft cloth, brush or sponge. Avoid using a pressure cleaner as this might damage the gate and the drive unit.

Lubricating the running surface of the gate is not allowed.

11 DECOMMISSIONING AND REMOVAL



**Ensure that the gate is dismantled by a qualified technician.
Disconnect the electricity supply in a safe way from the drive unit.**

Use the installation manual.

At the end of their service lives the products must be disposed of in accordance with all local, regional and national rules and instructions. The sliding part is mainly made of aluminum parts. The guideposts are made of steel. Heras is also happy to take the products back and then dispose of them in an appropriate manner.



The Delta gate has highly tensioned cables fitted in the bottom rail. If these cables are cut, they can snap with great force. This can lead to serious injury. Therefore, **it is prohibited to disassemble the bottom rail yourself.**

!! Only people trained by Heras are allowed to disassemble the bottom rail.

There is no hidden danger associated with dismantling the bars, top rail and stiles.



The points that are fitted to some sliding gates are sharp. There is a danger of being cut when disassembling such a gate. Wear suitable gloves.

12 SPARE PARTS

Safety fuses (KFZ Standard plug-in fuses)

F1 Blade-type plug-in fuse	15 A (blue)
F2 Blade-type plug-in fuse	1 A (black)

13 TECHNICAL DATA

13.1 SLIDING GATE DESCRIPTION

Gate leaf	Delta	Condor
Length [m]	5.15 ... 12.5	4.90 ... 8.00
Height [m]	1.00 ... 2.5	1.8 ... 2.0
Max. weight [kg]	340	250
Construction	cantilever	cantilever

13.2 DRIVE DESCRIPTION

HMD BASIC	
Electrical values	
Power supply	1 phase 230 V _{AC} / N/PE 50/60 Hz or 24 V _{DC} (e.g. battery)
Fuse protection (on site) when operated on power network	max. 10 A
External power supply for external 24 V devices	24 V _{DC} stabilised (±5 %) max. 300 mA (protected with self-resetting semiconductor fuse)
Control inputs	24 V _{DC} /typical 4 mA < 12 V: inactive -> logically 0 > 18 V: active -> logically 1 (internally electrically isolated)
Relay outputs ¹	max. 250 V _{AC} /1 A or 250 W
maximum el. motor performance	500 W
Mechanical values	

¹ If inductive loads are switched (e.g. further relays or brakes), these must be equipped with a free-wheeling diode as an interference suppression measure.



HMD BASIC	
Electrical values	
Housing material	ABS plastic
Dimensions H x W x D	160 x 270 x 110 mm
Weight	3.5 kg (with ring core transformer)
Protection class	IP54
Temperature range	-20°C to +55°C
Humidity range	max. 99% non-condensing

The functions described in this manual are designed for the prevailing climatic conditions in Europe.



Appendix A: Declarations DoP / DoC



Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: CE-DOP-2021.02-00

Product type - Producttype - Produkttyp - Type de produit - Produkttyp - Produkttype - Produkttype
Power operated sliding gates - Elektrisch aangedreven schuifpoorten - Kraftbetätigten Schiebetoren - Portails coulissants à commande électrique - Eldrivna skjutgrindar - Elektrisk drevne skyveporter - El-betjente skydeporte
Identification code - Identificatiecode - Kenncode - Code d'identification - Identifikationskod - Identifikasjonskode - Identifikationskode
Delta21 - iGate21 - SHB21 - uGate21 ¹
Serial number - Serienummer - Seriennummer - Numéro de type - Serienummer - Serienummer - Serienummer
n/a
Intended use - Beoogd gebruik - Vorgesehener Verwendungszweck - Usage prévu - Avsedd användning - Tiltent bruk - Tilsigtet brug
Giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises. Het bieden van een veilige toegang voor goederen en voertuigen begeleid of bestuurd door personen in industriële, commerciële of residentiële ruimten. Eine sichere Zufahrt für Waren und Fahrzeuge, begleitet oder geführt (gesteuert) von Personen, in industriellen, gewerblichen oder Wohnbereichen zu ermöglichen. Permettre l'accès des marchandises et des véhicules accompagnés ou conduits par des personnes, en toute sécurité, dans des locaux industriels et commerciaux ou des garages dans les zones d'habitation. För vilka avsedd användning är att ge säkert tillträde för gods och fordon åtföljda av eller körda av personer på industriområden, kommersiella områden eller bostadsområden. Gir sikker tilgang for varer og kjøretøy ledsaget eller kjørt av personer i industrielle, kommersielle eller boliglokaler. Give sikker adgang til varer og køretøjer, der ledsages eller køres af personer i industrielle, kommercielle eller boliglokaler.
Contact address manufacturer - Contactgegevens fabrikant - Kontaktanschrift des Herstellers - Adresse de contact du fabricant - Tillverkarens kontaktadress - Tillverkarens kontaktadress - Kontaktadresse fabrikant
Heras B.V. - Hekdam 1 - 5688JE Oirschot - Netherlands
System of assessment and verification of constancy of performance System voor beoordeling en verificatie van de prestatiebestendigheid System zur Bewertung und Überprüfung der Leistungsbeständigkeit Système d'évaluation et de vérification de la constance des performances System för bedömning och fortlöpande kontroll av byggprodukternas prestanda System for vurdering og verifisering av prestasjonsbestandighet System til vurdering og kontrol af ydeevnens konstans
System 3 - System 3 - System 3 - Système 3 - System 3 - System 3 - System 3

Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: CE-DOP-2021.02-00

Report number - Rapportnummer – Reportnummer - Numéro de rapport - Rapportnummer - Rapportnummer - Rapportnummer
130901400, 713043095

Identification number notified body - Nummer van de controle instantie - Kennnummer der notifizierten Stelle - Numéro d'identification de l'organisme notifié - Det anmälda organets identifikationsnummer Kontrollinstansens nummer - Identifikationsnummer bemyndiget organ
0063 Kiwa 0123 TÜV SÜD Product Service GmbH Zertifizierstellen ¹

Harmonised standard - Geharmoniseerde norm - Harmonisierte Norm - Norme harmonisée - Harmoniserad standard - Harmonisert standard - Harmoniseret standard
EN 13241:2003+A2:2016

Declared performance Aangegeven prestaties Erklärte Leistung Performances déclarées Prestanda som intygas Angitte prestasjoner Deklareret ydeevne	Essential characteristics Essentielle kenmerken Wesentliche Merkmale Caractéristiques essentielles Väsentliga egenskaper Grunnleggende kjennetegn Væsentlige egenskaber	Performance Prestaties Leistung Performances Prestanda Prestasjoner Ydeevne	Requirements Eisen Anforderungen Exigences Krav Krav Krav
	Watertightness	NPD	4.4.1
	Release of dangerous substances	NPD	4.2.9
	Resistance to wind load	class 3*	4.4.3
	Thermal resistance (where relevant)	NPD	4.4.5
	Air permeability	NPD	4.4.6
	Safe opening (for vertically moving doors)	NPD	4.2.8
	Definition of geometry of glass	NPD	4.2.5
	Mechanical resistance and stability	PASS	4.2.3
	Operating forces (for power operated doors)	PASS	4.3.3
	Durability of watertightness, thermal resistance and air permeability against degradation	NPD	4.4.7

Signed by Ondertekend door Unterzeichnet von Signé par Undertecknad av Undertegnet av Underskrevet af	Gilles Rabot Chief Executive Officer Oirschot 27-05-2021
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Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: CE-DOP-2021.02-00

Assessed products - Beoordeelde producten - Bewertete Produkte - Produits évalués - Produkter som bedömts - Vurderes produkter - Vurderede produkter

uGate21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Heracles, Atlas HGD230S, HGD230A HMD 230SISK7 ASO 35.55CT, ASO 35.85CT
*Wind Class 3	Opening x Height: (single version)	≤12m x ≤2,5m

Delta21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Heracles, Atlas, Olympus, Pegasus HMDLP230S, HMDLP230A, HMD24 (HMD Basic) 100/SL1524SB (Heras version) 100/SLX1524SB (Heras version) HMD 230SISK7, HMD24ISK7 ASO 35.55CT, ASO 35.85CT
*Wind Class 3	Opening x Height: (single version)	≤9,5m x ≤2,3m (Heracles / Atlas / Olympus) ≤8,5m x ≤2,5m (Heracles / Atlas / Olympus) ≤9,5m x ≤1,8m (Pegasus) ≤8,5m x ≤2m (Pegasus) ≤7m x ≤2,5m (Pegasus)

iGate21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Perforated sheet infill IGD230P, IGD230E HMD 230SISK7 ASO GEF85SK
Wind Class 2	Opening x Height: (single version)	≤9m x ≤2m

SHB21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Heracles, Atlas, Orpheus** HMDLP230S HMD 230SISK7 ASO 35.55CT
*Wind Class 3	Opening x Height: (single version)	≤13,3m x ≤2m ≤8,5m x ≤2,5m**
Wind Class 2	Opening x Height: (single version)	≤13,3m x 2,5m



Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: UKCA-DOP-2021.02-00

Product type - Producttype - Produkttyp - Type de produit - Produkttyp - Produkttype - Produkttype
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Identification code - Identificatiecode - Kenncode - Code d'identification - Identifikationskod - Identifikasjonskode - Identifikationskode
Delta21 - iGate21 - SHB21 - uGate21 ¹
Serial number - Serienummer - Seriennummer - Numéro de type - Serienummer - Serienummer - Serienummer
n/a
Intended use - Beoogd gebruik - Vorgesehener Verwendungszweck - Usage prévu - Avsedd användning - Tiltent bruk - Tilsigtet brug
Giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises. Het bieden van een veilige toegang voor goederen en voertuigen begeleid of bestuurd door personen in industriële, commerciële of residentiële ruimten. Eine sichere Zufahrt für Waren und Fahrzeuge, begleitet oder geführt (gesteuert) von Personen, in industriellen, gewerblichen oder Wohnbereichen zu ermöglichen. Permettre l'accès des marchandises et des véhicules accompagnés ou conduits par des personnes, en toute sécurité, dans des locaux industriels et commerciaux ou des garages dans les zones d'habitation. För vilka avsedd användning är att ge säkert tillträde för gods och fordon åtföljda av eller körda av personer på industriområden, kommersiella områden eller bostadsområden. Gir sikker tilgang for varer og kjøretøy ledsaget eller kjørt av personer i industrielle, kommersielle eller boliglokaler. Give sikker adgang til varer og køretøjer, der ledsages eller køres af personer i industrielle, kommercielle eller boliglokaler.
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Heras B.V. - Hekdam 1 - 5688JE Oirschot - Netherlands
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System 3 - System 3 - System 3 - Système 3 - System 3 - System 3 - System 3

Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: UKCA-DOP-2021.02-00

Report number - Rapportnummer – Reportnummer - Numéro de rapport - Rapportnummer - Rapportnummer - Rapportnummer
130901400, 713043095

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	Release of dangerous substances	NPD	4.2.9
	Resistance to wind load	class 3*	4.4.3
	Thermal resistance (where relevant)	NPD	4.4.5
	Air permeability	NPD	4.4.6
	Safe opening (for vertically moving doors)	NPD	4.2.8
	Definition of geometry of glass	NPD	4.2.5
	Mechanical resistance and stability	PASS	4.2.3
	Operating forces (for power operated doors)	PASS	4.3.3
	Durability of watertightness, thermal resistance and air permeability against degradation	NPD	4.4.7

Signed by Ondertekend door Unterzeichnet von Signé par Undertecknad av Undertegnet av Underskrevet af	Gilles Rabot Chief Executive Officer Oirschot 27-05-2021
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Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: UKCA-DOP-2021.02-00

Assessed products - Beoordeelde producten - Bewertete Produkte - Produits évalués - Produkter som bedömts - Vurderes produkter - Vurderede produkter		
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*Wind Class 3	Opening x Height: (single version)	≤12m x ≤2,5m
Delta21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Heracles, Atlas, Olympus, Pegasus HMDLP230S, HMDLP230A, HMD24 (HMD Basic) 100/SL1524SB (Heras version) 100/SLX1524SB (Heras version) HMD 230SISK7, HMD24ISK7 ASO 35.55CT, ASO 35.85CT
*Wind Class 3	Opening x Height: (single version)	≤9,5m x ≤2,3m (Heracles / Atlas / Olympus) ≤8,5m x ≤2,5m (Heracles / Atlas / Olympus) ≤9,5m x ≤1,8m (Pegasus) ≤8,5m x ≤2m (Pegasus) ≤7m x ≤2,5m (Pegasus)
iGate21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Perforated sheet infill IGD230P, IGD230E HMD 230SISK7 ASO GEF85SK
Wind Class 2	Opening x Height: (single version)	≤9m x ≤2m
SHB21		
Technical data	Version: Type: Drive: Control unit: Safety edge:	single, double Heracles, Atlas, Orpheus** HMDLP230S HMD 230SISK7 ASO 35.55CT
*Wind Class 3	Opening x Height: (single version)	≤13,3m x ≤2m ≤8,5m x ≤2,5m**
Wind Class 2	Opening x Height: (single version)	≤13,3m x 2,5m

Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: CE-DOP-2023.01-00

Product type - Producttype - Produkttyp - Type de produit - Produkttyp - Produkttype - Produkttype

Power operated sliding gates - Elektrisch aangedreven schuifpoorten - Kraftbetätigten Schiebetoren - Portails coulissants à commande électrique - Eldrivna skjutgrindar - Elektrisk drevne skyveporter - El-betjente skydeporte

Identification code - Identificatiecode - Kenncode - Code d'identification - Identifikationskod - Identifikasjonskode - Identifikationskode

Condor

Serial number - Serienummer - Seriennummer - Numéro de type - Serienummer - Serienummer - Serienummer

n/a

Intended use - Beoogd gebruik - Vorgesehener Verwendungszweck - Usage prévu - Avsedd användning - Tiltent bruk - Tilsigtet brug

Giving safe access for goods and vehicles accompanied or driven by persons in industrial, commercial or residential premises.
 Het bieden van een veilige toegang voor goederen en voertuigen begeleid of bestuurd door personen in industriële, commerciële of residentiële ruimten.
 Eine sichere Zufahrt für Waren und Fahrzeuge, begleitet oder geführt (gesteuert) von Personen, in industriellen, gewerblichen oder Wohnbereichen zu ermöglichen.
 Permettre l'accès des marchandises et des véhicules accompagnés ou conduits par des personnes, en toute sécurité, dans des locaux industriels et commerciaux ou des garages dans les zones d'habitation.
 För vilka avsedd användning är att ge säkert tillträde för gods och fordon åtföljda av eller körda av personer på industriområden, kommersiella områden eller bostadsområden.
 Gir sikker tilgang for varer og kjøretøy ledsaget eller kjørt av personer i industrielle, kommersielle eller boliglokaler.
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Contact address manufacturer - Contactgegevens fabrikant - Kontaktanschrift des Herstellers - Adresse de contact du fabricant - Tilverkarens kontaktadress - Tillverkarens kontaktadress - Kontaktadresse fabrikant

Heras B.V. - Hekdam 1 - 5688JE Oirschot - Netherlands

System of assessment and verification of constancy of performance

Systeem voor beoordeling en verificatie van de prestatiebestendigheid
 System zur Bewertung und Überprüfung der Leistungsbeständigkeit
 Système d'évaluation et de vérification de la constance des performances
 System för bedömning och fortlöpande kontroll av byggprodukternas prestanda
 System for vurdering og verifisering av prestasjonsbestandighet
 System til vurdering og kontrol af ydeevnens konstans

System 3 - Systeem 3 - System 3 - Système 3 - System 3 - System 3 - System 3

Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: CE-DOP-2023.01-00

Report number - Rapportnummer – Reportnummer - Numéro de rapport - Rapportnummer - Rapportnummer - Rapportnummer

P000277156/01 - VL21391UO-BER-002D

Identification number notified body - Nummer van de controle instantie - Kennnummer der notifizierten Stelle - Numéro d'identification de l'organisme notifié - Det anmeldte organets identifikationsnummer - Kontrollinstansens nummer - Identifikationsnummer bemyndiget organ

0063 Kiwa

Harmonised standard - Geharmoniseerde norm - Harmonisierte Norm - Norme harmonisée - Harmoniserad standard - Harmoniseret standard - Harmoniseret standard

EN 13241:2003+A2:2016

Declared performance Aangegeven prestaties Erklärte Leistung Performances déclarées Prestanda som intygas Angitte prestasjoner Deklareret ydeevne	Essential characteristics Essentiële kenmerken Wesentliche Merkmale Caractéristiques essentielles Väsentliga egenskaper Grunnleggende kjennetegn Væsentlige egenskaber	Performance Prestaties Leistung Performances Prestanda Prestasjoner Ydeevne	Requirements Eisen Anforderungen Exigences Krav Krav Krav
	Watertightness	NPD	4.4.1
	Release of dangerous substances	NPD	4.2.9
	Resistance to wind load	class 2*	4.4.3
	Thermal resistance (where relevant)	NPD	4.4.5
	Air permeability	NPD	4.4.6
	Safe opening (for vertically moving doors)	NPD	4.2.8
	Definition of geometry of glass	NPD	4.2.5
	Mechanical resistance and stability	PASS	4.2.3
	Operating forces (for power operated doors)	PASS	4.3.3
	Durability of watertightness, thermal resistance and air permeability against degradation	NPD	4.4.7

Signed by
Ondertekend door
Unterzeichnet von
Signé par
Undertecknad av
Undertegnet av
Underskrevet af

Emmanuel Rigaux
Chief Executive Officer
Oirschot
02-05-2023



Declaration of Performance



Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: CE-DOP-2023.01-00

Assessed products - Beoordeelde producten - Bewertete Produkte - Produits évalués - Produkter som bedömts - Vurderes produkter - Vurderede produkter

Condor

Technical data	Version: Type: Drive: Control unit: Safety edge:	single Pallas HMDBasicCon HMD24ISK7 ASO 35.55CT active (gate leaf, guiding post, drive unit)
*Wind Class 2 Reference wind load 620 Pa	Opening x Height: (single version)	≤6m x ≤2m

Declaration of Performance

Prestatieverklaring - Leistungserklärung - Déclaration des performances Prestandadeklaration - Ytelseserklæring - Ydeevnedeklaration

DoP No: UKCA-DOP-2023.01-00

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Oirschot
02-05-2023

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Declaration of Conformity

Verklaring van overeenstemming - Konformitätserklärung - Déclaration de conformité - Deklaration om överensstämmelse - Konformitetserklæring - Overensstemmelseserklæringen

DoC No: CE-DOC-2021.02-03

EN We herewith declare that the product complies with the following directives and standards.
NL Hiermee verklaren wij dat het product in overeenstemming is met de volgende richtlijnen en normen.
DE Hiermit erklären wir, dass die Produkte der nachfolgenden Richtlinien und Normen entspricht.
FR Par la présente nous déclarons que le produit est conforme aux directives et normes suivantes.
SV Vi deklarerar härmed att produkten överensstämmer med följande riktlinjer och normer.
NO Vi erklærer med dette at dette produktet er konformt med følgende direktiv og normer.
DA Vi erklærer hermed, at produktet er i overensstemmelse med følgende direktiver og standarder.

Product type - Producttype - Produkttyp - Type de produit - Produkttyp - Produkttype - Produkttype

Power operated sliding gates - Elektrisch aangedreven schuifpoorten - Kraftbetätigten Schiebetoren - Portails coulissants à commande électrique - Eldrivna skjutgrindar - Elektrisk drevne skyveporter - El-betjente skydeporte

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Condor - Delta21 - uGate23 - SHB PI Light

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Heras B.V. - Hekdam 1 - 5688JE Oirschot - Netherlands

Directives - Richtlijnen - Richtlinien - Directives - Direktiven - Direktiver - Direktiver

2006/42/EC Machine Directive
305/2011 Construction Products Regulation
2014/30/EU EMC Directive

Standards - Normen - Normen - Normes - Standarder - Standarder - Standarder

EN 13241:2003+A2:2016 - EN 12604:2017+A1:2020
EN 12453:2017+A1:2021 - EN-IEC 60335-2-103:2015

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Chief Executive Officer
Oirschot
02-05-2023



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Directives - Richtlijnen - Richtlinien - Directives - Direktiven - Direktiver - Direktiver

Supply of Machinery (Safety) Regulations 2008
 Electromagnetic Compatibility Regulations 2016
 Construction Products Regulations 2013

Standards - Normen - Normen - Normes - Standarder - Standarder - Standarder

EN 13241:2003+A2:2016 - EN 12604:2017+A1:2020
 EN 12453:2017+A1:2021 - EN-IEC 60335-2-103:2015

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Emmanuel Rigaux
 Chief Executive Officer
 Oirschot
 02-05-2023







**Heras B.V.
Hekdam 1
P.O. box 30
5688 ZG Oirschot**

**Tel: +31 499 55 12 55
E-mail: infoNL@heras.nl**

Local supplier stamp/ Lokal återförsäljare, stämpel

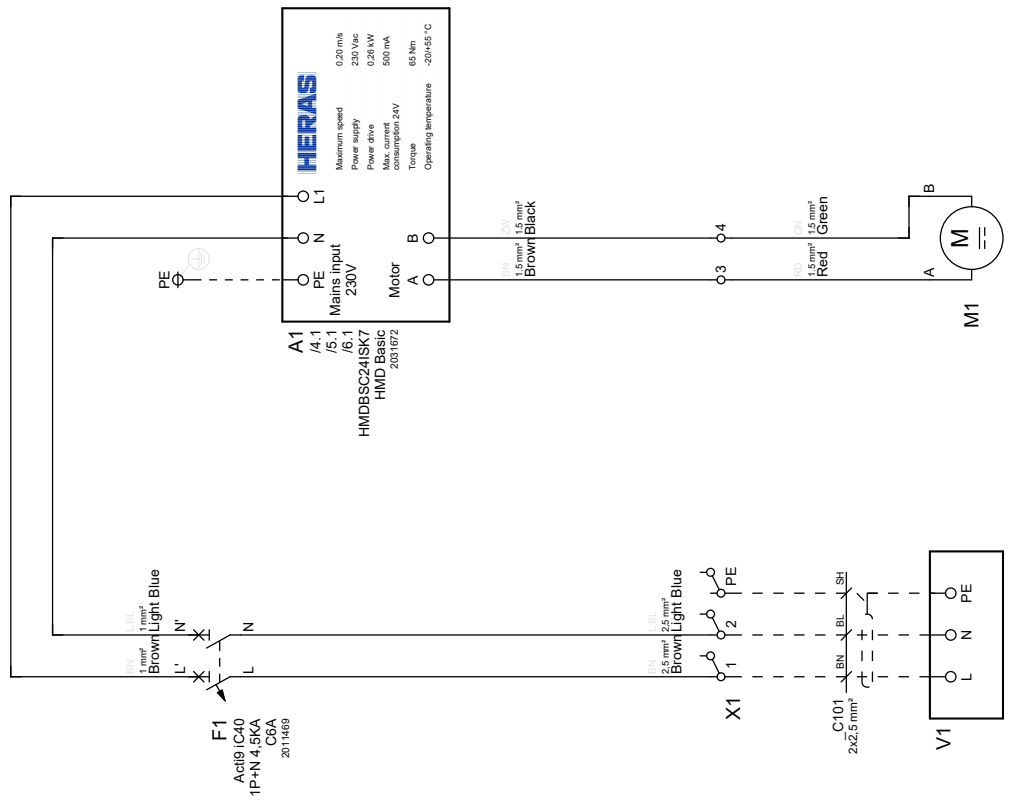
Type: HMDLP Basic

Group: HMD Heras Motor Drive

Version no: 2.0

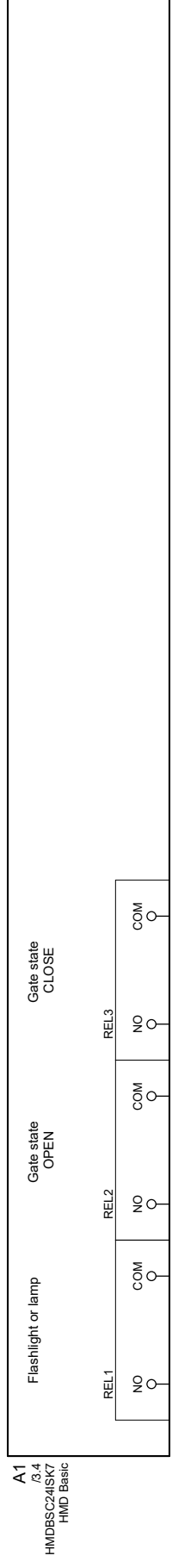
Language: en_EN

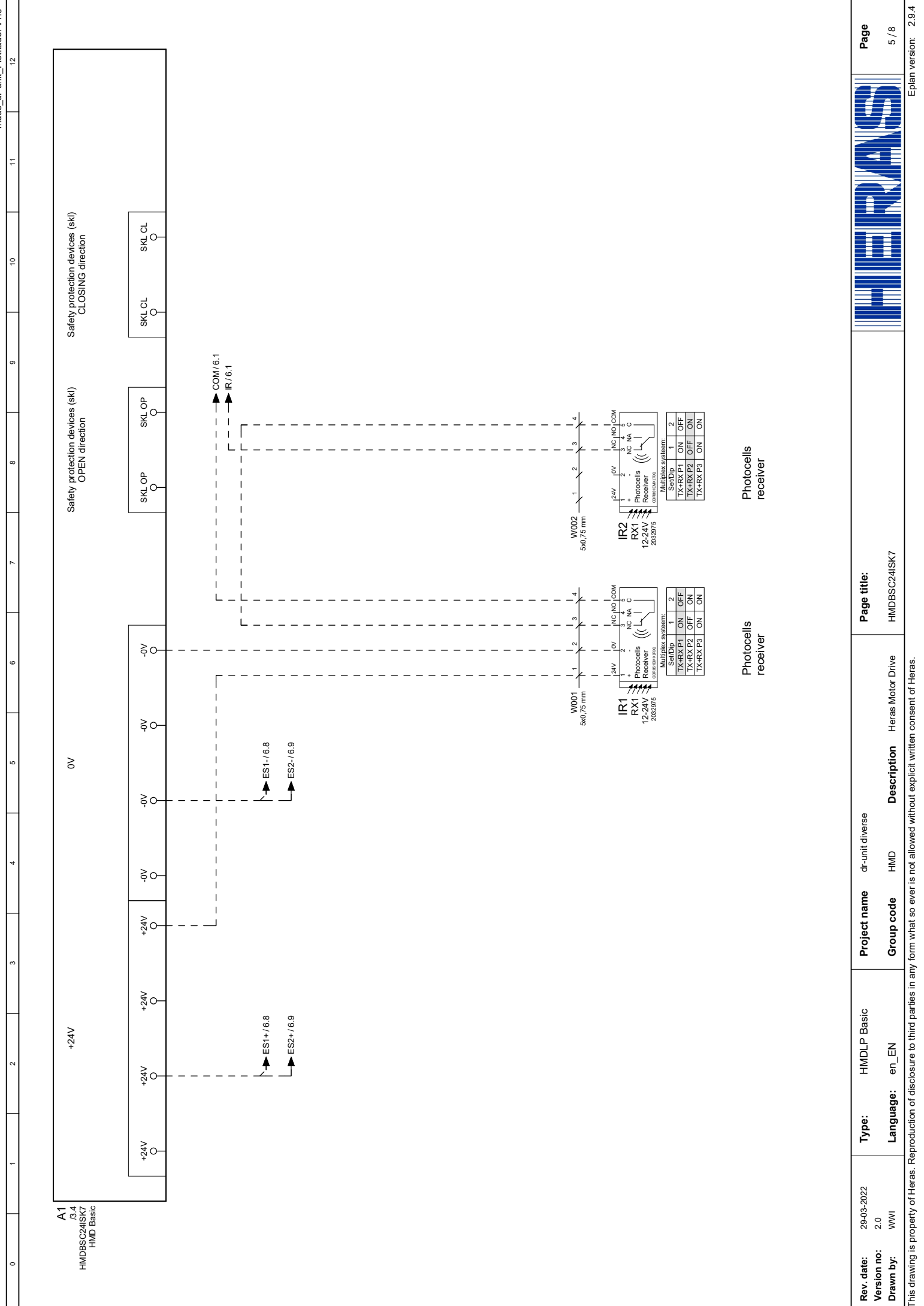


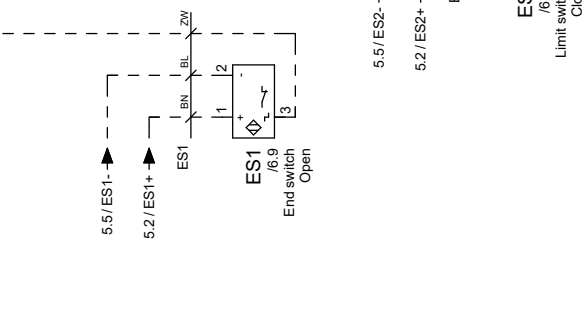
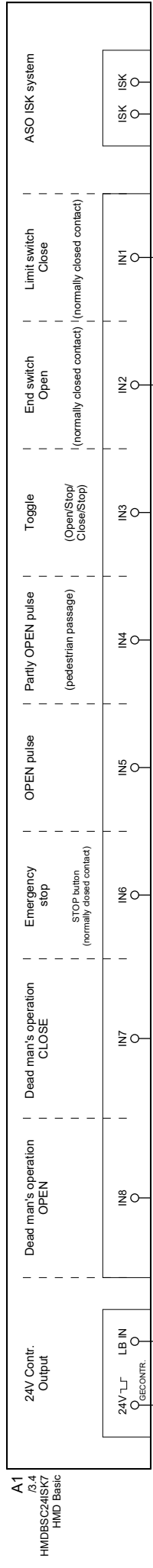


Voltage in

Motor control







*** Variant 1**

IN4	Partly OPEN pulse (pedestrian passage)
IN3	Toggle (Open/Stop/Close/Stop)

*** Variant 2**

IN4	Partly OPEN pulse (pedestrian passage)
IN3	CLOSE pulse

*** Variant 3**

IN4	CLOSE pulse
IN3	Toggle (Open/Stop/Close/Stop)

Terminals connection list

X1

From	Connection code	Function text	No.	Cable Type.	Wire	Bridge	Level	Bridge	Page
Voltage in	-V1:L	Voltage in	_C101	2x2.5 mm²	BN	.	1	.	=HMD+HMDLP Basic/3
=	-V1:N		_C101	2x2.5 mm²	BL	.	2	.	=HMD+HMDLP Basic/3
=	-V1:PE		_C101	2x2.5 mm²	SH	.	PE	.	=HMD+HMDLP Basic/3
Motor control	-M1:A	Motor control			RD	.	3	.	=HMD+HMDLP Basic/3
=	-M1:B	=			GN	.	4	.	=HMD+HMDLP Basic/3

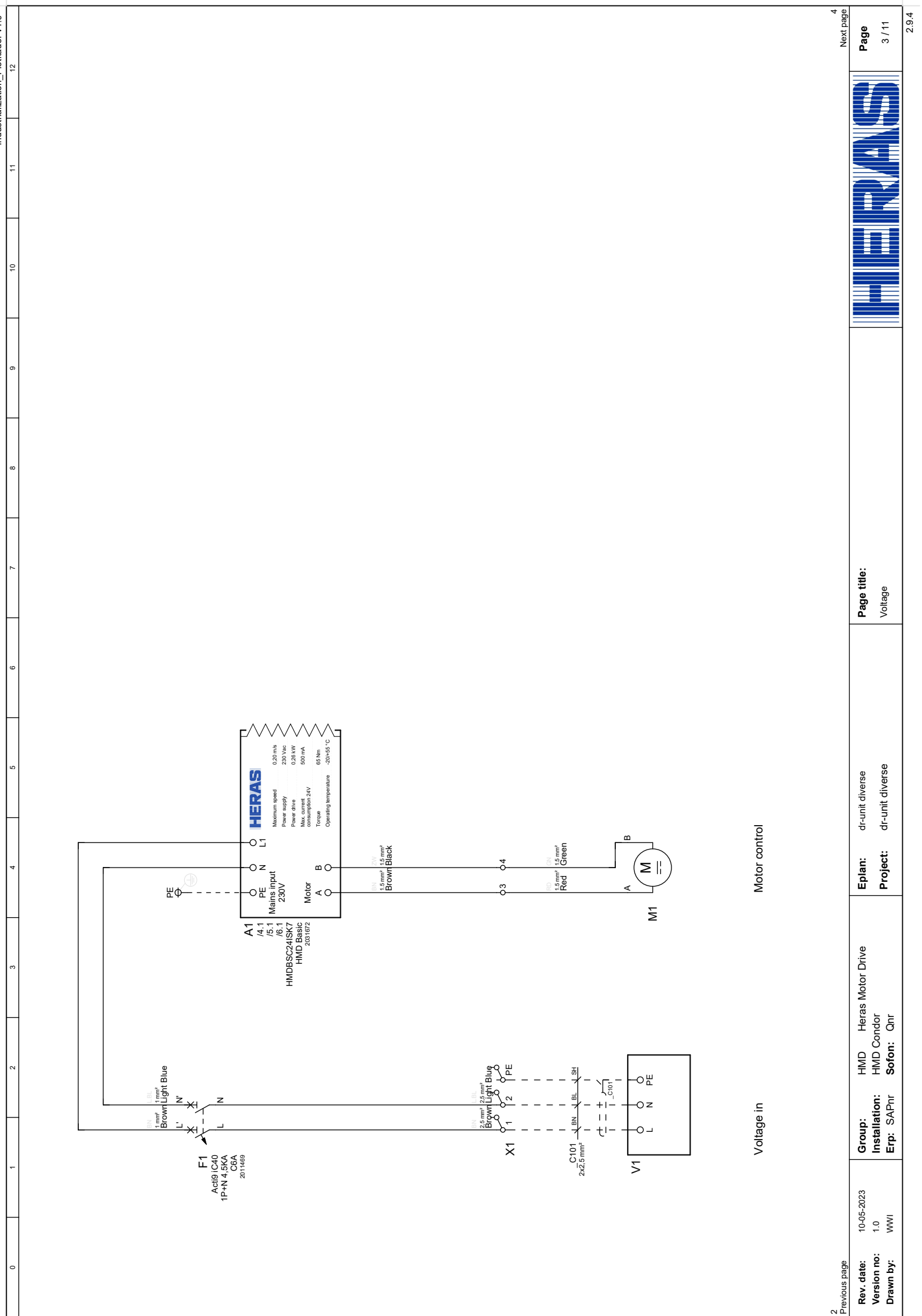
Type: HMD Condor

Group: HMD Heras Motor Drive

Version no: 1.0

Language: en_EN

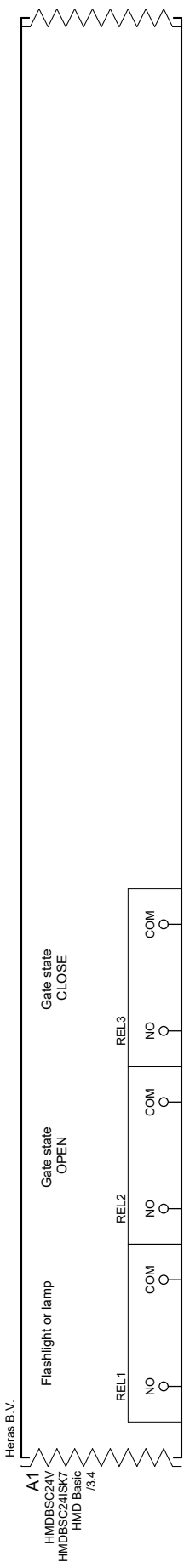




Voltage in

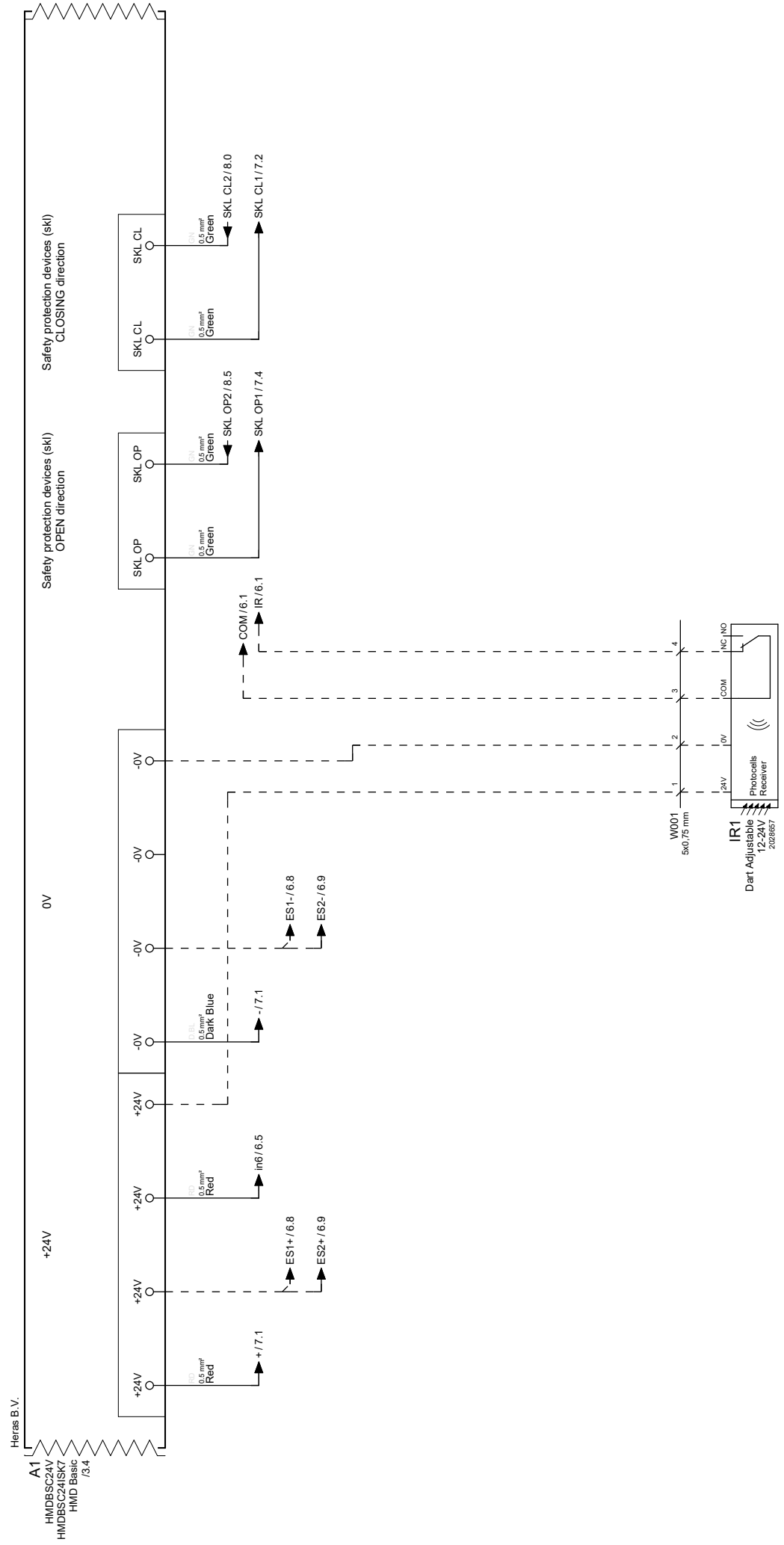
Motor control





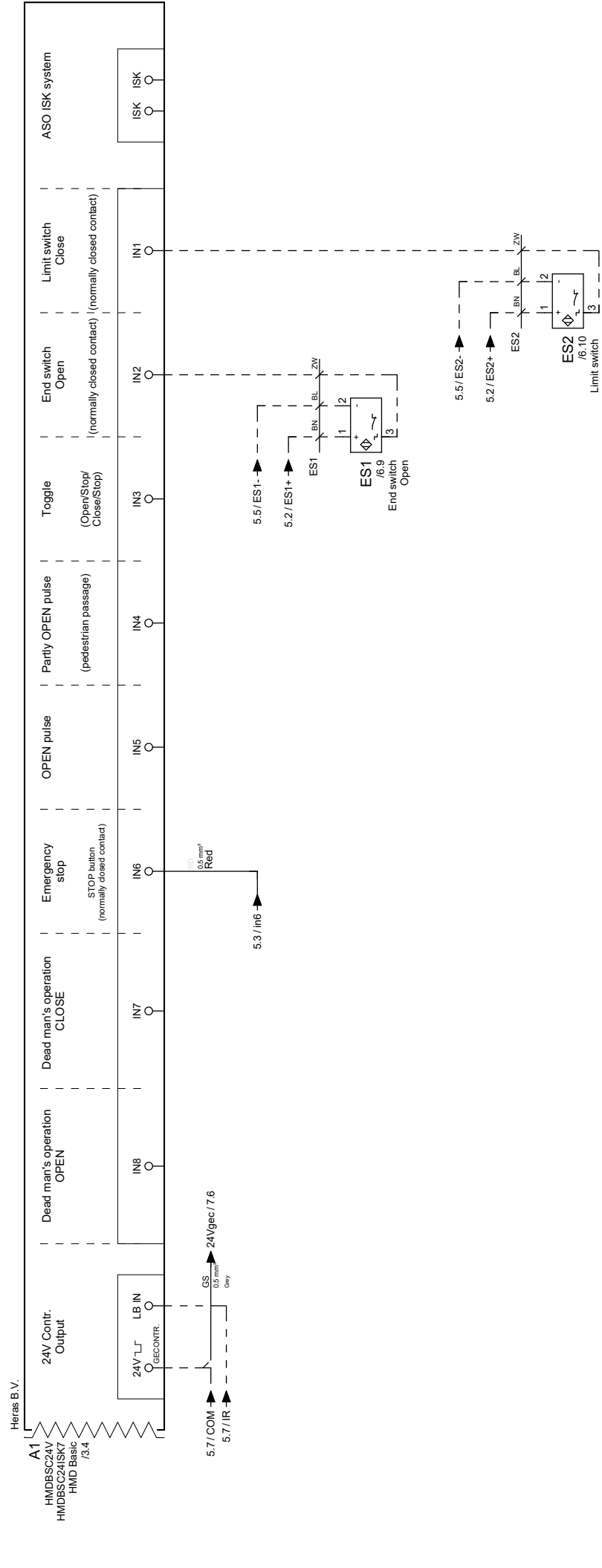
Rev. date: 10-05-2023	Group: HMD Heras Motor Drive	Eplan: dr-unit diverse	Page title: HMDSC24ISK7	Page
Version no: 1.0	Installation: HMD Condor	Project: dr-unit diverse		4 / 11
Drawn by: WWI	Erp: SAPnr	Sofon: Qnr		





J1 (lumper 1):
Position 1-2 in case of supply 12V
Position 2-3 in case of supply 24V

Photoresistor
receiver



*** Variant 1**

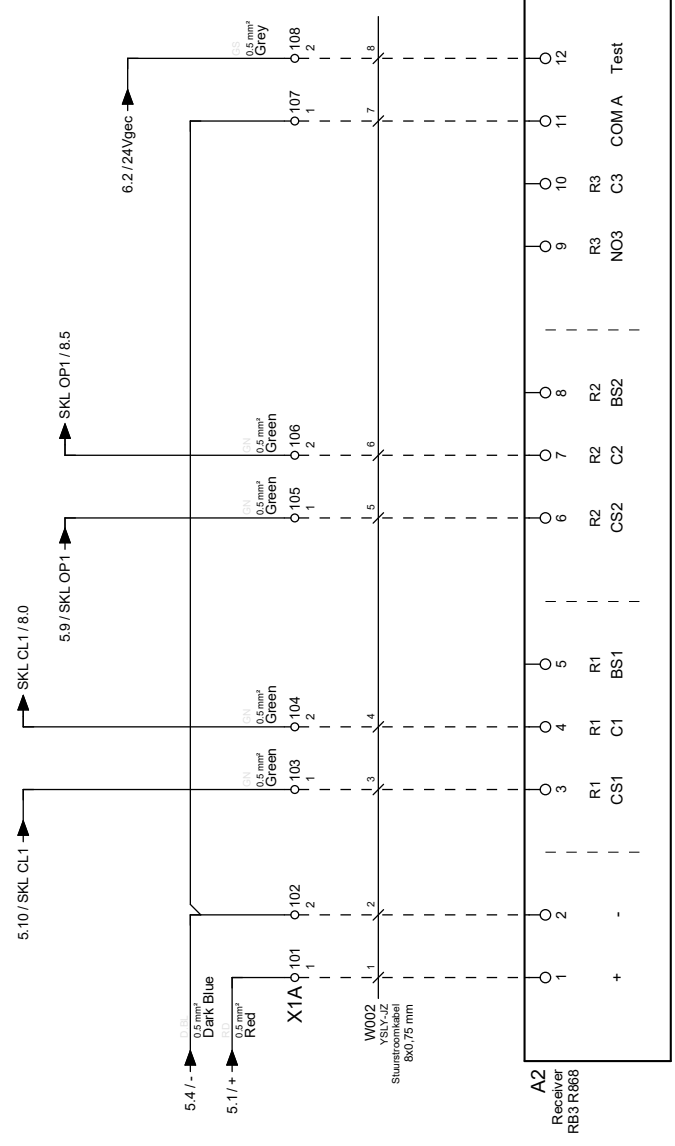
IN4	Partly OPEN pulse (pedestrian passage)
IN3	Toggle (Open/Stop/Close/Stop)

*** Variant 2**

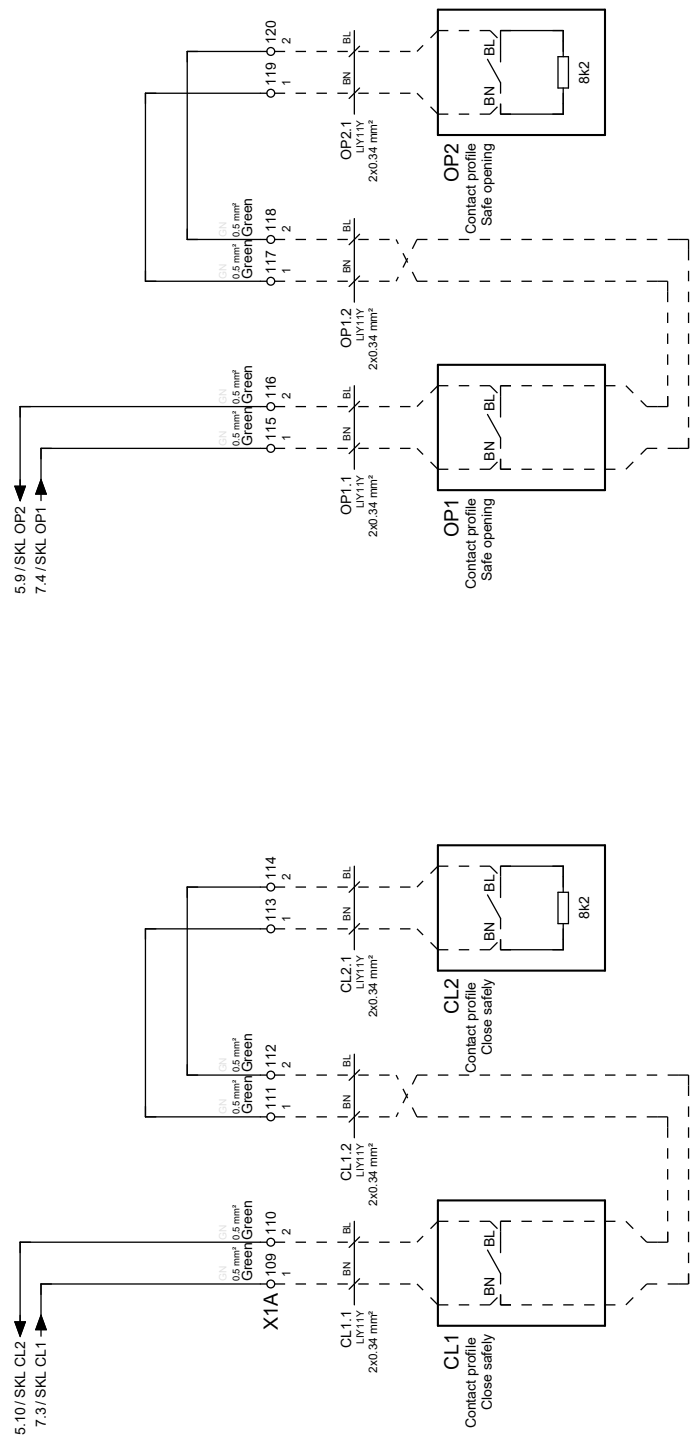
IN4	Partly OPEN pulse (pedestrian passage)
IN3	CLOSE pulse

*** Variant 3**

IN4	CLOSE pulse
IN3	Toggle (Open/Stop/Close/Stop)



JCM Receiver



Column side

Motor side

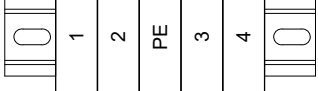
Column side

Motor side

Terminals connection list

From	Connection code	Function text	No.	Cable Type	Wire	Bridge	Level	Bridge	Page
Voltage in	-V1:L	Voltage in	_C101	2x2.5 mm²	BN	.	1	.	=HMD+HMD Condor/3
=	-V1:N		_C101	2x2.5 mm²	BL	.	2	.	=HMD+HMD Condor/3
=	-V1:PE		_C101	2x2.5 mm²	SH	.	PE	.	=HMD+HMD Condor/3
Motor control	-M1:A	Motor control			RD	.	3	.	=HMD+HMD Condor/3
=	-M1:B	=			GN	.	4	.	=HMD+HMD Condor/3

X1



Terminals connection list

X1A

From	Connection code	Function text	No.	Cable Type.	Wire	Bridge	Level	Bridge	Page
JCM Receiver	-A2:1	JCM Receiver	W002	8x0.75 mm	1	1	1	1	=HMD+HMD Condor/7
JCM Receiver	-A2:2	JCM Receiver	W002	8x0.75 mm	2	2	2	2	=HMD+HMD Condor/7
JCM Receiver	-A2:R1:3	JCM Receiver	W002	8x0.75 mm	3	1	1	1	=HMD+HMD Condor/7
JCM Receiver	-A2:R1:4	JCM Receiver	W002	8x0.75 mm	4	2	2	2	=HMD+HMD Condor/7
JCM Receiver	-A2:R2:6	JCM Receiver	W002	8x0.75 mm	5	1	1	1	=HMD+HMD Condor/7
JCM Receiver	-A2:R2:7	JCM Receiver	W002	8x0.75 mm	6	2	2	2	=HMD+HMD Condor/7
JCM Receiver	-A2: :11	JCM Receiver	W002	8x0.75 mm	7	1	1	1	=HMD+HMD Condor/7
JCM Receiver	-A2: :12	JCM Receiver	W002	8x0.75 mm	8	2	2	2	=HMD+HMD Condor/7
Motor side	-CL 1:BN	Contact profile Close safety	CL1.1	2x0.34 mm²	BN	1	1	1	=HMD+HMD Condor/8
Motor side	-CL 1:BL	Contact profile Close safety	CL1.1	2x0.34 mm²	BL	2	2	2	=HMD+HMD Condor/8
Column side	-CL 1:BN	Contact profile Close safety	CL1.2	2x0.34 mm²	BN	1	1	1	=HMD+HMD Condor/8
Column side	-CL 1:BL	Contact profile Close safety	CL1.2	2x0.34 mm²	BL	2	2	2	=HMD+HMD Condor/8
Column side	-CL 2:BN	Contact profile Close safety	CL2.1	2x0.34 mm²	BN	1	1	1	=HMD+HMD Condor/8
Column side	-CL 2:BL	Contact profile Close safety	CL2.1	2x0.34 mm²	BL	2	2	2	=HMD+HMD Condor/8
Motor side	-OP1:BN	Contact profile Safe opening	OP1.1	2x0.34 mm²	BN	1	1	1	=HMD+HMD Condor/8
Motor side	-OP1:BL	Contact profile Safe opening	OP1.1	2x0.34 mm²	BL	2	2	2	=HMD+HMD Condor/8
Column side	-OP1:BN	Contact profile Safe opening	OP1.2	2x0.34 mm²	BN	1	1	1	=HMD+HMD Condor/8
Column side	-OP1:BL	Contact profile Safe opening	OP1.2	2x0.34 mm²	BL	2	2	2	=HMD+HMD Condor/8
Column side	-OP2:BN	Contact profile Safe opening	OP2.1	2x0.34 mm²	BN	1	1	1	=HMD+HMD Condor/8
Column side	-OP2:BL	Contact profile Safe opening	OP2.1	2x0.34 mm²	BL	2	2	2	=HMD+HMD Condor/8

HERAS

Page title: "+HMD Condor-X1A" Terminals Connection frame

Group: HMD Heras Motor Drive
Installation: HMD Condor
Erp: SAPPr **Sofon:** Qnr

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