Controller for valve gate systems with pneumatic or hydraulic drive unit

VDC Valve Drive Control
Operating manual
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1. General information

NOTE!

Improper operation of the device may result in severe personal injury and considerable material damage! You must carefully read this operating manual and familiarise yourself with the safety installations before installing, commissioning or maintaining the device. Do not operate the device without having received appropriate training.

1.1 Information on this operating manual

This operating manual has been created in accordance with the directive 2006/42/EC to enable the safe and efficient operation of the VDC Valve Drive Control controllers (in the following referred to as "VDC controller").

1.2 Manufacturer

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Web: www.ewikon.com

1.3 Formal information on this operating manual

Person in charge of documentation: Horst Balzer
Item no: 13996E
Version: 1.1; date: 15/06/2020
Language: German (original operating manual); English
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All rights reserved. Full or partial reproduction subject to prior written approval by EWIKON Heißkanalsysteme GmbH
1.4 Conventions

1.4.1 Instructions and system responses

Operating steps that have to be carried out by the operator are displayed as a numbered list. The sequence of the steps has to be adhered to.

Example:
1. Operating step 1
2. Operating step 2

1.4.2 Enumerations

Enumerations without mandatory sequence are displayed as a list with bullet points.

Example:
• Point 1
• Point 2

1.4.3 Abbreviations

The following terms and abbreviations are used in the VDC controller manual:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPE</td>
<td>Personal protective equipment</td>
</tr>
<tr>
<td>VDC</td>
<td>Valve Drive Control, controller for valve gate systems</td>
</tr>
<tr>
<td>PE</td>
<td>Protective earth conductor</td>
</tr>
</tbody>
</table>

Chart 1: Terms and abbreviations
2. Safety instructions

The VDC controller conforms to the Low Voltage Directive 2014/35/EU and the EMC Directive 2014/30/EU and has been designed, manufactured and checked for safety according to the applicable safety rules and legislation and the state of the art. If the VDC controller is used in any way not specified by EWIKON, the function of the device's protective equipment may be affected.

Das VDC controller is delivered in perfect working order.

VDC controllers may pose risks, if they are:
• not operated by professionally trained staff
• used improperly or not used as intended
• not in perfect order regarding safety

2.1 Safety instructions and symbols used

Signal words introduce the safety instructions marked by symbols. They draw the user's attention to possible hazardous situations that may occur during installation, operation and maintenance. Safety instructions must be followed to prevent accidents, personal injury or material damage.

Warnings
• protect against possible personal injury and material damage when followed
• classify the extent of hazard by the signal word
• indicate the risk of personal injury by hazard signs
• indicate the type and source of hazard
• indicate the risk and possible consequences
• show measures to prevent hazards and prohibit certain behaviours

---

**WARNING!** = Signal word

**Source of hazard**

Possible consequences, if ignored

• Measures/prohibitions

---

The hazard sign marks warnings which warn against personal injuries.

**Source of hazard**

The source of hazard indicates the cause of hazard.

**Possible consequences, if ignored**

If the warnings are ignored, possible consequences are e. g. crushing, burnings or other severe injuries.

**Measures/Prohibitions**

"Measures/Prohibitions" lists actions that are to be carried out to prevent a hazard (e. g. stop a drive unit) or that are prohibited to prevent a hazard.
### 2.1.1 Signal words for hazard classification

<table>
<thead>
<tr>
<th>Signal Word</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HAZARD!</strong></td>
<td>Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</td>
</tr>
<tr>
<td><strong>WARNING!</strong></td>
<td>Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.</td>
</tr>
<tr>
<td><strong>CAUTION!</strong></td>
<td>Indicates a potentially hazardous situation which, if not avoided, will result in minor injury or material damage.</td>
</tr>
<tr>
<td><strong>NOTE!</strong></td>
<td>Indicates useful additional information and tips to promote trouble-free operation and to prevent material damage.</td>
</tr>
</tbody>
</table>

### 2.1.2 Explanation of pictograms

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read operating manual</td>
<td>Caution! Risk of electrocution</td>
</tr>
<tr>
<td>Caution! Hot surface</td>
<td>Caution! Oxidising agents</td>
</tr>
<tr>
<td>Caution! Suspended load</td>
<td>Caution! Risk of hand injuries / crushing</td>
</tr>
<tr>
<td>Caution! Explosive atmosphere</td>
<td>Caution! Moving forklift traffic hazard</td>
</tr>
</tbody>
</table>
2.2  Intended use

EWIKON controllers are exclusively designed for the intended use described in this manual. Any different and unintended use is excluded and may result in personal injuries and material damage. Warranty expires in this case.

The VDC controller is only to be used to control EWIKON valve gate hotrunner systems which are installed in an enclosed injection moulding machine.

In order to use the device as intended it is essential that all tips and information given in this operating manual are read, understood and followed.

To ensure safe operation of the VDC controller the given maintenance & inspection schedule has to be adhered to.

---

2.3  Improper use

Any use deviating from the use defined under "Intended use" or that goes beyond that use is considered improper use.

2.4  Qualification of staff

The staff has to prove that it is qualified to perform assembly, maintenance and repair. Any lack of knowledge has to be eliminated by training and briefing the staff.

2.4.1  Demands on specialised staff

Improper use of EWIKON controllers may result in personal injuries or material damage. Only specialised staff is allowed to carry out any work.

Only specialised staff is allowed to connect and operate EWIKON controllers. Specialised staff is trained, has proven knowledge and experience in operating e. g. injection moulding units or electrical machines and devices as well as knowledge of the relevant regulations and is able to independently identify possible hazards and prevent them by taking protective measures.
2.5 Personal Protective Equipment (PPE)

Wear the necessary protective equipment when working on or near the machine. Special information on the personal protective equipment in the work area has to be observed.

2.5.1 Symbols of the personal protective equipment

Always wear the following when carrying out any work:

- **Protective clothes**: To protect your body wear tight-fitting clothes with low resistance to tearing, without protruding parts and with long sleeves and long trousers. Do not wear rings, chains or any other jewelry.

- **Safety shoes**: To protect yourself against electric shocks, melt splashes, heavy, falling objects and slips and falls on slippery surfaces.

Always wear the following when carrying out special work:

- **Safety glasses**: To protect your eyes against scattering debris, heat and melt splashes.

- **Face mask**: To protect your face against scattering debris, heat and melt splashes.

- **Protective gloves (heat resistant)**: To protect your hands against extreme heat, abrasions, punctures and more severe injuries.

- **Ear protection**: To protect your ears against loud ambient noises.

- **Protective helmet**: To protect your head against falling objects and sharp edges.

- **Heat resistant apron**: To protect your body against extreme heat.

2.6 General hazards and safety measures

The company operating the system must comply with the statutory obligations on occupational safety. In addition to the safety instructions of this manual the safety, accident prevention and environment protection provisions applicable for the system's range of use must be adhered to. The operating company must clearly define responsibilities and make sure that all staff operating the system has read and understood this manual. The company also has to inform about hazards at regular intervals. Personal protective equipment has to be made available to the staff. Maintenance intervals have to be respected.
Risk of burns

• Hot surfaces.
  Many components of the hotrunner systems get very hot and may cause severe skin burns when being touched.

Safety measures

• Please make sure you wear your personal protective equipment (PPE) when working near or on a hotrunner system.
  Pay special attention to warnings indicating hot surfaces. All components have to be cooled down to ambient tempera-
ture before you start working.

Risk of electric shocks

• Danger to life by electric shock.
  Touching live surfaces may result in severe or even lethal injuries.
• Water must neither come into in contact with live parts nor with the VDC controller. There is risk of short circuits!

Safety measures

• Electrical systems have to be disconnected from the mains and secured against being switched on again before any work is carried out. Only authorised electricians are allowed to carry out any work on electrical systems.
• All components have to be connected to a suitable power source according to the wiring diagrams and under consideration of the applicable local regulations. Injection moulding machine and hotrunner systems have to be grounded.

Risk of physical injuries by pressurized connecting lines (e.g. air, hydraulics, water)

• All supply lines for the medium supply of the hotrunner and/or the hotrunner system or the hot half have to be long
even to prevent any stress when the mould halves part. They must not be affected by moving parts of the mould or of the machine. Prevent the hoses from rubbing over the edges of the mould as they may be damaged.

Safety measures

• Make sure you have depressurized all supply lines before carrying out any work. Only skilled personnel is allowed to carry out work on the supply lines. Please wear your personal protective equipment (PPE).

Risk of physical injuries by sharp edges and corners

• Sharp edges and corners pose a risk of injury, possibly resulting in skin abrasions and cut injuries.

Safety measures

• Make sure you wear protective gloves when working near sharp edges and corners. Proceed with care.
• Make sure the system is clean and free of burrs.

Risk of crushing

• Moving parts, e. g. pistons or cylinders as well as the assembled components pose a risk of injury, possibly resulting in crushing of extremities.

Safety measures

• Always wear protective gloves and proceed with care when working near moving parts and assembled components to avoid injuries.
2.7 Electrical equipment

**WARNING!**

Residual voltage after activation
Risk of death by electric shock and severe injuries caused by live components.
- Check for zero potential before performing any work!

Any work on electrical equipment must be carried out by qualified electricians. Always apply the 5 safety rules when working with electrical components:
- Disconnect from the mains
- Secure against reconnection (by activating the repair switch and installing a safety lock at the same time, if necessary)
- Verify that the installation is dead
- Carry out grounding and short circuiting
- Provide protection against adjacent live parts

Maintenance work must be carried out by qualified and trained staff or maintenance staff in accordance with DIN EN 61010-2-201. Never use the VDC controller with faulty or inoperable electrical connections. In case of energy supply disruptions immediately switch off the VDC controller. The maintenance & inspection schedules regarding electrical components given by the manufacturers have to be adhered to. Check for damaged insulation at regular intervals.

2.8 Spare and wear parts, auxiliary material

The use of non-OEM spare and wear parts as well as auxiliary material may pose risks. Only use original parts or parts approved by EWIKON Heißkanalsysteme GmbH.

2.9 Limitation of liability

All information and instructions given in this manual have been compiled in consideration of the applicable standards and regulations, state of the art as well as our know-how and experience.

EWIKON does not assume liability for any damage caused by:
- Non-observance of this manual
- Improper use
- Use of unskilled staff
- Unauthorised retrofitting or technical modifications
- Use of non-approved spare parts

The technical service provided verbally, in writing or on the basis of tests represents our best knowledge but is not binding and does not release you from carrying out additional tests on the products supplied by us regarding their suitability for the intended use.

The use of the products is beyond our control. Therefore, it is your own responsibility to ensure that the products meet your specific requirements. Nevertheless, should an issue of liability arise, all damage shall be limited to the value of the products supplied by EWIKON and used by you.

We guarantee the perfect quality of our products in accordance with our general terms and conditions of sale and payment as well as the extended warranty conditions.

These are available on our homepage [www.ewikon.com](http://www.ewikon.com). Please select the "Download" section, then go to the "Terms and Conditions" subsection.

The statutory provisions prevailing at the time of conclusion of the contract shall apply.

We reserve the right of technical alterations to develop our products and enhance their performance properties.
2.10 Warranty terms

For warranty conditions of hotrunner systems and components please refer to the terms and conditions of EWIKON.

2.11 Standards and directives

EWIKON hotrunner systems conform to the following European directives:

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
- EN 60204-1:2007-06 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

EWIKON controllers conform to the following European directives:

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- DIN EN 61010-1: 2011-07 "Safety requirements for electrical equipment for measurement, control, and laboratory use - part 1: General requirements"
- DIN EN 61010-2-201: 2015-05 (draft standard) "Safety requirements for electrical equipment for measurement, control and laboratory use - part 2-201: Particular requirements for control equipment"
3. Technical data

3.1 Mechanical data

3.1.1 Main dimensions/Dimensions of the VDC controller

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty./size (approx.)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>190 x 355 x 400</td>
<td>mm</td>
</tr>
<tr>
<td>Weight</td>
<td>7.8</td>
<td>kg</td>
</tr>
</tbody>
</table>

Chart 2: Main dimensions/Dimensions of the VDC controller

3.2 Electrical data

3.2.1 Connections/Connector pin assignment

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty./size (approx.)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage AC (+5 % / -15 %)</td>
<td>230</td>
<td>V</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60</td>
<td>Hz</td>
</tr>
<tr>
<td>Power</td>
<td>max. 250</td>
<td>W</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP20</td>
<td></td>
</tr>
</tbody>
</table>

Chart 3: Electrical data

3.3 Operating parameters of the valve pack (optional accessories)

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty./size (approx.)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum operating pressure when using the valve pack (pneumatic)</td>
<td>16</td>
<td>bar</td>
</tr>
<tr>
<td>Control pressure of the valve pack (use pressure relief valve, if necessary)</td>
<td>10</td>
<td>bar</td>
</tr>
</tbody>
</table>

Chart 4: Operating parameters of the valve pack (optional accessories)

3.4 Operating conditions

<table>
<thead>
<tr>
<th>Operating conditions</th>
<th>Size (approx.)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature (operation)</td>
<td>+5 to +40 °C</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature (storage)</td>
<td>-40 to +70 °C</td>
<td></td>
</tr>
<tr>
<td>Relative humidity for operation (bis 31 °C)</td>
<td>max. 80 %</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(linearly decreasing to max. 50 % at 40 °C)</td>
<td></td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Chart 5: Operating conditions
3.5 Placing the controller

Place the controller on a stable, flat, non-combustible working surface. The display should be at eye level with the user to facilitate reading of the display and operation of the device.

The device includes a built-in fan on the front side as well as ventilation slots on the rear side. Make sure that air flow through these openings is not obstructed.

Keep a minimum distance of 0.5 m in all directions around the device to other equipment and parts of buildings.
4. Functional description of the VDC Valve Drive Control controller

4.1 Components of the VDC Valve Drive Control controller

- Controller for 4 drive units 68051.504
- Controller for 8 drive units 68051.508

4.2 Required accessories

<table>
<thead>
<tr>
<th>Qty</th>
<th>item no.</th>
<th>description</th>
<th>remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60070.023</td>
<td>Signal cable 3 m, valve gate systems</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>60070.031</td>
<td>Fault registration cable 6 m, valve gate systems</td>
<td>recommended when position monitoring sensors are used</td>
</tr>
<tr>
<td>1</td>
<td>60070.037-V05</td>
<td>Valve connection cable 5 m</td>
<td>for up to 8 valves</td>
</tr>
<tr>
<td>1</td>
<td>60040.200 / .201</td>
<td>Valve cluster with 4 valves / 8 valves</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>60070.019</td>
<td>Sensor cable 3 m for end position monitoring</td>
<td>One each for OPEN and CLOSE sensor</td>
</tr>
</tbody>
</table>

Chart 6: Accessories required for operation of the VDC controller (to be ordered separately).

4.3 Function

The VDC controller enables the precise control of the opening and closing time of hydraulic or pneumatic valve gate drive units, particularly for sequential gating. Up to eight drive units can be controlled with one VDC controller. An extension is possible (use of several controllers).

Application range of the VDC Valve Drive Control controller

This EWIKON control system can be used to operate valve gate systems with pneumatic or hydraulic valve pin drive of EWIKON Heißkanalsysteme GmbH in dry industrial rooms.
5. Operating instructions

5.1 Safety instructions

WARNING!
Residual voltage after activation
Risk of electric shock due to live parts and risk of severe injuries due to moving parts

- Ensure zero potential before performing any work on or inside the VDC controller
- Set the power switch to OFF and disconnect the mains plug
- Connection, repair and maintenance work may only be carried out by qualified specialised staff!

Checks and protective measures before startup
The installation must be checked in accordance with EN 60204-1 or recognised standards of good practice before startup of the valve gate system.

- The connected valve units and hotrunner components can get hot
- There is crush hazard due to moving parts (e.g. pistons, cylinders)
- Leaking and broken hose systems may result in injuries

Appropriate precautions must be taken for startup and operation.

5.2 Operating requirements

5.2.1 Technical requirements
At least one trigger signal from the injection moulding machine is required to control the valve pack and the drive units. It triggers the lifting motion of the drive units via the control unit. The signal "start injection" is preferably used to open the valve pins, alternatively the "start build-up of clamping force" or "close mould" signal can be used.

When a signal is applied (+24V), the valves open. This causes the valve pins to open and to remain in this position; when the signal is cancelled (0V), the valves switch over and the valve pins close again. If the trigger signal is not made available by the injection moulding machine’s controls, an adjustment will have to be made. Further signals from the machine, e.g. analogue screw stroke signal, are required for a sequential control of the valve pins.

Solenoid valves are required to run the VDC controller. The solenoid valves have to be operable with 24 V (DC) and their current consumption must not exceed 1.5 A.

DANGER!
Insufficient protective conductor connection to injection moulding machine
Fatal electric shock or serious injuries due to live components.

When starting up the system the operator has to make sure that all electrically operated system components are connected to the protective conductor system of the injection moulding machine or are safeguarded by equivalent safety measures before applying any electric voltage.
6. Assembly

The following notes are meant to be used as a support to the assembly staff during the assembly of the VDC controller. Additionally, the assembly staff has to have the knowledge needed to connect a VDC controller.

6.1 Safety instructions

**WARNING!**

**Cut injuries due to sharp edges and risk of getting jammed**

- Cut injuries to body and extremities, mainly to the hands
- Jamming of fingers or hand

**Control of live components before installation**

The electrical equipment of the VDC controller should be checked, especially those areas which will no longer be accessible after installation. Physical injuries such as an electric shock can be prevented that way.

Please check

- if cables are kinked or squeezed
- if cable insulations are undamaged.

**Connected power supply during assembly**

Risk of electric shock due to live parts and risk of severe injuries due to moving parts

- The VDC controller and all connected components have to be disconnected from the voltage source during assembly.

6.2 Checks before assembly

The VDC controller undergoes comprehensive testing by the manufacturer before delivery. For safety reasons (transport or storage damage or damage to the device when preparing assembly) we recommend that you check the VDC controller for damage just before assembly.
6.3  Assembly

6.3.1  Connectors and connector pin assignment of the VDC controller

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USB socket</td>
<td>USB socket to connect a USB memory stick for data exchange</td>
</tr>
<tr>
<td>2</td>
<td>Valve connector</td>
<td>Connector to connect the valve pack to the mould, 8 drives per socket</td>
</tr>
<tr>
<td>3</td>
<td>RJ45</td>
<td>RJ45 socket, Ethernet for PC monitoring</td>
</tr>
<tr>
<td>4</td>
<td>Trigger</td>
<td>Signal input from the injection moulding machine +24 V (5-pin)</td>
</tr>
<tr>
<td>5</td>
<td>Digital Out</td>
<td>Digital signal output to the control unit of the injection moulding machine (24 V DC)</td>
</tr>
<tr>
<td>6</td>
<td>Mains switch</td>
<td>Switch for power supply</td>
</tr>
<tr>
<td>7</td>
<td>Signal input &quot;OPEN&quot;</td>
<td>Sensor inputs for position query &quot;open valve pin&quot;</td>
</tr>
<tr>
<td>8</td>
<td>Signal input &quot;CLOSE&quot;</td>
<td>Sensor inputs for position query &quot;close valve pin&quot;</td>
</tr>
<tr>
<td>9</td>
<td>Analogue In</td>
<td>Analogue signal input for use of screw position for sequential gating (3-pin)</td>
</tr>
<tr>
<td>10</td>
<td>Fuse</td>
<td>Device fuse protection (F 6.3 A)</td>
</tr>
<tr>
<td>11</td>
<td>Mains connection</td>
<td>Mains connection cable, operating voltage 230V +5/-10%, 50-60 Hz</td>
</tr>
</tbody>
</table>

Chart 7: Connectors of the VDC controller
6.3.2 Connection of the VDC controller to the injection moulding machine

The enclosed signal cable (item no. 60070.023) is used to make a connection to the control of the machine to provide the trigger signal. Two different versions are possible:

1. The injection moulding machine provides a "+24V DC" output signal:
   - The output signal (+ 24V DC) is connected to contact 2 (green core), the machine’s ground (GND) is connected to contact 5 (brown core).

2. The injection moulding machine provides a potential-free make contact:
   - The potential-free make contact of the injection moulding machine’s controls is connected to contact 1 (white core) and contact 2 (green core) of the valve gate control unit.

### Contact / core | Description | Use
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 / white</td>
<td>+24 V DC</td>
<td>Operating voltage +24 V</td>
</tr>
<tr>
<td>2 / green</td>
<td>S1 (+24 V)</td>
<td>Signal 1 input, start cycle</td>
</tr>
<tr>
<td>3 / yellow</td>
<td>S2 (+24 V)</td>
<td>Signal 2 input</td>
</tr>
<tr>
<td>4 / grey</td>
<td>S3 (+24 V)</td>
<td>Signal 3 input</td>
</tr>
<tr>
<td>5 / brown</td>
<td>GND</td>
<td>Ground</td>
</tr>
</tbody>
</table>

Chart 8: Pin assignment of the trigger connection (4)

---

**CAUTION!**

Insulation of unused cores

All unused cores have to be insulated. Failure to do so may result in damage to the device.

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When using the analogue input of the control unit to use information about screw position or screw volume for sequential moulding there are two options. The input needs to be adjusted in the control unit, menu (F4).

### Contact | Use
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Analogue current output, 0-2.5 mA</td>
</tr>
<tr>
<td>2</td>
<td>Analogue current input, 0-10 V</td>
</tr>
<tr>
<td>3</td>
<td>Ground</td>
</tr>
</tbody>
</table>

Chart 9: Analogue in pin assignment (9)

1. Directly connect a signal, the analogue value of which is in linear relation to the screw position, to input (contact 2), 0-10V DC and the ground (contact 3).

2. Connect a linear position transducer with R = 5 kOhm. The potentiometer is supplied with the analogue current output (contact 1) and the measured voltage (contacts 2 and 3) is in relation to the screw position.

If required, the digital signal output of the VDC controller can be connected to the injection moulding machine to identify when the control is "ready" for the next cycle or when there is an error.

Each signal output delivers +24 V DC; maximum admissible load on the output 0.1 A.

### Contact | Use
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+24 V DC (from the VDC controller)</td>
</tr>
<tr>
<td>2</td>
<td>ERROR</td>
</tr>
<tr>
<td>3</td>
<td>READY</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>PE</td>
<td>Protective conductor</td>
</tr>
</tbody>
</table>

Chart 10: Digital out pin assignment (5)
Option:
A different VDC controller version with further signal inputs and outputs is available for special applications (item no. 68051.504-V01 and item no. 68051.508-V01).
4 additional signal inputs can be used to actuate the movement of some drive units separately from the others. The connection is also made with the signal cable (item no. 60070.019).
2 additional signal outputs can be used to send further messages to the injection moulding machine.
A description of the additional functions is enclosed to the devices.

6.3.3 Connection of the VDC controller to the valve terminal/solenoid valves

Connect the solenoid valves individually to the VDC controller when using hydraulically operated valve gate systems or when not using the valve pack.

Connect the VDC controller to the valve pack using the valve connecting cable (item no. 60070.037-V05 (5 m) or –V10 (10 m)). The valve connecting cable is ready to plug on both sides and designed to be connected to a valve pack with max. 8 valves.

If you do not use any EWIKON valve connecting cable, you will find the plug assignment of the VDC controller in the picture and in the chart.

<table>
<thead>
<tr>
<th>Contact</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Valve pin 1 open</td>
</tr>
<tr>
<td>2</td>
<td>Valve pin 1 closed</td>
</tr>
<tr>
<td>3</td>
<td>Valve pin 2 open</td>
</tr>
<tr>
<td>4</td>
<td>Valve pin 2 closed</td>
</tr>
<tr>
<td>5</td>
<td>Valve pin 3 open</td>
</tr>
<tr>
<td>6</td>
<td>Valve pin 3 closed</td>
</tr>
<tr>
<td>7</td>
<td>Valve pin 4 open</td>
</tr>
<tr>
<td>8</td>
<td>Valve pin 4 closed</td>
</tr>
<tr>
<td>9</td>
<td>Valve pin 5 open</td>
</tr>
<tr>
<td>10</td>
<td>Valve pin 5 closed</td>
</tr>
<tr>
<td>11</td>
<td>Valve pin 6 open</td>
</tr>
<tr>
<td>12</td>
<td>Valve pin 6 closed</td>
</tr>
<tr>
<td>13</td>
<td>Valve pin 7 open</td>
</tr>
<tr>
<td>14</td>
<td>Valve pin 7 closed</td>
</tr>
<tr>
<td>15</td>
<td>Valve pin 8 open</td>
</tr>
<tr>
<td>16</td>
<td>Valve pin 8 closed</td>
</tr>
<tr>
<td>17</td>
<td>Ground</td>
</tr>
<tr>
<td>18</td>
<td>not used</td>
</tr>
</tbody>
</table>

Chart 11: Contact assignment of the valve connecting plug (2)

6.3.4 Connection of the solenoid valves/valve pack to the injection moulding machine

Connect the solenoid valves individually to the supply lines of the valve pin drives of the injection moulding machine when operating the valve gate system hydraulically or when not using the valve pack (accessories) with pneumatic drive units.

Optionally, the valve pack (accessories, please order separately: item no. 60040.200 (4-pin) or item no. 60040.201 (8-pin)) can be used to trigger the pneumatic valve pin drive units. For details regarding the connection of the valve pack please see the enclosed manual.
CAUTION!

Switching on the valve gate control and supply voltage

The valve gate control should not be switched on until the hotrunner has reached its set temperature and the resin has melted completely! Before inserting the mains connector or connecting the mains connection cable ensure that the supply voltage corresponds with the data given on the type plate. Failure to do so may result in damage to the device.

6.3.5 Connection of the optional sensor feedback to the VDC controller

The sensor feedback can only be used, if there are sensors which query the opening and closing positions of the valve pins. One or two signal cables (item no. 60070.019 (3 m, further lengths available)) are required to use the sensor feedback for "OPEN" or "CLOSE" or for both commands.

<table>
<thead>
<tr>
<th>Contact</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Signal valve pin 1</td>
</tr>
<tr>
<td>2</td>
<td>Signal valve pin 2</td>
</tr>
<tr>
<td>3</td>
<td>Signal valve pin 3</td>
</tr>
<tr>
<td>4</td>
<td>Signal valve pin 4</td>
</tr>
<tr>
<td>5</td>
<td>Signal valve pin 5</td>
</tr>
<tr>
<td>6</td>
<td>Signal valve pin 6</td>
</tr>
<tr>
<td>7</td>
<td>Signal valve pin 7</td>
</tr>
<tr>
<td>8</td>
<td>Signal valve pin 8</td>
</tr>
<tr>
<td>9</td>
<td>+24 V DC</td>
</tr>
<tr>
<td>10</td>
<td>GND</td>
</tr>
<tr>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>PE</td>
</tr>
</tbody>
</table>

Chart 12: Contact assignment of signal inputs (7) / (8)

If the signal inputs are used for the sensor feedback, we recommend that you connect the digital signal output of the VDC controller to the injection moulding machine to avoid errors. Each signal output delivers +24 V DC; maximum admissible load on the output 0.1 A.

<table>
<thead>
<tr>
<th>Contact</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+24 V DC</td>
</tr>
<tr>
<td>2</td>
<td>ERROR</td>
</tr>
<tr>
<td>3</td>
<td>READY</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>PE</td>
<td>Protective conductor</td>
</tr>
</tbody>
</table>

Chart 13: Contact assignment digital out (5)

6.4 Checks after assembly

• Check the system for leakage (hydraulic or pneumatic)
• Please check whether the injection moulding machine sends a trigger signal
WARNING!

Insufficient protective conductor connection

Risk of electric shock due to live parts and of severe injuries due to moving parts

- When starting up the system the operator has to make sure that all electrically operated system components are connected to the protective conductor system of the injection moulding machine or are safeguarded by equivalent safety measures before applying any electric voltage. When applying electric voltage to systems or system components beyond their intended use the operator has to make sure that a sufficient protective conductor connection has been made or equivalent protective measures for each component have been taken.

7.1 Basic settings and operation

The VDC controller for pneumatically or hydraulically operated valve gate systems has got a coloured touch screen display through which all settings are made. The standard menu (F1) "Process display" giving general information on the process and the position of up to 8 valve pins is displayed after system startup. Use the ← EXIT → key to return to the standard menu from any other menu. The standard menu is displayed again 3 minutes after a key was last pressed.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F1 - F8</td>
<td>Function keys for direct menu selection</td>
</tr>
<tr>
<td>2</td>
<td>Arrow keys</td>
<td>Arrow keys to move forward/back in the menu</td>
</tr>
</tbody>
</table>

Chart 14: Keys on the front side of the VDC controller
7.2 Description of the menus

7.2.1 Screen layout

The left side of the window shows the position of the valve pins indicated by red / green bars:
- Red bar - "valve pin closed"
- Green bar - "valve pin open"
- If sensor monitoring is active:
  - Small orange rectangle flashes on the left (CLOSED) or right (OPEN) side of the drive bar.
  - If the opening or closing time has not been achieved, an alarm symbol appears in addition.
- Further different-coloured symbols appear, e.g. for "setup mode" or "OPEN individually"
- Touching the drive unit number opens menu (F2) for setup of drive units

The right side of the window shows general process information:
- Name of the programme used (** indicates changes to stored settings)
- Opening time of the running cycle (time since the trigger signal "start cycle" has been identified)
- If analogue input is used: current screw position, screw volume or cavity pressure
- Number of shots
- Opening time of the previous cycle

The title bar contains the ▼ Menu ▼ button on the left and the time indication on the right. The following additional information is displayed by illuminated dots:
- Connected USB stick: red dot below the time value
- If sensor feedback is installed (option):
  - Sensor feedback OPEN active: yellow dot below the units digit of the minute value
  - Sensor feedback CLOSED active: yellow dot below the tens digit of the minute value

By selecting the ▼ VDC – ValveDriveControl ▼ field in the title bar a screenshot of the current display is taken. The saving process is displayed by a floppy disc next to the time display.
Symbols shown on the process display and their meaning:

2: Off = Drive unit off
1: ( ) = Drive unit on standby
1: ( ) = Sensor for drive unit deactivated
8: ( ) = Drive unit in setup mode
5: ( ) = Valve pin open individually
2: ( ) = Position error (error description in menu (F7))
1: ( ) = Drive unit error (see information in menu (F7))

The status bar of the VDC controller shows the system status or the operating mode, the selected menu and the current page of the pages available in the menu.

Push buttons in the status bar:

- Switch power supply of the valves on or off
- Select operating mode "AUTO" or "SETUP"
  (operating mode "SETUP": Use the ◄ OPEN/CLOSE ► button to close or open valve pins manually)

Right side of the status bar: Displays information on the digital input and output status:

- Input "signal 1" (S1) is the main trigger to start a cycle
- The other inputs are freely usable to trigger different events (e.g. opening and closing of some valve pins separately from the others).
- Pending signals: allocated square flashes orange

Up to 8 input signals are possible (extended controller version -V01).

- The digital output 1 indicates the injection moulding machine an error in the VDC system
- Output 2 can be configured in menu (F3), if necessary (default setting: "READY for next cycle") and is normally used to release the machine.

Use the orange arrow keys on the left or right side of the display to move back and forward in a menu. The number of pages available per menu is shown in the status bar.

- Either use the buttons (F1) to (F8) surrounding the display
- or the ◄ Menu ► button in the upper left corner of the title bar (opens the menu overview)

to select a different menu.
Use the ◄ Show settings ► button on the right side of the display window of the start menu to get a tabular overview of the trigger settings of all drive units (compare menu (F2) ◄ Setting up drive units ►).

Up to 6 steps are displayed depending on the number of steps per cycle:

- Requested position for this step
- Trigger event (signal or screw)
- Trigger level (signal: +24 V or 0 V; screw: position in mm or ccm, cavity pressure: pressure in bar)
- Delay time for the movement after triggering

Examples: compare chapter 7.2.12

7.2.3 Main menu

The ◄ Menu ► button on the left side of the title bar opens the main menu. A short description of the available menus is shown.

Menu selection:

- Either by touching the screen surface
- or by using the keys (F1) to (F8) that surround the display.

These keys can also be used to switch directly between the different menus.

7.2.4 Menu (F1): Process display

General process overview as described in chapter 7.2.2 "Start menu".
7.2.5 Menu (F2): Setting up drive units

All settings for the trigger can be changed in the **Setting up drive units** menu which is opened either by using the key (F2) or by touching a drive bar.

Selection of the drive unit to be changed:

- Use ◀ ▲ ▶ and ◀ ▼ ▶ buttons or enter drive unit number
- Selecting „0“: value changes apply to **all drive units**

When you touch the button ◀ LOGIN:<0> ▶ in the status bar

- an input window opens: by entering a code you will reach a higher access level.

---

**NOTE!**

Settings that partly have serious effects on the operating behaviour of the system can be made in the other access levels. This is why the values should be changed by qualified staff! Codes for higher access levels can be found in chapter 8 "Quick start guide".

---

Picture 7.8: “Setting up drive units”, page 1

---

Page 1

All drive units can be switched ◀ **active** ▶ or ◀ **inactive** ▶.

The current position of the valve pin (when system is switched on) is shown in the top right corner of the display window when the system is switched on. Further information:

- Status of each drive unit.
- "Sensor feedback": displays visually whether the associated sensors have switched (orange = pending signal).
- "Determining CLOSED position": Shows the step of the sequence causing the valve pin to close. This is always the last step of a sequence because the valve pin has to be closed at the end of this sequence. This value cannot be changed.
- "Sensors deactivated": The sensor feedback (optional) can be deactivated for this cavity, if e.g. a sensor fails (LOGIN <Z> required).
- "Setup mode": Valve pin can be opened and closed individually in setup mode.
The settings for the trigger events can be entered here. It is possible to:

- select the position and
- select the trigger source from one of the digital signals or the analogue signal for each step.

Depending on the trigger source either the signal level, "24 V" or "0 V" or the comparative value applies.

A delay time can be added to each trigger event to cause a time-shifted reaction of the valves.

The setter can enter all system settings only if he/she is in access level LOGIN: <1> or higher. The current access level is shown in the upper part of the display window. Options:

- Reset shot counter
- Determine steps per cycle

Settings that are made here automatically change the number of lines in menu (F2), page 2 (trigger settings).

Function of signal output 2: Three confirmations are selectable to set signal output 2 (READY):

1. Confirmation "READY for next cycle" (meaning: controller in automatic mode, all valve pins are closed and there is no error).
2. Confirmation "all valve pins OPEN"
3. Confirmation "at least 1 valve pin OPEN"

These options are released for LOGIN <2> and higher.

On this page of the menu special functions of the VDC controller are activated and/or parameterised.

- Switch on/off sensor feedback: LOGIN <1>
- All other parameters: LOGIN <2>

(for PIN see envelope on the back cover of this manual).

"Admissible times for opening and closing": Time within which a sensor feedback has to take place. If there is no feedback: position warning.

"Limit value error message": Quantity of position errors in a row after which an error is reported to the injection moulding machine.

"Limit value drive unit OFF": Quantity of position errors in a row after which the valve concerned is switched off to avoid any damage.
7.2.7 Menu (F4): Hardware overview

On this page the analogue input is adjusted to the application (LOGIN <1> required).

Signal name (changes the unit of the analogue value):
- "Screw position" in "mm"
- "Screw volume" in "ccm"
- "Cavity pressure" in "bar"

Signal type (type of connected sensor):
- a signal 0-10 V DC
- or a linear position encoder
- or the measuring range of the sensor

The settings may require adjustment of the sensor.

Measurement current for potentiometer: measurement current of signal encoder is adjustable to calibrate tolerances and to use the entire input range.

The measured values of the VDC controller can be scaled to the machine values, if necessary.

Page 2

On this page all device modules which can be incorporated are displayed.

Green check: active module, working properly.

In the upper right corner of the display the current software version of the device is shown. Make sure you have this information ready, if you have any problems and need assistance in solving them.
7.2.8 Menu (F5): Data backup

This page deals with the data exchange with an external USB stick. It can only be selected, if a stick has been connected to the device and has been activated.

When you copy a file to a USB stick for the first time the system creates folder “Backup” in the “VDC” directory on the USB stick and saves the selected file there.

With an FTP client programme it is possible to gain access to the system storage in a computer network using the rear RJ45 connection and an Ethernet cable.

You need a so-called CrossOver Ethernet cable to establish a direct connection. If you want to make use of this option, please ask EWIKON for the terminal settings.
7.2.9 Menu (F6): Process diagram

This menu displays the position profile as well as the measured value for each activated drive unit at the analogue input of the VDC controller in diagrammatical form. Scaling of the three axes (analogue, position and time) can be adjusted by clicking on the upper/lower end of the scales (hidden push buttons).

Recording automatically starts with each start of cycle (signal 1 = 24 V) of the VDC controller and ends when the end of the time scale has been reached.

7.2.10 Menu (F7): Alarm report

Detail view of the alarm with date, time, output, alarm type and alarm text for a more detailed analysis.

Use the arrow keys on the right side to scroll up and down.

Alarm history (the last 200 events).

How to save the list on the device: Choose button ► Printing list ► in the status bar. The following messages are displayed:

- ◄ Reading data... ► then
- ◄ Saving... ► and
- ◄ Completed! ►

This procedure may take some time depending on the length of the list. The file "Alarmlist.csv" is created on (F:/)Alarms and can be evaluated using a tabulation programme.

If a USB stick is connected, the alarm list is also copied to the corresponding directory on the stick (also see chapter "data backup").
7.2.11 Menu (F8): Display / Language

In this menu date, time and display language can be changed.

A lithium coin cell in the control panel will buffer the clock and the set values of the controller, if no voltage is applied.

Should variations in the set values or the clock occur after you have re-applied voltage, please check the alarm list for the entry "battery empty". If so, please replace the battery (EWIKON item no. 13689).

Page 1

On the second page information about control panel and CPU temperature, IP address and node number as well as the internal storage space is displayed.

Page 2
7.2.12 Menu: Show settings

You can get a tabular overview of the trigger settings (up to 6 steps) of all drive units from the process overview (menu F1) by touching the ◄ Show settings ► button. Please take your time to study the given examples and get familiar with the possibilities the system offers.

Example 1

Step 1

all valves move to position OPEN
with event "S1 = 24 V"
no delay

Step 2

all valves move to position CLOSED
with event "S1 = 0 V"
no delay

This is the simplest operation, all drive units move together in 2 steps with only one signal from the machine.

Example 2

Step 1

Valves 1 to 4 open with event "S1 = 24 V"
Valves 3 and 4 delayed by 0.10 seconds
Valves 5 and 6 open with event "S2 = 24 V"
Valves 7 and 8 open with event "S3 = 24 V"

Step 2

all valves close with event "S1 = 0 V" with a delay of 0.20 seconds

Operation with different signals and delay times required for e.g. sequential moulding.
Example 3

Step 1
Valves 1 + 5 open immediately with "S1 = 24 V"
Valves 2 + 6 open, when screw <120 mm
Valves 3 + 7 open, when screw <100 mm
Valves 4 + 8 open, when screw <80 mm

Step 2
Valves 1 + 5 close, when screw <110 mm
Valves 2 + 6 close, when screw <90 mm
Valves 3 + 7 close, when screw <70 mm
Valves 4 + 8 do not close, as "S2 = 0 V"

Step 3
Valves 1,2,3,5,6 and 7 open again,
when screw < 60 mm
Valves 4 + 8 are still open

Step 4
Valves 1,2,3,5,6 and 7 close again, with "S2 = 24 V"
and valves 4 + 8 close as well (steps 2,3 and 4).

This example shows the full ability of the new VDC controller to process different signals and to enable more than one opening per cycle for selected drive units.

The valve pins open and close alternately, depending on the screw position or volume or any other analogue input signal.

Digital signals may be used to trigger moving steps, furthermore, to add delays or to open or close with the same event at different times.
7.3 Help in the event of malfunctions

7.3.1 Fault finding

<table>
<thead>
<tr>
<th>Fault</th>
<th>Measure to be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display remains dark / Controller does not switch on</td>
<td>• Check mains voltage and device fuse, replace with fuses of the same type (F 6.3 A), if necessary.</td>
</tr>
<tr>
<td>Sensor feedback error</td>
<td>• Check cylinder/plunger sensors, they may be wrongly assembled or defective</td>
</tr>
<tr>
<td></td>
<td>• Monitoring time too short, set a longer time for feedback for a longer stroke, if necessary</td>
</tr>
<tr>
<td>Error: Output overloaded (I &gt; 2 A)</td>
<td>• The connected cables do not correspond to the specification (I &lt; 2 A)</td>
</tr>
<tr>
<td></td>
<td>• Cable to valve crushed</td>
</tr>
<tr>
<td>Sequence does not run properly</td>
<td>• Incorrect signals from the machine, check cables and connectors as well as wiring</td>
</tr>
<tr>
<td></td>
<td>• Check for plausibility of settings of the VDC controller and the injection moulding machine</td>
</tr>
</tbody>
</table>

Chart 15: Faults/Measures to be taken

7.3.2 Spare parts list

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13689</td>
<td>Battery 3 V / 950 mAh</td>
</tr>
<tr>
<td>18121</td>
<td>Fuse F6.3 A</td>
</tr>
<tr>
<td>18346</td>
<td>Filter pad for 4-zone controller (bottom)</td>
</tr>
<tr>
<td>18207</td>
<td>Front handle, large</td>
</tr>
</tbody>
</table>

Chart 16: Spare parts list

7.3.3 EWIKON service departments

Please have the item no. and the current software version of your controller (menu (F4), page 2, see chapter 7.2.7 hardware overview) as well as the order no. (even the one of your hotrunner system) ready, if you have a service request.

- **Service control technology/electronic technology**
  - phone: (+49) 6451 501-0
  - fax: (+49) 6451 501-693
  - e-mail: elektro@ewikon.com
Operation of the VDC controller is subdivided into several access levels.

- LOGIN <0> : Operator
- LOGIN <1> : Fitter (PIN: 111111)
- LOGIN <2> : EWIKON (for PIN see envelope on the back cover of this manual)

Select menu (F3) "System settings" to make settings.
Log in as a fitter (LOGIN <1>).

How to proceed when setting a new system for the first time:

Connect VDC controller, mould and injection moulding machine according to this operating manual. Then switch the VDC controller on and make settings according to the following list.

Menu (F3)  
- Page 1: - Select steps per cycle  
- Page 2: - Activate sensor feedbacks and set circuit times, if necessary

Menu (F4)  
- Page 1: - Configure analogue input, if necessary

Menu (F2)  
- Page 1: - Activate all necessary valves  
- Page 2: - Set trigger signals according to the application

Menu (F5)  
- Page 1: - Save settings as program, if necessary

- Switch on hotrunner and heat up to set temperature (also in advance)
- Check signal outputs of the machine for correct connection and function
- Switch on control of the VDC controller, close all valve pins
- System is operational, observe AUTO/SETUP mode of the controller!

NOTE!

Further operation of the control, setup of valve pin movements for the application and adjustment of functions to the control of the injection moulding machine are performed according to the previous chapters 5-7. Therefore, we recommend that you read this instruction manual in its entirety prior to using the electrical valve control to achieve best operational performance.
9. Maintenance

9.1 Maintenance instructions

**NOTE!**
Incomplete or improper maintenance or failure to carry out maintenance will increase abrasion of individual components of the VDC controller.

- Maintenance work has to be carried out completely and according to the maintenance schedule within the given time intervals.
- Only qualified electricians are allowed to maintain the device.

Apart from being operated correctly the VDC controller needs care and maintenance to guarantee a long service life and trouble-free operation. In addition to inspection and overhaul maintenance is a preventive measure to maintain the VDC controller.

We recommend that you document all maintenance work carried out.

9.2 Safety instructions for maintenance

**DANGER!**

*Maintenance and repair with activated voltage supply*

Risk of death by electric shock and severe injuries caused by live components.

- Disconnect the VDC controller and connected components from mains voltage before performing any work.
9.3  Maintenance work

Carry out the following maintenance work at regular intervals:

9.3.1  Changing the filter

The filter is positioned on the underside of the VDC controller and has to be checked at regular intervals and replaced, if necessary.

9.3.2  Cleaning the VDC controller

Only use water with suitable additives. Clean the housing with a soft, humid cloth.

You may clean the display with usual washing, rinsing and cleaning agents. Only use compressed air and a brush to clean the inside of the device.

![NOTE!]

- Please do not use acid cleaners or scouring agents.
  NEVER use easily flammable or combustible substances.

9.3.3  Checking the fan and ventilation slots

Fan and ventilation slots (on the underside and on the rear side of the device) have to be checked at regular intervals and cleaned, if necessary.

9.4  Service and repair instructions

- Please always use replacement fuses of the same type.
- Only use original spare parts when replacing components.
10. Decommissioning

10.1 Returning the VDC controller
After end of its service life the device can be returned to the manufacturer for disposal.

10.2 Safety instructions for dismantling

**DANGER!**

Connected voltage supply
Risk of death by electric shock and severe injuries caused by live components

- Please make sure that you have disconnected the VDC controller from the voltage supply before dismantling it.
  In addition, all plug-in connections to mould or machine have to be removed from the device.

**NOTE!**

- All operating supplies are to be drained, collected and disposed of according to the local regulations.
- Only trained staff is authorised to perform disassembly.
- Disposed components must not be reused. EWIKON declines all responsibility for personal injury or material damage in connection with the reuse of the components.
- After appropriate disassembly the components are to be recycled:
  - scrap metal material residues,
  - recycle plastic elements and plastic residues,
  - Dispose of the other components sorted by material characteristics.
- Electronic scrap and electronic components are subject to hazardous waste treatment; only specialised companies are authorised to dispose of them.
- National regulations on disposal regarding an environmentally appropriate disposal of the disassembled VDC controller must be adhered to.

10.3 Disposal instructions
We hereby confirm that the product described below conforms to the essential protection requirements of the following European Directives

2014/35/EU "Low Voltage Directive"
and
2014/30/EU "EMC Directive"

with respect to its design type. This requires that the product is used for its intended purpose and that the assembly and operating instructions are observed.

Alterations made to the product will void the declaration of conformity.

Manufacturer: EWIKON Heißkanalsysteme GmbH
Siegener Straße 35
35066 Frankenberg / Germany
phone: +49 (0) 6451 / 501-0

Product: EDC E-Drive-Control step motor control
for the operation of linear actuators in hotrunner valve gate systems

SDC Servo-Drive-Control servomotor control
for the operation of linear drive units in hotrunner valve gate systems

VDC Valve-Drive-Control solenoid valve control
for the operation of hydraulic or pneumatic cylinders in hotrunner valve gate systems

Type:
68050.001 ; SDC controller, 1-zone
68051.004 ; EDC controller, 4-zone
68051.008 ; EDC-controller, 8-zone
68051.018 ; EDC-controller, 8-zone
68051.504 ; VDC controller, 4-zone
68051.508 ; VDC controller, 8-zone

Applied standards:
DIN EN 61010-1: 2011-07 "Safety requirements for electrical equipment for measurement, control, and laboratory use - part 1: General requirements"

DIN EN 61010-2-201: 2015-05 "Safety requirements for electrical equipment for measurement, control and laboratory use - part 2-201: Particular requirements for control equipment"

Note: It is necessary to use original connecting cables outside the device to meet the requirements!

Frankenberg, 15/06/2020

Dr. Stefan Eimeke, Managing Director