

**Quick guide and digital operating manual (original operating manual)**

This quick guide and the applicable digital operating manual (original operating manual) provide important safety information for protection from danger. Always read both documents carefully before using the unit and keep for later reference.

☒ The **digital operating manual** also provides extensive instructions and detailed operating data (e.g. electrical connections, dimensions of assembly cut-outs, important technical unit data). It provides user-friendly navigation with interactive content information.

- The digital operating manual is available for download as a PDF file. **Source:** [www.pfannenberg.com/manuals](http://www.pfannenberg.com/manuals) or simply scan the QR code. You always need the **serial number** and **article number** of the **unit TYPE PLATE** for the download.

- The digital operating manual is also available as a PDF file (email) or print document. For this purpose, contact Pfannenberg GmbH.

☒ The operator must ensure that the units are used exclusively as intended and dangers of all types to the life and limb of users or third parties are avoided. In addition, accident prevention regulations and recognized safety rules must be observed. The operator must ensure that all users have read and understood this quick guide and the applicable digital operating manual.



Source of danger / potential origin	Danger	Degree of hazard / potential consequences / countermeasures	Protective measures	Supplemental protective measures
<b>Basic safety instruction disregarded</b> - The following applies for all work on live units: Only qualified persons are permitted to work on electrical units!		<b>DANGER<sup>1)</sup> - Life-threatening danger due to electric shock</b> Live units and exposed connection cables can generate an electric shock and cause severe accidents. ➤ Work on electrical connections must be carried out exclusively by trained, qualified electricians. ➤ Before assembly, de-energize all supply lines to the separate fuse or a main switch, disconnect the system and secure to prevent re-connection. ➤ Wait for discharging phase of 5 minutes for the electrical components. Only then open the device. ➤ Test to ensure the absence of voltage on the unit.	De-energize the unit  Observe the instructions 	<b>See: Digital operating manual</b> Chapter: General assembly requirements Chapter: Electrical connection Chapter: Maintenance
<b>Intended use</b> - Description for use disregarded.		<b>WARNING<sup>2)</sup> - Danger due to impermissible use of units</b> Inappropriate use can cause severe accidents. ➤ Units are only permitted for stationary operation.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Unit description
<b>Unit description</b> - Order options disregarded		<b>NOTE<sup>4)</sup> - Unit damage due to third-party manufacturer spare parts</b> Only original parts are subject to the manufacturer's quality control. ➤ Only use specially harmonized manufacturer parts for safe and reliable operation.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Unit description
<b>Function</b> - Modification of safety equipment - Improperly performed work		<b>WARNING<sup>2)</sup> - Danger due to modified safety equipment</b> Non-functioning or defective safety equipment can cause severe accidents. ➤ Any changes to the units, particularly the safety equipment, are prohibited. ➤ Secure screws to prevent loosening. ➤ Immediately shut down units if safety equipment is defective.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Safety concept

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**Note<sup>4)</sup>** - Identifies a risk of material damage. Property damage can occur if this notice is not observed.

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<b>Function</b> - Type plate specifications disregarded - Qualified personnel requirement disregarded		<b>DANGER<sup>1)</sup> - Danger due to damage of units</b> Disregard of type plate specifications can result in severe accidents. <ul style="list-style-type: none"> <li>➤ Always observe the specifications on the type plate when installing and maintaining the units.</li> <li>➤ Wait for discharging phase of 5 minutes for the electrical components. Only then open the device.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Type plate
<b>Transport</b> - Transport specifications and handling instructions disregarded		<b>NOTE<sup>2)</sup> - Material damage during transport of the units</b> <ul style="list-style-type: none"> <li>➤ Improper securing of units can cause damage.</li> <li>➤ Exercise maximum caution during movement and transport of the units.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Transport
<b>Installation</b> - Transport specifications and handling instructions disregarded	 	<b>WARNING<sup>2)</sup> - Danger due to uncontrolled movements</b> Improper securing of the units can result in severe accidents. <ul style="list-style-type: none"> <li>➤ Loading must only be carried out by trained, qualified personnel.</li> <li>➤ Lash units correctly for transport.</li> <li>➤ Only use lashing straps with an adequate rated strength.</li> <li>➤ Always transport in the position of use.</li> <li>➤ Always use transport packaging. Use slip-resistant materials for securing, e.g. anti-slip mats.</li> <li>➤ When loading by crane, do not walk or stand under the raised units.</li> </ul>	Observe the instructions  Use a retention system 	<b>See: Digital operating manual</b> Chapter: Transport
<b>Unpacking</b> - Unpacking without protective clothing		<b>CAUTION<sup>3)</sup> - Danger of injury due to sharp edges.</b> For manufacturing reasons, the metal edges of the units may have burrs. <ul style="list-style-type: none"> <li>➤ Wear gloves during service and assembly work.</li> </ul>	Wear protective gloves 	<b>See: Digital operating manual</b> Chapter: Unpacking
<b>Installation</b> - The heavy weight of the units was disregarded		<b>WARNING<sup>2)</sup> - Danger of accidents due to the heavy weight of the units</b> Uncontrolled movements of the units during assembly can result in crushing and cause accidents. <ul style="list-style-type: none"> <li>➤ Secure units against tipping over.</li> <li>➤ Only lift by the housing or with two M8 jack rings.</li> <li>➤ Use suitable lifting equipment and secure assembled components.</li> <li>➤ Door hinges must be able to support additional unit weight.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: General assembly requirements

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<b>Installation</b> - Safety measures for assembly disregarded		<b>CAUTION<sup>3)</sup> - Danger of crushing during assembly of the unit</b> Danger of crushing between the switch cabinet and unit frame. ➤ Keep body parts out of the space between the frame and unit cut-out. ➤ Work carefully and wear gloves.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Installation
<b>Electrical connection</b> - Specifications of the electrical circuit diagram disregarded		<b>DANGER<sup>1)</sup> - Life-threatening danger due to electric shock</b> Incorrect electrical commissioning can result in electric shock and cause severe accidents. ➤ Connection must be carried out by qualified personnel only. ➤ Always de-energize the unit prior to connection. ➤ The connections must match the circuit diagram specifications. ➤ Ensure that all sheet metal parts are grounded. ➤ Seals for the switch cabinet must be tight.	Observe the instructions  De-energize the unit 	<b>See: Digital operating manual</b> Chapter: Electrical connection
<b>Electrical connection</b> - Rule for external voltage on doors disregarded		<b>WARNING<sup>2)</sup> - Danger due to external voltage on the door contact</b> Connection of external voltage to the input of the door contact can result in severe accidents. ➤ Connection of external voltage to the input/door contact is prohibited. ➤ The input/door contact provides low voltage (< 20V, 20mA) for the door contact switch.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Electrical connection
<b>Cable connection</b> - Specifications for cable cross-section disregarded. - Cable cross-section does not correspond to AWG 20 to AWG 14		<b>WARNING<sup>2)</sup> - Potential danger due to incorrect cables</b> An incorrect cable cross-section will cause the cable to overheat. Scorched insulation can cause fires. ➤ The cable cross-section must match the output required for the power consumption. ➤ Only qualified persons are permitted to make electrical connections. ➤ Connected cables must not come into contact with sharp edges or moving parts.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Supply connection - mains
<b>Electrical connection</b> - Safety measures for assembly insert the plug connector / mains disregarded.		<b>DANGER<sup>1)</sup> - Life-threatening danger due to electric shock</b> When disconnecting and connecting the plug connector for mains connection under load or voltage, electric arcing, dangerous voltage and electric shock can occur. ➤ The plug connector for mains connection must never be plugged in or disconnected under load/voltage. ➤ Work on plug connectors must only be carried out with adequate lighting. ➤ Always switch off the circuit breaker and secure against reconnection.	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Supply connection - mains

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<b>Electrical connection</b> - Safety measures for assembly disregarded		<b>DANGER<sup>1)</sup> - Life-threatening danger due to electric shock</b> Circuit breaker systems that are not connected or attached incorrectly can generate hazardous voltages and electric shock and cause severe accidents. <ul style="list-style-type: none"> <li>➤ Work on electrical connections must be carried out exclusively by trained, qualified electricians.</li> <li>➤ Circuit breakers systems must be provided in accordance with DIN EN 60204-1, chapter 8.2.</li> <li>➤ Each element of electrical equipment must be connected to the circuit breaker system.</li> <li>➤ Never interrupt the circuit breaker system if electrical equipment is attached to covers, doors or cover panels.</li> <li>➤ If parts are removed, e.g. for maintenance work, ensure that the circuit breaker system is not interrupted for the remaining parts.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Supply connection - mains
<b>Maintenance and decommissioning</b> - Specifications for maintenance work and cleaning disregarded - Improper disposal	 	<b>WARNING<sup>2)</sup> - Danger due to improper maintenance work</b> Damage of components and faulty replacement of components can cause accidents. <ul style="list-style-type: none"> <li>➤ Work must only be carried out by qualified persons.</li> <li>➤ Work is only permitted on de-energized units.</li> <li>➤ After replacement of defective parts or components, inspect the units for correct and safe operation.</li> <li>➤ Check to ensure the correct condensate drainage after maintenance.</li> <li>➤ Inspect all seals during maintenance to maintain the IP protection rating.</li> </ul>	De-energize the unit  Observe the instructions 	<b>See: Digital operating manual</b> Chapter: General cleaning Chapter: Maintenance Chapter: Taking the unit out of service
<b>Unit cover disassembly and re-installation</b> - Removal precautionary measure disregarded		<b>WARNING<sup>2)</sup> - Danger of crushing during removal of the unit cover</b> Hands and other body parts can be crushed during removal and re-installation of the unit cover. <ul style="list-style-type: none"> <li>➤ Keep body parts out of the space between the frame, springs and unit.</li> <li>➤ Work carefully and wear gloves.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: General cleaning
<b>Cleaning</b> - Cleaning specifications disregarded		<b>WARNING<sup>2)</sup> - Danger of component damage during cleaning</b> Wet cleaning or cleaning with sharp objects can result in damage. Malfunctions can cause accidents. <ul style="list-style-type: none"> <li>➤ No wet cleaning with a water jet or pressure washers.</li> <li>➤ Protect electrical components from the penetration of moisture.</li> <li>➤ No cleaning of fins with pointed objects. They must not be pinched or damaged. Do not use flammable cleaning agents.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: General cleaning
<b>Cleaning</b> - Cleaning specifications disregarded - Improper disposal work		<b>WARNING<sup>2)</sup> - Danger of injury due to materials and substances</b> Improper work on the units or opening of the refrigerant circuit can result in harm to the health. <ul style="list-style-type: none"> <li>➤ Units must only be disposed of by qualified persons.</li> <li>➤ Refrigerant from the refrigerant system must be disposed of professionally.</li> </ul>	Observe the instructions 	<b>See: Digital operating manual</b> Chapter: Maintenance and decommissioning

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