

3RX9307—0AA00



1 NOTE

These operating instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired or should particular problems arise which are not covered sufficiently for the Purchaser's purposes, the matter should be referred to the local Siemens Sales Office.

The contents of these operating instructions shall not become part or modify any prior or existing agreement, commitment or relationship. The Sales Contract contains the entire obligations of Siemens. The warranty contained in the contract between the parties is the sole warranty of Siemens. Any statements contained herein do not create new warranties or modify the existing warranty.



WARNING

Hazardous voltages are present in this electrical equipment during operation.

Non-observance of the safety instructions can result in severe personal injury or property damage. Only qualified personnel should work on or around this equipment after becoming thoroughly familiar with all warnings, safety notices and maintenance procedures contained herein.

The successful and safe operation of this equipment is dependent on proper handling installation, operation and maintenance.

QUALIFIED PERSON

For the purpose of these operating instructions and product labels, a "qualified person" is one who is familiar with the installation, construction and operation of the equipment and the hazards involved.

In addition, he has the following qualifications:

- Is trained and authorized to energize, deenergize, clear, ground and tag circuits and equipment in accordance with established safety practices
- Is trained in the proper care and use of protective equipment in accordance with established safety practices
- Is trained in rendering first aid

DANGER

For the purpose of this operating instructions and product labels, "Danger" indicates death, severe personal injury or substantial property damage will result if proper precautions are not taken.

WARNING

For the purpose of this operating instructions and product labels, "Warning" indicates death, severe personal injury or substantial property damage can result if proper precautions are not taken

CAUTION

For the purpose of this operating instructions and product labels, "Caution" indicates minor personal injury or property damage can result if proper precautions are not taken.

NOTE

For the purpose of this operating instructions, "Note" indicates information about the product or the respective part of the operating instruction which is essential to highlight.

2 Description

2.1 Application and mode of operation

The power supply unit is used to operate AS-I systems with integrated data link.

The unit generates a stabilised, highly constant direct current voltage of DC 30 V with low residual ripple.

The power supply unit operates on the basis of the primary switched-mode regulator principle. The task of the DC/DC converter is to convert the high DC link voltage to the low output voltages. It also performs the task of safe electrical isolation between mains circuit and output circuit.

A control IC performs all regulation and drive functions for the power switching transistor. This transistor is switched at a frequency of 100 kHz so as to produce a stabilised square-wave AC voltage in the transformer's secondary circuit. This AC voltage is rectified and filtered in the secondary circuit.

2.2 Conformity with European Directives

The DC power supply unit complies with the requirements of the following European Directives :

| | |
|--------------------------------|-----------------------------|
| Low Voltage Directive | 73/23/EEC |
| EMC Directive | 89/336/EEC |
| the following limits are met : | |
| Emission | : EN 55 081—1 (Residential) |
| Immunity | : EN 55 082—2 (Industrial) |


2.3 Technical data

| | |
|---|---------------------------------|
| Compliance with standards | : EN 60 950 (VDE 0805) |
| Primary voltage U _{1N} | : |
| reversible | AC 230 V (195 ... 253 V) |
| or | AC 115 V (102 ... 132 V) |
| Frequency | : 50 ... 60 Hz |
| Secondary voltage U _{2N} | : DC 30 V |
| Voltage range | : DC 29,5 ... 31,6 V |
| Ripple | : |
| acc. AS-I-specification | < 50 mVss |
| Secondary rated current I _{2N} | : 2,4 A |
| Current limiting | : > 2,8 A |
| Load control | : < 1 % |
| Interference suppression | : Limiting value B |
| | acc. DIN VDE 0875 part 11 |
| Efficiency | : > 80 % |
| Ambient temp. / Temp. class | : t _a 55 °C / B |
| Degree of protection | : IP 20 |
| Safety class | : class I |
| Permitted storage temperature | : - 25 °C ... + 60 °C |
| Installation conditions | : areas with outdoor climate |
| | according to DIN 50010 |
| Humidity stressing | : |
| Mean value up to | : 80 % relative humidity |
| Max. value for 30 days per year | : 95 % relative humidity |
| Occasionally at 40 °C | : 100 % relative humidity |
| Installation altitude | : up to 1.000 m above sea level |

3 INCOMING INSPECTION, TRANSPORT AND STORAGE


Immediately inspect the consignment for completeness and damage on receipt.
If damage has occurred, please elaborate a damage report and consult the haulage contractor. The equipment should be transported carefully and, wherever possible, in the original packaging.
Store the equipment in a dry location. Within a storage period of up to 3 years, the device may be connected to full mains voltage with no further preparations as regards the smoothing capacitors.

4 INSTALLATION, ASSEMBLY



WARNING

Safe operation is dependant upon proper handling and installation by qualified personnel under observance of all warnings contained in these operating instructions.
In particular the general erecting and safety regulations (e. g. DIN, VDE, EN) and regulations regarding the correct use of hoisting gear and tools and of personal protective gear shall be observed.
Non-observance can result in death, severe personal injury or substantial property damage.



The unit is designed for installation in enclosed controls and circuitry cubicles and, if wall-mounted, may be operated continuously at temperatures up to the ambient temperature specified in the technical data.
The unit must be snapped onto a 35 mm top-hat rail, in which case the ventilation slots must be at the top and bottom. Please refer to Fig. 3 for overall space required.
The unit is connected by means of cage-clamp terminals in accordance with the information on the rating plate. The terminals are safe from finger touch to DIN VDE 0106, Part 100. Fig. 3 shows the position of the connection elements and the required insulation-stripping lengths for the leads.
Connect the leads by operating the button to the left of the lead receptacle with a screwdriver to DIN 5264 (3.5 x 0.5 mm) and, at the same time, fully inserting the lead (see Fig. 2) from which the insulation has been stripped to the required length beforehand.

NOTE

The insulation-stripping length shown in figure 3 shall not be exceeded since, otherwise, the clearance and creepage distances would be less than required.

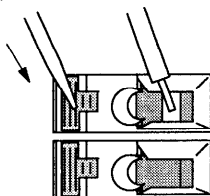




Figure 2 : Connecting the leads




WARNING



This device is designed in accordance with class I. Owing to the exposed, conductive metal housing, it may become electrically live in the event of a fault and it is thus absolutely essential that it be earthed.
Non-observance can result in death or severe personal injury.

5 OPERATION


The unit can be set either to AC 230 V or to AC 115 V mains voltage using a changeover switch. The factory default setting is AC 230 V.
Before setting the unit into operation, please check that it has been set to the correct mains voltage.
In the event of the unit still being set to AC 230 V mains voltage despite the fact that your local mains supply is AC 115 V, the unit will initially operate correctly and will then revert to fault condition as of a certain load after a certain time. Consequently, if faults occur, please first check whether the unit is set to the correct mains voltage.
The power supply unit's output is short-circuit-proof. The unit restarts automatically after the short circuit has been eliminated.




DANGER

Owing to the fact that the unit recovers its voltage automatically, always take precautions to prevent damage or injury from the loads which will thus also restart automatically.
non-observance can result in severe personal injury or substantial property damage.

6 SERVICING, MAINTENANCE



WARNING



Please disconnect the unit from the mains power supply and secure it to prevent it being switched back on again before starting servicing work.
Non-observance can lead to death, serious injury or substantial property damage.

Servicing and maintenance are essentially restricted to inspecting the unit for excessive dust deposits and, if necessary, cleaning it at regular intervals (e.g. once per year).

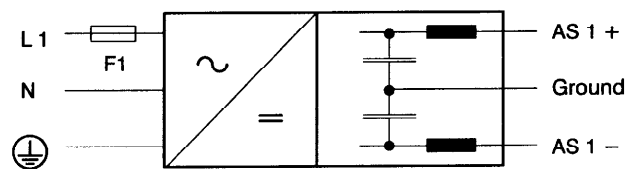
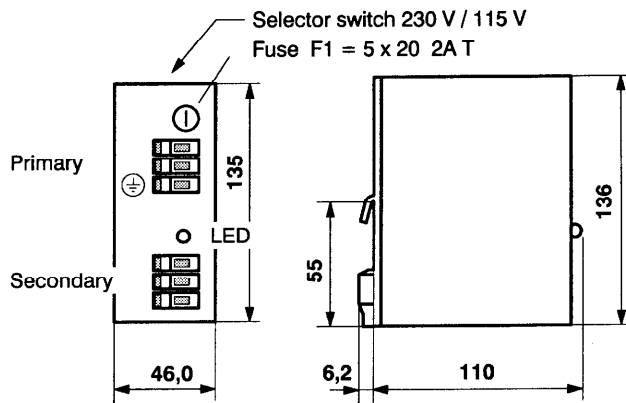


Figure 1 : Block diagram primary switch-mode regulator



Snap-in mounting to top hat rail acc. to DIN EN 50022- 35 x 7,5 or 35 x 15

| Terminals | Wire range mm ² | Insulation stripping length mm |
|-----------|-------------------------------|-----------------------------------|
| | 0,08 ... 2,5 | 5 ... 6 |

Figure 3 : Outline dimensions