Primary switch mode – single-phase

General

Requirements for current supply in automation, machine, and process control have continuously increased over the past years. Function safety of electronical control, as well as safe operation of automated systems are top priority.

Precisely defined supply levels still cause problems when put into practice. Voltage and load deviations reduce product lifetime and can lead into downtime. Therefore it is necessary to use a power supply unit.

Working method

The heart of a primary switch mode supply is the transformer. The primary voltage will be equal, smooth and separated with high frequency. The high frequency voltage will be transformed into a low secondary voltage and be electronical stabilized by using a transformer. The major advantage of this unit is a high efficiency and its compact, low weight, size.

Advantage

- less ripple
- exact output voltage
- integrated short-circuit protection
- galvanical separation of input and output voltage
- minimum space
- easy mounting
- mains failure bridging
- high efficiency
- wide voltage input
- less weight

Serial integrated UPS-function

With the addition of a few additional components, the MPS of 10 A can build a power supply up to 24 V DC that will be free of interruptions. A number of technical features are required.

– Two maintenance free 12 V lead acid batteries provide the power.

– An under voltage protection relay prevents deep discharge.

– A battery fuse monitors the short-circuit and is also used to activate the battery after longer periods of inactivity.

All components are in parallel use – the transfer from power supply units into battery usage is without interruption. Through this it is possible to guarantee a safe power supply.

Valid for units, which don't meet the EN 61000-3-2 guideline.

Attention

This unit was designed for application in industrial environment (closed energy networks) and do not fulfill the requirements of the EN61000-3-2: 1995 + A1 + A2 + A14/2000 regarding harmonic.

The power supply may only be connected to public energy networks

- If the total measured power is greater than 1 kW
- If the total input current per conductor exceeds 16 A
- If the measured power is under 75 W (in the future 50 W) and does not have loads for illumination.

Notice:

At parallel operation should be considered the sum of the individual power measurements

- If the unit is supplied with less then 220 V (neutral outgoing connection)

This restrictions are valid from January 1, 2001 in all european countries. Other countries can also make use of these.

Primary switch mode – single-phase

Primary switch mode PIP-*Power*+

Designed for world-wide use, the MCS-B, MCS and MPS are units, which have all the important and required international approvals. All switch modes have an additional wide voltage input to meet the required security extra low voltage (SELV).

MCS-B, the new Basic Line

Very small and up to 2.5 A
Fibre optic ring indicator for MCS-B units up to 2.5 A guarantee a clear operation.

Taking off the terminals at the input and output make wiring possible.

Easy mounting with safe distance from 5 A onwards
Mounting will be easy with the new hat DIN-rail mounting. The integrated distance switching at the power supply unit guarantee the necessary distance to the components next to it.

Save up to 50 % space
Bookform reduces surface up to 50 %.

MCS

Save up to 50 % space
Bookform reduces surface up to 50 %.

Optional switch off mode
Automatic shut-off can be individually chosen between re-start or definite shutoff.

Power Factor Correction (PFC)
To meet EN guideline regarding pre-defined limits.

Up to 20 % more rating
Units can be operated with an up to 20 % higher output rating at temperature range of 40 °C or lower.

MPS

Flat book form
For installation in control panels with a limited depth.

Remote monitoring
By using integrated potential free alarm contact in power supply.

Secure supply voltage
In a combination with batteries mains failure can be bridged with an integrated interruption free power supply function.

Quick and detail orientated diagnosis is possible through clearly arranged triple status indicator.

Teststop/Restart Button
For switching supply voltage on/off during operation.

Up to 20 % more rating
Units can be operated with an up to 20 % higher output rating at temperature ranges of 40 °C or lower.

Primary switch mode

MCS-B

Primary switch mode power supply for basic function. The units are touch protected, overload and short-circuit protected. DIN-rail mountable, small units for limited space requirements.

Input voltage: 90…265 V AC
Output voltage: 24 V DC, 4 . . . 6 V DC, 12 . . . 15 V DC SELV
Output current: 0.6/ 1/ 1.3/ 2.5/ 3/ 5/ 7.5/ 10 A
Temperature range: 0 . . . 55 °C, from 40 °C de-rating

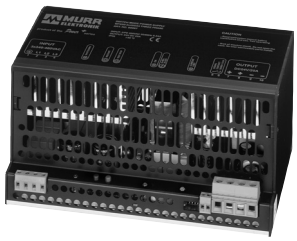
from page 4.5.4

MCS with and without PFC (EN 61000-3-2)

Primary switch mode power supply for demanding applications. The units are touch protected, overload and short-circuit protected. DIN-rail mountable, small units for limited space requirements.

Input voltage: 90…265 V AC
Output voltage: 24 V DC SELV, 24…28 V DC adjustable
Output current: 1.25/ 2.5/ 3/ 5/ 10/ 20 A
Temperature range: 0 . . . 60 °C, from 40 °C de-rating
For industrial use is also available a version without PFC

from page 4.5.7



MPS

Primary switch mode power supply for demanding applications and integrated UPS function.
The units are touch protected, overload and short-circuit protected. DIN-rail mountable.

Input voltage: 110, 230 V AC
Output voltage: 24 V DC SELV, 22…28 V DC adjustable
Output current: 3/ 5/ 10/ 20 A
Temperature range: 0 . . . 60 °C, at < 40 % 20 % more power

from page 4.5.13

MCS-A

Primary switch mode power supply for AS-Interface systems.
The units are touch protected, short-circuit and overload protected. DIN-rail mountable, less surface usage.

Input voltage: 95…265 V AC
Output voltage: 30.5 V DC SELV
Output current: 4 A with or without earth circuit protection (EFD)
Temperature range: 0…55 °C, from 40 °C de-rating

from page 4.5.17

MASI

Primary switch mode power supply for the AS-Interface network.
The units are touch protected under IP20.

Input voltage: 115, 230 V AC
Output voltage: 30.5 V DC
Output current: 2.8 A
Temperature range: -10…60 °C

page 4.5.16