MOVITRAC® 31..
Frequency Inverters

Addendum to the Operating Instructions
Supply Buffer Module FNP 020-503

Edition 05/97

- This addendum does not replace the detailed operating instructions for MOVITRAC®31..!
- Only intended for installation by technical specialist following accident prevention procedures and the MOVITRAC®31.. Operating Instructions!
- With the cover removed, the unit has enclosure IP 00 protection. At some points dangerous voltages are present. In operation, the unit must be fully enclosed!
- **For up to 10 minutes after power is removed, dangerous voltages can remain present!**

Supply Buffer Module FNP 020-503:

(Part Number 826 432 5)

The Supply Buffer Module serves as an energy reserve to bridge short duration power outages, i.e. when supplied by sliding contacts. It operates automatically if the supply voltage temporarily drops. Power interrupts of up to the millisecond range can be bridged (→ Diagram on page 2).

The time required to fully charge the capacitors and thereby provide the maximum buffer capacity can be as much as 15 seconds.

Technical Data:

Supply Buffer Module Type Unit part number	**FNP 020-503** 826 432 5
Supply voltage **Permissible range** V_{In}	 $3 \times 200\ V_{AC}$ -10% ... $3 \times 500\ V_{AC}$ +10%
Input frequency f_{In}	50 Hz ... 60 Hz ±5%
Permissible rated input current **I_{In} 100%** **I_{In} 125%**	 max. 39 A_{AC} max. 49 A_{AC}
Output voltage V_{Out}	250 V_{DC} ... 780 V_{DC}
Buffer capacity C	2000 µF ±20%
Ambient temperature ϑ_{amb} **Environmental conditions**	0°C ... +45°C (Reduction: 3.0% I_N per K up to max. 60°C) EN 60721-3-3, Classification 3K3
Storage temperature $\vartheta_{storage}$	-25°C ... +70°C (EN 60721-3-3, Classification 3K3)
Enclosure	IP 20 (EN 60529)
Power loss **at I_{In} 100%** P_V **at I_{In} 125%** P_V	max. 150 W max. 185 W
Connection type	Terminal studs M4 Wire cross sections correspond to the MOVITRAC®31.. Technical Data
Weight	5 kg (11 lb.)
Main dimensions W × H × D	135 × 296 × 216 mm (5.4 × 11.84 × 8.64 inches)
Application for MOVITRAC®	31C...-233 sizes 0 - 3 and 31C...-503 sizes 0 - 3

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Determination of possible buffer time t_P:

- A buffer effect of the module without torque or speed interruption of the drive is only possible below the base frequency. With lower output frequencies the buffer effect of the frequency inverter increases.
- In the field weaking range, torque and speed disruptions on power interruptions can be expected.

Prerequisites: **$V_{In} = 3 \times 400\ V_{AC}$, Operation at rated load and rated speed**
3 phase power failure

- At reduced torque the buffer time t_P increases correspondingly:

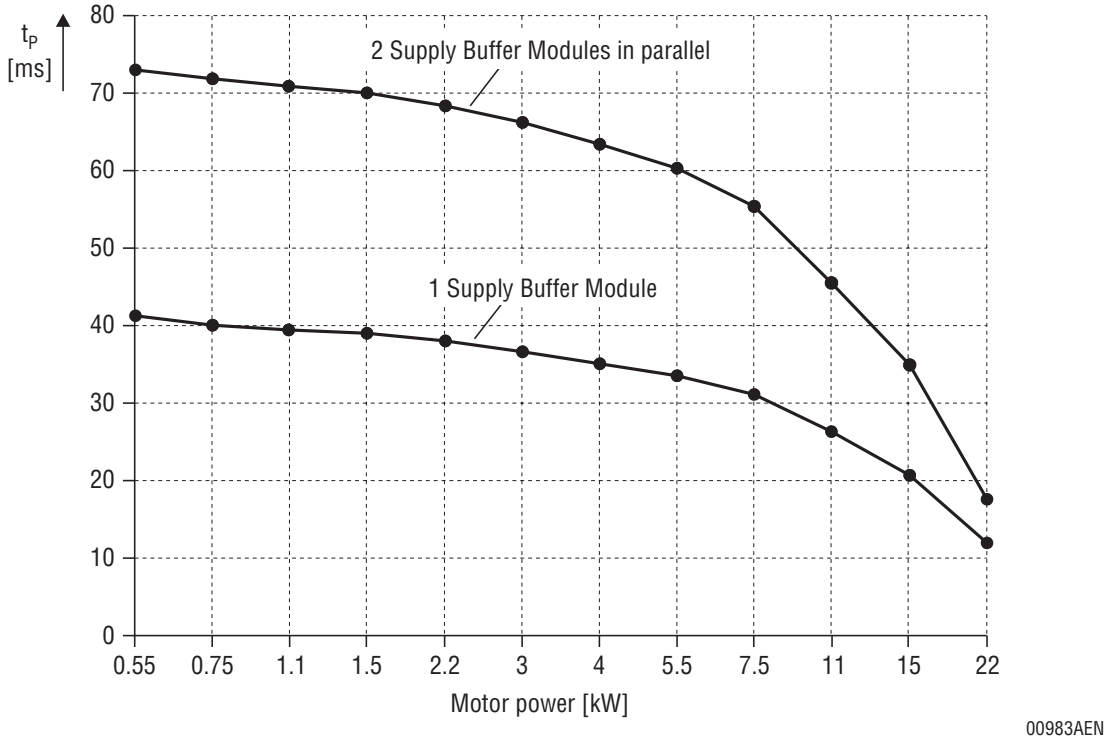

Fig. 1: Buffer time t_P independent of motor power

$M = 50\%\ M_N \Rightarrow 2 \times t_P$
$M = 20\%\ M_N \Rightarrow 5 \times t_P$

Operating Instructions:

- The parallel connection of multiple supply buffer modules to increase the buffer capacity is permissible.
- With MOVITRAC®31.. Parameter P 530 (mains monitoring) must be set to “No” .

Installation Instructions:

- Mount the Supply Buffer Module beside the corresponding MOVITRAC® 31.. Frequency Inverter. Space for air-flow must be left above and below the Supply Buffer Module of at least 100 mm. Air-flow space beside the unit is not necessary. The Supply Buffer Module and the MOVITRAC®31.. can be placed in a row as with the parallel connection of multiple Supply Buffer Modules.
- Keep the lead length between the Supply Buffer Module and the MOVITRAC®31.. as short as possible (max. 500 mm) .
- With the parallel connection of multiple Supply Buffer Modules, connect these in a star configuration to the MOVITRAC®31.. .

Wiring diagrams:

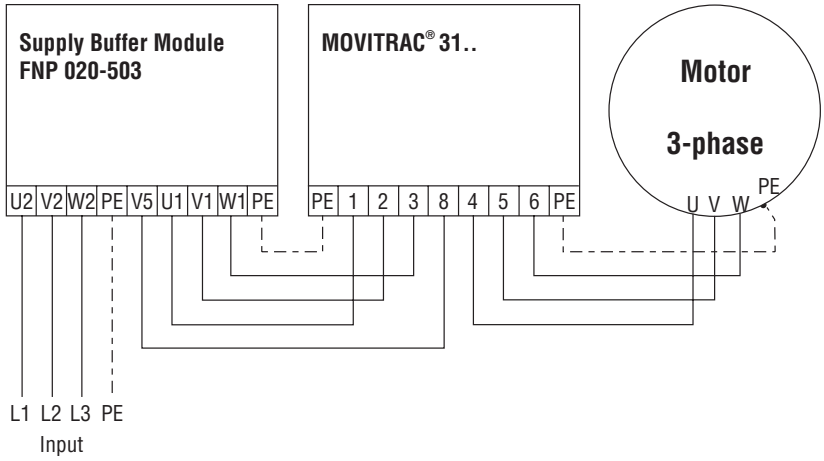

Fig. 2: Supply Buffer Module FNP 020-503 wiring

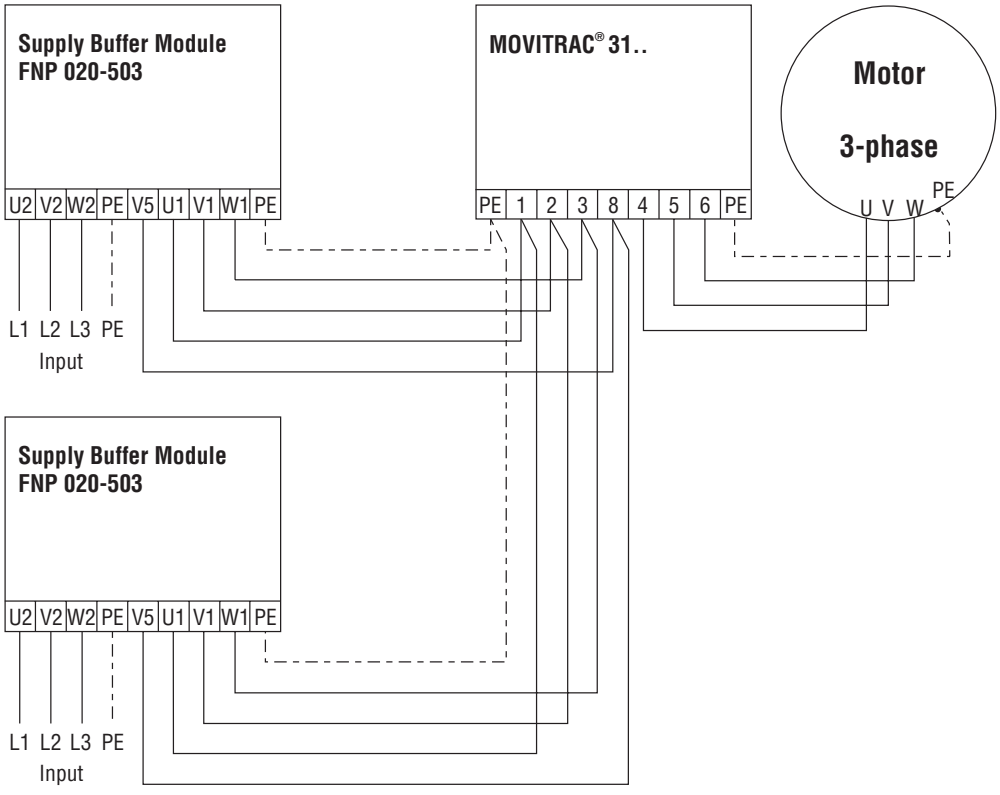

Fig. 3: Parallel wiring of Supply Buffer Modules FNP 020-503

Dimensions: All dimensions in mm (inches)

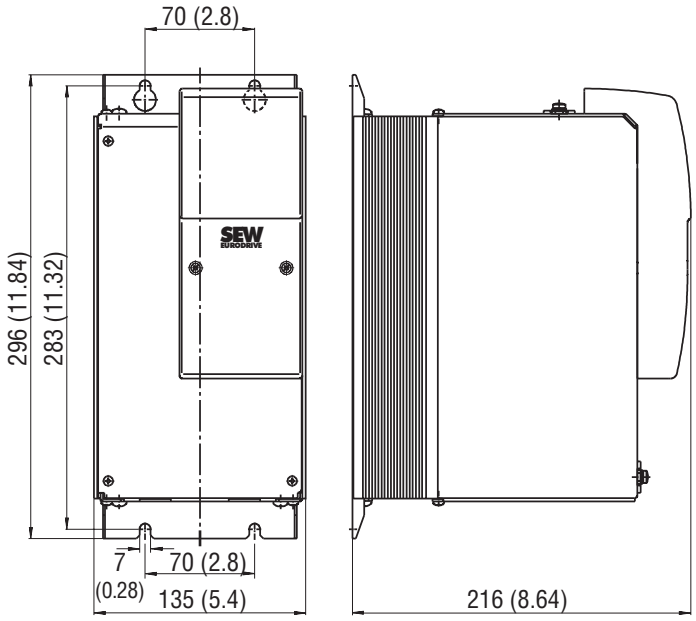

Fig. 4: Dimensions of Supply Buffer Module FNP 020-503 in mm (inches)