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Revision

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MOVIDRIVE® MDX60B/61B

Edition 10/2014

17099226/EN

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1 Revisions

INFORMATION

This document describes the revisions made to the "MOVIDRIVE® 60B/61B" operating instructions.

Please use the data specified in this revision. This document does not replace the detailed operating instructions.

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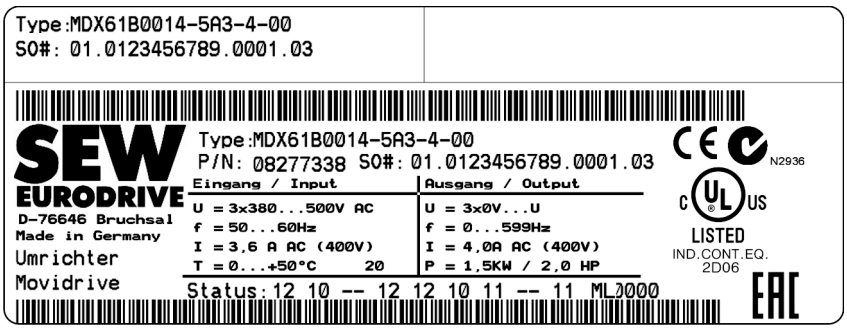
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2 Unit structure

2.1 Type designation, nameplates and scope of delivery

2.1.1 System nameplate size 0

The **system nameplate** of MDX60B/61B size 0 is attached to the side of the unit.



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3 Technical data and dimension drawings

3.1 CE marking, UL approval, and C-Tick

3.1.1 UL / cUL / EAC



UL and cUL approvals (USA) have been granted for the entire MOVIDRIVE® product series. An exception is the MOVIDRIVE® MDR60A1320-503-00 unit that does not have UL or cUL approval. cUL is equivalent to CSA approval.



The MOVIDRIVE® product series meets the requirements of the technical regulations of the customs union of Russia, Kazakhstan, and Belarus.

The EAC mark on the nameplate certifies compliance with the safety requirements of the customs union.

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3.2 Note

INFORMATION

All parameters and setting ranges are limited to a maximum output frequency of 599 Hz.

3.3 MOVIDRIVE® MDX60/61B...-5_3 (AC 400/500 V units)

3.3.1 MOVIDRIVE® MDX60/61B0005/0008/0011/0014 size 0 (AC 400/500 V units)

MOVIDRIVE® MDX60/61B		0005-5A3-4-0_	0008-5A3-4-0_	0011-5A3-4-0_	0014-5A3-4-0_
Size		0S		0M	
INPUT					
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V			
Line frequency	f_{line}	50 Hz – 60 Hz ±5%			
Nominal line current[1] I_{line}	100%	AC 1.8 A	AC 2.2 A	AC 2.8 A	AC 3.6 A
(at V_{line} = 3 × AC 400 V)	125%	AC 2.3 A	AC 2.7 A	AC 3.5 A	AC 4.5 A
OUTPUT					
Apparent output power[2]	S_N	1.4 kVA	1.6 kVA	2.1 kVA	2.8 kVA
(at V_{line} = 3 × AC 380 – 500 V)					
Nominal output current[1]	I_N	AC 2 A	AC 2.4 A	AC 3.1 A	AC 4 A
(at V_{line} = 3 × AC 400 V)					
Continuous output current (= 125% I_N)	I_D	AC 2.5 A	AC 3 A	AC 3.8 A	AC 5 A
(at V_{line} = 3 × AC 400 V and f_{PWM} = 4 kHz)					
Continuous output current (= 100% I_N)	I_D	AC 2 A	AC 2.4 A	AC 3.1 A	AC 4 A
(at V_{line} = 3 × AC 400 V and f_{PWM} = 8 kHz)					
Max. output frequency	f_{max}	599 Hz			
Current limiting	I_{max}	Motor and regenerative 200% I_N, duration depending on the capacity utilization			
Internal current limitation		I_{max} = 0 – 200% adjustable			
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	68 Ω			
Output voltage	V_O	Max. V_{line}			
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz			
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range			
GENERAL INFORMATION					
Power loss at S_N[2]	P_{Vmax}	42 W	48 W	58 W	74 W
Cooling air consumption		3 m^3/h		9 m^3/h	
Cross section of device terminals X1, X2, X3, X4		Separable terminal strip 4 mm^2 conductor end sleeve DIN 46228			
Tightening torque		0.6 Nm			

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version	0005-5A3-4-00	0008-5A3-4-00	0011-5A3-4-00	0014-5A3-4-00
Design with coated printed circuit boards	0005-5A3-4-00/L	0008-5A3-4-00/L	0011-5A3-4-00/L	0014-5A3-4-00/L
Part number	827 722 2	827 723 0	827 724 9	827 725 7
	828 947 6	828 948 4	828 949 2	828 950 6
MDX61B Application version	0005-5A3-4-0T	0008-5A3-4-0T	0011-5A3-4-0T	0014-5A3-4-0T
Design with coated printed circuit boards	0005-5A3-4-0T/L	0008-5A3-4-0T/L	0011-5A3-4-0T/L	0014-5A3-4-0T/L
Part number	827 726 5	827 727 3	827 728 1	827 729 X
	828 951 4	828 952 2	828 953 0	828 954 9
Recommended motor power				

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 Constant load	P_{Mot}	0.55 kW (0.74 HP)	0.75 kW (1.0 HP)	1.1 kW (1.5 HP)	1.5 kW (2.0 HP)
 Variable torque load or constant load without overload	P_{Mot}	0.75 kW (1.0 HP)	1.1 kW (1.5 HP)	1.5 kW (2.0 HP)	2.2 kW (3.0 HP)
Mass		2.0 kg (4.4 lb)		2.5 kg (5.5 lb)	
Dimensions	W × H × D	45 mm × 317 mm × 260 mm (1.8 in × 12.5 in × 10.2 in)		67.5 mm × 317 mm × 260 mm (2.66 in × 12.5 in × 10.2 in)	

MDX61B standard version (VFC/CFC/SERVO) Design with coated printed circuit boards	0005-5A3-4-00 0005-5A3-4-00/L	0008-5A3-4-00 0008-5A3-4-00/L	0011-5A3-4-00 0011-5A3-4-00/L	0014-5A3-4-00 0014-5A3-4-00/L
Part number	827 730 3 828 955 7	827 731 1 828 956 5	827 732 X 828 957 3	827 733 8 828 958 1
MDX61B application version (VFC/CFC/SERVO) Design with coated printed circuit boards	0005-5A3-4-0T 0005-5A3-4-0T/L	0008-5A3-4-0T 0008-5A3-4-0T/L	0011-5A3-4-0T 0011-5A3-4-0T/L	0014-5A3-4-0T 0014-5A3-4-0T/L
MDX61B standard version (VFC/CFC/SERVO) Design with coated printed circuit boards	0005-5A3-4-00 0005-5A3-4-00/L	0008-5A3-4-00 0008-5A3-4-00/L	0011-5A3-4-00 0011-5A3-4-00/L	0014-5A3-4-00 0014-5A3-4-00/L
Part number	827 734 6 828 960 3	827 735 4 828 961 1	827 736 2 828 963 8	827 737 0 828 964 6
Mass	2.3 kg (5.1 lb)		2.8 kg (6.2 lb)	
Dimensions W × H × D	72.5 mm × 317 mm × 260 mm (2.85 in × 12.5 in × 10.2 in)		95 mm × 317 mm × 260 mm (3.7 in × 12.5 in × 10.2 in)	
Recommended motor power	→ MOVIDRIVE® B catalog or system manual, motor selection chapter			

3.3.2 MOVIDRIVE® MDX61B0015/0022/0030/0040 size 1 (AC 400/500 V units)

MOVIDRIVE® MDX61B		**0015-5A3-4-0_**	**0022-5A3-4-0_**	**0030-5A3-4-0_**	**0040-5A3-4-0_**
INPUT					
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V			
Line frequency	f_{line}	50 Hz – 60 Hz ±5%			
Nominal line current[1] I_{line}	100%	AC 3.6 A	AC 5.0 A	AC 6.3 A	AC 8.6 A
(at V_{line} = 3 × AC 400 V)	125%	AC 4.5 A	AC 6.2 A	AC 7.9 A	AC 10.7 A
OUTPUT					
Apparent output power[2]	S_N	2.8 kVA	3.8 kVA	4.9 kVA	6.6 kVA
(at V_{line} = 3 × AC 380 – 500 V)					
Nominal output current[1]	I_N	AC 4 A	AC 5.5 A	AC 7 A	AC 9.5 A
(at V_{line} = 3 × AC 400 V)					
Continuous output current (= 125% I_N)	I_D	AC 5 A	AC 6.9 A	AC 8.8 A	AC 11.9 A
(at V_{line} = 3 × AC 400 V and f_{PWM} = 4 kHz)					
Continuous output current (= 100% I_N)	I_D	AC 4 A	AC 5.5 A	AC 7 A	AC 9.5 A
(at V_{line} = 3 × AC 400 V and f_{PWM} = 8 kHz)					
Max. output frequency	f_{max}	599 Hz			
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization			
Internal current limitation		I_{max} = 0 – 150% adjustable			
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	68 Ω			
Output voltage	V_O	Max. V_{line}			
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz			
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range			
GENERAL INFORMATION					
Power loss at S_N[2]	P_{Vmax}	85 W	105 W	130 W	180 W
Cooling air consumption		40 m^3/h			
Mass		3.5 kg (7.7 lb)			
Dimensions W × H × D		105 mm × 314 mm × 234 mm (4.13 in × 12.4 in × 9.21 in)			

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MOVIDRIVE® MDX61B		0015-5A3-4-0_	0022-5A3-4-0_	0030-5A3-4-0_	0040-5A3-4-0_
Cross section of device terminals X1, X2, X3, X4		Separable terminal strip 4 mm² conductor end sleeve DIN 46228			
Tightening torque		0.6 Nm			

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0015-5A3-4-00	0022-5A3-4-00	0030-5A3-4-00	0040-5A3-4-00
Design with coated printed circuit boards		0015-5A3-4-00/L	0022-5A3-4-00/L	0030-5A3-4-00/L	0040-5A3-4-00/L
Part number		827 957 8	827 958 6	827 959 4	827 960 8
		1840 013 2	1840 014 0	1840 015 9	1840 016 7
MDX61B application version		0015-5A3-4-0T	0022-5A3-4-0T	0030-5A3-4-0T	0040-5A3-4-0T
Design with coated printed circuit boards		0015-5A3-4-0T/L	0022-5A3-4-0T/L	0030-5A3-4-0T/L	0040-5A3-4-0T/L
Part number		827 975 6	827 976 4	827 977 2	827 978 0
		1840 031 0	1840 032 9	1840 033 7	1840 034 5
Recommended motor power					
 Constant load	P_{Mot}	1.5 kW (2.0 HP)	2.2 kW (3.0 HP)	3.0 kW (4.0 HP)	4.0 kW (5.4 HP)
 Variable torque load or constant load without overload	P_{Mot}	2.2 kW (3.0 HP)	3.0 kW (4.0 HP)	4.0 kW (5.4 HP)	5.5 kW (7.4 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter			

3.3.3 MOVIDRIVE® MDX61B0055/0075/0110 size 2S, 2 (AC 400/500 V units)

MOVIDRIVE® MDX61B		0055-5A3-4-0_	0075-5A3-4-0_	0110-5A3-4-0_
Size		2S		2
INPUT				
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V		
Line frequency	f_{line}	50 Hz – 60 Hz ±5%		
Nominal line current[1] I_{line}	100%	AC 11.3 A	AC 14.4 A	AC 21.6 A
(at V_{line} = 3 × AC 400 V)	125%	AC 14.1 A	AC 18.0 A	AC 27.0 A
OUTPUT				
Apparent output power[2]	S_N	8.7 kVA	11.2 kVA	16.8 kVA
(at V_{line} = 3 × AC 380 – 500 V)				
Nominal output current[1]	I_N	AC 12.5 A	AC 16 A	AC 24 A
(at V_{line} = 3 × AC 400 V)				
Continuous output current (= 125% I_N)	I_D	AC 15.6 A	AC 20 A	AC 30 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 4 kHz)				
Continuous output current (= 100% I_N)	I_D	AC 12.5 A	AC 16 A	AC 24 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 8 kHz)				
Max. output frequency	f_{max}	599 Hz		
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization		
Internal current limitation		I_{max} = 0 – 150% adjustable		
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	47 Ω		22 Ω
Output voltage	V_O	Max. V_{line}		
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz		
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range		
GENERAL INFORMATION				
Power loss at S_N[2]	P_{Vmax}	220 W	290 W	400 W
Cooling air consumption		80 m³/h		
Mass		6.6 kg (15 lb)		

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MOVIDRIVE® MDX61B		0055-5A3-4-0_	0075-5A3-4-0_	0110-5A3-4-0_
Dimensions	W × H × D	105 mm × 335 mm × 294 mm (4.13 in × 13.2 in × 11.6 in)		130 mm × 315 mm × 285 mm (5.12 in × 12.4 in × 11.2 in)
Cross section of device terminals X1, X2, X3, X4		Terminal strips 4 mm² conductor end sleeve DIN 46228		M4 screw and washer assembly with terminal clip 4 mm² conductor end sleeve DIN 46228 6 mm² crimp cable lug DIN 46234
Tightening torque		0.6 Nm		1.5 Nm

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0055-5A3-4-00	0075-5A3-4-00	0110-5A3-4-00
Design with coated printed circuit boards		0055-5A3-4-00/L	0075-5A3-4-00/L	0110-5A3-4-00/L
Part number		827 961 6	827 962 4	827 963 2
		1840 017 5	1840 018 3	1840 019 1
MDX61B application version		0055-5A3-4-0T	0075-5A3-4-0T	0110-5A3-4-0T
Design with coated printed circuit boards		0055-5A3-4-0T/L	0075-5A3-4-0T/L	0110-5A3-4-0T/L
Part number		827 979 9	827 980 2	827 981 0
		1840 035 3	1840 036 1	1840 038 8
Recommended motor power				
 Constant load	P_{Mot}	5.5 kW (7.4 HP)	7.5 kW (10 HP)	11 kW (15 HP)
 Variable torque load or constant load without overload	P_{Mot}	7.5 kW (10 HP)	11 kW (15 HP)	15 kW (20 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter		

3.3.4 MOVIDRIVE® MDX61B0150/0220/0300 size 3 (AC 400/500 V units)

MOVIDRIVE® MDX61B		0150-503-4-0_	0220-503-4-0_	0300-503-4-0_
INPUT				
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V		
Line frequency	f_{line}	50 Hz – 60 Hz ±5%		
Nominal line current[1] I_{line}	100%	AC 28.8 A	AC 41.4 A	AC 54 A
(at V_{line} = 3 × AC 400 V)	125%	AC 36 A	AC 51.7 A	AC 67.5 A
OUTPUT				
Apparent output power[2]	S_N	22.2 kVA	31.9 kVA	41.6 kVA
(at V_{line} = 3 × AC 380 – 500 V)				
Nominal output current[1]	I_N	AC 32 A	AC 46 A	AC 60 A
(at V_{line} = 3 × AC 400 V)				
Continuous output current (= 125% I_N)	I_D	AC 40 A	AC 57.5 A	AC 75 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 4 kHz)				
Continuous output current (= 100% I_N)	I_D	AC 32 A	AC 46 A	AC 60 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 8 kHz)				
Max. output frequency	f_{max}	599 Hz		
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization		
Internal current limitation		I_{max} = 0 – 150% adjustable		
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	15 Ω	12 Ω	
Output voltage	V_O	Max. V_{line}		
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz		
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range		
GENERAL INFORMATION				

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MOVIDRIVE® MDX61B		0150-503-4-0_	0220-503-4-0_	0300-503-4-0_
Power loss at S_N 2)	P_{Vmax}	550 W	750 W	950 W
Cooling air consumption		180 m^3/h		
Mass		15.0 kg (33 lb)		
Dimensions	W × H × D	200 mm × 465 mm × 308 mm (7.87 in × 18.3 in × 12.1 in)		
Cross section of device terminals X1, X2, X3, X4		M6 screw and washer assembly with washer max. 25 mm^2 Crimp cable lug DIN 46234		
Tightening torque		3.5 Nm		

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0150/-503/-4/-00	0220-503-4-00	0300-503-4-00
Design with coated printed circuit boards		0150-503-4-00/L	0220-503-4-00/L	0300-503-4-00/L
Part number		827 964 0	827 965 9	827 966 7
		1840 020 5	1840 021 3	1840 022 1
MDX61B application version		0150-503-4-0T	0220-503-4-0T	0300-503-4-0T
Design with coated printed circuit boards		0150-503-4-0T/L	0220-503-4-0T/L	0300-503-4-0T/L
Part number		827 982 9	827 983 7	827 984 5
		1840 039 6	1840 041 8	1840 042 6
Recommended motor power				
 Constant load	P_{Mot}	15 kW (20 HP)	22 kW (30 HP)	30 kW (40 HP)
 Variable torque load or constant load without overload	P_{Mot}	22 kW (30 HP)	30 kW (40 HP)	37 kW (50 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter		

3.3.5 MOVIDRIVE® MDX61B0370/0450 size 4 (AC 400/500 V units)

MOVIDRIVE® MDX61B		0370-503-4-0_	0450-503-4-0_
INPUT			
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V	
Line frequency	f_{line}	50 Hz – 60 Hz ±5%	
Nominal line current1) I_{line}	100%	AC 65.7 A	AC 80.1 A
(at V_{line} = 3 × AC 400 V)	125%	AC 81.9 A	AC 100.1 A
OUTPUT			
Apparent output power2)	S_N	51.1 kVA	62.3 kVA
(at V_{line} = 3 × AC 380 – 500 V)			
Nominal output current1)	I_N	AC 73 A	AC 89 A
(at V_{line} = 3 × AC 400 V)			
Continuous output current (= 125% I_N)	I_D	AC 91 A	AC 111 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 4 kHz)			
Continuous output current (= 100% I_N)	I_D	AC 73 A	AC 89 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 8 kHz)			
Max. output frequency	f_{max}	599 Hz	
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization	
Internal current limitation		I_{max} = 0 – 150% adjustable	
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	6 Ω	
Output voltage	V_O	Max. V_{line}	
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz	
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range	
GENERAL INFORMATION			

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MOVIDRIVE® MDX61B		0370-503-4-0_	0450-503-4-0_
Power loss at S_N 2)	P_{Vmax}	1200 W	1450 W
Cooling air consumption		180 m^3/h	
Mass		27 kg (60 lb)	
Dimensions	W × H × D	280 mm × 522 mm × 307 mm (11.0 in × 20.6 in × 12.1 in)	
Cross section of device terminals X1, X2, X3, X4		M10 bolt with nut Max. 70 mm^2 Crimp cable lug DIN 46235	
Tightening torque		14 Nm	

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0370-503-4-00	0450-503-4-00
Design with coated printed circuit boards		0370-503-4-00/L	0450-503-4-00/L
Part number		827 967 5	827 968 3
		1840 024 8	1840 025 6
MDX61B application version		0370-503-4-0T	0450-503-4-0T
Design with coated printed circuit boards		0370-503-4-0T/L	0450-503-4-0T/L
Part number		827 985 3	827 986 1
		1840 043 4	1840 044 2
Recommended motor power			
 Constant load	P_{Mot}	37 kW (50 HP)	45 kW (60 HP)
 Variable torque load or constant load without overload	P_{Mot}	45 kW (60 HP)	55 kW (74 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter	

3.3.6 MOVIDRIVE® MDX61B0550/0750 size 5 (AC 400/500 V units)

MOVIDRIVE® MDX61B		0550-503-4-0_	0750-503-4-0_
INPUT			
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V	
Line frequency	f_{line}	50 Hz – 60 Hz ±5%	
Nominal line current1) I_{line}	100%	AC 94.5 A	AC 117 A
(at V_{line} = 3 × AC 400 V)	125%	AC 118.1 A	AC 146.3 A
OUTPUT			
Apparent output power2)	S_N	73.5 kVA	91.0 kVA
(at V_{line} = 3 × AC 380 – 500 V)			
Nominal output current1)	I_N	AC 105 A	AC 130 A
(at V_{line} = 3 × AC 400 V)			
Continuous output current (= 125% I_N)	I_D	AC 131 A	AC 162 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 4 kHz)			
Continuous output current (= 100% I_N)	I_D	AC 105 A	AC 130 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 8 kHz)			
Max. output frequency	f_{max}	599 Hz	
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization	
Internal current limitation		I_{max} = 0 – 150% adjustable	
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	6 Ω	4 Ω
Output voltage	V_O	Max. V_{line}	
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz	
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range	

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MOVIDRIVE® MDX61B		0550-503-4-0_	0750-503-4-0_
GENERAL INFORMATION			
Power loss at S_N 2)	P_{Vmax}	1700 W	2000 W
Cooling air consumption		360 m³/h	
Mass		35 kg (77 lb)	
Dimensions	W × H × D	280 mm × 610 mm × 330 mm (11.0 in × 24.0 in × 13.0 in)	
Cross section of device terminals X1, X2, X3, X4		M10 bolt with nut Max. 70 mm² Crimp cable lug DIN 46235	
Tightening torque		14 Nm	

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0550-503-4-00	0750-503-4-00
Design with coated printed circuit boards		0550-503-4-00/L	0750-503-4-00/L
Part number		827 969 1	827 970 5
		1840 026 4	1840 027 2
MDX61B application version		0550-503-4-0T	0750-503-4-0T
Design with coated printed circuit boards		0550-503-4-0T/L	0750-503-4-0T/L
Part number		827 988 8	827 989 6
		1840 045 0	1840 046 9
Recommended motor power			
 Constant load	P_{Mot}	55 kW (74 HP)	75 kW (100 HP)
 Variable torque load or constant load without overload	P_{Mot}	75 kW (100 HP)	90 kW (120 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter	

3.3.7 MOVIDRIVE® MDX61B0900/1100/1320 size 6 (AC 400/500 V units)

MOVIDRIVE® MDX61B		0900-503-4-0_	1100-503-4-0_	1320-503-4-0_
INPUT				
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V		
Line frequency	f_{line}	50 Hz – 60 Hz ±5%		
Nominal line current1) I_{line}	100%	AC 153 A	AC 180 A	AC 225 A
(at V_{line} = 3 × AC 400 V)	125%	AC 191 A	AC 225 A	AC 281 A
OUTPUT				
Apparent output power2)	S_N	118 kVA	139 kVA	174 kVA
(at V_{line} = 3 × AC 380 – 500 V)				
Nominal output current1)	I_N	AC 170 A	AC 200 A	AC 250 A
(at V_{line} = 3 × AC 400 V)				
Continuous output current (= 125% I_N)	I_D	AC 212 A	AC 250 A	AC 312 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 4 kHz)				
Continuous output current (= 100% I_N) I_D	I_D	AC 170 A	AC 200 A	AC 250 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 8 kHz)				
Max. output frequency	f_{max}	599 Hz		
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization		
Internal current limitation		I_{max} = 0 – 150% adjustable		
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	2.7 Ω		
Output voltage	V_O	Max. V_{line}		
PWM frequency	f_{PWM}	Adjustable: 4 or 8 kHz possible		

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MOVIDRIVE® MDX61B		0900-503-4-0_	1100-503-4-0_	1320-503-4-0_
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range		
GENERAL INFORMATION				
Power loss at S_N	P_{Vmax}	2300 W	2500 W	2700 W
Cooling air consumption		600 m^3/h		
Mass		60 kg (130 lb)		
Dimensions	W × H × D	280 mm × 1000 mm × 382 mm (11.0 in × 39.37 in × 15.0 in)		
Cross section of device terminals X1, X2, X3, X4		M12 bolt with nut Max. 185 mm^2 Crimp cable lug DIN 46235		
Tightening torque		20 Nm		

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0900-503-4-00	1100-503-4-00	1320-503-4-00
Design with coated printed circuit boards		0900-503-4-00/L	1100-503-4-00/L	1320-503-4-00/L
Part number		827 971 3	827 972 1	827 974 8
		1840 028 0	1840 029 9	1840 030 2
MDX61B application version		0900-503-4-0T	1100-503-4-0T	1320-503-4-0T
Design with coated printed circuit boards		0900-503-4-0T/L	1100-503-4-0T/L	1320-503-4-0T/L
Part number		827 991 8	827 992 6	827 993 4
		1840 047 7	1840 048 5	1840 049 3
Recommended motor power				
 Constant load	P_{Mot}	90 kW (120 HP)	110 kW (148 HP)	132 kW (177 HP)
 Variable torque load or constant load without overload	P_{Mot}	110 kW (148 HP)	132 kW (177 HP)	160 kW (215 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter		

3.3.8 MOVIDRIVE® MDX61B1600/2000/2500 size 7 (AC 400/500 V units)

MOVIDRIVE® MDX61B		1600-503-2-0T/L 1600-503-4-0T/L	2000-503-2-0T/L 2000-503-4-0T/L	2500-503-2-0T/L 2500-503-4-0T/L
INPUT				
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 380 V – 500 V		
Line frequency	f_{line}	50 Hz – 60 Hz ±5%		
Nominal line current[1] I_{line}	100%	AC 280 A	AC 340 A	AC 435 A
(at V_{line} = 3 × AC 400 V)	125%	AC 340 A	AC 425 A	AC 535 A
OUTPUT				
Apparent output power[2]	S_N	208 kVA	263 kVA	326 kVA
(at V_{line} = 3 × AC 380 – 500 V)				
Nominal output current[1]	I_N	AC 300 A	AC 380 A	AC 470 A
(at V_{line} = 3 × AC 400 V)				
Continuous output current (= 125% I_N)	I_D	AC 375 A	AC 475 A	AC 588 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 2.5 kHz)				
Continuous output current (= 100% I_N)	I_D	AC 300 A	AC 380 A	AC 470 A
(at V_{line} = 3 × AC 400 V with f_{PWM} = 2.5 kHz)				
Temperature range 0 °C – +50 °C				
Max. output frequency	f_{max}	599 Hz		
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization		
Internal current limitation		I_{max} = 0 – 150% adjustable		

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MOVIDRIVE® MDX61B		1600-503-2-0T/L 1600-503-4-0T/L	2000-503-2-0T/L 2000-503-4-0T/L	2500-503-2-0T/L 2500-503-4-0T/L
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	1.1 Ω		
Output voltage	V_O	Max. V_{line}		
PWM frequency	f_{PWM}	Adjustable: 2.5 or 4 kHz possible		
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range		
GENERAL INFORMATION				
Power loss at S_N	P_{Vmax}	3000 W	3600 W	4400 W
Cooling air consumption		1200 m^3/h		
Mass		2Q variant: 260 kg (573 lb) 4Q variant: 280 kg (617 lb)		
Dimensions	W × H × D	700 mm × 1490 mm × 470 mm (27.6 in × 58.7 in × 18.5 in)		
Conductor rails X1, X2, X3		Connection rail with bore for M12 Max. 2 × 240 mm^2 Press cable lug DIN 46235		
Tightening torque		70 Nm (620 lb in)		

1) The line and output currents must be reduced by 20% from the nominal values for V line = 3 × 500 V.

2) The performance data applies to f PWM = 2.5 kHz.

MDX61B Application version		1600-503-2-0T/L	2000-503-2-0T/L	2500-503-2-0T/L
With coated printed circuit boards		1600-503-4-0T/L	2000-503-4-0T/L	2500-503-4-0T/L
Part number		829 976 5	829 977 3	829 978 1
		829 980 3	829 981 1	829 983 8
Recommended motor power				
 Constant load	P_{Mot}	160 kW (215 HP)	200 kW (268 HP)	250 kW (335 HP)
 Variable torque load or constant load without overload	P_{Mot}	200 kW (268 HP)	250 kW (335 HP)	315 kW (422 HP)
Recommended motor power		→ MOVIDRIVE® B catalog or system manual, motor selection chapter		

3.4 MOVIDRIVE® MDX61B...-2_3 (AC 230 V units)

3.4.1 MOVIDRIVE® MDX61B0015/0022/0037 size 1 (AC 230 V units)

MOVIDRIVE® MDX61B		0015-2A3-4-0_	0022-2A3-4-0_	0037-2A3-4-0_
INPUT				
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 200 V - 240 V		
Line frequency	f_{line}	50 Hz – 60 Hz ±5%		
Nominal line current I_{line}	100%	AC 6.7 A	AC 7.8 A	AC 12.9 A
(at V_{line} = 3 × AC 230 V)	125%	AC 8.4 A	AC 9.8 A	AC 16.1 A
OUTPUT				
Apparent output power[1)]	S_N	2.7 kVA	3.4 kVA	5.8 kVA
(at V_{line} = 3 × AC 230 – 240 V)				
Nominal output current	I_N	AC 7.3 A	AC 8.6 A	AC 14.5 A
(at V_{line} = 3 × AC 230 V)				
Continuous output current (= 125% I_N)	I_D	AC 9.1 A	AC 10.8 A	AC 18.1 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 4 kHz)				
Continuous output current (= 100% I_N)	I_D	AC 7.3 A	AC 8.6 A	AC 14.5 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 8 kHz)				
Max. output frequency	f_{max}	599 Hz		

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MOVIDRIVE® MDX61B		0015-2A3-4-0_	0022-2A3-4-0_	0037-2A3-4-0_
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization		
Internal current limitation		I_{max} = 0 – 150% adjustable		
Minimum permitted braking resistor value (4-Q operation)	R_{BWmin}	27 Ω		
Output voltage	V_O	Max. V_{line}		
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz		
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range		
GENERAL INFORMATION				
Power loss at S_N 1)	P_{Vmax}	110 W	126 W	210 W
Cooling air consumption		40 m^3/h		
Mass		2.8 kg (6.2 lb)		
Dimensions	W × H × D	105 mm × 314 mm × 234 mm (4.13 in × 12.4 in × 9.21 in)		
Cross section of device terminals X1, X2, X3, X4		Separable terminal strip 4 mm^2 conductor end sleeve DIN 46228		
Tightening torque		0.6 Nm		

1) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0015-2A3-4-00	0022-2A3-4-00	0037-2A3-4-00
Part number		827 994 2	827 995 0	827 996 9
MDX61B application version		0015-2A3-4-0T	0022-2A3-4-0T	0037-2A3-4-0T
Part number		828 003 7	828 004 5	828 005 3
Recommended motor power				
 Constant load	P_{Mot}	1.5 kW (2.0 HP)	2.2 kW (3.0 HP)	3.7 kW (5.0 HP)
 Variable torque load or constant load without overload	P_{Mot}	2.2 kW (3.0 HP)	3.7 kW (5.0 HP)	5.0 kW (6.7 HP)
Recommended motor power		→ MOVIDRIVE® B system manual, motor selection chapter		

3.4.2 MOVIDRIVE® MDX61B0055/0075 size 2 (AC 230 V units)

MOVIDRIVE® MDX61B		0055-2A3-4-0_	0075-2A3-4-0_
INPUT			
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 200 V - 240 V	
Line frequency	f_{line}	50 Hz – 60 Hz ±5%	
Nominal line current I_{line}	100%	AC 19.5 A	AC 27.4 A
(at V_{line} = 3 × AC 230 V)	125%	AC 24.4 A	AC 34.3 A
OUTPUT			
Apparent output power1)	S_N	8.8 kVA	11.6 kVA
(at V_{line} = 3 × AC 230 – 240 V)			
Nominal output current	I_N	AC 22 A	AC 29 A
(at V_{line} = 3 × AC 230 V)			
Continuous output current (= 125% I_N)	I_D	AC 27.5 A	AC 36.3 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 4 kHz)			
Continuous output current (= 100% I_N)	I_D	AC 22 A	AC 29 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 8 kHz)			
Max. output frequency	f_{max}	599 Hz	
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization	
Internal current limitation		I_{max} = 0 – 150% adjustable	
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	12 Ω	

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MOVIDRIVE® MDX61B		0055-2A3-4-0_	0075-2A3-4-0_
Output voltage	V_O	Max. V_{line}	
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz	
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range	
GENERAL INFORMATION			
Power loss at S_N [1]	P_{Vmax}	300 W	380 W
Cooling air consumption		80 m^3/h	
Mass		5.9 kg (13 lb)	
Dimensions	W × H × D	130 mm × 315 mm × 285 mm (5.12 in × 12.4 in × 11.2 in)	
Cross section of device terminals X1, X2, X3, X4		M4 screw and washer assembly with terminal clip 4 mm^2 conductor end sleeve DIN 46228 6 mm^2 crimp cable lug DIN 46234 (German Industrial Standard)	
Tightening torque		1.5 Nm	

1) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0055-2A3-4-00	0075-2A3-4-00
Part number		827 997 7	827 998 5
MDX61B application version		0055-2A3-4-0T	0075-2A3-4-0T
Part number		828 006 1	828 008 8
Recommended motor power			
 Constant load	P_{Mot}	5.5 kW (7.4 HP)	7.5 kW (10 HP)
 Variable torque load or constant load without overload	P_{Mot}	7.5 kW (10 HP)	11 kW (15 HP)
Recommended motor power		→ MOVIDRIVE® B system manual, motor selection chapter	

3.4.3 MOVIDRIVE® MDX61B0110/0150 size 3 (AC 230 V units)

MOVIDRIVE® MDX61B		0110-203-4-0_	0150-203-4-0_
INPUT			
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 200 V - 240 V	
Line frequency	f_{line}	50 Hz – 60 Hz ±5%	
Nominal line current I_{line}	100%	AC 40 A	AC 49 A
(at V_{line} = 3 × AC 230 V)	125%	AC 50 A	AC 61 A
OUTPUT			
Apparent output power [1]	S_N	17.1 kVA	21.5 kVA
(at V_{line} = 3 × AC 230 – 240 V)			
Nominal output current	I_N	AC 42 A	AC 54 A
(at V_{line} = 3 × AC 230 V)			
Continuous output current (= 125% I_N)	I_D	AC 52.5 A	AC 67.5 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 4 kHz)			
Continuous output current (= 100% I_N)	I_D	AC 42 A	AC 54 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 8 kHz)			
Max. output frequency	f_{max}	599 Hz	
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization	
Internal current limitation		I_{max} = 0 – 150% adjustable	
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	7.5 Ω	5.6 Ω
Output voltage	V_O	Max. V_{line}	
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz	
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range	
GENERAL INFORMATION			

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MOVIDRIVE® MDX61B		0110-203-4-0_	0150-203-4-0_
Power loss at S_N [1]	P_{Vmax}	580 W	720 W
Cooling air consumption		180 m^3/h	
Mass		14.3 kg (31.5 lb)	
Dimensions	W × H × D	200 mm × 465 mm × 308 mm (7.87 in × 18.3 in × 12.1 in)	
Cross section of device terminals X1, X2, X3, X4		M6 screw and washer assembly with washer Max. 25 mm^2 Crimp cable lug DIN 46234	
Tightening torque		3.5 Nm	

1) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0110-203-4-00	0150-203-4-00
Part number		827 999 3	828 000 2
MDX61B application version		0110-203-4-0T	0150-203-4-0T
Part number		828 009 6	828 011 8
Recommended motor power			
 Constant load	P_{Mot}	11 kW (15 HP)	15 kW (20 HP)
 Variable torque load or constant load without overload	P_{Mot}	15 kW (20 HP)	22 kW (30 HP)
Recommended motor power		→ MOVIDRIVE® B system manual, motor selection chapter	

3.4.4 MOVIDRIVE® MDX61B0220/0300 size 4 (AC 230 V units)

MOVIDRIVE® MDX61B		0220-203-4-0_	0300-203-4-0_
INPUT			
Nominal line voltage (to EN 50160)	V_{line}	3 × AC 200 V - 240 V	
Line frequency	f_{line}	50 Hz – 60 Hz ±5%	
Nominal line current I_{line}	100%	AC 72 A	AC 86 A
(at V_{line} = 3 × AC 230 V)	125%	AC 90 A	AC 107 A
OUTPUT			
Apparent output power[1]	S_N	31.8 kVA	37.8 kVA
(at V_{line} = 3 × AC 230 – 240 V)			
Nominal output current	I_N	AC 80 A	AC 95 A
(at V_{line} = 3 × AC 230 V)			
Continuous output current (= 125% I_N)	I_D	AC 100 A	AC 118 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 4 kHz)			
Continuous output current (= 100% I_N)	I_D	AC 80 A	AC 95 A
(at V_{line} = 3 × AC 230 V with f_{PWM} = 8 kHz)			
Max. output frequency	f_{max}	599 Hz	
Current limiting	I_{max}	Motor and regenerative 150% I_N, duration depending on the capacity utilization	
Internal current limitation		I_{max} = 0 – 150% adjustable	
Permitted minimum braking resistance value (4Q operation)	R_{BRmin}	3 Ω	
Output voltage	V_O	Max. V_{line}	
PWM frequency	f_{PWM}	Adjustable: 4/8/12/16 kHz	
Speed range / resolution	n_A / Δn_A	–6000 – 0 – +6000 rpm / 0.2 rpm over the entire range	
GENERAL INFORMATION			
Power loss at S_N [1]	P_{Vmax}	1100 W	1300 W
Cooling air consumption		180 m^3/h	
Mass		26.3 kg (57 lb)	

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MOVIDRIVE® MDX61B		0220-203-4-0_	0300-203-4-0_
Dimensions	W × H × D	280 mm × 522 mm × 307 mm (11.0 in × 20.6 in × 12.1 in)	
Cross section of device terminals X1, X2, X3, X4		M10 bolt with nut Max. 70 mm^2 Crimp cable lug DIN 46235	
Tightening torque		3.5 Nm	

1) The performance data applies to f PWM = 4 kHz.

MDX61B standard version		0220-203-4-00	0300-203-4-00
Part number		828 001 0	828 002 9
MDX61B application version		0220-203-4-0T	0300-203-4-0T
Part number		828 012 6	828 013 4
Recommended motor power			
 Constant load	P_{Mot}	22 kW (30 HP)	30 kW (40 HP)
 Variable torque load or constant load without overload	P_{Mot}	30 kW (40 HP)	37 kW (50 HP)
Recommended motor power		→ MOVIDRIVE® B system manual, motor selection chapter	

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4 DEU21B multi-encoder card

4.1 Part number

1822 169 6

4.2 Description

Option-capable MOVIDRIVE® MDX61B units can be equipped with a DEU21B multi-encoder card. The encoder card provides one input for the motor encoder and one input for an external encoder, also referred to as a distance encoder.

Both encoder inputs can evaluate incremental and absolute encoders. The input for the external encoder can also be used as an output for incremental encoder simulation.

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4.3 Electronics data

DEU21B option		
 *2360863243*	External encoder connection X14: Output for incremental encoder simulation: • Signal level to RS422 • The number of pulses is the same as on X15 motor encoder input	Permitted encoder types: • HIPERFACE® encoder • sin/cos encoder V_{PP} = AC 1 V • CANopen encoder • TTL encoder with negated tracks • HTL encoder • SSI encoder • SSI Combi encoder • EnDat encoder • Encoder with signal level to RS422 • Permitted PPR count: 2-4096 increments Encoder power supply: • DC 24 V encoder supply • DC 12 V encoder supply[1)]
	Motor encoder connection X15:	Permitted encoder types: • HIPERFACE® encoder • sin/cos encoder V_{PP} = AC 1 V • TTL encoder with negated tracks • HTL encoder • SSI encoder • SSI Combi encoder • EnDat encoder • Encoder with signal level to RS422 • Permitted PPR count: 2-4096 increments Encoder power supply: • DC 24 V voltage supply[2)] • DC 12 V voltage supply[3)]

1) The maximum load on X14:15 and X15:15 is DC 650 mA in total.

2) If the overall unit load on the 24 V level exceeds 400 mA, connect an external DC 24 V supply to X10:9/X10:10. Observe the "Project planning" chapter in the MOVIDRIVE® MDX60B/61B system manual

3) The maximum load on X14:15 and X15:15 is DC 650 mA in total.

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5 NF...-... line filters

- Are used to suppress interference emission on the line side of inverters.
- Do not switch between NF... line filters and MOVIDRIVE®.
- NF... line filters have a cRUus approval independent of MOVIDRIVE®.

Line filter type	NF009-503	NF014-503	NF018-503	NF035-503	NF048-503
Part number	827 412 6	827 116 X	827 413 4	827 128 3	827 117 8
Nominal line voltage V_{line} (according to EN 50160)	3 × AC 380 V - 500 V, 50/60 Hz				
Nominal current I_N	AC 9 A	AC 14 A	AC 18 A	AC 35 A	AC 48 A
Power loss at I_N P_V	6 W	9 W	12 W	15 W	22 W
Leakage current at V_N	< 25 mA	< 25 mA	< 25 mA	< 25 mA	< 40 mA
Ambient temperature ϑ_A	-25 to 100%				
Degree of protection	IP20 (EN 60529)				
Connections L1-L3/L1'-L3'	4 mm² (AWG 10)			10 mm² (AWG 8)	10 mm² (AWG 8)
Tightening torque L1-L3/ L1'-L3'	0.8 Nm			1.8 Nm	1.8 Nm
Connection PE	M5 stud			M5 stud	M6 stud
Tightening torque PE	3.4 Nm			3.4 Nm	5.5 Nm
Assignment to AC 400/500 V units (MDX60/61B...-5_3)					
Nominal operation (100%)	0005 – 0040	0055/0075	-	0110/0150	0220
Increased power (125%)	0005 – 0030	0040/0055	0075	0110	0150
Assignment to AC 230 V units (MDX61B...-2_3)					
Nominal operation (100%)	0015/0022	0037	-	0055/0075	0110
Increased power (125%)	0015	0022	0037	0055/0075	-

Line filter type	NF063-503	NF085-503	NF115-503	NF150-503	NF210-503
Part number	827 414 2	827 415 0	827 416 9	827 417 7	827 418 5
Nominal line voltage V_{line} (according to EN 50160)	3 × AC 380 V - 500 V, 50/60 Hz				
Nominal current I_N	AC 63 A	AC 85 A	AC 115 A	AC 150 A	AC 210 A
Power loss at I_N P_V	30 W	35 W	60 W	90 W	150 W
Leakage current at V_N	< 30 mA	< 30 mA	< 30 mA	< 30 mA	< 40 mA
Ambient temperature ϑ_A	-25 to 100%				
Degree of protection	IP20 (EN 60529)				
Connections L1-L3/L1'-L3'	16 mm² (AWG 6)	35 mm² (AWG 2)	50 mm² (AWG1/0)	50 mm² (AWG1/0)	95 mm² (AWG4/0)
Tightening torque L1-L3/ L1'-L3'	3 Nm	3.7 Nm	3.7 Nm	3.7 Nm	20 Nm
Connection PE	M6	M8	M10	M10	M10
Tightening torque PE	5.5 Nm	12.8 Nm	23.8 Nm	23.8 Nm	23.8 Nm
Assignment to AC 400/500 V units (MDX60/61B...-5_3)					

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Line filter type	NF063-503	NF085-503	NF115-503	NF150-503	NF210-503
Nominal operation (100%)	0300	0370/0450	0550	0750	0900/1100
Increased power (125%)	0220	0300/0370	0450	0550/0750	0900
Assignment to AC 230 V units (MDX61B...-2_3)					
Nominal operation (100%)	0150	0220	0300	-	-
Increased power (125%)	0110/0150	-	0220/0300	-	-

Line filter type	NF300-503	NF600-503
Part number	827 419 3	1 796 338 9
Nominal line voltage V_{line} (according to EN 50160)	3 × AC 380 V - 500 V, 50/60 Hz	
Nominal current I_N	AC 300 A	AC 600 A
Power loss at I_N P_V	180 W	44 W
Leakage current at V_N	< 45 mA	< 6 mA
Ambient temperature ϑ_A	-25 to 100%	
Degree of protection	IP20 (EN 60529)	IP00 (EN 60529)
Connections L1-L3/L1'-L3' Tightening torque L1-L3/ L1'-L3' Connection PE Tightening torque PE	150 mm^2 (AWG300-2) 30 Nm M12 36 Nm	Connection rail with bore for M12 Max. 2 × 240 mm^2 70 Nm (620 lb in) M12 36 Nm
Assignment to AC 400/500 V units (MDX60/61B...-5_3)		
Nominal operation (100%)	1320	2500
Increased power (125%)	1100/1320	1600/2000/2500
Assignment to AC 230 V units (MDX61B...-2_3)		
Nominal operation (100%)	-	-
Increase power (125%)	-	-

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6 Assignment of braking resistors, chokes and filters

6.1 AC 400/500 V units, sizes 5 to 7

MOVIDRIVE® MDX61B...-503			0550	0750	0900	1100	1320	1600	2000	2500
Size			**5**		**6**			**7**		
Braking resistors BW...-...-T	Trip current	Part number BW...-...-T								
BW106-T	I_F = 47.4 A	1820 083 4			**C**	**C**	**C**	D	E	F
BW206-T	I_F = 54.8 A	1820 412 0			**C**	**C**	**C**	D	E	F
BW1.4-170	I_F = 110 A	1330 152 7								
BW003-420-T	I_F = 129 A	1330 234 5						C	C	C
Line filter		Part number								
NF115-503	V_{max} = AC 550 V	827 416 9	**A**							
NF150-503		827 417 7	**B**							
NF210-503		827 418 5				**A**				
NF300-503		827 419 3				**B**				
NF600-503		1 796 338 9						B	**B**	B
Output chokes	Inner diameter	Part number								
HD001	d = 50 mm	813 325 5	For cable cross sections 1.5 – 16 mm² (AWG 16 – 6)							
HD003	d = 88 mm	813 558 4	for cable cross sections > 16 mm² (AWG 6)							
HD004	Connection with M12 bolt	816 885 7								
HD005	Connection With M12 cable lug, M10 PE connection	1 796 336 2						B	**B**	B
Output filter (only in V/f and VFC operating mode)		Part number								
HF450-503		826 948 3	**H**	**H**						
HF180-403		829 909 9								
HF325-403		829 948 3								

A **In nominal operation (100%)**

B **With variable torque load (125%)**

C **Connect two braking resistors in parallel and set twice the trip current (2 × I_F) on F16**

D **Connect three braking resistors in parallel and set three times the trip current (3 × I_F) on F16**

E **Connect four braking resistors in parallel and set four times the trip current (4 × I_F) on F16**

F **Connect five braking resistors in parallel and set five times the trip current (5 × I_F) on F16**

H **Two filters in parallel**

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7 Motor table DRS series AC motors (characteristic value with double-star/star connection AC 230/460 V / 60 Hz)

Motor	P_m	M_N	Mass moment of inertia J_M		Star ⅄ (AC 460 V)				Double-star ⅄⅄ (AC 230 V)			
			without brake	with brake	I_n	I_{q_n} [1]	I_{d_n} [1]	k_T [1]	I_n	I_{q_n} [1]	I_{d_n} [1]	k_T [1]
	kW	Nm	10^{-4} kgm²		A	A	A	Nm/A (lb in/A)	A	A	A	Nm/A (lb in/A)
DRS71S4	0.37	2.1 (18.6)	4.9	6.2	0.92	0.72	0.58	2.93 (25.9)	1.84	1.43	1.16	1.47 (13.0)
DRS71M4	0.55	3.1 (27.4)	7.1	8.4	1.25	1.00	0.75	3.09 (27.3)	2.50	2.00	1.49	1.55 (13.7)
DRS80S4	0.75	4.2 (37.2)	14.9	16.4	1.66	1.23	1.12	3.43 (30.4)	3.32	2.45	2.24	1.71 (15.1)
DRS80M4	1.1	6.1 (54.0)	21.5	26	2.14	1.75	1.23	3.48 (30.8)	4.28	3.50	2.46	1.74 (15.4)
DRS90M4	1.5	8.4 (74.3)	35.5	40	2.87	2.52	1.38	3.34 (29.6)	5.74	5.03	2.76	1.67 (14.8)
DRS90L4	2.2	12.2 (108)	43.5	49.5	4.1	3.33	2.37	3.66 (32.4)	8.20	6.66	4.75	1.83 (16.2)
DRS100M4	3	16.7 (148)	56	62	5.5	4.92	2.45	3.39 (30.0)	11.0	9.85	4.90	1.70 (15.0)
DRS100M4	3.7	21 (186)	56	62	6.65	6.19	2.42	3.39 (30.0)	13.3	12.4	4.84	1.70 (15.0)
DRS100L4	4	22.5 (199)	68.3	74.3	7.3	6.25	3.78	3.60 (31.9)	14.6	12.5	7.56	1.80 (15.9)
DRS112M4	4	22 (195)	146	151	6.8	6.41	2.26	3.43 (30.4)	13.6	12.8	4.52	1.71 (15.1)
DRS132S4	5.5	30 (266)	190	200	9.4	8.8	3.36	3.42 (30.3)	18.8	17.6	6.72	1.71 (15.1)
DRS132M4	7.5	41 (363)	255	265	12.4	11.7	4.01	3.50 (31.0)	24.8	23.5	8.02	1.75 (15.5)
DRS132MC4	9.2	50 (443)	342	355	16	14.7	6.33	3.40 (30.1)	32.0	29.4	12.7	1.70 (15.0)
DRS160S4	9.2	50 (443)	370	420	15.9	14.2	7.2	3.53 (31.2)	31.8	28.4	14.4	1.76 (15.6)
DRS160M4	11	60 (531)	450	500	18.8	17.5	6.99	3.44 (30.4)	37.6	34.9	14.0	1.72 (15.2)
DRS160MC4	15	81 (717)	590	640	26.5	24.7	9.57	3.28 (29.0)	53.0	49.4	19.1	1.64 (14.5)
DRS180S4	15	81 (717)	895	955	25.5	23.6	9.68	3.43 (30.4)	51.0	47.2	19.4	1.72 (15.2)
DRS180M4	18.5	100 (885)	1110	1250	30.5	27.0	14.1	3.70 (32.7)	61.0	54.1	28.2	1.85 (16.4)
DRS180L4	22	119 (1053)	1300	1440	35.9	32.1	16.0	3.70 (32.7)	71.8	64.2	32.0	1.85 (16.4)
DRS180LC4	30	161 (1425)	1680	1910	48.5	45.5	16.9	3.54 (31.3)	97.0	90.9	33.8	1.77 (15.7)
DRS200L4	30	161 (1425)	2360	2590	51	47.9	17.6	3.36 (29.7)	102	95.8	35.1	1.68 (14.9)
DRS225S4	37	198 (1752)	2930	3160	61	56.6	22.6	3.50 (31.0)	122	113	45.3	1.75 (15.5)
DRS225M4	45	240 (2124)	3430	3660	72	68.7	21.7	3.50 (31.0)	144	137	43.4	1.75 (15.5)
DRS225MC4	55	295 (2611)	4330	4560	87.9	84.5	24.2	3.49 (30.9)	176	169	48.4	1.75 (15.5)
DRS315K4	110	589 (5213)	18400	19500	172	165	47.4	3.56 (31.5)	-	-	-	-
DRS315S4	132	707 (6257)	22500	23600	205	202	43.4	3.49 (30.9)	-	-	-	-
DRS315S4	150	802 (7098)	22500	23600	230	222	60.7	3.62 (32.0)	-	-	-	-

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7 Motor table DRS series AC motors (characteristic value with double-star/star connection AC 230/460 V / 60 Hz)

Motor	P_m	M_N	Mass moment of inertia J_M		Star 人 (AC 460 V)				Double-star 人人 (AC 230 V)			
			without brake	with brake	I_n	I_{q_n} 1)	I_{d_n} 1)	k_T 1)	I_n	I_{q_n} 1)	I_{d_n} 1)	k_T 1)
	kW	Nm	10^{-4} kgm²		A	A	A	Nm/A (lb in/A)	A	A	A	Nm/A (lb in/A)
DRS315M4	160	856 (7576)	27900	29000	245	237	60.3	3.60 (31.9)	-	-	-	-
DRS315M4	185	991 (8771)	27900	29000	280	274	59.9	3.62 (32.0)	-	-	-	-
DRS315L4	200	1072 (9488)	31900	33000	304	295	73.4	3.63 (32.1)	-	-	-	-
DRS315L4	225	1205 (10665)	31900	33000	335	328	72.8	3.67 (32.5)	-	-	-	-

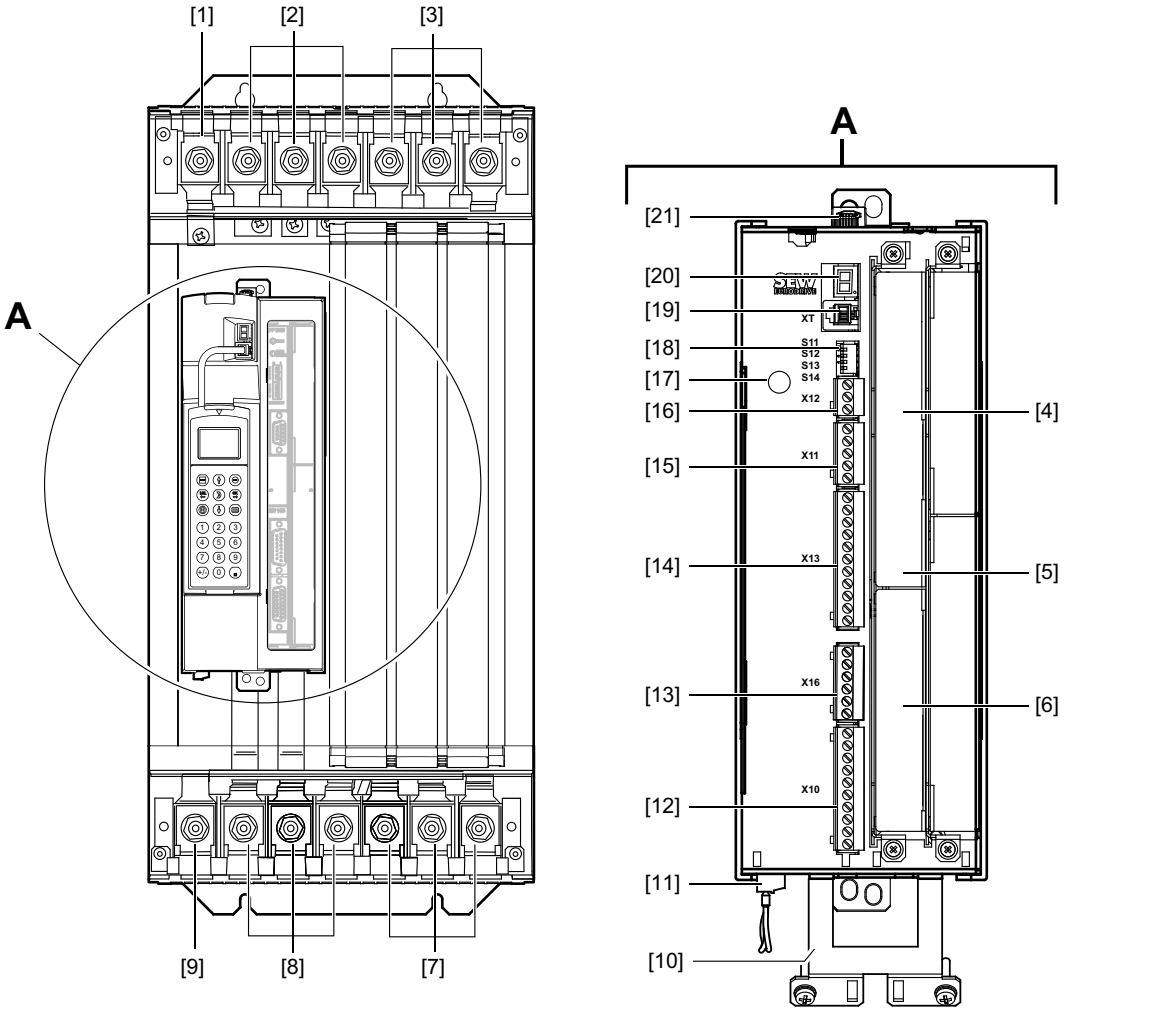
1) Applies in the basic speed range up to n trans.

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8 Size 5

MDX61B-503 (AC 400/500 V units): 0550 / 0750



[1] PE connection

[2] X1: Line connection 1/L1, 2/L2, 3/L3

[3] X4: Connection for DC link connection $-U_Z$ $+U_Z$ and PE connection

[4] Fieldbus slot

[5] Expansion slot

[6] Encoder slot

[7] X3: Braking resistor connection 8/+R, 9/–R and PE connection

[8] X2: Motor connection 4/U, 5/V, 6/W

[9] PE connection

[10] Shield clamp for signal cables

[11] X17: Signal terminal strip for safety contacts for safe stop

[12] X10: Signal terminal strip for digital outputs and TF/TH input

[13] X16: Signal terminal strip digital inputs and outputs

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[14] X13: Signal terminal strip terminal strip for digital inputs and RS485 interface

[15] X11: Signal terminal strip for setpoint input AI1 and 10 V reference voltage

[16] X12: Signal terminal strip system bus (SBus)

[17] M4 × 14 grounding screw: for size 5 without function

[18] DIP switches S11 to S14

[19] XT: Slot for DBG60B keypad or UWS21B serial interface

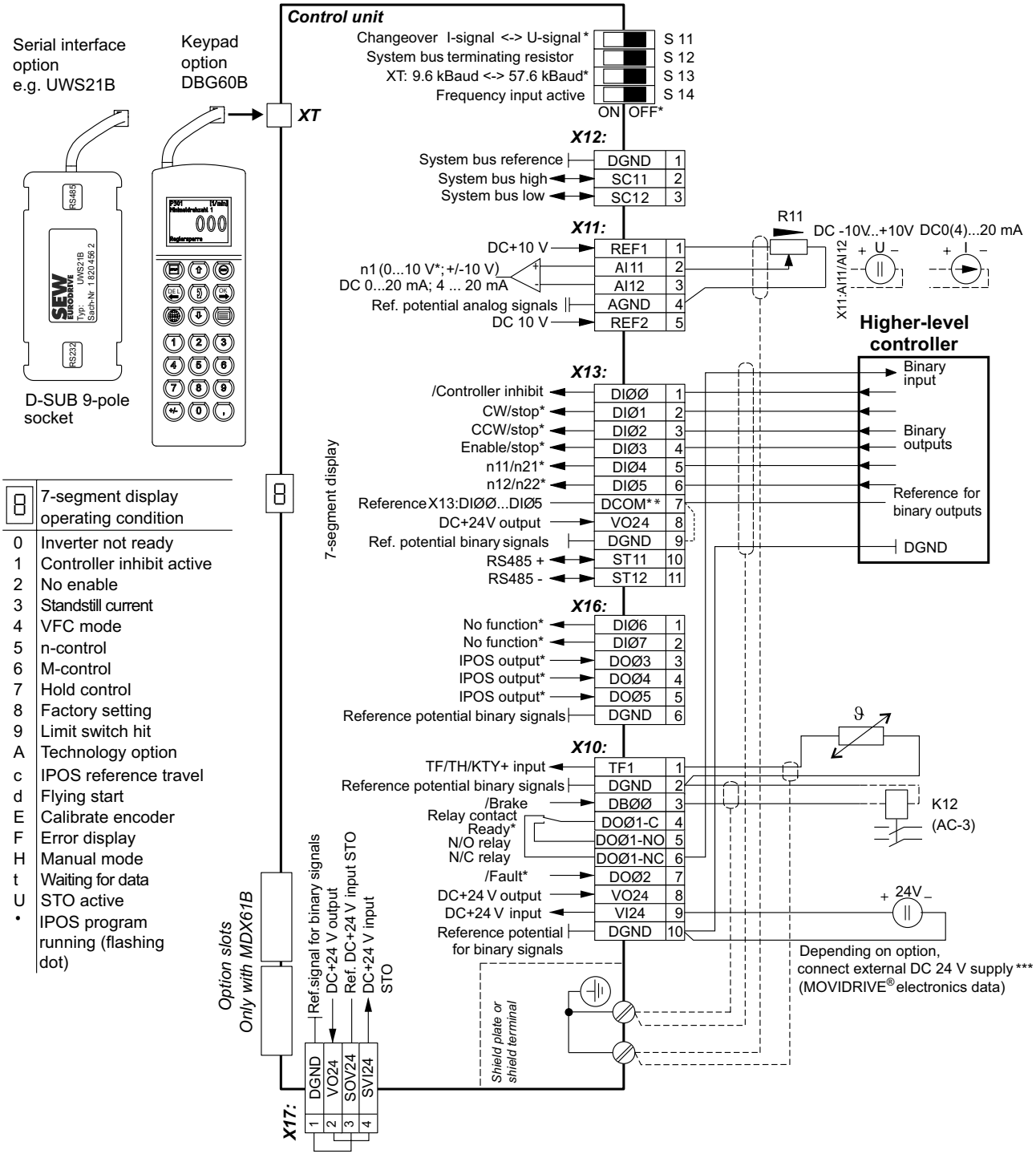
[20] 7-segment display

[21] Memory card

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9 MDX60B/61B signal terminals



	7-segment display operating condition
0	Inverter not ready
1	Controller inhibit active
2	No enable
3	Standstill current
4	VFC mode
5	n-control
6	M-control
7	Hold control
8	Factory setting
9	Limit switch hit
A	Technology option
c	IPOS reference travel
d	Flying start
E	Calibrate encoder
F	Error display
H	Manual mode
t	Waiting for data
U	STO active
•	IPOS program running (flashing dot)

9007201060307595

* Factory setting

** If the digital inputs are connected to the DC 24 V voltage supply X13:8 "VO24", install a jumper between X13:7 (DCOM) and X13:9 (DGND) on the MOVIDRIVE® inverter.

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DGND (X10, X12, X13, X16, X17) is connected with PE as standard (threaded hole, see chapter "Unit structure"). You can establish galvanic isolation by removing the M4 x 14 grounding screw. In size 5, the grounding screw does not have any function.

*** External voltage supply via X:10 only for sizes 0 to 6. For size 7, you must connect the 24 V backup voltage via the DC power supply.

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