Switched-mode power supply unit, 100-240VAC/24VDC, 20A

Part no. SN3-200-BV8
Article no. 100642

Powering Business Worldwide

Delivery programme

Product range			SN3 switched-mode power supply units
Description			Primary pulsed power supply, power reserve from up to 50 % Up to 5 devices can be paralleled to increase power and for redundancy
Phases			1-phase
Input voltage range			85 - 132 V AC 184 - 264 V AC 220 - 350 V DC
Instructions			At ⎓ 264 V DC additionally suitable, use fuse.
Nominal input voltage			110 - 120 V AC 220 - 240 V AC
Rated output voltage			24 V DC (-1/5%)
Rated output current		A	20
Rated output power		W	480
For use with			easy… MFD… EC4P… XC-CPU… XIOC… PS4…

Technical data

General

Standards			EN 61204, 2006/95/EC, 2004/108/EC, EN 50178, EN 60950, UL 60950, UL 508, SELV (EN 60950)
Degree of protection			
Enclosures			IP20
Terminals			IP20
Protection class			according to EN 61140, Class 1
Mounting			DIN rail (IEC/EN 60715), snap fixing
Mounting position			Horizontal
Heat dissipation		W	part no. ⎓ 58
Efficiency		%	88

Dimensions

Width		mm	200
Height		mm	130
Depth		mm	130
Weight		kg	2.83
Minimum distance to adjacent devices		mm	horizontal 10, vertical 80

Terminal capacities

			Only operate plug-in terminals off load.
Input circuit			
Flexible with ferrule		mm^2	2.5…10 (14…8 AWG)
Flexible without ferrule		mm^2	0.5…10 (20…8 AWG)
Massive		mm^2	0.5…16 (22…6 AWG)
Output circuit			
Flexible with ferrule		mm^2	2.5…10 (14…8 AWG)
Flexible without ferrule		mm^2	0.5…10 (20…8 AWG)
Massive		mm^2	0.5…16 (22…6 AWG)

Environmental compatibility

Ambient temperature, operation		°C	-25 - +70
Ambient temperature, full load		°C	0 - +60 (without derating)
Ambient temperature, storage		°C	- 40 - + 85

Climatic proofing		to IEC 60068-2-3, 93% at +40 °C, no condensation
Overvoltage category/pollution degree		according to EN 50178; 2
Climatic class (IEC)		according EN 60721; 3K3
Vibrations (IEC/EN 60068-2-6)		1…57 Hz, amplitude ±0.075 mm; 57…100 Hz, 5 g
Mechanical shock resistance (IEC 60068-2-27)		30 g all directions

Insulation voltage

Inputs/outputs		3 kV AC (type test), 1.2 kV AC (routine test)
Input		1.5 kV AC (type test), 1.2 kV AC (routine test)
Output		350 V AC (routine test)

Electromagnetic compatibility (EMC)

Interference immunity		EN 61000-6-2
ESD		according to EN 61000-4-2, level 4-8KV/15KV
RFI		according to EN 61000-4-3, level 3-10 V/m
Burst		according to EN 61000-4-4, level 4-4 KV
Surge		according to EN 61000-4-5, level 4-2KV symmetrical, Level 3-3KV asymmetrical
Cable-born HF		according to EN 61000-4-6, level 3-10 V
Emitted interference		EN 61000-6-3
Electromagnetic fields		according to EN 55022, Class B
Cable-born HF		according to EN 55022, Class B

Input circuit

at switch position		
110 V AC		110-120 AC
230 V AC		220-240 AC
at switch position		
110 V AC		85-132 AC
230 V AC		184-264 AC
230 V DC		220-350 DC
Supply frequency		
Rated value	Hz	50/60
Range	Hz	47 - 63
Current consumption		
Switch position 110 V AC	A	Approx. 9.0…8.0
Switch position 230 V AC	A	Approx. 4.4…4.0
Power consumption	W	Normally 538
Inrush current limiter/i^2t (cold start)		≦ 70 A / approx. 8 A^2s
Mains failure bridging	ms	typ. ≧ 50
Run-up time after mains voltage applied	ms	Normally ≧ 20
Transient overvoltage protection		Varistors
Internal input fuse (device protection, not accessible)		12 AF
Discharge current to PE	mA	< 3.5 mA

Output circuit

L+, L+, L-, L-		Proof against short-circuit, no-load and overload
Rated output power	W	480
Rated output current T_u ≦ 60 °C	A	20
Peak output current (power reserves) Tu ≦ 40 °C	A	Normally ≦ 22.5
Derating 60 °C ≦ T_u ≦ 70 °C		2.5 % per Kelvin temperature increase
Control deviation at		
Load change 10…90 %, static	Normally	±0.1 %
Load change 10…90 %, dynamic	Normally	±3 %
Controller acting time	ms	Normally 1
Input voltage deviation ±10 %		Normally ±0.05 %
Rise time 10…90 %	ms	Normally ≦ 15
Residual ripple and switching peaks		20 MHz typically < 50 mV_{ss}

Can be switched in parallel			yes, up to 5 devices for redundancy and for power increase, non symetrical current
Series connection capability			yes, for voltage increase (max. 2 off)
Resistance to reverse feed			yes, limited to approx. 35 V AC
Power factor correction (PFC)			No
Status indication			OUTPUT OK: LED green
Overload characteristics			→ AWA2727-2317 (www.moeller.net/support)
Behaviour on short-circuit			continuously with current limitation
Current limitation at short-circuit		A	Approx. 25
Short-circuit protection			Proof against sustained short circuit
Overload protection			thermal protection
Capacitive load starting			Not restricted

Notes

At U ≧ 264 V DC additionally suitable, use external fuse.

Design verification as per IEC/EN 61439

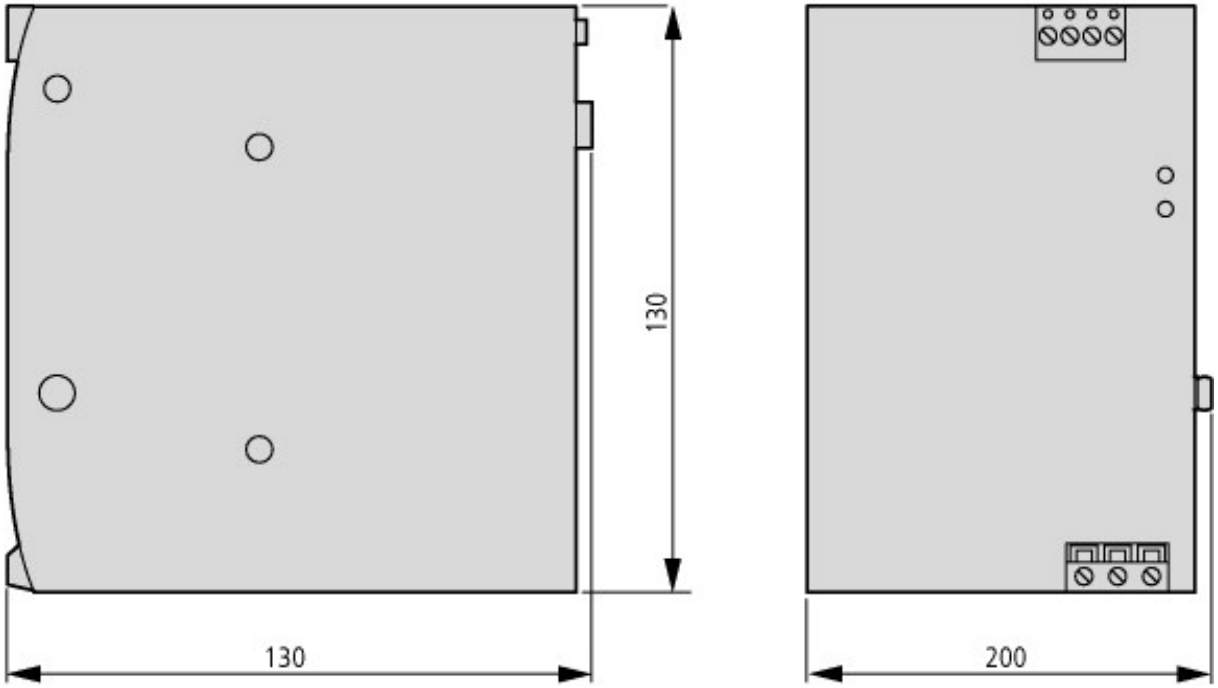
Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	58
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Meets the product standard's requirements.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 5.0

PLC's (EG000024) / PLC system power supply (EC000599)			
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / SPS system power supply (ecl@ss8-27-24-22-09 [AKE532010])			
Input voltage at AC 50 Hz		V	85 - 264

Input voltage at AC 60 Hz		V	85 - 264
Input voltage at DC		V	220 - 350
Type of voltage (input voltage)			AC/DC
Max. input current AC 50 Hz		A	9
Max. input current AC 60 Hz		A	9
Max. input current DC		A	2.45
Type of output voltage			DC
Output voltage at AC 50 Hz		V	0 - 0
Output voltage at AC 60 Hz		V	0 - 0
Output voltage at DC		V	0 - 0
Max. output current AC 50 Hz		A	0
Max. output current AC 60 Hz		A	0
Max. output current DC		A	20
Redundancy			Yes
Suited for safety functions			Yes
Width		mm	130
Height		mm	130
Depth		mm	200

Dimensions



Additional product information (links)

IL05012004Z (IL05012004Z) Power supply unit

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