Buffer module for PSG power supply unit, 20 A

Part no. PSG480B24RM
Article no. 172887
Catalog No. PSG480B24RM

Powering Business Worldwide

Delivery program

Product range			Power supplies PSG
Subrange			Buffer module
Description			For maintaining operation during brief power failures; the backup time can be multiplied by connecting in parallel
Backup time depends on load current			250 ms (20 A) to max. 5 s (1 A)
Input voltage range			22,8 - 28,8 V DC
Nominal input voltage			24 V DC
Rated output voltage			Typically 24 VDC (depends on V_{in})
Rated output current		A	20
Setting range for the output voltage			22 - 28 V DC Switch = "Fixed 22 V" : Back-up starts when the terminal voltage falls below 22 V Switch = "Vin - 1 V" (default setting): Back-up starts when the terminal voltage drops by more than 1 V

Technical data

Input characteristics

Nominal input voltage			24 V DC
Input voltage range		V	22.8 - 28.8 V DC
Maximum input voltage		V DC	35
Input current		A	Charging mode: < 0.6 A Discharging mode: Max. 20 A
Maximum input signal (Inhibit = Blocking)			35 V 10 mA
Maximum inrush current		A	< 20 A
Charging time		sec	< 30 sec
Back-up fuse			3 x 6, 10, 16 A (recommended)

Output characteristics

Rated output voltage			Typically 24 VDC (depends on V_{in})
Setting range for the output voltage			22 - 28 V DC Switch = "Fixed 22 V" : Back-up starts when the terminal voltage falls below 22 V Switch = "Vin - 1 V" (default setting): Back-up starts when the terminal voltage drops by more than 1 V
Maximum output voltage			35 V DC
Nominal current		A	max. 20
Back-up time		ms	> 250 ms with 24 V / 20 A load > 5 sec with 24 V / 1 A load
Maximum signal output			35 V DC 10 mA
Signals			Inhibit signal (I) = "Low": Switches off the buffer module Ready signal (R) = "High": Buffer module is fully charged or in standby mode Buffering signal (B) = "High": Buffer module is discharging or is in buffer mode Supply voltage (+Vs): 10 - 35 VDC
Heat dissipation		W	3
Residual ripple (20 MHz)			< 200 mVpp
Can be switched in parallel			Yes
Series connection capability			No

General characteristics

Housing			Aluminium
Status indication			Green LED off: Device is out of charge or Vin < 22 V Green LED on: Device is fully charged Green LED flashing slowly (1 Hz): Device currently charging Green LED flashing quickly (10 Hz): Device currently discharging
MTBF (mean time between failures)			> 800,000 h
Height		mm	121

Width		mm	70
Depth		mm	120.1
Weight		kg	0.76
Terminations			Screw connection
Stripping length		mm	7
Terminal capacity			
flexible with ferrules/solid		mm^2	Input / output: 3.3 - 5.3 mm^2 (AWG 12 - 10) Signal: 0.1 - 5.3 mm^2 (AWG 24 - 10)
Tightening torque		Nm	0.7
Ambient air temperature range		°C	
Operation		°C	-25 - +75
damp heat			< 95 % relative humidity at +25 °C, no condensation
Vibrations (IEC/EN 60068-2-6)			10 - 500 Hz at 30 m/s^2 (3 G max) for 60 min. in X-axis, Y-axis, Z-axis directions
Mechanical shock resistance (IEC 60068-2-27)			30 g (300 m/s^2) in all directions

Safety and safety features

Insulation voltage			
Input/PE			1.5 kV AC
Output/PE			1.5 kV AC
Signal/PE			1.5 kV AC
Degree of Protection			IP20
Protection class			Class I with PE connection

Standards

			Electrical equipment of machines: IEC 60204-1 Electronic devices for use in electrical systems: EN 50178/IEC 62103 Safety extra-low voltage: PELV (EN 60204), SELV (EN 60950) Protection against electric shock: DIN 57100-410 CE: In conformance with EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC RoHS-compliant: RoHS Directive 2011/65/EU ITE: EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024 Industrial: EN 55011 Mains harmonics limitation: EN 601000-3-2 Electrical safety (of IT equipment) : UL/c-UL recognized as per UL 60950-1 and CSA C22.2 No. 60950-1, SIQ BG as per EN 60950-1, CB test report as per IEC 60950-1 and CE Industrial control equipment: UL/c-UL listed as per UL 508 and CSA C22.2 Component power supply unit for general use: EN61204-3

Design verification as per IEC/EN 61439

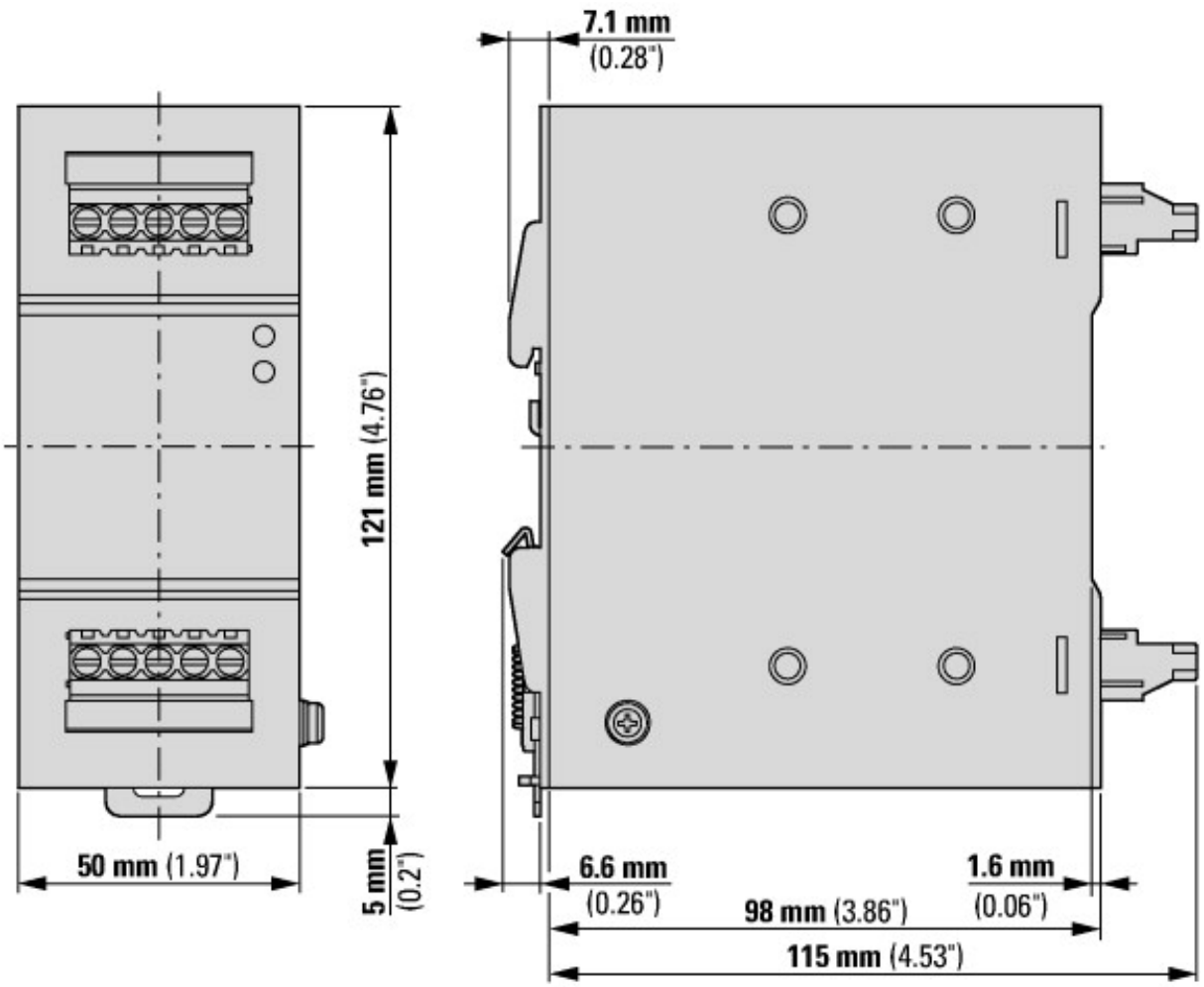
Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	3
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	75
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 6.0

Low-voltage industrial components (EG000017) / DC-power supply (EC002540)			
Electric engineering, automation, process control engineering / Power supply / Power supply (other) / DC-power supply (ecl@ss8.1-27-04-90-02 [AFZ644012])			
Voltage type of supply voltage			DC
1st secondary output voltage		V	22 - 28
2nd secondary output voltage		V	0 - 0
3rd secondary output voltage		V	0 - 0
Max. output current 1		A	20
Max. output current 2		A	0
Max. output current 3		A	0
Secondary voltage adjustable			No
Nominal value output voltage 1		V	24
Nominal value output voltage 2		V	0
Nominal value output voltage 3		V	0
Nominal value output current 1		A	20
Nominal value output current 2		A	0
Nominal value output current 3		A	0
Short-circuit-proof			Yes
Rated supply voltage at AC 50 Hz		V	0 - 0
Rated supply voltage at AC 60 Hz		V	0 - 0
Rated supply voltage at DC		V	22.8 - 28.8
Output voltage stabilized			No
Power consumption		VA	0
Power output		W	480
Stabilized			No
Type of electric connection			Screw connection
Rail mounting possible			Yes
Wall mounting possible			No
Modular version			Yes
Width in number of modular spacings			0
Built-in width		mm	70
Built-in height		mm	121
Direct mounting possible			No
Width		mm	70
Height		mm	121
Depth		mm	120.1
Suitable for safety functions			No
SIL according to IEC 61508			None
Performance level acc. to EN ISO 13849-1			None
Degree of protection (IP)			IP20

Dimensions



Additional product information (links)

IL125001EN Installation Instructions for PSG480B24RM BUFFER MODULE	
IL125001EN Installation Instructions for PSG480B24RM BUFFER MODULE	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL125001EN2014_06.pdf