

X-DIAS LED-Module XPL 201



with 2x RGB pixel LED strip control with 5 V supply

The X-DIAS LED Module XPL 201 can be used to control two RGB pixel LED strips with a maximum of 512 pixel LEDs. The +5 V supply for the pixel LEDs is generated by means of an internal switching regulator from the externally supplied +24 V supply. The +5 V supply is protected against short circuit and overload. The external +24 V supply is monitored for undervoltage.

Pixel LED Output Specifications

Number	2
Short-circuit and overload protection	yes
Supported pixel LEDs	WS2812B, WS2813
Maximum number of pixel LEDs	512 Pixel LEDs
Data rate pixel LED control	800 kB/s
Update frequency	approx. 115 Hz @ 288 pixel LEDs, 800 kB/s (the update rate results from the number of controlled pixel LEDs and the fixed update rate; if a higher update rate is required, the number of pixel LEDs per string must be reduced)
Data width per LED	24-bit (8-bit red/green/blue)
Maximum load capacity +5 V	maximum 4.5 A at 45 °C ambient temperature maximum 3 A at 50 °C ambient temperature maximum 2 A at 55 °C ambient temperature

Electrical Requirements

Voltage supply from S-DIAS bus	+24 V DC $\pm 20\%$ (SELV/PELV) UL: NEC Class 2	
Protection class	III	
Current consumption on the S-DIAS bus (+24 V supply)	typically 26 mA	maximum 32 mA
Supply for I/Os	+24 V $\pm 20\%$	
Current consumption I/O supply	Load-dependent (max. 1.5 A at full load of the pixel LED outputs)	

Voltage Monitoring

Supply voltage +24 V	Load-dependent (max. 1.5 A at full load of the pixel LED outputs)
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Article Number and Miscellaneous

Article number	21-018-201	
Dimensions	12.5 x 101.8 x 62.7 mm (W x H x D)	
Printed circuit board coating	no	
Approvals	CE	yes
	UL	designed according to UL
	Functional Safety	no
	UKCA	no

Environmental Conditions

Storage temperature	-40 ... +85 °C	
Environmental temperature	-25 ... +55 °C	
Humidity	0-95 %, non condensing	
Installation altitude above sea level	0-2000 m without derating > 2000 m up to a maximum of 5000 m with derating of the maximum environmental temperature by 0.5 °C per 100 m	
Operating conditions	pollution degree 2	
Noise emission	≤ 70 dB	
EMC resistance	EN 61000-6-2 (industrial area)	
EMC noise generation	EN 61000-6-4 (industrial area)	
Vibration resistance	EN 60068-2-6	3.5 mm von 5-8.4 Hz 1 g von 8.4-150 Hz
Shock resistance	EN 60068-2-27	15 g (147.15 m/s ²)
Protection type	EN 60529/NEMA 250	IP20/Type1