

EXM020

160 Watt Dimmable LED Ballast

General Description

The EXM020 is a highly integrated, easy to use LED driver. It has an output capacity of 160W that is distributed among four independent channels/LED strings. Distributing power among multiple LED strings eliminates variances due to temperature and LED component tolerances of the current of each LED string. This ensures more even light distribution and superior long term reliability than traditional LED drivers. An integrated temperature sensor monitors the case temperature to prevent over-temperature conditions above 85°C.



EXM020

Features	Applications
<ul style="list-style-type: none"> • 160W total output power • Universal input: 110VAC/220VAC/277VAC • Four constant current channels for improved performance and reliability • Integrated PFC • High efficiency: > 86% • Over-voltage and short-circuit protection • Dimming control port 	<ul style="list-style-type: none"> • Commercial lighting • Industrial lighting • Street lighting • Outdoor lighting



Application Diagram

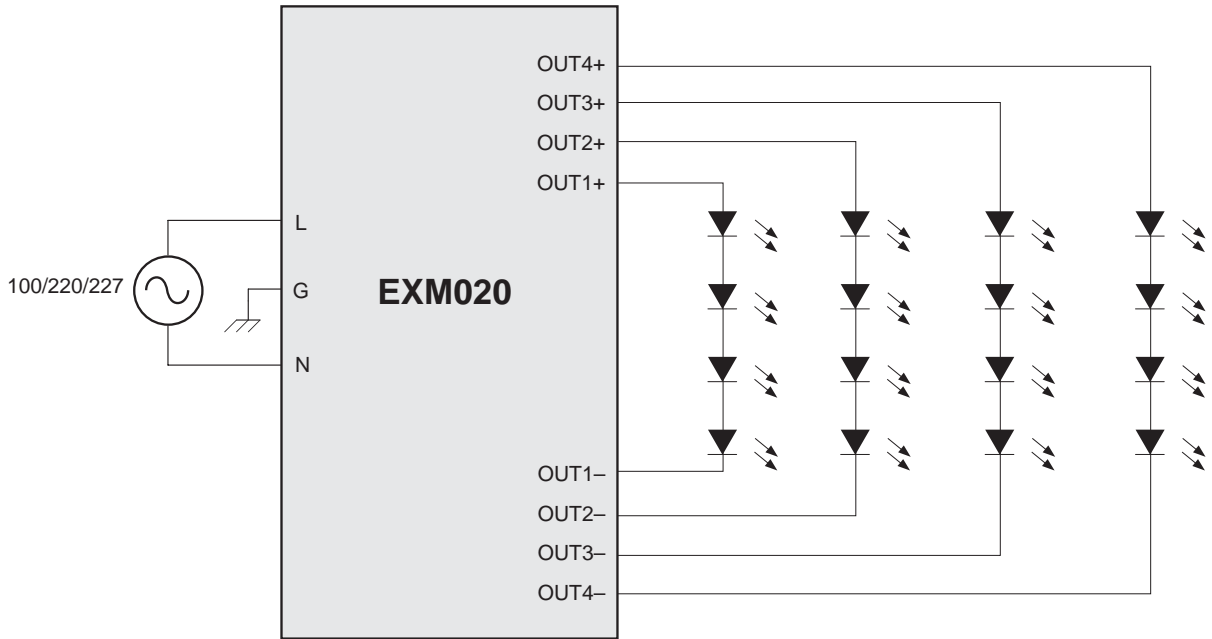
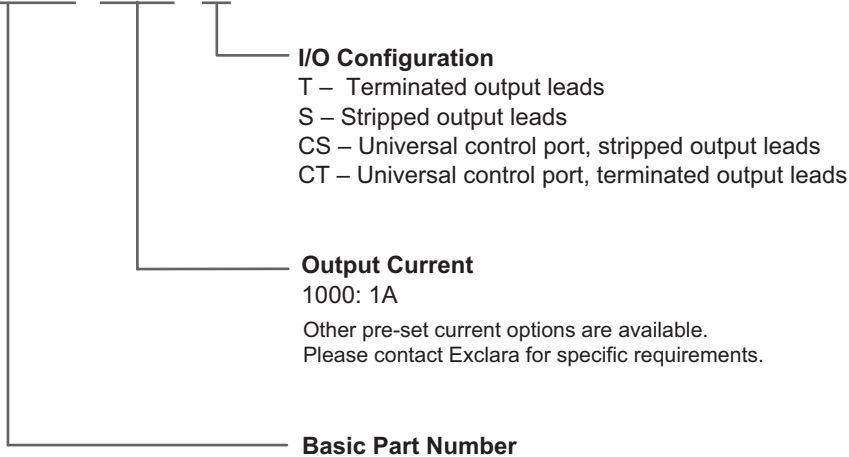


Figure 1. EXM020 Application

Ordering Information

EXM020-xxxx-xx



Example:

EXM020-1000-T: 1000mA, terminated output leads



Absolute Maximum Ratings

Exceeding the Absolute Maximum Ratings will damage the device.

Parameter	Rating
Input Voltage (rms)	340V (0.5 sec)
Output Current per Channel	Self Limited

Key Electrical Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{IN}	Input Voltage (rms)		90		305	VAC
V_{UV}	Input Voltage Lockout	At Full Load, V_{IN} Rising V_{IN} Falling	85		90	VAC
$freq_{IN}$	Input Frequency		47		63	Hz
PF	Power Factor	$V_{IN} = 120VAC$ at rated load $V_{IN} = 264VAC$ at rated load		0.990 0.930		W/VA
THD	Total Harmonic Distortion	$V_{IN} = 120VAC$ $V_{IN} = 264VAC$		4.5 15		%
I_{IN}	Input Current	At 90VAC			2.3	A
P_{OUT}	Total Power output				160	W
η	Efficiency	I_o at rated load, $V_{IN} = 90VAC$		86		%
I_o	Output Current ⁽¹⁾	per channel		1000		mA

Notes:

1. Specifications refer to each channel unless state otherwise. Contact Exclara for different output current settings.

Environmental

Parameter	Value
Storage Temperature	-30°C to 105°C
Operating Ambient Temperature (Ta)	-20°C to 50°C
Operating Case Temperature (TC)	-20°C to 85°C
Enclosure	IP67
MTBF	450,000 hours @ 25°C per Telcordia Issue 2
Humidity	0% to 100% non-condensing
ROHS Compliant	Yes
Weight (kg)	1.51



Electromagnetic Compatibility

Parameter	Value
EMI Conducted and Radiated	EN55015
Conducted Immunity	IEC/EN61000-4-6
Surge Immunity	IEC/EN61000-4-5, Level 4
EMC Compliance – Fast transients/Bursts	IEC/EN61000-4-4, Level 2
ESD Immunity	IEC/EN61000-4-2, Level 4
Radiated RFI	IEC/EN61000-4-3
Voltage Dip	IEC/EN61000-4-11
Harmonics	IEC/EN61000-3-2, Class A & Class C
Voltage Fluctuations/Flicker	IEC/EN61000-3-3

Safety

Parameter	Value
Safety	UL/IEC60950-1 (LPS Classification)