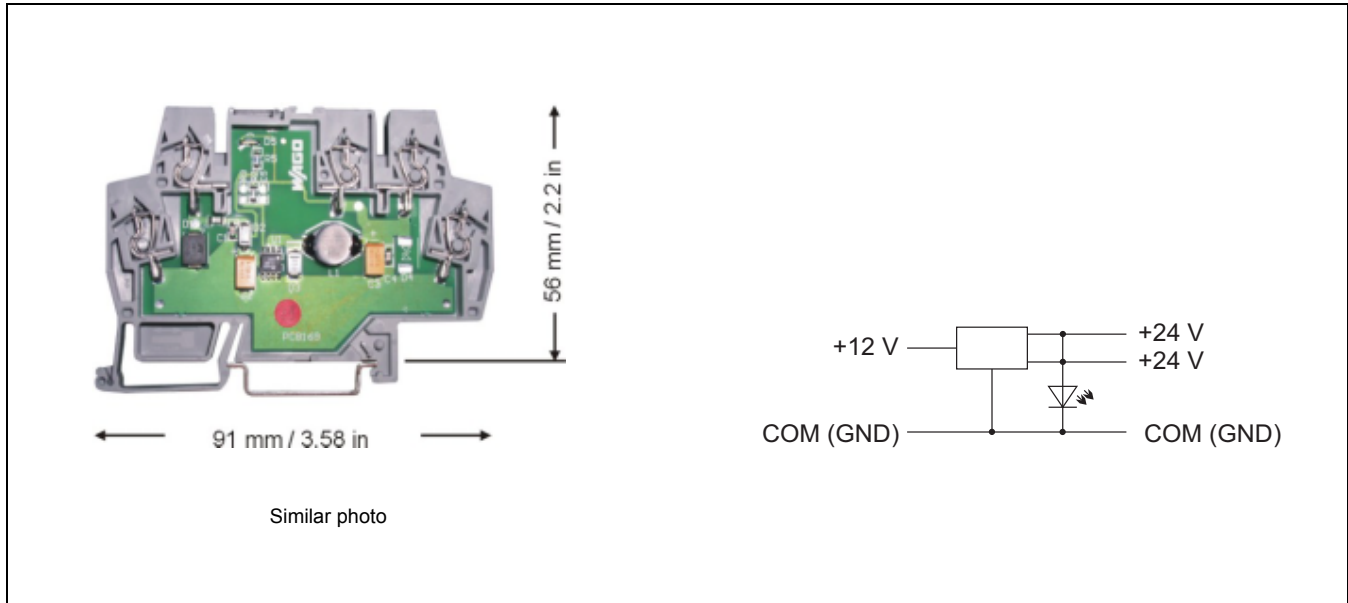


# Electronic Terminal Block with DC-DC Converter

1/1

Step Up Converter DC 12 V / DC 24 V

Data sheet



Description	Item-No.	Pack.-unit pcs																																																
DC/DC Converter 12 V / 24 V ; 250 mA	859-804	1																																																
<ul style="list-style-type: none"> <li>• End plate 859-525 included and attached.</li> <li>• Mounting on DIN 35 rail.</li> </ul> <p>Application:</p> <p>When industrial controls that typically require DC 24 V are used in remote locations, often only DC 12 V is available. This module can cost effectively produce DC 24 V at up to 250 mA from a 12 V source. This module has a wide input range to tolerate the variability of DC 12 V sources that may have a battery / charger based source. The converter design is highly efficient to conserve battery power.</p>	<p><b>Technical Data</b></p> <table border="1"> <tr><td>Input nominal voltage <math>U_N</math></td><td>DC 12 V</td></tr> <tr><td>Input voltage range</td><td>DC 8-16 V</td></tr> <tr><td>Output voltage</td><td>DC 24 V</td></tr> <tr><td>Output voltage range</td><td>DC 24 V <math>\pm</math> 1 %</td></tr> <tr><td>Max. output current</td><td>250 mA</td></tr> <tr><td>Max. line regulation</td><td>0.5 % (from DC 8-16 V, full load)</td></tr> <tr><td>Max. load regulation</td><td>0.5 % (no load to full load, DC 12 V in)</td></tr> <tr><td>Efficiency</td><td>83 % <math>_{typ.}</math> (DC 12 V in, full load)</td></tr> <tr><td>Output noise and ripple</td><td>40 mV P-P max (at bandwidth 20 MHz)</td></tr> <tr><td>Switching frequency</td><td>1.2 MHz (nominal)</td></tr> <tr><td>Isolation</td><td>Non-isolated</td></tr> <tr><td>Input polarity protection</td><td>Yes</td></tr> <tr><td>Minimum load requirements</td><td>None</td></tr> <tr><td>Max. Transient recovery time</td><td>50 <math>\mu</math>s (Recovery time for a step load change of 25 % to 75 % of full load)</td></tr> <tr><td>Max. start-up time</td><td>8 ms (DC 12 V in, full load)</td></tr> <tr><td>Max. hold-up time</td><td>0.5 ms (DC 12 V in, full load)</td></tr> <tr><td>Input protection</td><td>TVS Diode</td></tr> <tr><td>Output short circuit protection</td><td>Fused</td></tr> <tr><td>Temperature coefficient</td><td>100 ppm/<math>^{\circ}</math>C</td></tr> <tr><td>Ambient operating temperature</td><td>-25 <math>^{\circ}</math>C...+40 <math>^{\circ}</math>C</td></tr> <tr><td>Terminal block width</td><td>6 mm / 0.236 in</td></tr> <tr><td>Wire connection</td><td>CAGE CLAMP<sup>®</sup></td></tr> <tr><td></td><td>0.08-2.5 mm<sup>2</sup> / AWG 28-14</td></tr> <tr><td>Stripped length</td><td>5-6 mm / 0.22 in</td></tr> </table>		Input nominal voltage $U_N$	DC 12 V	Input voltage range	DC 8-16 V	Output voltage	DC 24 V	Output voltage range	DC 24 V $\pm$ 1 %	Max. output current	250 mA	Max. line regulation	0.5 % (from DC 8-16 V, full load)	Max. load regulation	0.5 % (no load to full load, DC 12 V in)	Efficiency	83 % $_{typ.}$ (DC 12 V in, full load)	Output noise and ripple	40 mV P-P max (at bandwidth 20 MHz)	Switching frequency	1.2 MHz (nominal)	Isolation	Non-isolated	Input polarity protection	Yes	Minimum load requirements	None	Max. Transient recovery time	50 $\mu$ s (Recovery time for a step load change of 25 % to 75 % of full load)	Max. start-up time	8 ms (DC 12 V in, full load)	Max. hold-up time	0.5 ms (DC 12 V in, full load)	Input protection	TVS Diode	Output short circuit protection	Fused	Temperature coefficient	100 ppm/ $^{\circ}$ C	Ambient operating temperature	-25 $^{\circ}$ C...+40 $^{\circ}$ C	Terminal block width	6 mm / 0.236 in	Wire connection	CAGE CLAMP <sup>®</sup>		0.08-2.5 mm <sup>2</sup> / AWG 28-14	Stripped length	5-6 mm / 0.22 in
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