



Cambium CMM

Application Note – CMM Power Supply Refresh





Detailing the discontinuation of CMM power supplies and
introduction of new CMM powering options

CMM power supply changes – Overview

Discontinued CMM power options

Beginning in December, 2015 four CMM power supply options are discontinued:


Table 1 Discontinued CMM Powering Options

Name	Part Number	
30 VDC Power Supply (6' North American IEC AC line cord included)	ACPS120WA	
30 VDC Power Supply (without AC line cord)	ACPS120W-02A	
56 VDC DIN Rail-mount Power Supply (no cables or cords)	N000000L053A (formerly SGPN4076)	
56 VDC Rackmount Power Supply (no cables or cords)	SGPN4075	

New CMM Power options

Two new CMM powering supplies replace the discontinued power supplies listed in Table 1:

Table 2 New CMM Powering Options

Name	Part Number	
30 VDC Power Supply (no cables or cords)	N000000L055A	 <i>54 VDC shown, 30 VDC model features same design</i>
54 VDC Power Supply (no cables or cords)	N000000L054A	

NOTE When powering PMP 450i AP devices, a crossover cable must be used, or Cambium dongle N000045L001A may also be used (PMP 450i devices require pins 8,7 +Vcc and pins 4, 5 DC return).

Installing the power supply for the CMM4 (30 VDC or 54 VDC)



WARNING!

Although the output of the power supply is 30 VDC or 54 VDC, the power rating classifies the converter as a Class 2 electric device. For this reason, whenever you work on power in the CMM4, you must *first* disconnect the DC supply from the AC power source.

Procedure 1 Installing the CMM power supply

- 1 Install the CMM4 power supply in a hut, wiring closet, or weatherized NEMA-approved enclosure. It is designed for extreme temperatures but it is imperative to keep moisture away from the power converter.
- 2 Do not install the power supply within the CMM4 enclosure. The CMM4 enclosure is large to provide surface area for heat dissipation without the use of forced convection fans, not to provide space for additional high-power electronics.

- 3 For the DC side of a 54 VDC power supply, engineer the DC cable, selecting the wire gauge from the table right. Use either UV-resistant cable or shield the cable (as in a conduit) from UV rays.

DC Power Cord Length	Wire Gauge
Up to 90 ft (3–25 m)	12 AWG (4 mm ²)
91–145 ft (26–45 m)	10 AWG (6 mm ²)
146–230 ft (46–70 m)	8 AWG (10 mm ²)

NOTE

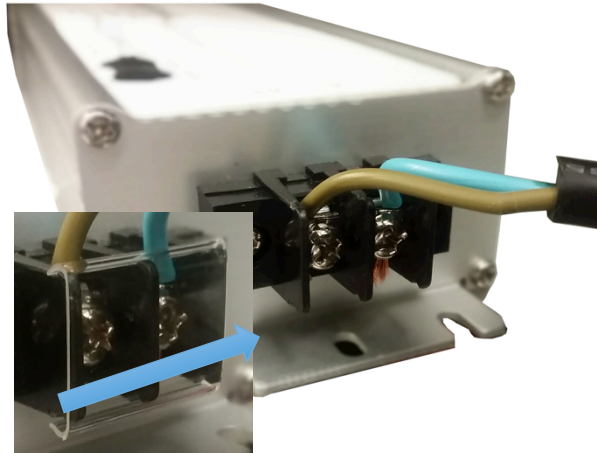
EU Countries Only

To enable regulatory compliance with the European Union (EU) directives, a power line filter module must be installed on the DC side of the power supply. This module may be ordered from Cambium networks (part number N000000L056A). Please reference the PMP Synchronization Solutions User Guide for installation details.



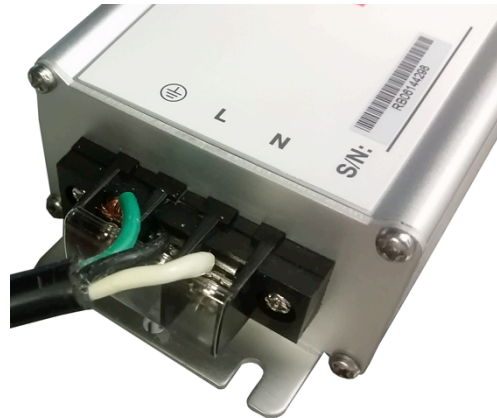
- 4** Remove the clear plastic cover, then connect the DC cable as shown right. Insert the +V lead into the screw terminal clamp labeled “+V” and insert the GND (ground/return) lead into the screw terminal clamp labeled “-V”. To insert a lead into a screw terminal clamp, first loosen the retaining screw, insert the wire into the terminal, then tighten the retaining screw. Once the cables are secure, reinstall the clear plastic cover.

Figure 1 Power supply DC connection



- 5** For the AC side of the power supply, remove the clear plastic cover then connect an AC cable to the power supply using Ground/protective earth (), Neutral (N), and Line (L) as shown right. To insert a lead into a screw terminal clamp, first loosen the retaining screw, insert the wire into the terminal, then tighten the retaining screw. Once the cables are secure, reinstall the clear plastic cover.

Figure 2 Power supply AC connection



 **NOTE**

The 30 VDC CMM4 power supply is labeled as 30 VDC and typically measures 30 VDC at its output. The associated CMM4 terminal blocks are marked 29 VDC, and associated SM power supplies are labeled 29.5 VDC. *All of these components are elements of a nominal 30 VDC system, and can be considered “30 VDC” elements.*

The 54 VDC CMM4 power supply is labeled as 54 VDC and typically measures 54 VDC at its output. The associated CMM4 terminal blocks are marked 56 VDC, and associated SM power supplies are labeled 56 VDC. *All of these components are elements of a nominal 56 VDC system, and can be considered “56 VDC” elements.*

Power supply specifications

		N000000L055A (30V)	N000000L054A (54V)	
Output	DC Voltage	30V	54V	
	Constant Current Region¹	15 ~ 30V	27 ~ 54V	
	Rated Current	8A	4.45A	
	Rated Power	240W	240.3W	
Input	Voltage Range²	90 ~ 305VAC	127 ~ 431VDC	
	Frequency Range	47 ~ 63Hz		
	Efficiency	92.5%	93.5%	
	AC Current	4A / 115VAC	2A / 230VAC	1.2A / 277VAC
Protection	Over Current³	95 ~ 108%		
		Protection type: Constant current limiting, recovers automatically after fault condition is removed		
	Short Circuit	Hiccup mode, recovers automatically after fault condition is removed		
	Over Voltage	33 ~ 39V	60 ~ 67V	
		Protection type: Shut down and latch off o/p voltage, re-power on to recover		
Over Temperature	Shut down o/p voltage, recovers automatically after temperature goes down			
Environment	Working Temp.	-40 ~ +70°C		
	Working Humidity	20 ~ 95% RH non-condensing		
Other	MTBF	207.9K hours min. MIL-HDBK-217F (25°C)		
	Dimension	251 x 68 x 38.8 mm (L x W x H)		

¹ All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature

² Derating may be needed under low input voltages. Please check the static characteristics for more details