*cn*Reach™ N500 I/O Expander

In many industrial applications there is a need to migrate from legacy equipment to the latest TCP/IP networking solutions. The cnReach I/O expander from Cambium Networks is used to extend broadband and narrow-band networks with the additional I/O needed for process control and instrumentation applications. The I/O expander provides the connectivity necessary to interface directly with sensors as well as any serial or Ethernet-based data sources.



cnReach N500 I/O Expander

The I/O Expander is compatible with any Cambium radio by using Ethernet / Layer 2 connectivity. So a cnReach, PMP 450i or PTP 670 network can all have additional I/O added at any time. The I/O Expander has the same management interface as a cnReach radio and can be managed by cnMaestro for a complete integrated solution.

- Extensive I/O capabilities easing the transition from serial to all-IP networks with two serial ports, two Ethernet ports and analog/digital I/O built-in.
- Eight Analog/Digital I/O Channels: All 8 support analog and digital input. Analog inputs with 4 to 20 mA, digital input with built-in pull-up resistors, and digital outputs capabile of sinking 2A.
- Compatible with any layer 2 Ethernet device such as PMP 450i, PTP 450i, PTP 670 or other cnReach radios
- Can be daisy-chained together to support more I/O as needed.
- I/O Capabilities designed to interface in real-world industrial applications with precision analog in and out, high-current digital inputs and counting features. Internal pull-up and pull-down resistors simplify interfaces to common dry-contact DI's and 4-20 mA AI's and AO's.
- Serial connectivity via TCP terminal server or client. Flexible configuration to integrate with most serial-based devices in the field today.
- Supported by *cn*Maestro software for monitoring the status of entire networks carrying traffic across sensors
- All of these I/O features are available as a built-in option on cnReach radio devices as well.

PRODUCT	PRODUCT DESCRIPTION	MODEL NUMBER Global
cnReach	N500 IO Expander	NB-N500001A-US
	N500 DIN-Rail Mount	NB-N500004A-US
	N500 Power Connector, Spare	NB-N500002A-US
	N500 IO Connector, Spare	NB-N500003A-US
	N500 AC to 24 VDC Power Supply with US line cord	NB-N500006B-US
	N500 AC to 24 VDC Power Supply (no line cord)	NB-N500011B-GL

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Specifications

MANAGEMENT

	Web-based Interface via HTTP/HTTPS
	Remote Management via SNMP
	*cn*Maestro integration (roadmap)
	Support for configuration files, remote software upgrades

DATA CAPABILITIES

Packet handling	Layer 2 bridge Layer 3 static routes
	VLAN support

INTERFACES

Ethernet Interfaces	2 x RJ-45
	10/100BaseT, Full Duplex, rate auto negotiated (802.3 compliant)
Serial Interfaces	2 x RJ-45 RS-232/422/485, up to 230.4 kbps
Analog/Digital I/O	12 pins for 8 IO channels and 4 grounds (analog input/output and digital input/output)

POWER

Input	10-32VDC with reverse polarity protection
Power Consumption	293 mA

PHYSICAL

Dimensions	6.625" x 3.45" x 1.835" (168 mm x 876 mm x 466 mm)
Weight	1.54 lbs. (0.70 kg)
DIN Rail Mount	optional

ENVIRONMENTAL

Operating Temperature	-40C to +70C
Humidity	95% operating humidity @ 60C non-condensing
HAZLOC	UL-Approved to Class 1 / Div 2

REGULATORY

Safety	UL Approved CE Mark
EMC	FCC Part 15 CE Mark

PIN	1	2	3	4	5	6	7	8	9	10	11	12
Channel	CH0-A	CH1-A	CH2-A	GND	CH3-A	CH4-D	GND	CH5-D	GND	CH6-D	GND	CH7-D
Digital Output with 2Amp V+ switch to ground						Yes		Yes		Yes		Yes
Analog Output with 0 to 24 milliAmp Range	Yes	Yes	Yes		Yes							
Analog Input with true zero and 6 volt range	Yes	Yes	Yes		Yes							
Analog Input with true zero and 7.5 volt range						Yes		Yes		Yes		Yes
Analog input with 0 to 25 milliAmp range	Yes	Yes	Yes		Yes							
Digital Input	Yes	Yes	Yes		Yes	Yes		Yes		Yes		Yes
Digital Input with 200 Hz Counting						Yes		Yes		Yes		Yes
Digital Input with 10 kHz Counting						Yes						
Pullup Resistor						Yes		Yes		Yes		Yes
Weak Pulldown Resistor	Yes	Yes	Yes		Yes	Yes		Yes		Yes		Yes
Strong Pulldown Resistor	Yes	Yes	Yes		Yes							
MultiSync (without IO enabled)		Yes										
MultiSync (with IO enabled)						Yes						

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