

POCO-01 Power + Comms Module

A Much Better Idea : Logical : Unique

AmbiLogique
Electronic Controllers

Features:-

10.8 to 36 Vdc Input
7.5 and 15 Vdc Outputs
0 to 15W output
Input/Output isolation
Reverse Polarity Protection
Plugs into and Powers AmbiLogique
Backplanes
RS-232 5-wire (9-pin D) interface
Connects serial port to Processor Module



The AmbiLogique POCO-01 Power/Communications Module plugs into an AmbiLogique backplane and performs two functions:-

- Supplies power to the Processor and Expansion Modules plugged into the backplane
- Provides an RS-232 port via which the Processor Module can be programmed, monitored or controlled.

Connections:

Terminal	Signal	Description
C01	PWRIN+	Power Input positive
C02	PWRIN-	Power Input negative
C03	GND	EMC Ground

The Power Input terminals are protected against reverse polarity. If subjected to a reversed power supply, the module draws no current, supplies no power and no damage is done.

The EMC Ground terminal is the return for the input filter. If this terminal is securely grounded, the module will meet international standards for conducted emissions.

These 3 input terminals are isolated from the backplane connections by means of a transformer. This isolation barrier is not a mains safety barrier (e.g. to IEC950) but provides an operational break between the power and control circuits. This means that the power supply can have either pole earthed, or neither. There is an internal 500 kOhm static drain between the Power Input terminals and the EMC Ground.

The input voltage range permits the Module to be run from battery-backed supplies or from rechargeable batteries of 12, 14, 24 or 28 V nominal. The range permits operation from an almost-discharged 6-cell lead-acid battery all the way up to an on-charge 12-cell battery.

Please Note: Some AmbiLogique products or components may carry the “AmbiLogic” trade mark from our former Australian company.

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Specifications

1. Input Power Supply:

Voltage: 10.8 to 36 Vdc
Power Drain: 22 W max
Reverse Voltage Protection: No operation; no damage
Ripple: up to 2 Vrms provided minimum voltage of 10.8 is observed

2. Output 1:

Voltage: 7.5 to 8.5
Load current: 0 to 1.0 A

3. Output 2:

Voltage: 12.5 to 16.0
Load current: 0 to 0.5 A

4. Input/Output Isolation:

Voltage: 60 Vrms or Vdc
Resistance: not less than 1.0 MOhm

5. Efficiency: not less than 67% at full load

6. RS-232 Drivers:

High output voltage: not less than 4.0 V
Low output voltage: not more than -4.0 V, measured with standard RS-232 load
Protection: VDR

7. RS-232 Receivers:

High threshold: typ 1.9 V
Low threshold: typ 0.95 V
Protection: VDR

8. Dimensions:

Heights: 83 mm above backplane
97 mm above mounting base when assembled
on to an AmbiLogique backplane on TS35 rail.

Width: 25.0 mm max

Depths: 103 mm over body
125 mm over terminals

9. Ambient Temperature: -10 to +60 °C

Indicators

Two indicators on the top of the module indicate the status of the two power supply outputs.

WARNING SAFETY-CRITICAL SYSTEMS

A **Safety-Critical system** is a system whose failure or malfunction could cause death, significant injury or loss of property.

AmbiLogique products incorporate electronic hardware and software, both of which carry a remote but real possibility of failure. AMBILOGIQUE DOES NOT WARRANT, CLAIM OR REPRESENT THAT ITS PRODUCTS ARE INFALLIBLE.

It is therefore THE RESPONSIBILITY OF THE DESIGNER of any safety-critical system which incorporates AmbiLogique products to ensure that:-

1. The system is designed so that any failure of an AmbiLogique component will not cause death, injury or loss of property.
2. The system incorporates independent monitoring means which detect the failure of any of the electronic control elements.
3. The system has alternative and independent means of control which enable it to be controlled and shut down in an orderly manner.
4. Any and all other industry-specific safety requirements are fully implemented.

Revision History:

R 0.0	2005-01-17	Initial issue.
R 0.1	2009-01-05	Safety notice added.
R 1.0	2010-04-01	Editorial
R 2.0	2012-04-18	Open Document format, Name change.