



ATN10 / ATN11: Anders Attenuator – DC Voltage

26th February 2009

Overview

The ABELtronics ATN10/11 are designed to interface with the Anders Electronics AD48 range of backlit and non-backlit DIN-sized Digital Panel Meters (DPMs). The ATN10 is supplied from a nominal 12V, and ATN11 from 24V. The ATN10 and ATN11 will provide a voltage reading in the range of 0-50V DC when powered from either a 12V or 24V supply and when used in conjunction with an Anders AD48. The module is entirely self-contained and is mounted directly on the back of the AD48 behind the dash panel. Additionally, the supply voltage and the voltage the module measures are galvanically isolated from each other allowing the ATN10 to display negative voltages with respect to the supply.

Specifications

Parameter	ATN10	ATN11	Comments
Supply Voltage Range	9 – 18V DC	18 – 36V DC	Voltage at Supply Terminals
Measuring Voltage Range	0 – 50V DC		Voltage at Input Terminals
Operating Current (AD48)	65mA Max		Non-Backlit Anders Meter
Operating Current (AD48-BL)	100mA Max		Backlit Anders Meter
Resolution	100mV		
Accuracy	±3.5%		
Sampling Time	0.5 Sec. Typ.		

Mounting and Connection Guidelines

The ATN1x should be connected as shown in Figure 1. The power supply should be independently fused at 250mA per module, and is connected to the + and – Supply terminals. The voltage to be measured is connected to the + and – Input terminals. If the polarity of the input voltage is reversed, a minus symbol will be shown on the display. The unit is able to measure the voltage of the supply to the unit, although the measuring range is then determined by the supply voltage range. Simply connect the + Input and + Supply terminals together, and the – Input and – Supply terminals together.

Connections to the module are made by means of high quality rising-clamp terminal blocks integral to the device. The terminals will accept wire up to 4mm² in area. It is important not to over-tighten the terminal as damage to the module may result. The use of a cable ferrule is recommended.

The module is mounted directly to the rear of the Anders DPM by means of the 13 way socket on the front of the module, and is secured to the DPM by means of high-tensile Velcro to aid DPM replacement if required. The Anders DPM is mounted in the dash-panel first, and the ATN1x is plugged onto the rear and secured. **It is vital the Anders DPM is NOT plugged into the ATN1x the wrong way round. Irreparable damage to both modules WILL result.** See Figure 2 for correct connection.

The ATN1x is fully sealed in epoxy resin against water and oil. The Anders DPM, however, exposes its bare circuit board to the environment. Therefore, to maintain accuracy and reliability, it is important to mount the ATN1x and the Anders DPM in a location free from moisture. Additionally, ATN1x is protected against over-voltage at its input terminals, and reverse-polarity connection at its supply terminals.

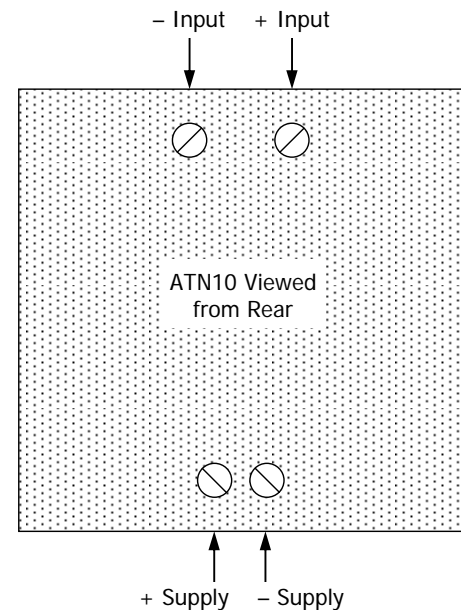


Fig. 1. Connections to the ATN10/11

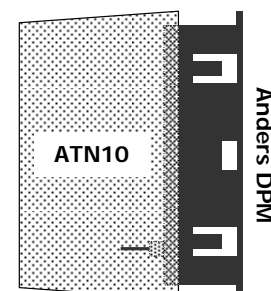


Fig. 2. Correct connection of the Anders DPM to the ATN10/11. Side view, dash panel not shown.