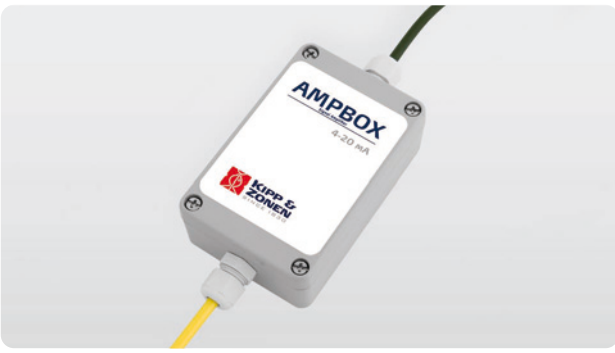
AMPBOX



AMPBOX is a digital amplifier perfectly suited to combine with our instruments. Most Kipp & Zonen solar radiation radiometers are passive instruments that do not require any power to operate. The output signal is generated by the thermopile or photo-diode detector. However, the output is a very low voltage, typically in the region of 10 mV on a bright sunny day.

AMPBOX can be used to provide a 4-20 mA current loop signal for applications where longer cables are required, or the low signal outputs cannot be handled. AMBOX is fully waterproof and can be installed outdoors close to the radiometer and connected by several hundred metres of cable to the data acquisition system. The amplifier is 'current-sink' (powered by the current loop). The power for the loop must be supplied from the data acquisition system.

AMPBOX is a programmable digital amplifier and the input and output are isolated to minimize feedback and to protect the data collection equipment. As standard the amplifier is delivered with an input signal or 1 mV producing and output of 1 mA, so that 4-20 mA represents 0-16 mV. At extra cost AMPBOX can be configured with the sensitivity of a particular radiometer to provide a defined radiation output range, for instance 4-20 mA represents 0-1600 W/m² of radiation. For radiometers that can produce a negative output the zero point is offset.

Specifications

Output range	4 to 20 mA
Input range	-12 to +150 mV
Standard gain	1 mA / mV
Gain range	0.1 to 4 mA / mV
Zero adjustment	Up to 12 mA
Input impedance	10 MΩ
Operating temperature range	-40 °C to +85 °C
Voltage drop to power amplifier	7.2 VDC
Maximum supply voltage	35 VDC
Ingress protection	IP 66

Article	Part number
AMPBOX Signal Amplifier standard gain setting	**0356900**
Options for AMPBOX	
AMPBOX Signal Amplifier gain adjusted To suit a specific radiometer	0356901

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