



Alarm Output Module

PRODUCT MANUAL

Item # 3672



The Alarm Output Module (AOM) is a dry contact, control relay that operates as either a normally-open or normally-closed single pole switch. The output is rated at 1 amp AC or DC. It should be used with low voltage control signals due to its exposed terminal contacts.

The relay is triggered when a sensor reading “exceeds” the user-defined set point. The user can select whether the relay is activated when the set point is truly exceeded or when sensor readings drop below the set point. This is accomplished by selecting either “Goes Above” or “Goes Below” in the SpecWare

Launch Options screen (See image below). The relay can trigger on any of the pre-connected sensors (wind speed, rainfall, air temperature or relative humidity) as well as any sensor on Ports A - D (i.e. leaf wetness, soil moisture, etc.). The relay is reset as soon as the set point is no longer “exceeded”. Set points are entered as a whole number or decimal depending on how the selected sensor reports its reading. If the station is functioning in metric mode, all set points should be in metric as well.

Alarm	Temperature [°F]	Below	34	Above	999
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Specware uses lookup tables to convert the sensor’s electrical response into physical data points so only a finite number of values are actually available. If the Alarm Set Point does not identically match one of these discrete values, the software will replace it with the closest corresponding value in the lookup table. Therefore, when the Launch Options screen is displayed, the Alarm Set Point may differ slightly from what was originally entered.

Rainfall is a special case. The rainfall set point is the amount of rain that falls during the logging interval. The relay is not activated/deactivated until the end of the interval. Example: If the set point is 0.15”, the relay will activate at the end of the first interval that records 0.15” of rain. It will then deactivate when succeeding interval has recorded less than 0.15”.

A splitter is included with the Alarm Module for applications where the weather station’s Auxiliary Port is needed for some other function (i.e. for connecting a wireless transceiver).

Spectrum
Technologies, Inc.

3600 Thayer Ct.
Aurora, IL 60504
(800) 248-8873 or (815) 436-4440
Fax (815) 436-4460
E-Mail: info@specmeters.com
www.specmeters.com

Notes on the operation of the alarm output module

The AOM is a latching relay. That means it remains in the last state it was set in. It does not revert to a default state when power is removed. When the module is connected to the station and the alarm condition does not exist, the relay will be on the normally closed (NC) terminal. When the alarm condition exists, it will switch to the normally open (NO) position.

Example: Alarm output module wired to an auto-dialer that triggers a phone call when temperature moves below 34F. In Specware, set Alarm thresholds to trigger the device when Temperature is below 34. The other field should be set to an unattainably high value (say, temperature is greater than 999F). This assures that the station will only trigger the alarm at one threshold. The auto-dialer should be wired to the COM and NO terminals. Under warm conditions, there will be an open circuit. When the temperature drops below 34, the COM-NO circuit will close and the auto-dialer will be triggered.

Full Stations

If the AOM is “off” (continuity on COM-NC), it will automatically turn “on” (continuity on COM-NO) if it is plugged into a station where the alarm condition exists. It could be up to 20 seconds before the AOM switches because it will not switch until the sensor values are refreshed.

The opposite is not true. If the AOM is in the “on” position (continuity on COM-NO), and connected to a station where the alarm condition does not exist, it will not automatically switch “off”. It must be connected to a station as it passes from the alarm-on condition to alarm-off.

Mini Stations

For mini stations, the AOM will not change states after being plugged into the station. The AOM must pass into the alarm condition to change it from off to on. It must pass out of the alarm condition to turn it from on to off.

If the relay is in the activated state when the station is contacted for a download or launch, the relay will remain active until:

- 1.) Station is successfully relaunched with “No Alarm” selected in the Launch Options screen.
- 2.) Station is successfully relaunched and conditions are such that the set point is no longer “exceeded. At that point, the relay automatically resets itself.

Note: Weather stations must have firmware version 7.0 or greater to function with the Alarm Module. However, only condition 2 will work on versions 7.0 and 8.0. The firmware version is displayed in the Launch Options screen.

The AOM will not work properly for mini stations with firmware 3.7 to 4.1.