Titan Weather Station

*The Weather Station integrates temperature, light, wind speed, wind direction, and rain/snow sensing in a single compact design. The weather station assembly includes the outdoor sensor mast, as well as a **Network Fused Lightning Protection (NFLP)** module, and a **Network Lightning Protection (NLP)** module. These devices provide enhanced lightning protection and accommodate connection to the Titan I/O Device network.*

Applications

The weather station is used in situations where accurate weather information is required to coordinate automated control applications such as heating, ventilation, and crop irrigation.

High quality internal components and powder-coated external components ensure long life and minimal service requirements. The weather station features heated rain detection circuitry to melt snow and frost and evaporate dew for increased rain detection accuracy.

Alternatives

The weather station is compatible with Argus Titan control systems only. For special situations, other types of weather instruments can be used in addition to, or in place of the Argus Weather Station.

Features

- The weather station features the following weather sensors selected for quality, reliability, and accuracy: Light (Pyranometer), air temperature, wind speed, wind direction, rain/snow detection.
- For maximum lightning protection, the weather station connects to the Titan I/O network via a supplied **Network Lightning Protection Module** (NLP) mounted on the outside of the building which is in turn connected to a **Network Fused Lightning Protection** (NFLP) module mounted just inside the building (see the example wiring diagram on page 4 of this document).
- All power and communications are supplied using a 2-wire connection (see Network Cable on page 3).
- All sensors are internally pre-wired and ready to operate. They are mounted in a non-aspirated, highly reflective, white powder-coated aluminum housing to minimize heating from direct sunlight. Internal interface electronics are isolated in a weather-tight enclosure to keep the electronic components clean, dry, and free of contaminants.
- Sensor wires are terminated inside the housing for quick replacement and servicing. Field wiring is run through the inside of the mast for protection from the elements. Since the only moving parts are the wind speed cups and weather vane, little ongoing maintenance is required other than occasional cleaning of the light and rain sensors.

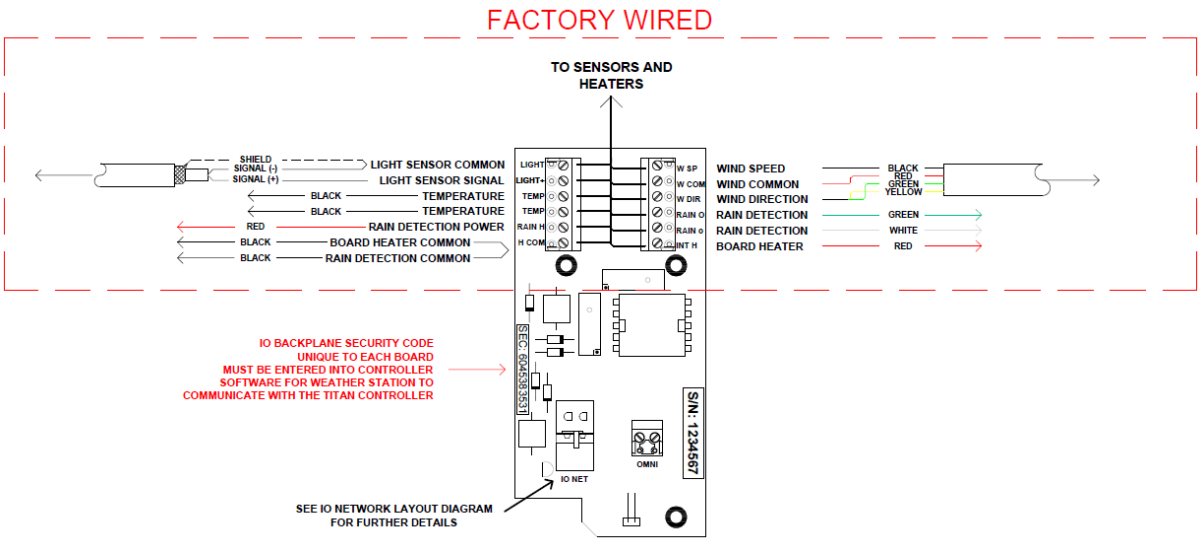
** Optional outdoor humidity, rain accumulation, and other meteorological sensors can be connected to the Argus Titan control system.*

S p e c i f i c a t i o n s

Mast Mount	**Dimensions**: 6" length x 1.35" diameter. **Construction**: threaded 1" NPT, Schedule 40 aluminum. A 4 x 4" mounting flange connects the mounting mast to the base of the enclosure. A 1" NPT reinforced dielectric coupler is supplied for connecting to a male end pipe mast.
Enclosure	**Material:** UL/CSA Type 3R outdoor-rated, corrosion resistant aluminum, white powered-coated with a quarter turn latched weather-sealed door. **Enclosure Dimensions:** 9" Tall x 4" Wide x 4.5" Deep
Apogee Pyranometer	**Type:** Silicon-cell **Sensor Housing:** Anodized Aluminum Housing **Size**: (diameter x height) 0.95" x 1.1" (2.40 cm x 2.75 cm) **Weight**: 3.17 oz. (90g) **Radiometric Range**: 360 to 1120 nm **Calibration**: Factory-calibrated **Error**: Typically ± 5% **Sensitivity**: Typically 0.20 mV per W m^{-2} **Linearity**: < 1% (up to 1750 W m^{-2}) **Stability**: < + 2% change over a 1-year period **Response Time**: < 1 ms **Temperature Dependence**: -0.04 ± 0.04% per ºC (maximum) **Cosine Correction**: ± 5% at 75º zenith angle **Field of View:** 180º **Operating Temperature**: -40ºC to 70ºC **Relative Humidity**: 0 to 100% **Mount**: Supplied with an AL-100 mount
Rain Detection	**Sensor materials:** Gold-plated nickel over copper with a silk-screened, white, weather resistant paint mask on the exposed PCB surface **Housing:** ASA plastic, IP65 UV-resistant enclosure **Mounting Bracket:** Powder coated aluminum For additional information please refer to the Argus data sheet for part number **SEN-RGRD-X.X/WS**
Anemometer	**Construction:** black anodized aluminum mounting arm **Wind Direction:** **Construction**: UV resistant ABS plastic **Range**: 0 to 360º **Accuracy**: ± 7º **Resolution**: 1º (0º to 355º), 22.5º between compass points **Wind Speed:** **Type**: cup **Construction**: polycarbonate **Range**: 2 to 175 mph **Accuracy**: ± 5% **Resolution**: 1 mph
Argus TN Temperature Sensor	**Thermistor Type**: NTC (negative temperature coefficient) **Resistance**: 3000 Ohms @ 25°C Fenwal Unicurve (UUA Series) **Sensor Accuracy**: ± 0.2°C (0°C to 70°C range) ± 0.5°C (-50°C to 150°C) **Range**: - 50°C to 150°C **Thermistor Housing**: 0.575" x 0.157" (length x diameter) of 304 stainless steel

Specifications Continued

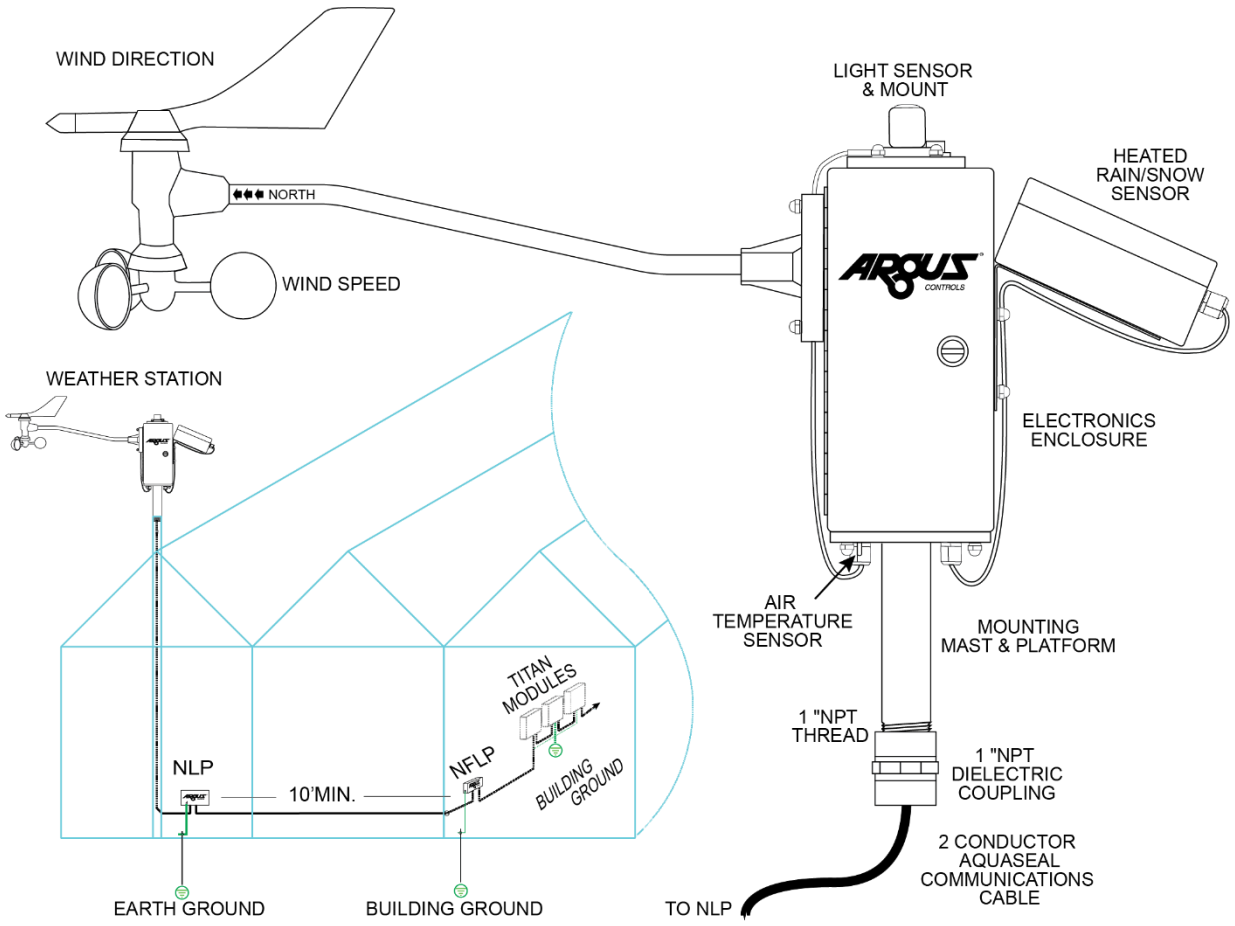
Lightning Protection	A **Network Lightning Protection Module** (**TC-NFLP-X.X/C**) and a **Network Fused Lightning Protection Module** (**TC-NLP-X.X/C**) are included with the weather station. For more information, refer to the product data sheets for these devices.
Network Cable	Supplied with a 50' cable: Argus part number: **CAB- 2C18G/TITAN**, West Penn Wire - Aquaseal AQ224, 2-conductor, 18-gauge cable, suitable for outdoor use (direct burial), indoor trays, moisture & UV resistant. **NO SUBSTITUTIONS – USE OF THIS EXACT WIRE IS CRITICAL FOR PROPER NETWORK COMMUNICATIONS**
Electronics	The enclosure houses a **Titan I/O Module** mounted on a Titan Weather Station backplane. All sensors are pre-connected. Power is provided using the I/O network cable.



For maximum lightning protection the WS3 connects to the Titan I/O network via the supplied Network Lightning Protection Module (NLP) mounted on the outside of the building which is in turn connected to a Network Fused Lightning Protection (NFLP) module mounted just inside the building.

Wiring Details

Typical Installation Example



Typical wiring example. For installation, refer to the supplied wiring diagrams and instructions.

Additional Information

For more information, please contact Argus.

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