

Weather Station

Environment transmitter



DIGIcontrol-WS11, (-WS7, -WT4)

- Next generation weather station
- 4 brightness sensors 1 to 100%
- Ultrasonic wind sensor for speed & direction
- Precipitation measurement rainfall & intensity
- Barometric pressure sensor 500 to 1200hPa
- Humidity sensor 0-100%rH $\pm 2\%$
- Temperature sensor $-40 - +80^{\circ}\text{C} \pm 0,3^{\circ}$
- GPS receiver for sun position & time sync
- MODBUS to IBB/S interface

DIGIcontrol-WS11

Incorporating the latest sensor technology DIGIcontrol-WS11 is a high-tech Weather station that can measure wind speed and direction, liquid precipitation, barometric pressure, temperature, relative humidity and brightness from four directions and GPS time & position – all in one device.

It is specially designed to provide comprehensive environmental information for ATS lighting and building control systems. As the DIGIcontrol-WS11 has no moving parts, it is durable and has very long maintenance intervals.

Wind speed and wind direction are determined by the detection of the 2-dimensional horizontal components of mutually perpendicular ultrasonic measuring sections. In addition, the sound velocity can be used to calculate and output the acoustic virtual temperature. Due to the measuring principle of the ultrasonic transit time measurement, the device is ideally suited to the inertia-free wind gust and peak value measurement.

The air temperature and relative humidity are measured by an integrated and accurate combination sensor, which is protected against harmful environmental influences by a water-impermeable but water vapor-open microporous filter.

The integrated pressure sensor based on MEMS technology is also protected with such a filter. In the measurement of precipitation intensity, the precipitate is measured and calculated contactless via the back-reflected signal of a Doppler radar. The intensity of the last minute is extrapolated for the output to one hour.

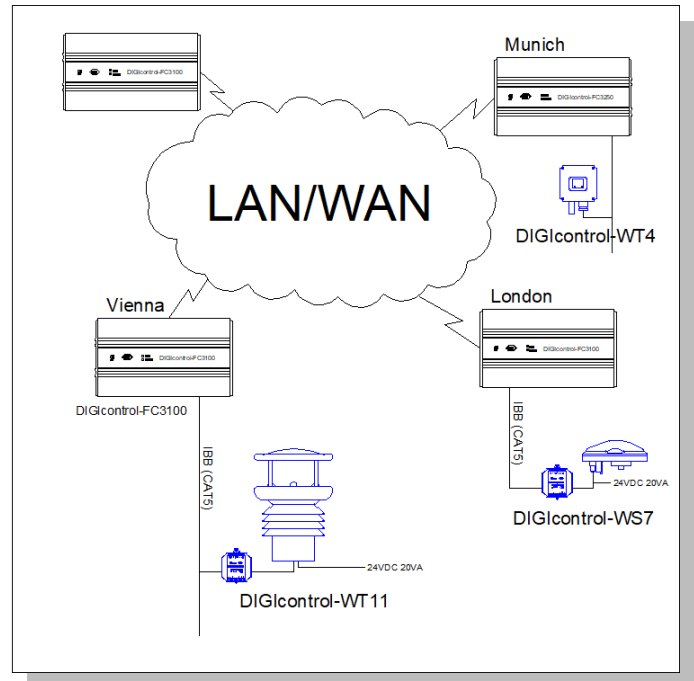
The brightness is recorded by 4 photosensors with a spectral sensitivity curve adapted to the sensitivity of the eyes and the intensity ratio is used to calculate the direction of the light source.

A Modbus-Gateway converts the Modbus protocol and to IBB/S and converts light levels from 1 to 150.000 lux into values from 0 - 100%. Values from 0-10% are reserved for very low illumination as needed for street and garden light control.

The weather station has a built-in heater. This largely prevents an ice and snow on the device and ensures correct wind measurement even for temperatures below zero and also during snowfall.

The integrated GPS module allows time sync messages for the DIGIcontrol-3000 system and calculation of the sun's elevation und azimuth angle, to allow precise blind control.

Environment transmitter



Technical Data:

Modbus to ATS-IBB/S network interface (drain 40mA)
Supply voltage incl. heating 24V AC/DC 25VA
Dimensions (overall): Ø150 x H 220 mm
Pole mount: 1½ Inch (48,3mm)
Temperature range: -20° to 70°C
4 light sensors: 1 to 150,000 lux / 1-100%
GPS based calculation of sun elevation and azimuth angle
GPS based date & time sync signal
Air temperature: -40,0...+80,0°C ±0.3°
Relative humidity: 10-90% ±1.8% 90-100% ±3%
Barometric Pressure:
Range 500...1200hPa ±0.1hPa at 0...65°C
Wind speed:
Range 0...60m/s ±0.3 or ±2%, Resolution 0,1m/s
Wind direction: Azimuth 0...360° ±2°, Resolution 1°
Rain fall:
Resolution 0,01mm 5% (doesn't include wind induced errors)
Rain intensity:
Range 0...999mm/h, Resolution 0,1mm/h
Protection type: IP67

Variants:

DIGIcontrol-WS7

Similar as DIGIcontrol-WS11 incl. an additional global radiation sensor but only yes/no rain sensor;
Dimension Ø130 x 67,5mm;
25mm pole mount

DIGIcontrol-WT4

Only dual brightness sensor, temperature and humidity

Information contained in this document is correct at the time of publication (150820) is subject to change without notice.

Austrian Technical Systems

ATS

Werk Wienerwald +43-2238-700-05, Fax +43-2238-700-05-210 <http://www.ats.co.at> mail: sales@ats.co.at