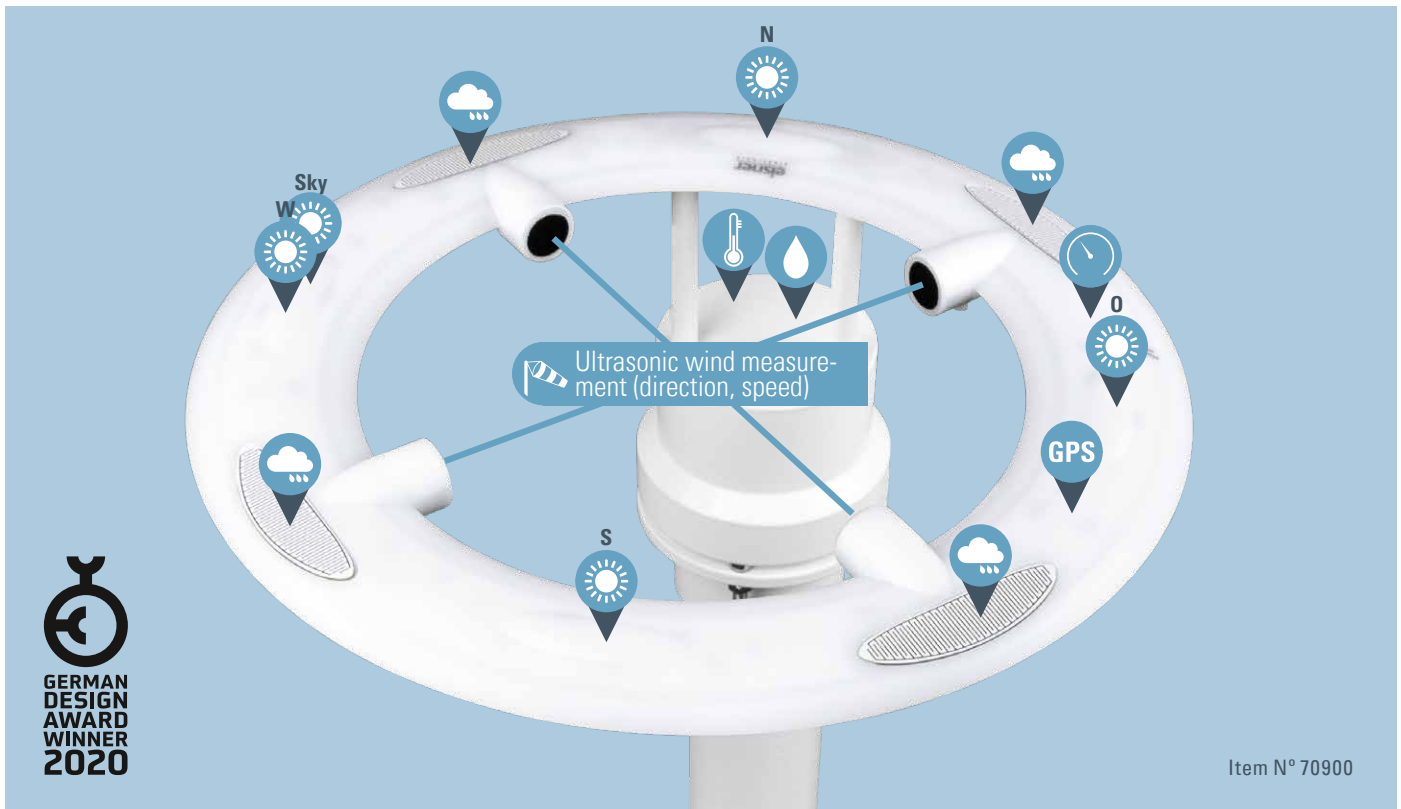# Suntracer KNX pro
WEATHER STATION

The weather station for the KNX building bus system reliably and professionally captures weather data for high-quality smart homes and smart buildings.

Ultrasonic wind measurement (direction, speed)

GERMAN DESIGN AWARD WINNER 2020

Item N° 70900

RECORDING WEATHER DATA
with Suntracer KNX pro

- **Brightness measurement** (current light intensity) with 5 separate sensors, output of the current highest value (one maximum value). Separate limit values for night
- **GPS receiver** with output of current time, location coordinates and calculated sun position (azimuth and elevation)
- **Wind measurement** by ultrasound. Output of speed and direction (0°-360°). Free of wear

- **Precipitation detection** with widely spaced, heated sensor surfaces. No false alarm in case of fog or dew. Fast drying after the end of the precipitation
- **Temperature measurement** and calculation of the perceived temperature taking into account wind force and humidity. Frost protection for shades
- **Air humidity measurement** (relative, absolute). Dew point calculation
- **Air pressure measurement**

WIND MEASUREMENT WITH ULTRASOUND
Measurement methods and advantages

The extraordinary shape of the Suntracer KNX pro ensures a turbulence-free air flow. The wind measurement is carried out on two horizontal sections offset by 90°. On each section, two signals are sent in the opposite direction shortly after each other. The speed and direction of flow are determined from the differences in the running time of the two axes.

An advantage of the process is the short reaction time, even with gusts and peak values. Changes of direction or strength are directly visible in the change of the measured value on the data bus. Only in this way can blinds, awning cloth and other wind-sensitive components be moved quickly and reliably into a safe position.

If the wind direction is known in the KNX system, the façades exposed to the wind can be specifically protected and costly wind damage avoided. Meanwhile, the automatic shading and ventilation continues on the sides of the building facing away from the wind. Similar to the sun protection control, a compass direction profile is designed for the wind alarm and individual façade sections are controlled in a targeted manner. Both sensors and control functions are available in Suntracer KNX pro. The often conflicting goals of protecting building elements and technology, offering the user comfort and opportunities for co-determination and optimising the building's energy efficiency are thus reconciled in the best possible way.

Suntracer KNX pro
WEATHER STATION

In the device application of Suntracer KNX pro, the measured values and data are processed and used for shading control and other practice-oriented KNX functions.

SMART AUTOMATIC SUN PROTECTION

- Shading control for up to **12 façades**
- **Brightness and sun position dependent control** with slat and shadow edge tracking
- **Alarm and protection functions** (rain, wind, frost). Priorities over automatic commands can be individually defined
- **Energy-optimised automation** by blocking the shading up to the desired room temperature. Data from an indoor sensor can be received via KNX and evaluated
- **Visual protection** control according to time and twilight
- **Drive positions** for sun protection or windows
- **Façade status** can be output as text
- **Simulation mode** for setting the façade automation

INTELLIGENT KNX MODULES

- **Week and calendar time switch**: All time switching outputs can be used as communication objects
- The week time switch has 24 time periods. Each period can be parameterized either as output or input. If the period is an output, the switching time is defined by parameter or by communication object
- The calendar time switch has 4 time periods. Two on/off operations can be defined for each period, which are executed daily
- **8 AND and 8 OR logic gates** with 4 inputs each. All switching events and 16 logic inputs (communication objects) can be used as inputs for the logic gates. The output of each gate can be configured either as 1 bit or 2x 8 bits
- **8 multifunction modules** (calculators) for changing input data by calculations, by querying a condition or by converting the data point type
- **Summer compensation** for energy-conscious cooling. The setpoint temperature in the room is adapted to the outside temperature via a characteristic curve and the minimum and maximum value of the setpoint temperature is determined

MEASURED VALUE PROCESSING

- **Switching outputs** for all measured and calculated values
- **Mixed value calculation** for temperature and humidity
- **Threshold values** can be set by parameter or via communication objects. Separate threshold values for night
- **Dew point calculation** with control function for the cooling medium of air conditioning systems
- Bus message whether the temperature and humidity values are within the **comfort field** (DIN 1946)

MOUNTING

The filigree, ring-shaped structure of Suntracer KNX pro is very resistant, as it is reinforced on the inside by stainless steel elements.

In order to capture the weather unadulterated, Suntracer KNX pro is mounted on a mast on the roof of the building. The supplied mast extension ensures a distance between sensors and surrounding components. It can be clamped to a vertical mast or a horizontal pipe or screwed to a beam or the wall.

For correct measurement results the ring must be aligned horizontally. A small spirit level, which is included with the instrument, helps here.

The programming button of Suntracer KNX pro is a magnetic contact located inside the housing - a weather-resistant solution. A magnetic telescopic rod for triggering is supplied.