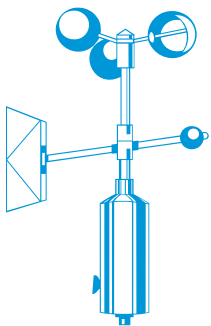


Meteo M&R

weather sensors



ingenieursbureau **wittich & visser**

scientific and meteorological instruments

weather station

scientific and meteorological instruments Ingenieursbureau Wittich & Visser



Ingenieursbureau Wittich & Visser was founded in 1924 and since then specialized in scientific and meteorological instruments. Worldwide leading companies and public institutes rely on the knowledge of Wittich & Visser about setting up and installing meteorological Instruments.

We are **made to measure**.



Meteo M&R programme

In this catalogue you will find an overview of the Meteo M&R programme of Wittich & Visser. This programme contains meteorological sensors and accessories of our own inhouse made brand or of renowned brands from all over the world. All these products together form our Meteo M&R programme.

Measurement & control

M&R stands for measuring and control. Our sensors and systems are ideal for measurement and control. If you want to measure or control very accurately with the best possible equipment: we can make it happen. But also effective measurements with affordable sensors is one of the options Wittich & Visser can offer you. Wilt Sometimes you prefer ultraprecision, sometimes you prefer economical interests.

Applications

Applications are countless. Simple sun-blind control for offices or storm detection for the protection of windfarms. Complete weather stations for environmental purposes or systems for building automation. Wind measurements near bridges and locks, on oil platforms or measurements for agricultural needs. Digital or analogue systems, with or without data logging, wireless or with cables. It's all possible



Meteorological complete

When you have needs stretching over the whole spectrum of meteorological measurements, we can help you. Vaporation pans, cloud height meters, raincatchers or eddy correlation systems, we can deliver it to you. With our programme you can compose your own systems or select the appropriate sensors. If you don't find what you're looking for in this catalogue, don't hesitate to contact us.

Made to measure

It is the complete measurement set up that counts, not the individual Instruments. We at Wittich & Visser want the best solution for your answer. With our partners and our wide expertise of set up and installation of meteorological measurements, we can give you the best solution, service and instruments.

For manuals, documentation, news
and more, visit our website:

www.wittich.nl

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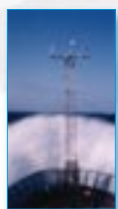
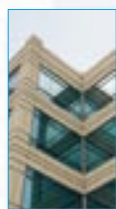
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weather station

custom made weather station

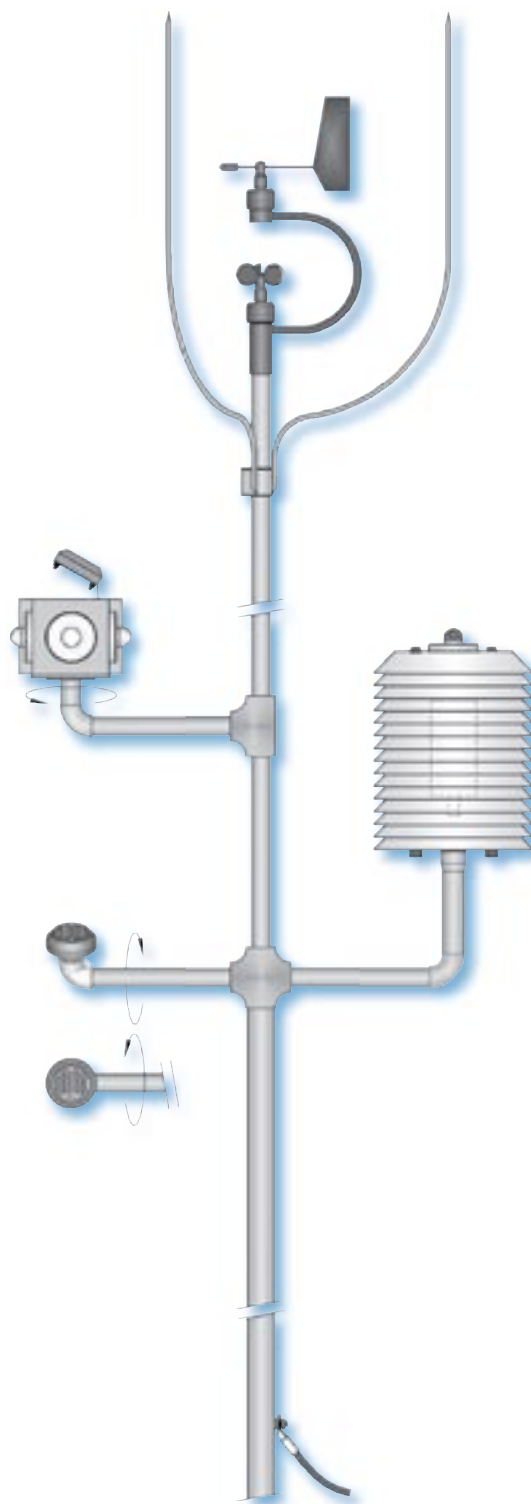
Meteo M&R weather station



At many large buildings, greenhouses, bridges, roads or other places in the Netherlands you can find Meteo M&R weather stations of Wittich & Visser. Almost no station is the same! With the sensors and accessories in this catalogue, you can compose complete weather stations custom made for your application.

A typical built-up of a Meteo M&R weather station contains:

- mast and brackets
- sensors for:
 - wind speed
 - wind direction
 - light
 - solar heat
 - temperature
 - humidity
 - rain detection
 - etc.
- lightning conductors
- surge arrestors
- converters for 0..10V and/or 4..20 mA signals
- data systems for stand alone AWS



wind direction model PRV



Light weight, long life potentiometer vane. Mechanical angle 360° without stop. Electrical angle 350°±3°, threshold is between 1.2 and 1.5 m/s. The PRV is an affordable high quality wind vane with oil bronze bearings and stainless steel mounting hardware.

This wind vane is also available with 2-wire 4..20 mA output (PRV-C).

TECHNICAL SPECIFICATIONS

potentiometer	
life expectatio	> 20 x 10 ⁶ rotations
electrical angle	350 ± 3°
mechanical angle	360° without stop
damping ratio	0,35
treshold	1,2..1,5 m/s
linearity	1 %
resistance value	5 kOhm +/-10 %
output PRV-C	4..20 mA
power supply PRV-C	10..30 Volt
operating temperature	-30..+80°C
temperature coefficient	± 200 ppm/°C
material	
housing	POM, black
vane blade	painted glass fibre epoxy
vane stem and balance weight	painted brass
bearings	oil bronze
mounting hardware	stainless steel

wind speed model PA2



Light weight cup anemometer based on Hall effect principle. Measuring range 0..60 m/s with a treshold of 0,5 m/s. Two pulses per rotation and 67 pulses at 30 m/s. The PA2 is an affordable high quality cup anemometer with ceramic magnets and stainless steel bearings and mounting hardware.

This cup anemometer is also available with 2-wire 4..20 mA output (PA2-C).

TECHNICAL SPECIFICATIONS

measuring principle	Hall effect with magnets
air velocity range	0..60 m/s
treshold	0,5 m/s
distance constant	2,2 m
operating temperature	-30..+70°C
pulses	2 per omwenteling
frequency	67 Hz bij 30 m/s
output PA2-C	4..20 mA
power supply PA2	4,5..30 VDC
power supply PA2-C	10..30 Volt
material	
housing	POM, black
ball bearings	stainless steel
mounting hardware	stainless steel
magnets	ceramic
cups	polycarbonate

wind measurement

digital wind sensors

DD & DS series

The DD windvane and DS cup anemometer are light weight instruments for measuring wind speed and wind direction contact free. The sensors use a well accepted measuring principle and profit from digital techniques. The DD en DS have a number of different outputs: digital RS232/RS485 (ASCII protocol) and/or analogur Volt or mA. The analogue outputs are program-mable by PC.

wind direction

model DD



With this light weight, long life wind vane the wind direc-tion is measured over the full 360° with a re-resolution of 0.3° without dead angle! The angle is measured contact free using the Hall effect. Two programmable open collec-tor output are available for control purposes.

TECHNICAL SPECIFICATIONS

measuring principle	Hall effect
life expectation	> 20 x 10 ⁶ rotations
electrical angle	360°
mechanical angle	360° without stop
damping ratio	0,35
treshold	1.2..1.5 m/s
linearity	1%
operating temperature	-30..+80°C
electrical	
analogue outputs	mA or V
digital communications	RS232 or RS485
power supply	11..30 VDC
power consumption	30..40 mA
material	
housing	POM, black
vane blade	painted glass fibre epoxy
vane stem & balance weight	painted brass
bearings	oil bronze
mounting hardware	stainless steel

wind speed

model DS



With this three cup anemometer wind speed can be measured. The speed is processed contact free using the Hall effect. The treshold is 0.5 m/s. The analogue signals can be scaled to cover any measuring range between 0 and 60 m/s. Two programmable open collector outputs are also avai-lable for control purposes.

TECHNICAL SPECIFICATIONS

measuring principle	Hall effect
air velocity range	0..60 m/s
treshold	0,5 m/s
distance constant	2,2 m
operating temperature	-30..+70°C
elektrikak	
analogue outputs	mA or V
digitalecommunications	RS232 or RS485
power supply	11..30 Volt
power consumption	30..40 mA
material	
housing	POM, black
ball bearings	stainless steel
mounting hardware	stainless steel



robust wind sensor WindSonic

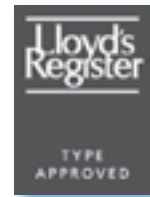


The WindSonic is an excellent alternative for conventional cup and vane. This robust sensor is UV stable and corrosion free, weights only 0,5 kg and has no moving parts. Without the need for expensive maintenance, the WindSonic is a true fit and forget unit. The unit is supplied with 2 years warranty as standard. The WindSonic has various outputs: analogue Volt or mA, digital RS485, RS232 or SDI, especially for data loggers. The unit can easily be programmed by the user.

TECHNICAL SPECIFICATIONS

wind speed		
range	0 .. 60 m/s	
start speed	0,01 m/s	
accuracy	± 2%	
resolution	0,01 m/s	
wind direction		
range	0 .. 359° (no dead band)	
accuracy	± 3°	
resolution	1°	
general		
power supply	9 .. 30 VDC (of 9 mA @ 12V)	
output	option 1	RS232
	option 2	RS232+ RS422 + RS485 + NMEA
	option 3	RS232+ RS422 + RS485 + NMEA + 0..5 VDC or 0/4..20 mA
housing	IP65	
operating temperature	-35 .. +70°C	
operating humidity	< 5 .. 100 %RH	
MTBF	15 years	
dimensions	142 x 160 mm	
weight	0,5 kg	

industrial wind sensor WindObserver



The WindObserver II has a proven record in airport, off-shore, marine and naval applications. The WindObserver II has all the performance features of the WindSonic plus increased speed range, an optional de-icing system extending the operational temperature range, stainless steel construction, IP66 enclosure, sonic temperature output and a-veraging (1-3600s). There is also an Intrinsically Safe WindObserver available which complies to ATEX directives (digital outputs only). The Wind-Observer has been type approved by the Lloyd`s Register of London.

TECHNICAL SPECIFICATIONS

wind speed	
range	0 .. 65 m/s
start speed	0,01 m/s
accuracy	± 2%
resolution	0,01 m/s
wind direction	
range	0 .. 359° (no dead band)
accuracy	± 2°
resolution	1°
general	
output	digital or analogue V or mA
operating temperature	-55 .. +70°C (heated option)
operating humidity	< 5 .. 100 %RV
material housing	stainless steel
dimensions	381 x 213 mm
weight	1,4 kg

RH&T sensor model HygroClip S3



Sensor for high precision humidity and temperature measurement designed for meteorology applications. A filter provides sensor protection against dust and high air velocity.

TECHNICAL SPECIFICATIONS

sensor	Hygromer V-1
range	0..100%RH, -50..+100°C
accuracy @ 23°C	±0,8%RH, ±0.1K
output signal	0...100%RH, -40..+60°C = 0..1V
housing	polycarbonate
filter	polyethylene
dimensions probes	Ø 15 x 85 mm
weight	30 gr

temperature probe model XT series



With a measuring range of -20..80°C, the model XT temperature transmitter is a high quality transmitter for measuring outdoor temperature.

TECHNICAL SPECIFICATIONS

measuring element °C	Pt-100, 1/3 DIN B
range	-20.. 80°C
accuracy °C	±0,3°C @ 25°C, typical
connector	IP-67
housing	diameter 19 mm, length 140 mm
operating temperature	-20.. +60°C
output	0..10V(>10KOhm) 4..20mA(<500 Ohm)
power supply	14.. 24 VDC/ 24 VAC / 8.. 24VDC

RH&T transmitter model M-serie



The Rotronic combined temperature and humidity sensors M-series, with measuring range 0..100%RH and -30..70°C and IP65 housing, are ideal instruments for outdoor climate conditions. Rotronic humidity sensors are known for their high accuracy and long term stability.

The probes have to be protected against direct sunlight but the ventilation also has to be optimal. To create these conditions the probe is placed in radiation screen model 511.10, which is developed under license of the KNMI (Royal Dutch Meteorological Institute).

TECHNICAL SPECIFICATIONS

HygroFlex4	fixed probe
measuring element %RV	Rotronic Hygromer IN-1
measuring element °C	Pt-100 1/3 Klasse B
HygroFlex5	uitwisselbare voeler
probe	HygroClip2-S
general	
range %RV	0..100 %RV
range °C	-30..+70 °C
accuracy %RV	±1%
accuracy °C	± 0,2K
output	0..10 V or 4..20 mA (scalable)
power supply	15..40VDC / 12..28 VAC
housing	IP-65
weight	ca. 250 gr.

radiation screens

511.10 & 511.30

Outdoor air temperature and humidity measurements need to take place in a shelter thus minimizing radiation errors and giving mechanical protection. Sensor screens 511.10 and 511.30 are designed for this purpose. The Meteo M&R weather screens can be combined with your own combined temperature and humidity sensors or just temperature or humidity measurement in agro-meteorological stations, weather stations, greenhouse automation and for OEM purposes.

small radiation screen

model 511.30



Model 511-30 is a natural ventilated screen, open for wind, closed for radiation. The top three dishes are completely closed, the other dishes have venturi-like openings thus offering good radiation protection though still open to ventilation. The special shaped edges of the dishes improve fast runoff of water.

The bottom lid of the sensor screen is available with different sized openings in order to mount a large variety of different temperature and humidity sensors. Also the screen can be ordered with different numbers of dishes depending on the length of the probe to be mounted in the screen. Brackets are available for mast (\varnothing 30 - 50 mm) and wall mounting.

TECHNICAL SPECIFICATIONS

material	UV-resistant LURAN-S
dimensions without bracket:	
external	diameter 120 x height 140 mm
internal	diameter 32 x height 87 mm

large radiation screen

model 511.10



Ventilation is a must when measuring temperature and humidity. Radiation screen model 511.10 is developed under license of the KNMI (Royal Dutch Meteorological Institute). This radiation screen provides excellent ventilation; the white outside and black inside of the screen helps to protect the sensor against radiation.

TECHNICAL SPECIFICATIONS

material bottom lid	delrin black
material dishes	glasfiber reinforced polycarbonate
preservation dishes	outside shiny white
	inside mat black
mounting material	stainless steel 304
dimensions with fixed probe	diameter 370 x 250 mm
dimensions with exchangeable probe	diameter 395 x 250 mm

compact weather station

weather station

MetPak



The MetPak is a complete weather station that measures the most essential weather parameters: wind speed, wind direction, humidity and temperature.

The MetPak weather station is a combination of the best products on the market for meteorological measurements. Measuring wind speed and direction using the proven WindSonic, an ultrasonic anemometer without moving parts. Temperature and humidity are measured using standard probe Rotronic HygroClip S3, placed in an RM Young radiation screen. The HygroClip S3 is easy and inexpensive interchangeable. Other sensors can also be used.

The MetPak is low maintenance and easy to install. Low power consumption enables the instrument to be used in applications like building automation, automatic weather stations, environmental monitoring and control and other applications for easy and accurate weather measurements.



TECHNICAL SPECIFICATIONS

wind speed	
range	0 .. 60 m/s
accuracy	± 2%
resolution	0,01 m/s

wind direction		
range	0 .. 359° (no dead band)	
accuracy	± 3°	
resolution	1°	
power supply	9 .. 30 VDC @ 14.5 mA	
output	option 1	SDI-12
	option 2	+ 0 .. 5 Volt

temperature & humidity (option 2)	
HygroClip2-S3	
outputs	2 analogue outputs 0..1 Volt
range °C	-40°C..+60°C
range %RH	0..100 %RH
calibration	changeable probe for easy calibration

MetPak complete		
material	white thermoplast UV-stabilized	
bracket	white painted aluminium	
power supply	option 1	9..16 VDC @ 22mA typical
	option 2	10..28VDC @ 28mA typical
dimensions	142 mm x 380 mm (instrument)	
	280 mm x 380 mm (with bracket)	
weight	1,1 kg (including bracket)	

rain detection model 8RA-4 & RSG-4



The rain alarm consists of a sensor model RSG-4 and a signal converter model 8RA-4 and provides a switch-over contact when it rains.

The sensor is gold-plated and corrosion resistant. Heating elements in the sensor prevents unintended alarm when there is heavy mist or dew.

The sensitivity of the switch-over contact is adjustable on the signal converter.

TECHNICAL SPECIFICATIONS

detection	rainfall and snow
power supply	230 VAC, 50/60 Hz
sensor RSG-4	thermally controlled electrodes 18 VDC, max 0,5 A between which the resistance is measured
signal output	potential-free switch over contact (SPDT) for a maximum of 250 VAC, 8 A non-inductive
delay times	selectable between 10 seconds and 9.5 minutes with dipswitches
installation sensor	under an angle of ca. 15°

precipitation detection model RSA(-P)



Precipitation detector with direct switch contact output. Due to the compact electrical design this detector with (micro) processor offers direct switch contact output, programmable alarm (on/ off) delay time and programmable switch sensitivity. The RSA has a surface temperature maintained 10°C above ambient.

The proven reliability of the goldplated electrodes, together with the mechanical and electrical design of the sensor guarantee proper operation for many years.

Optionally a free programmable version of the RSA is available with RS232 digital output.

TECHNICAL SPECIFICATIONS

detection	rainfall and snow
power supply	24 VDC or 24 VAC, ± 200 mA
output	Reed-relay switch, 2 A (30 VDC) or 0,5 A (125 VAC) RSA-P: RS232
delay	RSA-1 on 10 sec, off 5 min. RSA-3 on 10 sec, off 30 sec.
operating temperature	- 25 .. 40°C , 24 VAC supply in conditions below -15°C
dimensions	ø 80 x 27 mm
detection surface	ø 45 mm
mounting	2 studs ss M4 x 12 mm
cable	4 x 0,14 mm ² or 8 x 0,14 mm ² L = 5 metres, shielded Shield is connected to system earth!
protection	IP-65
weight	600 g
installation sensor	under an angle of ca. 15°

lux sensor model LS



Sensor for indoor and outdoor light intensity measurements. The sensor uses a silicon photovoltaic cell and is sensitive for wavelengths between 400 and 1100 nm.

Optional: Cube for mounting 4 lux sensors. For sunblinds control or solar energy measurements for heating control.

TECHNICAL SPECIFICATIONS

measuring principle	photovoltaic element sensitive in the wave length of from 400 nm (violet) to 1100 nm (near infrared) most sensitive at 850 nm
measuring range	0..100.000 lux
connection	with 5 meter cable (2 x 0.14 mm ² shielded)
housing	IP-67

lux transmitter & alarm model 8LT-5 & 8LA-5



The lux transmitter 8LT-5 (together with sensor LS) is a measuring system for illumination. The analogue output signals in current and voltage are proportional to the illumination. The standard measuring range is 0..20.000 lux and can be adjusted by Wittich & Visser on request to values ranging from 0..500 to 0..100.000 lux.

The lux alarm 8LA-5 (together with sensor LS) is an alarm system for illumination. The 8LA-5 is a signal converter with an adjustable switch-over contact with time delays for switching on and off.

TECHNICAL SPECIFICATIONS

power supply	230 VAC, 50/60 Hz, 3,2 VA with short-circuit resistance VDE 0551, (other voltages on request)
current output	8LT-5 : 4..20 mA max. external resistance is 500 W potential free contact
	8LA-5: switch over contact (SPDT) for max. 250 VAC, 8A non inductive alarm
	8LA-5: adjustable between 0..100.000 lux
integration time	8LA-5: time delays incorporated in the switch-over relay: delay-on 2 minutes; delay-off 4..9.5 minutes
voltage output	0..10 VDC (8LT-5 and 8LA-5) 0 is at the mass minimal external resistance is 1000 Ohm the short-circuit resistance of the output is unlimited
measuring range	0..20.000 lux deviating ranges on request (0..500 and 0..100.000 lux)
dimensions	52 x 112 x 108 mm

pyranometer/ transmitter model GS-WV



The WV-GS pyranometer is the ideal instrument for solar energy measurements for building and greenhouse automation and irrigation planning.

The solar radiation sensor is responsive to the full solar spectrum, 300..2800 nm. With an internal signal amplifier and maintenance free watertight housing the unit is easy to use.

This low-cost, high quality sensor fits industrial, agricultural and HVAC applications perfectly. There is no need for expensive external amplifiers or special PLC modules. The sensor needs no other maintenance then incidently cleaning the quartz dome.

TECHNICAL SPECIFICATIONS

measuring principle	temperature differences
spectral range	300..2800 nm
power supply	10..30 VDC
power consumption	< 1 W
impedance	< 50 Ohm
sensitivity	~ 2 mV per W/m ²
housing	IP67
accuracy daily sum	better than 10%
zero offset	< 20 W/m ²
connections	3-draads: supply, output, ground

pyranometer 2nd class model LP02



The LP02 is a pyranometer that can be applied for most common solar radiation observations. It complies with the latest ISO and WMO standards.

The LP02 serves to measure the solar radiation flux that is incident on a plane surface in W/m² from a 180 degrees field of view. Working completely passive, using a thermopile sensor, LP02 generates a small output voltage proportional to this flux. Contrary to photodiode-based- and “black and white” instruments LP02 has a spectrally flat response across the full solar spectrum.

Applicable standards are ISO 9060 and 9847, WMO (World Meteorological Organisation), and ASTM E824-94. LP02 can also be used for stability estimations according to EPA (EPA-454/R-99-005).

TECHNICAL SPECIFICATIONS

ISO classification	second class
spectral range	305..2800 nm
sensitivity (nominal)	15 μV/ W.m ²
temperature range	-40°C..+80°C
range	0..2000 W.m ²
temperature dependence	< 0,1%/°C
calibration traceability	WRR

displays & data loggers

wind display model 805(-WS)



This fully electronic device can be easily built into instrument panels. Wind speed is displayed by 3 large LED's as a number. Wind direction is indicated using 36 LED's around a windrose. Through two adjustable analogue outputs the wind display 805 can be connected to any device accepting analogue signals (computer, recorders, dataloggers).

Typical applications for the measurement of wind speed and wind direction are found in meteorology for airports, industry, offshore, building automation and environmental studies.

TECHNICAL SPECIFICATIONS

power supply	230 VAC (24 VAC or 12 VDC option)
measuring range	0..30 m/s, other range possible
display wind speed	LED display with 3 digits in 0.1 m/s
display wind direction	wind rose, 36 LED's
analogue output	2 voltage outputs 0.. 10 V (adjustable)
dimensions housing	HxWxD = 96x96x124 mm
sensors	PPAH, PAH-LT, PAH-RU of PAH-GL, PRF & PRV and optional WindSonic/WindObserver II
accessories	bracket PB for sensor mounting lowerable stainless steel mast SM

data logger model MobiSense



The MobiSense is an universal data logger and signal converter suitable for various electronic signals, interfaces (Ethernet, RS485, GPRS) and control purposes (digital outputs).

The MobiSense is appropriate for logging and transportation of analogue signals as 4-20 mA, 0-10 Volt, 0-10 KHz and contacts. The logger is easy to approach via internet or local network. Programming the logger is easy to do by telnet or RS232. The collected data are stored on a Compact Flash Card (max 2GB). For wireless communications the logger can be provided with GPRS or GSM. With multiple loggers it is easy to built a network.

TECHNICAL SPECIFICATIONS

power supply	9-36VDC, afsluitbare DC-type connector
power	operationeel:7W, stand by:1W, sleep: 0.005W
interfaces	- 2x RS232 (V.24) - 10MB or 10/100MB UTP Ethernet, RJ45 connector - RS485,galvanically isolated, RJ11 connector
user interface	- Remote Telnet Session - Ansi Terminal, LCD & optional buttons
storage	Compact flash data storage to 2 GB
temperature	-20..+70°C
humidity	95%RH, non-condensated
PCB (Printed Circuit Board)	
weight	± 200g
dimensions	160 x 160 x 25 mm (l x w x h)
housing	IP54/ IP67

weather alarm system serie 830-WA



A control/alarm system contains a programmable input and control module, combined with one or more meteorological sensors.

The system can be used for alarms at given set points of meteorological parameters as wind speed, wind direction, precipitation, sun light. The control module has flexible programming options for multiple upcoming and falling alarms.

Applications can be found in for example in horticulture, air conditioning, lighting and sunblind control, heating and cooling systems and alarm systems for e.g. cranes.

TECHNICAL SPECIFICATIONS

inputs	8 of which 2 usable as analogue inputs 0..10 V
outputs	4 relays with 10 A resistive load 3 A inductive load
power supply	12VDC (10.8 to 15.6VDC) or 24VDC (20.4 to 28.8VDC)
installation	35 mm DIN rail 4 WM wide or wall mounting
operating temperature	0°C..55°C
housing	IP20
dimensions	90 x 72 x 55 mm (l x b x h)

wind speed alarm model 8WA-5



Wind speed alarm 8WA-5 is intended for applications in horticulture, air conditioning, heating systems and storm warning systems. Anemometers model PAH and PAR can be used with this model. The unit has a digital/analogue converter for the wind speed as well as a wind speed indicator and a switch-over contact, adjustable at the required wind speed.

To create multi-stage alarm systems, one or more auxiliary units model 8WA-D can be used. The 8WA-D is a signal converter with an adjustable switch-over contact with time delays for switching on and off. The 8WA-D unit is designed for applications as second or continuation alarm stages for: wind speed alarm, lux alarm for light intensity and other parameters with an output signal of 0..10 VDC.

TECHNICAL SPECIFICATIONS

power supply	230 VAC, 50/60 Hz, 3,2 VA (other options on request)	
connections	screw connections	
output signal 8WA-5, 8WA-D:	potential free swithc-over contact (SPDT) for max. 250 VAC, 8A non inductive	
integratielijd	time delays are incorporated in the switch over relay:	
8WA-5, 8WA-D:	switch-on	10 seconds
	switch-off	4 of 9,5 minutes (adjustable)
indication 8WA-5	analogue 0..30 m/s	
dimensions	52 x 112 x 108 mm	

surge arrestors model 4P(W) en 2P



Surge arrestor devices are used to protect installations against power surges as for instance caused by lightning.

Model 4P(W) is a surge arrestor with its own housing. Model 2P is only available in a junction box (max. 20 in 1 box).

TECHNICAL SPECIFICATIONS

model 4P	for 2..4 DC/AC wires + 1x shield, max. current 1A, suitable for voltages up to 30VDC
application	Meteo M&R sensors PAH, PRV, PRF, LS and every sensor with DC signals or supply
model 4PW	for 4 wires AC en DC + 1x shield, max. current 1A, suitable for voltages up to 24VAC
application	Meteo M&R sensors RSG4, RSA and every sensor with DC and AC supply or signals
model 2P	for 2 wires + 1x shield, max. current 1.2A, suitable for voltages up to 30VDC / 24VAC
application	Meteo M&R sensors PAH, PRV, PRF, LS and every sensor with DC and AC supply or signals
housing	
housing 4P	IP-65, alu.grijs met glands PG9 (1 per box)
dimensions	34 x 64 x 89 mm (incl. glands 34x80x 40 mm)
housing 2P	junctionbox (max. 20 stuks in 1 box)
dimensions	200 x 200 120 mm (incl. glands 200x250x 20 mm)

signal converter model VM9



The universal converter VM9 was designed to convert signals of all kinds of sensors into analogue output signals of 4..20 mA and 0..10V. Possible input signals are: frequency, voltage and resistance. Therefore the unit may be used with:

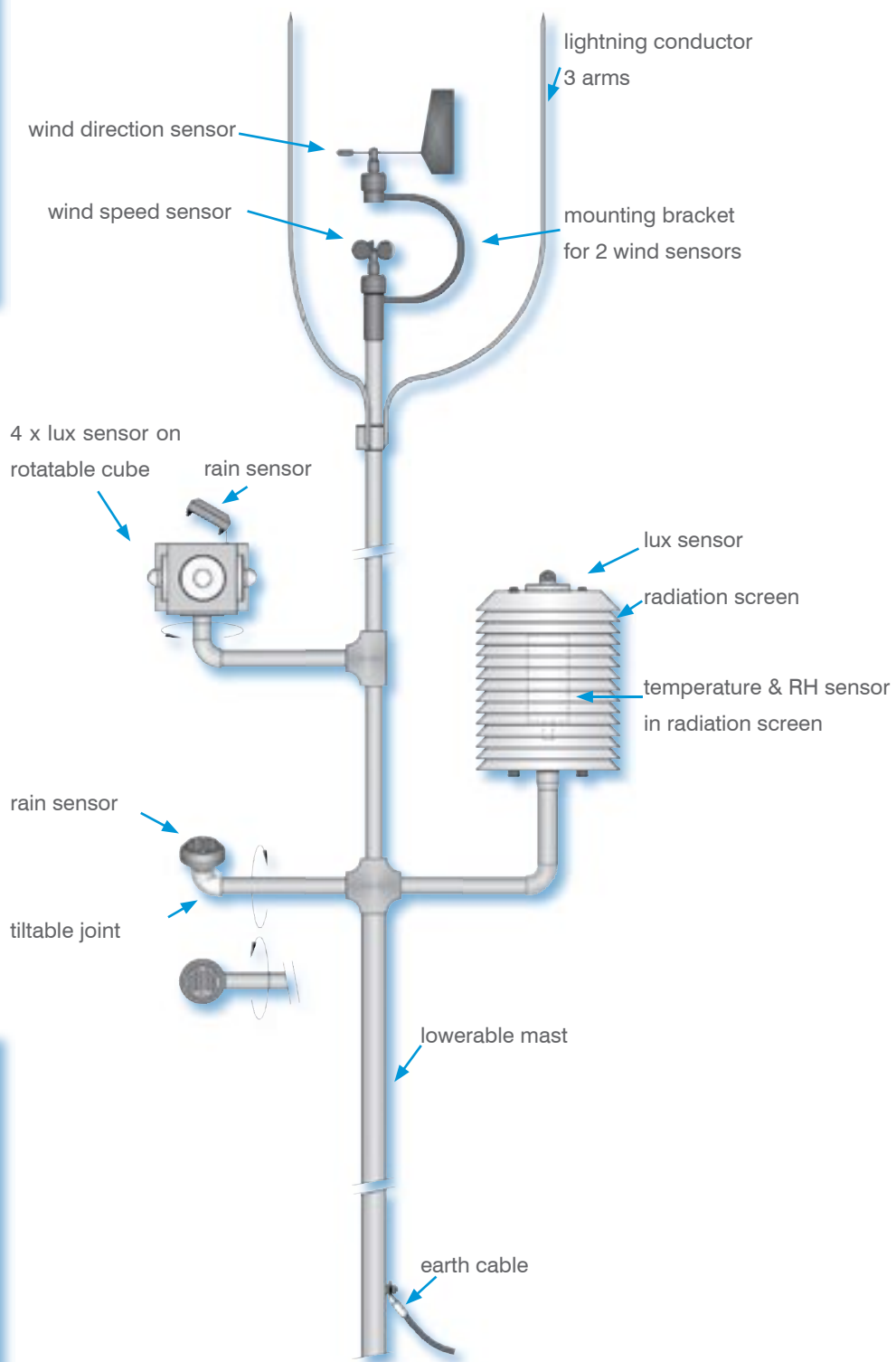
- PAH wind speed sensor & PRV wind direction sensor
- temperature sensors
- hygrosensors with resistance output
- sensors with 0..100 mV or 0..1 Volt

The housing of the VM9 is of splash water tight IP-67 Makrolon which enables mounting in industrial or corrosive environments.

TECHNICAL SPECIFICATIONS

power supply	30 VAC, 50/60 Hz, 3,2 VA with short-circuit resistance VDE 0551 (on request other voltages available)	
connections	3 cable glands PG-9 and screw connections	
current output	4..20 mA max. external resistance is 500 Ohm	
voltage output	0..10 Volt (op aanvraag 0..1 of 0..5 Volt)	
load	voltage output	1000 Ohm..1 MOhm <0,01 %
	current source output	internal resistance > 10
accuracy	linearity	0,02 %FS (VM9 S)
	temperature coefficient	0,02 %FS / °C
dimensions	122 x 120 x 55 mm	
model VM9 S	pulse input	TTL level
	frequency	to 200 Hz
model VM9 R	input for resistance/potentiometer	
	input for voltage, max. 10 VDC	
	internal input resistance > 10 MOhm	

demonstration set up



other products



chilled mirror measurement

Edgetech chilled mirror hygrometers, models like handheld Instruments, sensors for process control and laboratory Instruments.

cloud height measurement

Stand-alone instruments designed for fixed and mobile installations where accurate and reliable cloud height information is required.

visibility sensor

The Belfort Model 6000 Visibility Sensor is designed to monitor visibility conditions over a range of 0-10 miles (0-16 km). The Model 6000 includes both analog and digital outputs and two alarm channels are standard, making it possible to indicate Good/Medium/Poor Visibility.

sodar measurement

SCINTEC mini sodar boundary layer profiler for wind vector and turbulence. A phased array sodar instrument design for fixed and mobile installations. The programme contains a mini sodar, standard sodar, a long range profiler and a RASS.

conventional weather equipment

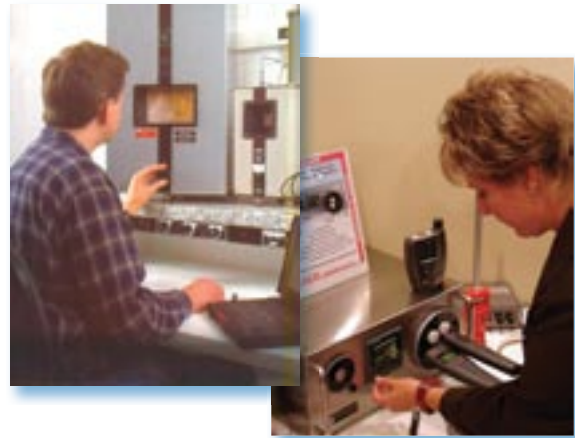
Wittich & Visser delivers thermometers, rain gauges, barometers, baro, thermo- and hygrographs for e.g. development projects. Wittich & Visser can arrange all export formalities and practicalities for such projects. We have completed similar projects with partners in Bangla Desh, Ehtiopia, India and Jordan.

weather watchers

Conventional weather instruments are also very popular amongst weather watchers. Wittich & Visser has a product line of measuring equipment especially for weather watchers.

Look for more information at our website www.wittich.nl.

calibration & service



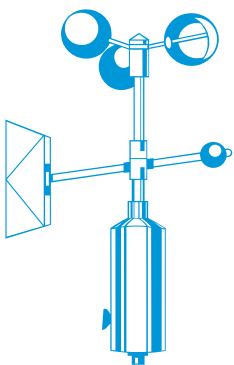
Calibrations

Most weather sensors need calibration and maintenance on a regular basis to maintain an optimum performance. Wittich & Visser offers calibration devices and accessories for all probes. We can also calibrate your probes for you.

Wittich & Visser is well equipped for calibration, maintenance and repair of measuring and control instrumentation. All calibrations by Wittich & Visser are traceable to national and international standards. For pressure instruments we can also provide a RvA certificate. Wittich & Visser has its own measuring laboratories and facilities to carry out calibrations. We can also carry out on-site calibrations. We have a reminder service to help you remember that your instruments need calibration and maintenance.

It can be in your advantage to calibrate your own equipment. Wittich & Visser can help you setting up your own calibration facilities. We offer several excellent calibration instruments.





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