



UMB SYSTEMS

Universal- Measurement- Bus

- Compact design
- Easy commissioning
- RS232 or RS485 data transfer
- GPRS data transfer over modem option
- Easy software updates
- Standard protocol for all UMB components
- Free UMB configuration software
- SmartView3 support (web visualization)



TRAFFIC TECHNOLOGY 2000
1-800-363-6224
info@traftech2000.com / www.traftech2000.com

www.lufft.com



UMB TECHNOLOGY

The UMB (Universal Measurement Bus) system is new technology for recording environmental data.

Regardless of whether in the form of a standard weather station or road ice warning equipment, the modular system excels due to easy commissioning, free firmware updates and data transfer over RS232, RS485 or GPRS modem. UMB offers flexibility, modularity and web-based visualization and polling software.

The UMB sensor library provides a comprehensive range of environmental sensors for recording temperature, relative humidity, precipitation, visibility and road conditions. The new WS series compact weather stations, in particular, are outstanding due to their unrivaled price-performance ratio. The top-of-the-range model, WS600-UMB, incorporates sensors for temperature, humidity, precipitation, air pressure, wind direction and wind speed.

The electrical connection for all UMB sensors is made via a standard plug connector system. This keeps installation and service costs to a minimum.

Third party sensors and existing analog sensors can be integrated into the UMB system using the ANACON-UMB module.

All UMB sensors can be polled by means of a standard protocol. Once data polling has been incorporated for one sensor, additional sensors can be added by way of easy parameterization of the data polling system. Channel-oriented sensor data polling delivers a large number of computed variables in metric and US format. Thus there is no need for conversion by the user. Sensors can be configured, equipment tested and firmware updated with the free configuration software (UMB-Config-Tool).

In addition Lufft offers a variety of software packages from data retrieval from weather stations (COLLECTOR) to web visualization (SmartView3).



WS400-UMB, WS600-UMB COMPACT WEATHER STATIONS

From the WS product family of professional intelligent measurement transducers with digital interface for environmental applications.

Integrated design with ventilated radiation protection for measuring:

- Air temperature
- Relative humidity
- Precipitation intensity
- Precipitation type
- Precipitation quantity
- Air pressure
- Wind direction (WS600 only)
- Wind speed (WS600 only)

Relative humidity is measured by means of a capacitive sensor element; a precision NTC measuring element is used to measure air temperature.

Precipitation is measured by way of a 24 GHz Doppler radar, which measures the drop speed of an individual drop of rain/snow.

Precipitation quantity and intensity are calculated from the correlation between drop size and speed.

The difference in drop speed determines the type of precipitation (rain/snow).

Maintenance-free measurement offers a major advantage over the common tipping spoon and tipping bucket processes.

Ultrasound sensor technology is used to take wind measurements (WS600 only).

Measurement data are available for further processing in the form of a standard protocol (Lufft-UMB protocol).

WS600-UMB (available from 4th quarter 2008)



| Technical data | Ref.No. |
|---|--|
| WS400-UMB Compact weather station | 8369.U01 EU, USA, Canada |
| WS400-UMB Compact weather station | 8369.U02 UK |
| Dimensions | Ø ca. 150mm, height ca. 200mm, weight ca. 2kg |
| Precipitation amount | |
| Resolution | 0.01mm |
| Measuring range drop size | 0.3...5mm |
| Reproducibility | Typical >90% |
| Precipitation Type | Rain/snow |
| Temperature | |
| Principle | NTC |
| Measuring range | -30...70°C |
| Accuracy | ±0.2°C |
| Relative humidity | |
| Principle | Capacitive |
| Measuring range | 0...100 % RH |
| Accuracy | ±2% RH |
| Air Pressure | |
| Principle | MEMS capacitive |
| Measuring range | 300...1200 hPa |
| Accuracy | ±1.5hPa |
| General | |
| Interface | RS485, 2-wire, half-duplex |
| Operating power consumption | 24VDC +/- 10% <3VA |
| Operating humidity range | 0...100% |
| Operating temperature range | -30...70°C |
| Heating voltage | 25VA at 24VDC |
| Technical data | Ref.No. |
| WS600-UMB technical data as 8369.U01 | 8370.U01 EU, USA, Canada |
| WS600-UMB technical data as 8369.U02 | 8370.U02 UK |
| Dimensions | Ø ca. 140mm, height ca. 270mm, weight ca. 2.2kg |
| Wind direction | |
| Principle | Ultrasonic |
| Measuring range | 0...360° |
| Accuracy | ± 3° |
| Wind speed | |
| Principle | Ultrasonic |
| Measuring range | 0...60m/s |
| Accuracy | ± 0.3m/s or 3% of measurement, highest value applies |
| Heating | 50VA at 24VDC |



R2S-UMB PRECIPITATION SENSOR

The drop speed is captured with a 24-GHz-Doppler radar.

The precipitation quantity and intensity is calculated from the correlation between drop size and speed.

The type of precipitation (rain, snow, sleet, freezing rain, hail) is detected from the difference in drop speed.

| Technical data | Ref.No. |
|---|--|
| R2S-UMB Precipitation sensor | 8367.U01 EU, USA, Canada |
| with UMB, pulse and frequency interface | 8367.U02 UK |
| Measuring range drop size | 0.3...5.0mm |
| Measuring range hail | 5.1...ca. 30mm |
| Resolution liquid precipitation | 0.01...0.1...1.0mm/m ² |
| Type of precipitation | Rain, snow, sleet, freezing rain, hail |
| Reproducibility | Typical >90% |
| Interface | RS485 half-duplex, UMB protocol |
| Power consumption | 24VDC (22...28VDC) |
| Power supply | ca. 30VA (24V) |
| Operating temperature range | -30...70°C |
| Operating humidity range | 0...100% |
| Connecting cable | Included in delivery |

| Accessories | Ref.No. |
|--------------------------------|--------------------|
| UMB interface converter ISOCON | 8160.UIISO |
| Power supply 24V/4A | 8366.USV1 |
| Protection shield for R2S | 8367.SCHIRM |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Maintenance-free
Fast response time
Differentiates between rain and snow
Resolution 0.01 mm



IRS31-UMB INTELLIGENT ROAD SENSOR

Passive road sensor IRS31 is flush-mounted in the road. The two part housing design allows the combined sensor/electronics unit to be removed for maintenance or calibration at any time.

The following variables are recorded:

- Road surface temperature
- Water film height up to 4 mm
- Freezing temperature for different ice melting materials
- Road condition (dry/damp/wet/ice or snow/residual salt/freezing rain)

The sensors are addressable and can therefore be networked.

The measurement data are digitally transferred over the RS485 interface for further processing (logger, PLC, UMB etc.).

| Technical data | Ref.No. |
|--|--|
| IRS31-UMB Intelligent road sensor | 8510.U050 |
| Measuring range temperatures | -30°C...+70°C |
| Accuracy temperatures | +/- 0.2°C (-10°C...+10°C), otherwise +/-0.5°C |
| Measuring range water film height | 0...4mm |
| Accuracy water film height | +/- 0.1mm + 20% of measurement |
| Freezing temperature graphs | 1...10 (standard: NaCl, CaCl, MgCl) |
| Measuring range freezing temperature | -20°C...0°C |
| Accuracy freezing temperature | +/-1°C for t>-10°C |
| Road conditions | Dry/damp/wet/ice or snow/residual salt/freezing rain |
| Dimensions | Ø 120mm, installation height 50mm |
| Weight | ca. 800g |
| Cable length | 50m |
| Protection type | IP 68 |
| IRS31-UMB with other cable lengths or additional depth temperature sensors: | |
| 2 depth temperature sensors, 50 m cable | 8510.U052 |
| 100 m cable | 8510.U100 |
| 2 depth temperature sensors, 100 m cable | 8510.U102 |
| Housing road sensor without ext. temperature | 8510.G050 |
| Housing road sensor 1 ext. temperature, 50m | 8510.G051 |
| Housing road sensor 2 ext. temperature, 50m | 8510.G052 |
| Housing road sensor without ext. temperature | 8510.G100 |
| Housing road sensor 1 ext. temperature, 100m | 8510.G101 |
| Housing road sensor 2 ext. temperature, 100m | 8510.G102 |
| Accessories | |
| UMB interface converter ISOCON | 8160.UISO |
| Road sensor cover (electronics) | 8510.DEC |



Order-no.: 8510.DEC

Replaceable sensor electronics
Polling via RS485 interface
Low energy consumption
(solar operation)
Radar procedure to measure water film



VS20-UMB VISIBILITY SENSOR

- Measures visibility up to 2000m
- Ideal for road traffic applications
- Analog output 4...20 mA
- Digital UMB protocol (RS485 interface)
- Calibration device available (optional)

The VS20 is configured via the software UMB-CFG:

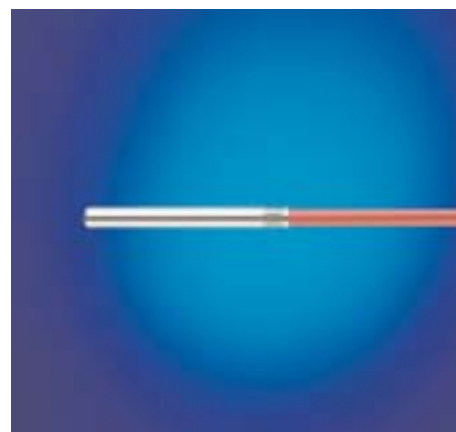
- Reading / Changing of the current configuration
- Calibration
- Polling of the current measurement values
- The software allows configurations to be loaded and stored

| Technical data | Ref.No. |
|---|---------------------------------|
| VS20-UMB Visibility sensor | 8366.U50 |
| with UMB and analog interface (4...20 mA) | |
| Measuring range | 10...2000m |
| Accuracy | +/- 10% of measurement |
| Firmware update and calibration of the sensor | Via RS485 |
| Output signal | 4...20mA |
| Interface | RS485 half-duplex, UMB protocol |
| Protection type | IP66 |
| Weight | ca. 4kg |
| Dimensions | 360x180x80mm |
| Operating temperature range | -40...60°C |
| Power supply | Typical 24VDC (12...28VDC) 3W |
| Connecting cable | Included in delivery |
| Accessories | Ref.No. |
| UMB interface converter ISOCON | 8160.UIISO |
| Ventilation unit | 8366.UBEL |
| Connecting cable | 8366.UKAB10 |
| Calibration kit visibility | 8366.UKAL1 |
| Power supply 24V/4A | 8366.USV1 |

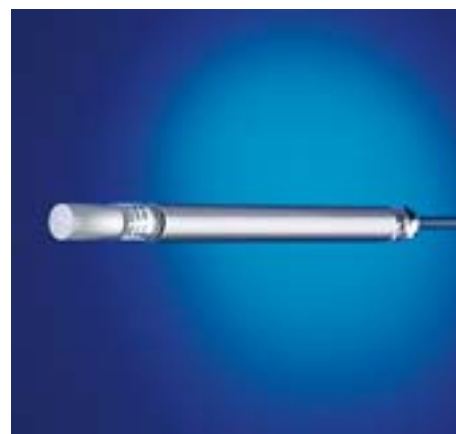


TEMPERATURE / HUMIDITY PROBES

| Technical data | Ref.No. |
|-----------------------------|--|
| Temperature probe | 8160.TF |
| Dimensions | Length 50mm, Ø 6mm |
| Output signal | Resistance |
| Weight | 370g |
| Cable length | 10m |
| Protection type | IP68 |
| Connector | COMBICON Phoenix |
| Operating temperature range | -50...150°C |
| Operating humidity range | 0...100% RH |
| Temperature | |
| Principle | Pt100 |
| Measuring range | -50...150 °C |
| Accuracy | ±0.2°C (-30...70°C), otherwise ±0.4°C, + 1 digit |



| Technical data | Ref.No. |
|--|-------------------------------------|
| Temperature/RH probe | 8160.TFF10, 10m cable length |
| Temperature/RH probe | 8160.TFF50, 50m cable length |
| Dimensions | Length 185mm, Ø 16mm |
| Output signal | Resistance, frequency |
| Operating voltage | 6...15V |
| Operating current | ca. 10mA |
| Weight | 400g |
| Protection type | IP54 |
| Connector | COMBICON Phoenix |
| Operating temperature | -30...70°C |
| Operating humidity range | 0...100% RH |
| Relative humidity | |
| Principle | Capacitive |
| Measuring range | 0...100 % RH / accuracy ±2% RH |
| Temperature | |
| Principle | Pt1000 |
| Measuring range | -30...70 °C / accuracy ±0,2°C |
| Accessories | Ref.No. |
| Measuring head for 8160.TFF10 and 8160.TFF50 | 8160.HC |
| Radiation shield | 8150.SCHUW |
| Calibration ampoule 50% | 8151.E50 |
| Calibration kit | 8151.KAL |



ULTRASONIC ANEMOMETER

| Technical data | Ref.No. |
|---|--|
| Combined wind sensor ultrasonic with heating | 8352.USH4M |
| Dimensions | Length 555mm, radius 160mm |
| Measuring interval | 0.1s |
| Construction | Housing stainless steel |
| Output signal | 4...20mA and RS485 |
| Weight | 1.5kg |
| Heating | 24 VDC/70VA |
| Interface | RS485 and 2 analog outputs |
| Protection type | IP67 |
| Power supply | Probe 9...26VDC/5VA |
| Wind direction | North changeover point |
| Included in delivery | Mounting flange, connector |
| Operating temperature range | -30...60°C |
| Operating humidity range | 5...100% |
| Wind speed | |
| Principle | Ultrasonic |
| Measuring range | 0...60 m/s |
| Accuracy | ±0.15 m/s (0...5 m/s) <1.5% of measurement (>5 m/s), standard deviation |
| Wind direction | |
| Principle | Ultrasonic |
| Measuring range | 0...360° |
| Accuracy | ±3° |
| Accessories | Ref.No. |
| Power supply for heated probes | 8161.SV4 |
| Lightning protection for mast | 8357.BS |



| Technical data | Ref.No. |
|-----------------------------|--------------------------------------|
| WindSonic 4..20mA | 8352.US6M |
| Dimensions | 142x160mm |
| Output signal | 4...20mA |
| Weight | 0.5kg |
| Protection type | IP65 |
| Power supply | Anemometer 9...30VDC @ 40mA, typical |
| Operating temperature range | -35...70°C |
| Wind speed | |
| Principle | Ultrasonic |
| Measuring range | 0 ... 60 m/s |
| Accuracy | ±2% |
| Resolution | 0.01 m/s |
| Wind direction | |
| Principle | Ultrasonic |
| Measuring range | 0 ... 360 ° |
| Accuracy | ±3° |
| Resolution | 1 ° |



PRECIPITATION

| Technical data | Ref.No. |
|---------------------------------|-----------------------|
| Rain gauge 0.1 mm heated | 8353.01 |
| Dimensions | Ø 225mm, height 480mm |
| Connection type | Open cable ends |
| Collecting area | 200cm ² |
| Resolution | 0.1 mm |
| Weight | 7.5kg |
| Heating | 24 VDC/AC, 55W |
| Mounting type | On mast, Ø 50mm |
| Operating temperature range | -20...60°C |
| | |
| | |



| Accessories | Ref.No. |
|--|-----------------|
| Power supply for heated probes for 8353.01 | 8161.SV4 |
| Stand, height 1m | 8353.FUS |
| | |

| Technical data | Ref.No. |
|-----------------------------------|-----------------------|
| Rain gauge 0.1 mm unheated | 8353.02 |
| Dimensions | Ø 225mm, height 480mm |
| Connection type | Open cable ends |
| Collecting area | 200cm ² |
| Resolution | 0.1 mm |
| Weight | 7.5kg |
| Mounting type | On mast, Ø 50mm |
| Operating temperature range | -20...60°C |



| Accessories | Ref.No. |
|------------------|-----------------|
| Stand, height 1m | 8353.FUS |
| | |
| | |
| | |
| | |

| Technical data | Ref.No. |
|-----------------------------------|-------------------------|
| Rain gauge 0.2 mm unheated | 8353.04 |
| Dimensions | Ø 165mm, height 255mm |
| Connection type | Open cable ends |
| Collecting area | 200cm ² |
| Resolution | 0.2 mm (tipping bucket) |
| Weight | 380g |
| Mounting type | On mast, Ø 50mm |
| | |
| | |
| | |
| | |
| | |



| Technical data | Ref.No. |
|------------------------------------|------------------------|
| Rain gauge 1 mm unheated | 8353.05 |
| Dimensions | 100x50mm, height 100mm |
| Connection type for 8353.05 | Open cable ends |
| Collecting area | 50cm ² |
| Resolution | 1 mm (tipping bucket) |
| Weight | 300g |
| Mounting type | On mast, Ø 50mm |
| | |
| | |
| | |
| | |
| | |



PRESSURE / WIND

| Technical data | Ref.No. |
|-----------------------------|---|
| Pressure sensor | 8355.03 |
| Dimensions | 100mm x 65mm x 41mm |
| Connection type | Cable clips |
| Output signal | 4...20mA |
| Operating voltage | 7...15VDC |
| Operating current | 4mA |
| Weight | ca. 360g |
| Protection type | IP54 |
| Operating temperature range | -40...60°C |
| Max. burden | <(UB-7V)/20mA |
| Operating humidity range | 0...95% RH (non-condensing) |
| Absolute pressure | |
| Principle | Capacitive ceramic |
| Measuring range | 0...1200 hPa |
| Accuracy | ±0.5hPa, for T=20°C and 600hPa <Pabs <1100hPa |
| Absolute pressure | |
| Principle | Capacitive ceramic |
| Measuring range | 0...1200 hPa |
| Accuracy | ±1.5hPa, for 0°C <T <40°C and 600hPa <Pabs <1100hPa |
| Absolute pressure | |
| Principle | Capacitive ceramic |
| Measuring range | 0...1200 hPa |
| Accuracy | ±2.0hPa, for -20°C <T <45°C and 600hPa <Pabs <1100hPa |
| Absolute pressure | |
| Principle | Capacitive ceramic |
| Measuring range | 0 ... 1200 hPa |
| Accuracy | ±3.0hPa, for -40°C <T <60°C and 600hPa <Pabs <1100hPa |



| Technical data | Ref.No. |
|--------------------------------|---------------------------|
| Wind sensor unheated | 8368.01 |
| Dimensions | Traverse 1m |
| Start-up value | 0.9m/s |
| Connection type | Open cable ends |
| Weight | 2.5kg |
| Cable length | 10m |
| Protection type | IP65 |
| Wind direction | 2° open at south |
| Operating temperature range | -30...70°C |
| Wind speed | |
| Principle / Measuring range | Generator / 0.9...50 m/s |
| Wind direction | |
| Principle / Measuring range | Potentiometer / 0...358 ° |
| Wind sensor heated | 8368.02 |
| Accessories | Ref.No. |
| Power supply for heated probes | 8161.SV4 |



| Technical data | Ref.No. |
|---|-----------------|
| Wind sensor unheated technical data as 8368.01 | 8368.03 |
| Wind sensor heated technical data as 8368.02 | 8368.04 |
| Heating | 40W, 24VDC/AC |
| Accessories | Ref.No. |
| Power supply for heated probes | 8161.SV4 |



THE UMB MODULES

Common features of all UMB modules

- Galvanic isolation between sensor supply and communication
- Host communication via RS232 (PC / GPRS-modem), RS485 (RPU)
- Small housing with top hat rail mounting and bus-connection
- Firmware update via RS232
- Common power supply (24V) for UMB modules and (heated) sensors
- Online data-transfer (no memory)
- Network with up to 32 modules

ISOCON-UMB communication module for all UMB sensors

- Communication-watchdog for proper sensor function (reset)
- Overvoltage protection for all interfaces
- LED indication for operation mode

ANACON-UMB 2-channels universal transmitter

2 analog inputs, 24-bit-resolution for voltage, current and resistance
LED indication for operation mode for following Lufft-sensors:

- Temperature / humidity sensor
- Combined wind / air pressure sensor
- Ultrasonic wind sensor 4...20mA
- Precipitation gauge (tipping bucket)

Other inputs:
Digital signals (e.g. door contact)

IRS21CON-UMB communication module for Lufft road sensor IRS21

- Converting the IRS21 protocol into UMB protocol
- controls the galvanically isolated power supply for IRS21
- overvoltage protection for all interfaces
- LED indication for operation mode

| Technical data | Ref.No. |
|--|-----------------------|
| ISOCON-UMB | 8160.UISO |
| ANACON-UMB | 8160.UANA |
| IRS21CON-UMB | 8410.UISO |
| Operating conditions | |
| Power supply | 12...26VDC |
| Power consumption | <100 mA |
| Ambient temperature | -30°C ... +60°C |
| Relative Humidity | <95% RH |
| Protection type | IP20 |
| Module width | 23mm |
| RS232 connector | DSUB9 |
| Sensor connector | Screw type |
| Storage conditions | |
| Ambient temperature | -40°C ...+70°C |
| Relative Humidity | <95% RH |
| Accessories | |
| Power supply 230VAC/24VDC (100VA) | 8366.USV1 |
| GPRS/GSM modem with camera connection | 8160.MOD-VIOLA |
| Night-vision camera | 9983.00 |



LCOM (LUFFT COMMUNICATOR)

The LCOM (Lufft-Communicator) is an industrial PC with the Windows-CE operating system. The following interfaces are available for communication purposes:

- USB
- GPRS modem (RS232)
- Partyline modem (RS232)
- UMB bus (RS485)

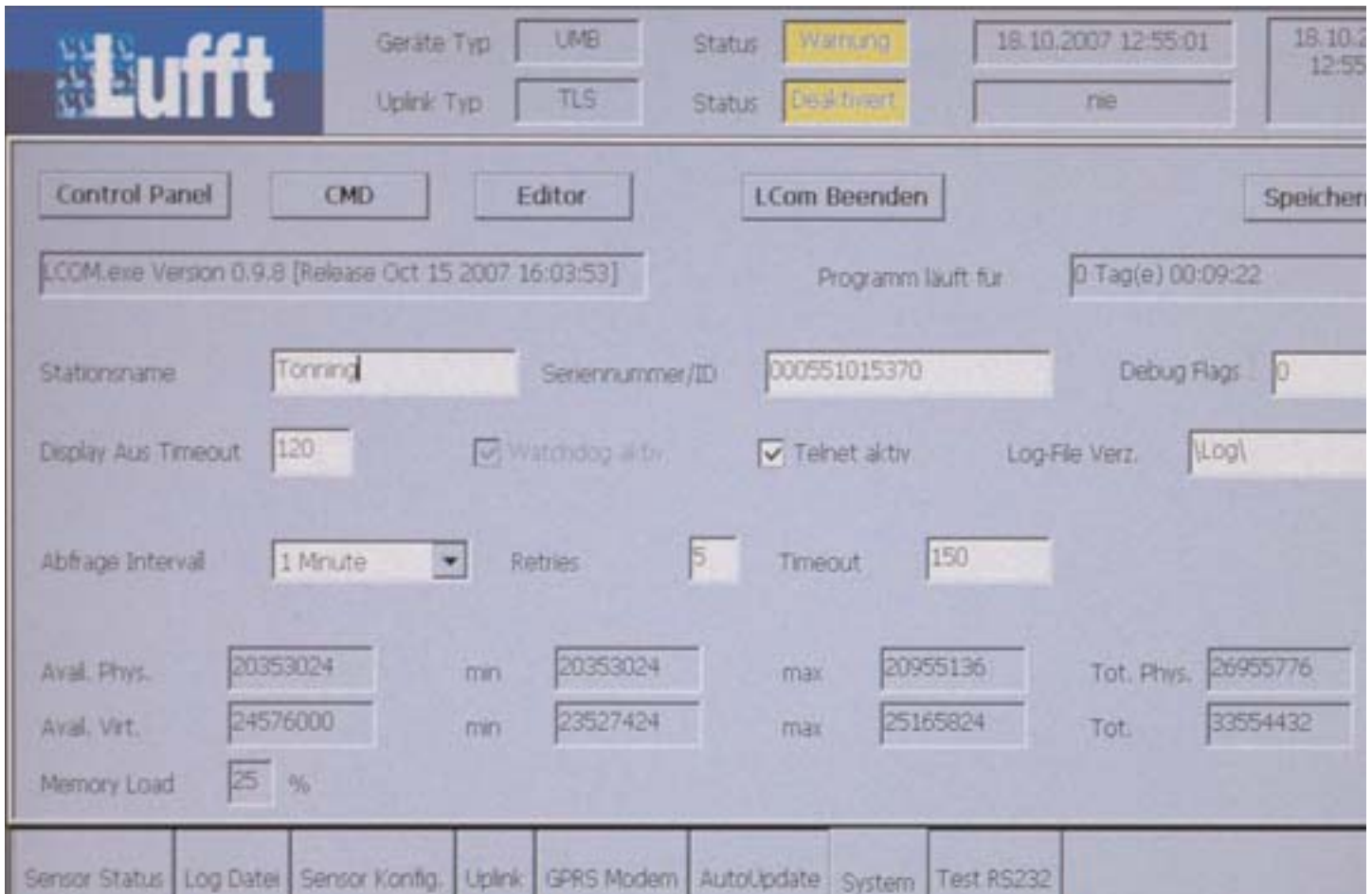
Conversion to the following standard protocols can be made in combination with the UMB technology:

- TLS
- NTCIP
- TLS over IP with GPRS (Asfinag)
- DGT (in planning)
- Synop (in planning)

The equipment is configured and measurement data presented on the built-in 7 inch touch screen display. A service PC is therefore no longer required.

Remote access is available for software uploads and data analysis on the LCOM and UMB modules over the GPRS modem.

| Technical data | Ref.No. |
|--|--------------------------|
| LCOM Lufft Communicator | 8510.EAK |
| Operating Conditions | |
| Power supply | 20...28VDC |
| Power consumption | 10VA |
| Ambient temperature | -30°C ... +60°C |
| Relative humidity | <90% RH |
| Protection type | IP20 |
| Dimensions | 230mm x 130mm x 50mm |
| USB interface | USB2.0B |
| GPRS modem interface | RS232 on Wago Cage Clamp |
| Partyline modem interface | RS232 on Wago Cage Clamp |
| UMB bus interface | RS485 on Wago Cage Clamp |
| Display size | 7 inch |
| Display resolution | 800 x 480 pixel |
| Storage conditions | |
| Ambient temperature | -30°C ...+60°C |
| Relative humidity | <95% RH |
| Accessories | |
| Power supply 230VAC/24VDC (100VA) | 8366.USV1 |
| GPRS/GSM modem | 8160.GSM |



CONFIGURATION EXAMPLES

Community Weather Station

Data collection on polling server

Communication via wireless modem (CDMA/GPRS)

Temp / Humidity
8160.TFF10

Wind speed / direction
8368.01

Precipitation
8367.U01



UMB modules
24V power supply
and GPRS modem

Standard ARWIS Configuration

Data collection on site (EAK)

Possibility to connect a camera

Wired or wireless data transmission

NTCIP / TLS compliance with EAK unit

Temperature / Humidity
8160.TFF10

R2S-UMB
Precipitation
8367.U01

Wind speed / direction
8368.01

VS20-UMB
Visibility
8366.U50

IRS31-UMB
Intelligent road sensor
8510.U050

IRS31-UMB
Intelligent road sensor
8510.U050



EAK unit (LCOM)

ANACON
8160.UANA

ISOCON
8160.UISO

ANACON
8160.UANA

ISOCON
8160.UISO

ISOCON
8160.UISO

ISOCON
8160.UISO

UMB CONFIGURATION-SOFTWARE

UMB configuration-software

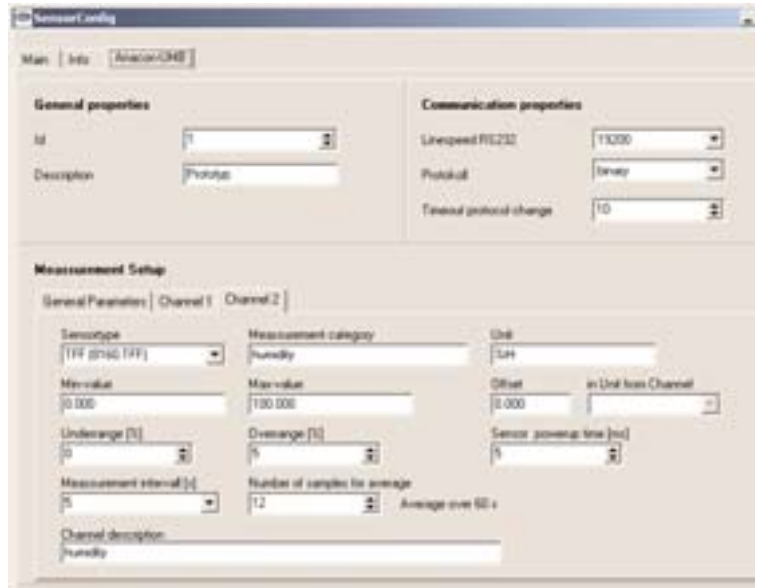
Functions

- Configuration of sensors
- On-site calibration of sensors
- Indication of current measurement values
- Firmware update for UMB-sensors and UMB-modules

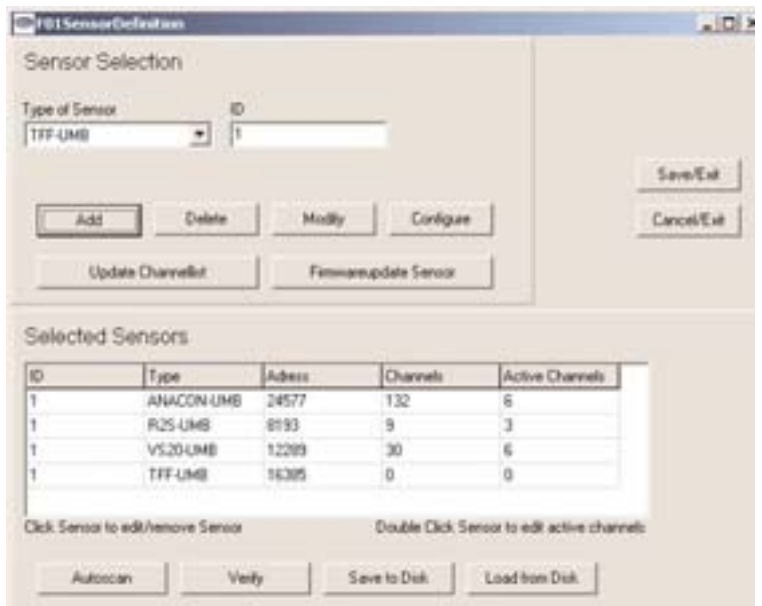
Coming soon

- Multi lingual user interface
- "trace function", interface recorder

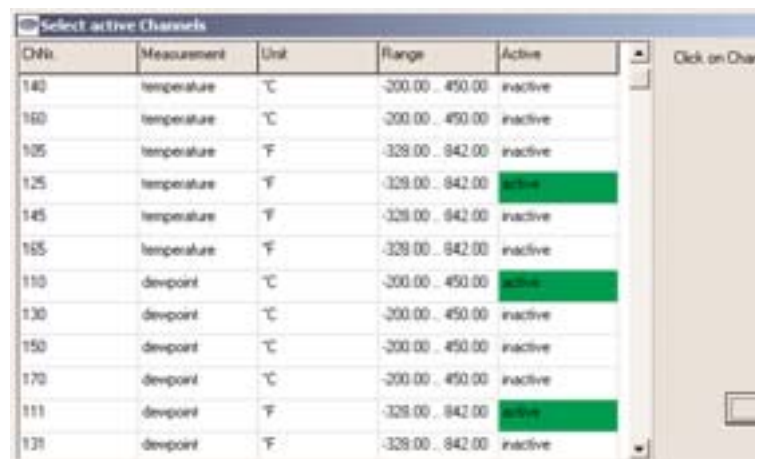
Configuration of analog sensors



Selection list of sensors



Selection list of sensor channels (temporary data request)



SOFTWARE Collector / SmartView3

Functions

Web based visualisation and data collection software for Luftf dataloggers/transmitters

Storage of data in database

Flexible export and import functions for integration of external/third party software / data (CSV and XML)

Simultaneous data collection via unlimited communication modules (e.g.modems)

Integration of webcam pictures (via TCP / IP-FTP)

Basis version Collector
(Collector for up to 5 stations)
Order-no: 8160.COLLECT05

Unlimited version Collector
(unlimited quantity of stations)
Order-no: 8160.COLLECT

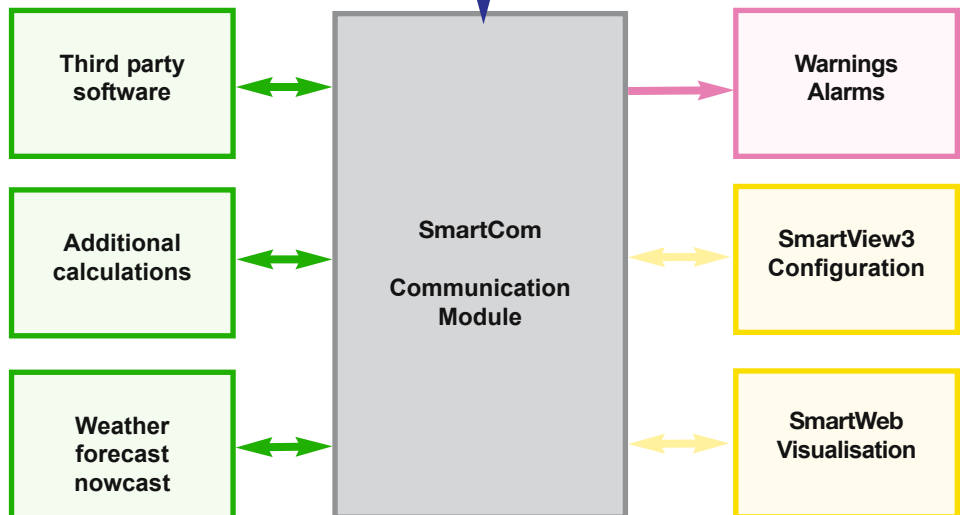
SmartView3 incl. Collector
up to 5 stations
Order-no: 8040.SV05

SmartView3 incl. Collector
unlimited
(Web visualisation)
Order-no: 8040.SV300



Data collection / polling / GPRS

MYSQL Database




MEASURING DATA

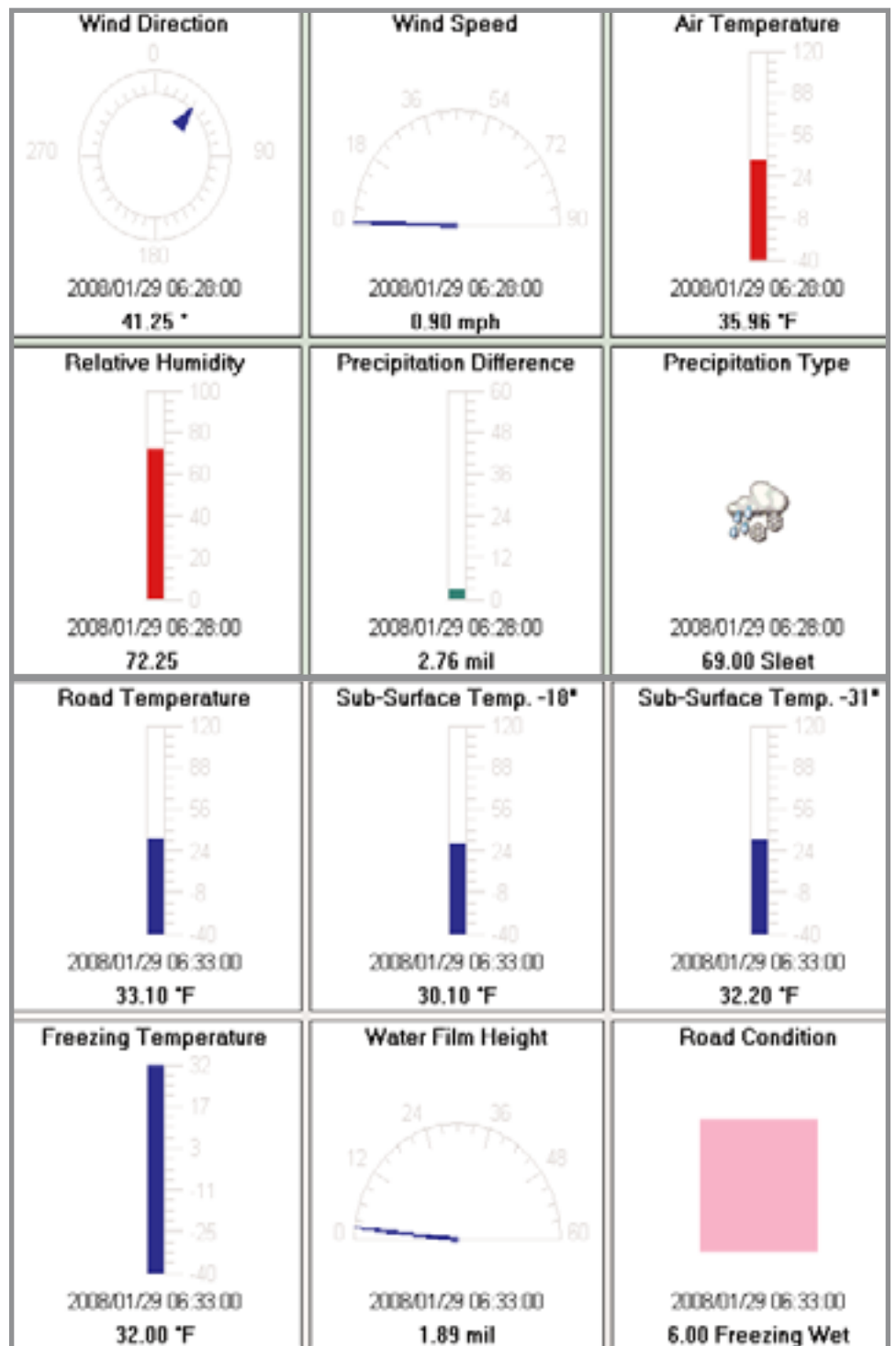


Current measurements displayed in the form of an indicator

Integration of a camera image into the visualization

Graphic displays (day and week charts)

Measurement data in tabular form



WEATHER STATIONS WORLD-WIDE



COLLECTOR / SmartView3 FUNCTIONS

| Functions of SmartView3 | | | | |
|------------------------------------|--|---------------|------------------|---------------------------|
| | | Basis version | Complete version | SmartView3 with Collector |
| | | Max. 5 | Unlimited | Unlimited |
| Data Transfer | Quantity of weather stations | | | |
| | Opus200 (Online and Offline) | x | x | x |
| Lufft dataloggers/ transmitters | Opus2 (Online and Offline) | x | x | x |
| | UMB (Online) | x | x | x |
| | HP100 (Offline) | x | x | x |
| | Read sensor configurations | All types | All types | All types |
| | Change sample and storage rate and memory mode (Min/Max/ave) | Opus200 | Opus200 | Opus200 |
| | Transfer camera picture via FTP | x | x | x |
| Connections | | | | |
| | Direct (RS232) | x | x | x |
| | TCP/IP (Station with COM Server or CDMA/GPRS Modem with fixed IP address or DynDNS support) | x | x | x |
| | Modem (TAPI) | x | x | x |
| | PPP (camera picture only) | x | x | x |
| Intervals | | | | |
| | Fixed (e.g. every 20 minutes) | x | x | x |
| | No transfer at special night periods (e.g. not between 10.00 p.m. and 5.00 a.m.) | x | x | x |
| | Special times | x | x | x |
| Modem poll | | | | |
| | Max quantity of modems | Unlimited | Unlimited | Unlimited |
| | "Modem Pools" (poll stations with dedicated modems) | x | x | x |
| Recalculation of values | | | | |
| | Re-scale data before storing in the database | x | x | x |
| | Mapping of data before storing in the database (e.g. change of road conditions codes) | x | x | x |
| Clock synchronisation | | | | |
| | device needs the corresponding software function, device clock can be UTC or local time (with or without summertime adjustment) | x | x | x |
| Calculation channel | | | | |
| | Calculation of sensor data as "calculation channel" according to delivered raw data. Immediately: scale of raw data for a configurable coefficient, generation of sum/average/minimum value/maximum value for a specific period of time; mapping of the values | x | x | x |
| Backup/archive of data | | | | |
| | Time-controlled automatic backup of full database | x | x | x |
| | Time-controlled deletion of old data in database (including backup of data before deletion starts) | x | x | x |
| | Time-controlled compression of data in the database including backup before compression starts (reduction of data down to one value per hour/day) | x | x | x |
| | Time-controlled deletion of "old" camera pictures in the database (including backup of data before deletion starts) | x | x | x |
| | Restore of backup-data - including deletion of compressed data before restoring process starts (if the backup is the result of a data compression) | x | x | x |
| | Automatic transfer of backup-file onto a server via FTP | x | x | x |
| User access administration | | | | |
| | Administration of users / functions and user groups | x | x | x |
| | Admission to functions for users/groups | x | x | x |
| | Create/delete stations | x | x | x |
| | Edit/view configuration of a station | x | x | x |
| | Create/delete website | - | - | x |
| | Change configuration of website | - | - | x |
| | Edit/view configuration of website | - | - | x |
| | Create/change user | x | x | x |
| | Change configuration data of software | x | x | x |
| Export/Import | | | | |
| | Manual export/import | - | - | x |
| | Automatic export/import | - | - | x |
| | Export of configurable values of one or more stations in one file | | | |
| | Export in "CSV" format incl. parameter settings | - | - | x |
| | Import in "CSV" format incl. parameter settings | - | - | x |
| | Export in "XML" format incl. parameter settings | - | - | x |
| | Scale of data for export (e.g. recalculation of m/s into km/h) | - | - | x |
| | Mapping of data for export (e.g. recalculation of road conditions codes) | - | - | x |
| | Scale of import-data before storing the data in the database | - | - | x |
| | Mapping of import-data before storing the data in the database | - | - | x |

COLLECTOR / SmartView3 FUNCTIONS

| | | | | |
|---|---|---|---|---|
| Calculation channel | | | | |
| | Internal calculation of sensor data as "calculation channel" according to imported raw data. Immediately: scale of raw data for a configurable coefficient, generation of sum/average/minimum value/maximum value for a specific period of time; mapping of the | - | - | x |
| | Dew point calculation with an external program | - | - | x |
| | Peronospora calculation with an external program | - | - | x |
| | Venturia calculation with an external program | - | - | x |
| | Botrytis calculation with an external program | - | - | x |
| | Oidium calculation with an external program | - | - | x |
| Control of automatic export/import | | | | |
| | Export if new data have been stored | - | - | x |
| | Time-controlled export (e.g. every 5 minutes) | - | - | x |
| | Flexible definition of time-interval for export based on start-up-time | - | - | x |
| | Export and execution of a software program | - | - | x |
| | Export and automatic transfer of a file via FTP | - | - | x |
| | Export and execution of a software program and import of the calculated result (e.g. disease model calculation) | - | - | x |
| | FTP transfer of files before import starts | - | - | x |
| | Time-controlled FTP transfer of files including "Wildcard" support | - | - | x |
| | Automatic deletion of files transferred via FTP after transfer has been finished | - | - | x |
| | Import of files including "Wildcard" support | - | - | x |
| | Automatic deletion of import files after import has been finished | - | - | x |
| Visualisation of data as "website" | | | | |
| | Indication of station's status (last data transfer, transfer success) in a table | - | - | x |
| | Indication of station's status (last data transmission, transfer success) on a static map | - | - | x |
| | Indication of (selected) sensor data in a "pop-up" window by "scroll over" with the mouse on a station, on the static map | - | - | x |
| | Indication of status-information and current values of stations on "stations-page" per station | - | - | x |
| | Indication of camera-picture on "stations-page" of a station | - | - | x |
| | Graphic indication of the current value on the "station page" in the form of an analog-instrument | - | - | x |
| | Indication of reports (day/month/year) with sum/average and extreme values during the report period of time, on the "station page" | - | - | x |
| | Automatic generation of "data pages" to indicate the data in the given time interval, day/week/month/year (diagram and table) | - | - | x |
| | Selectable "data pages" including current values from sensors of different stations and different storage intervals (day/week/month/year) on one page | - | - | x |
| | Selectable line and status (bar) diagrams on "data-pages"; line diagrams with up to 4 different Y-axes (units). Scale of line diagrams manually or automatically | - | - | x |
| | Indication of reports (depending on configured period for the station pages) with average/sum and extreme values on the period of time, on the station page | - | - | x |
| | Management of "pages-archive" for data pages (historic measurements) | - | - | x |
| | Automatic transfer of admission rights on to website/webserver (via .htaccess - function has to be active on web-server) | - | - | x |
| | Automatic erasure of archive pages prior to configured period of time | - | - | x |
| Warnings/alarms | | | | |
| | Configuration of high and low threshold per sensor; generation of warnings/alarms if value is out of limits | - | - | x |
| | Alarm message if station cannot be polled | - | - | x |
| | Alarm message if import file cannot be used | - | - | x |
| | In case of alarms, generation of email message (station could not be polled, sensor delivers error, sensor delivers error value/import, sensor delivers error /import, sensor delivers alarm value) to one or more destination addresses | - | - | x |

Please send us a detailed offer for the following products:

.....
.....
.....

Yes, Please send us comprehensive literature

- Full Technical Catalog
- Portable Electronic Instruments
- Electronic Datalogger OPUS10
- Industrial Data Acquisition OPUS300i
- Pharmaceutical Applications 21 CFR 11
- UMB Technology
- Agricultural Meteorology System Solutions
- Road Traffic Weather Systems
- DKD Calibration Service
- Mechanical Measuring Instruments
- Current Price List

Please call to arrange an appointment

.....
.....

Company:

.....

Name:

Department:

Street / PO Box:

Post Code / City:

Telephone:

Fax:

E-mail:

Customer No.:

TRAFFIC TECHNOLOGY 2000

1-800-363-6224
info@traftech2000.com / www.traftech2000.com

