



OTT system solutions  
Compact systems  
for meteorological applications

# OTT MetSystems

System cabinets with integrated components

OTT MetSystems – top-quality control cabinets equipped with components for power supply and with all items necessary for saving and remotely transferring meteorological data. Fully assembled, wired, and preconfigured, they are optimally prepared for connecting the sensors. This simplifies the setup of meteorological measuring stations and noticeably reduces the effort for installing them.

The MetSystems are optimised for use with the OTT Pluvio<sup>2</sup> precipitation sensor. Depending on the system version, additional sensors for wind and weather are preconfigured. The IP-enabled and highly energy-efficient OTT netDL datalogger is the core of the system. Several SDI-12-sensors, optionally analogue sensors, may easily be connected to the logger. The built-in cellular modem is used for measured data remote transfer and Ethernet communication (LAN) is available as well.

The lockable stainless steel system cabinets are dust and splash-water proof and a built-in breather gland provides sufficient ventilation and drainage. Not least, the high quality of the properly installed and wired components ensures long useful life.

# Meteorology

# Ready for use: Compact base unit for weather stations

## High-quality basic configuration

In addition to power supply components, the basic configuration of the rugged control cabinet includes everything needed for saving and transferring the measured data. In detail, the basic configuration includes the following components:

- Lockable stainless steel control cabinet including breather gland
- OTT netDL 500 or 1000 IP datalogger with built-in modem and flat antenna; the netDL 1000 provides additional Ethernet interface.
- SDI-12, optional RS-485 (SDI-12 protocol) and pulse sensor interfaces
- OTT PCU12 power control unit for mains operation
- Power supply for powering sensor heaters
- Overvoltage protection for energy supply
- Clearly arranged wiring diagram

The datalogger is already preconfigured for the weighing OTT Pluvio<sup>2</sup> precipitation sensor (optionally available with ring heater fitted). Thus, the only work to be done is to connect the precisely measuring all-weather sensor. Using the wiring diagram and already installed cable glands, this is quickly done.

All components within the control cabinet are completely assembled. The control cabinet may be installed to the mast as well as to the wall. Convenient stainless steel brackets are available as accessories.



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## Core of the basic configuration: OTT netDL 500/1000 datalogger

The rugged IP dataloggers featuring large storage have been developed particularly for data management in environmental monitoring. Thanks to power management, they operate in a very energy-efficient manner. For remote data transfer, the built-in cellular modem is perfectly adapted to the loggers. For direct Web connectivity, the OTT netDL 1000 has an additional Ethernet interface. The flexible loggers are capable of handling not only conventional dial-in procedures, but also all major Web transfer protocols. The internal TCP/IP stack ensures hardware independent and smooth operation.

## Features and benefits

- Efficient power management
- Short polling cycles using multitasking
- High data availability using redundant communication paths
- Cellular modem, flat antenna included
- Direct Web connectivity through LAN (only for netDL 1000)
- Built-in Web server – allows authorised persons to configure the unit using a standard browser
- Supports all major transfer protocols (HTTP, SMTP, FTP, ...) and data formats (incl. XML)
- USB interface for easy communication on site
- Display unit including jog shuttle for quick overview
- Standard SDI-12, optional RS-485 (SDI-12) and pulse interfaces, analogue sensors may be connected
- Modbus enabled



# Various options to meet different requirements

## System versions

OTT MetSystems are available in four different versions. Standardisation of the compact systems allows for cost-efficient production resulting in significant savings, compared with individual solutions.

Control cabinet and basic configuration are almost the same for all system versions. MetSystem A includes the OTT netDL 500 datalogger, while the other versions provide the OTT netDL 1000 unit and are thus enabled for communication via LAN. All versions support the OTT Pluvio<sup>2</sup>/Pluvio<sup>2</sup> S precipitation sensor, versions C and D also provide the preconfiguration of Lufft wind or weather sensors. In these cases, the additionally required power supply is already installed.

If required, OTT will configure further sensors and provide an individual wiring diagram. For this the required sensors have to be compatible.



### MetSystem A

- Basic configuration including OTT netDL 500 datalogger

Version A offers the entire basic configuration as a compact system. It is ideal to quickly and easily set up a measuring station for data communication while providing power supply.

The built-in OTT netDL 500 datalogger is preconfigured for the OTT Pluvio<sup>2</sup>/Pluvio<sup>2</sup> S unit and allows any of the SDI-12 or optionally RS-485 sensors to be connected.

### MetSystem B

- Basic configuration including OTT netDL 1000 datalogger

The netDL 1000 datalogger is incorporated in version B. In addition to the built-in modem, this datalogger has an Ethernet interface for communication through LAN.

As is the case with all versions, the logger has the SDI-12 and optionally RS-485 serial sensor interfaces and is already preconfigured for the OTT Pluvio<sup>2</sup>/Pluvio<sup>2</sup> S unit.

### MetSystem C

- Basic configuration including OTT netDL 1000 datalogger
- Additional 4 analogue interfaces, may be expanded up to 8
- Additional 24 V/240 W power supply
- Ready for Lufft Ventus series wind sensors (incl. heater)

In addition to the serial sensor interfaces, version C provides up to 8 analogue interfaces and is thus capable of handling any weather sensor. The datalogger is ready for using the heated Lufft Ventus wind sensor and the power supply required for this sensor is already installed. Thus, version C is the right system for weather stations which are required to provide highly precise precipitation and wind data in each weather condition.

### MetSystem D

- Basic configuration including OTT netDL 1000 datalogger
- Additional 4 analogue interfaces, may be expanded up to 8
- Additional 24 V/50 W power supply
- Ready for all Lufft WS series sensors (incl. heater).

Similarly, up to 8 analogue sensors may be connected to version D. The datalogger is preconfigured for the Lufft WS series compact weather sensors. An additional power supply is already installed. Version D is the right choice when, in addition to precipitation, a plurality of other parameters such as air temperature, air humidity, wind, or global radiation are to be collected.

## Features and benefits

- Standardised configuration resulting in particularly attractive value for your money.
- Versions are configured based on actual requirements, particularly for hydro-meteorological measuring stations.
- Significantly less effort required for setting up a measuring station.
- Rugged lockable stainless steel system cabinet with built-in breather gland for ventilation and drainage.
- Water-proof cable glands for easy sensor connection.
- Top-quality components, professionally installed and properly wired, therefore long useful life.
- Powerful IP datalogger providing efficient power management.
- Remote data transfer via GSM/GPRS, 3G or LAN.
- Preconfigured for using proven weather sensors.
- Any SDI-12- or optionally RS-485 sensor may be connected, additional analogue connections for versions C and D.
- OTT PCU 12 power control unit for mains power supply.
- Convenient stainless steel mast mounting bracket – for easy installation to masts of 1"… 4"; alternatively, stainless steel wall bracket (both available as accessories).



## Applications

Quick and easy installation of hydro-meteorological measuring stations, e. g.

- Automatic weather stations (AWS)
- Synoptic weather stations (e. g. AWOS)
- Climatological weather stations
- Hydrological weather stations

## Measuring parameters

Wind speed and direction, temperature, relative humidity, global radiation, barometric pressure, precipitation, soil temperature/humidity and more.

## Recommended sensors

- OTT Pluvio<sup>2</sup>/Pluvio<sup>2</sup> S, OTT TRH, OTT MSB 181
- Lufft WS-series, Lufft Ventus
- ADCON RGPro
- Other sensors on request

For operation of the OTT Pluvio<sup>2</sup> 400 with ring heating a specific power supply (24 V/100 W) is required.

## Technical Data

### Control cabinet

- Dimensions (W x H x D): 380 mm x 500 mm x 210 mm
- Housing material: Stainless steel
- Protection class: IP66 (vertical installation)
- Lockable
- Breather gland
- Maximum battery dimensions: (W x H x D)  
Systems A/B: 190 mm x 175 mm x 130 mm  
Systems C/D: 65 mm x 96 mm x 151 mm

### Temperature range for control cabinet

incl. components  
-25 °C ... +70 °C

### Power supply

- Power control unit for mains power operation: OTT PCU12
- 24 V/50 W power supply
- 24 V/240 W power supply (only for version C)
- optional: 12 V/6.5 Ah rechargeable battery

### Overvoltage protection for power supply

- Dehn DR M 2P 255FM
- SPD acc. to EN 61643-11: Type 3
- SPD acc. to IEC 61643-1/-11: Class III

### OTT netDL 500/1000

#### IP datalogger

- Built-in GSM/GPRS modem (GSM/GPRS or 3G)
- Communication interfaces: USB host and USB device, RS-232 (full DB9), Ethernet (netDL1000)
- Sensor interfaces: SDI-12, optional RS-485 (SDI-12), 2 x status/pulse input, 2 x switching output, 4 x analogue, may be expanded up to 8 (Systems C and D)
- Flat antenna