

# **THIES** Clima

## **Meteorology-Environmental Technology**

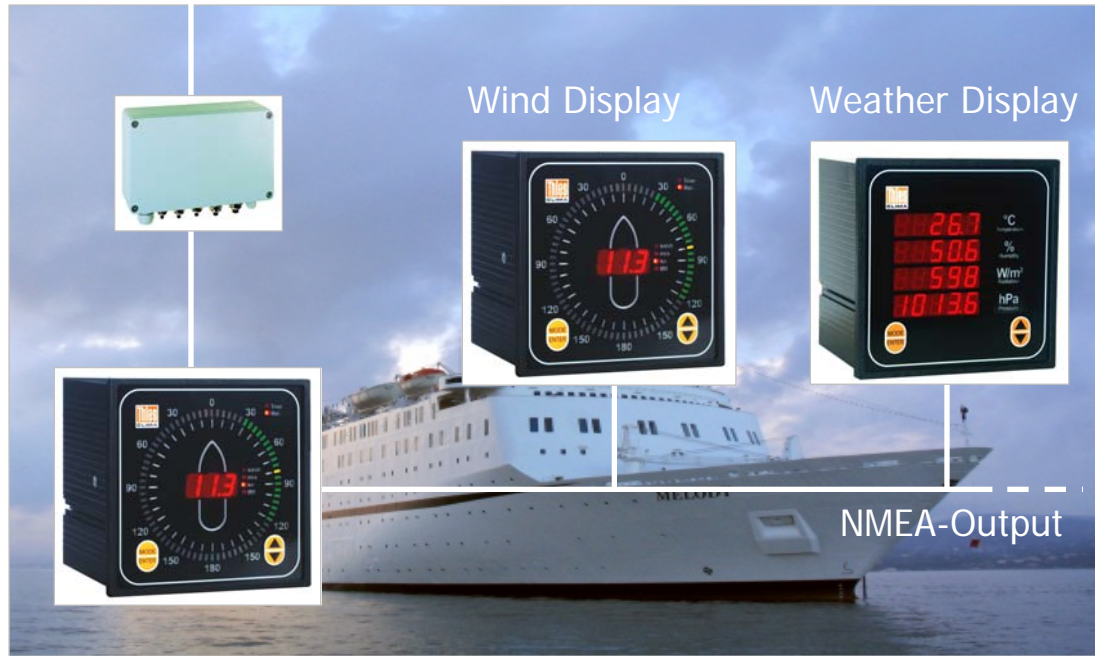
- **Wind Monitoring System „Ship“**



## **THE WORLD OF WEATHER DATA**



# System Overview



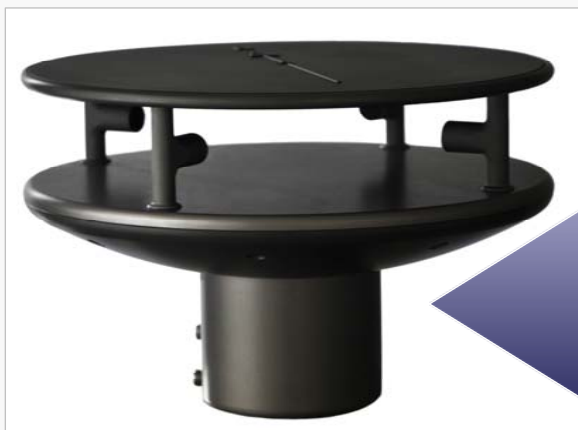
- US-Sensor compact
- Further Sensors
- Power Supply
- Wind Display
- Weather Display
- Regulations

# Ultrasonic Anemometer compact 4.3875.00.260

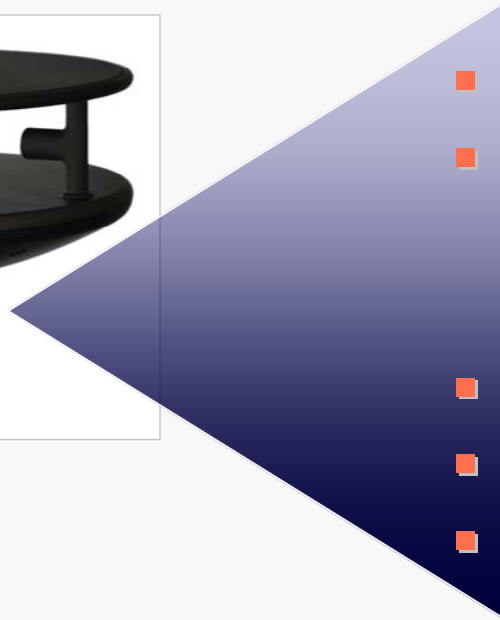



## ■ Wind Velocity and Wind Direction

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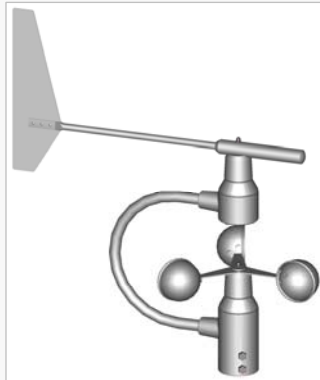
With additional special anodisation using in the areas of aerospace and spaceflight

- 
- Offshore-Version 
  - Housing: Alu MG SI1  
Hard Anodised + Carbon  
Seewater Resistance
  - Heated
  - NMEA-0183-Output
  - Protection Class IP 67

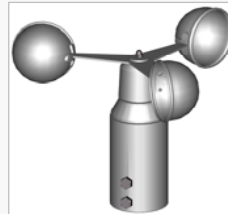
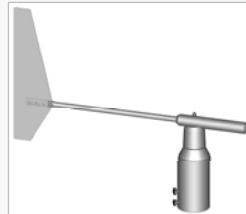
**Specifically developed for the application at sea !**

# Further Sensors

## ■ Wind Speed and Wind Direction



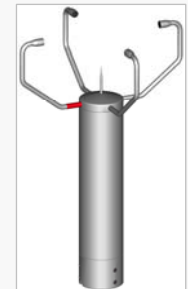
Classic combined



... separate



Compact

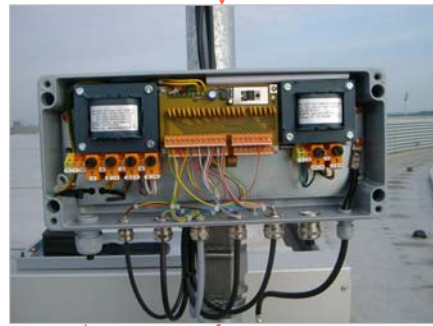


Ultrasonic 2D

Connectable sensors from US-, Classic- or Compact-series

# Connection Box

- Power Supply, Over-voltage-protection ...



230 V~

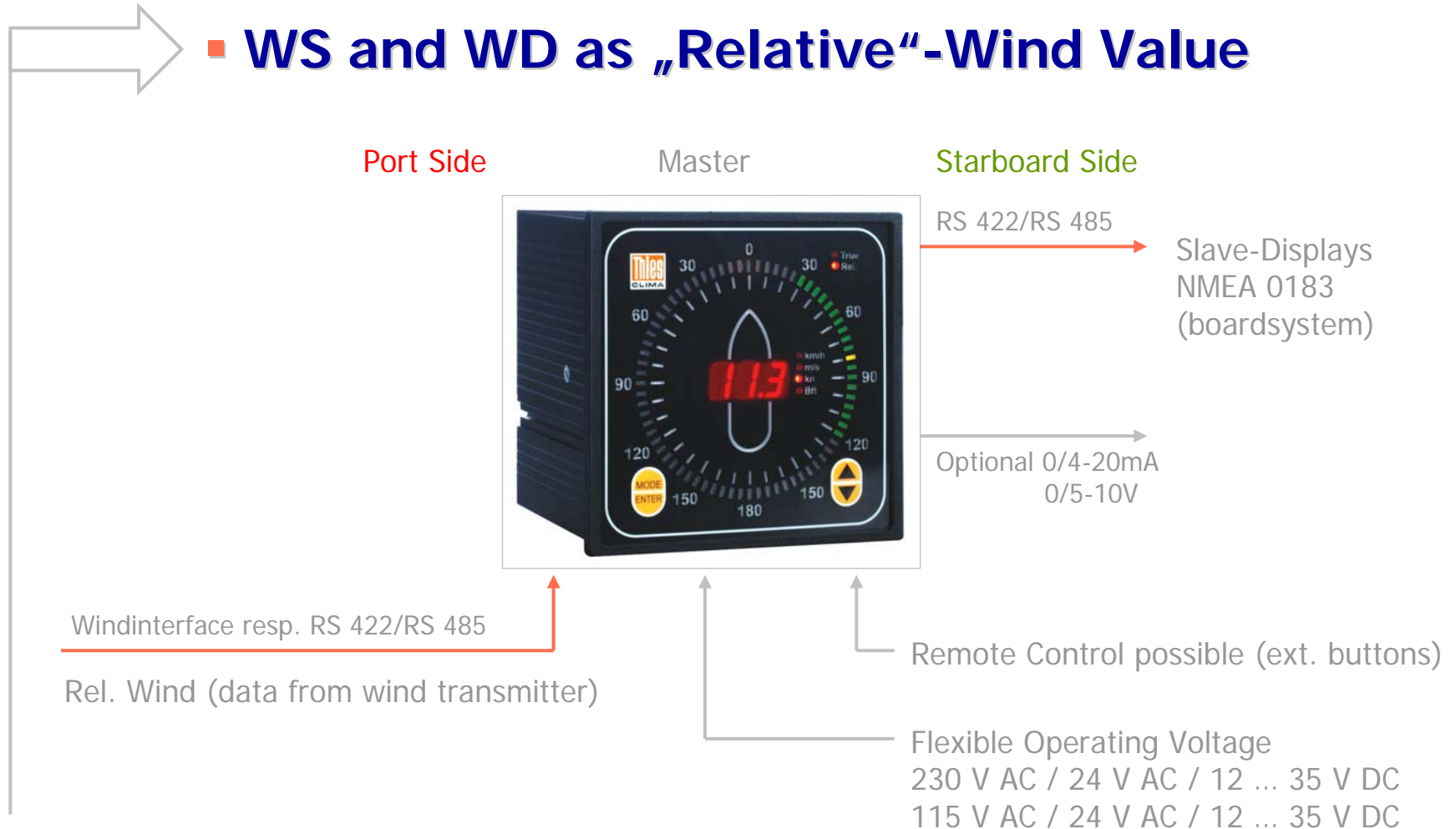


Power Supply Unit


Connection Boxes with integrated Over-voltage-protection resp. Power Supply Unit

# Wind Display LED (1) 4.3251.xx.000

## ■ WS and WD as „Relative“-Wind Value

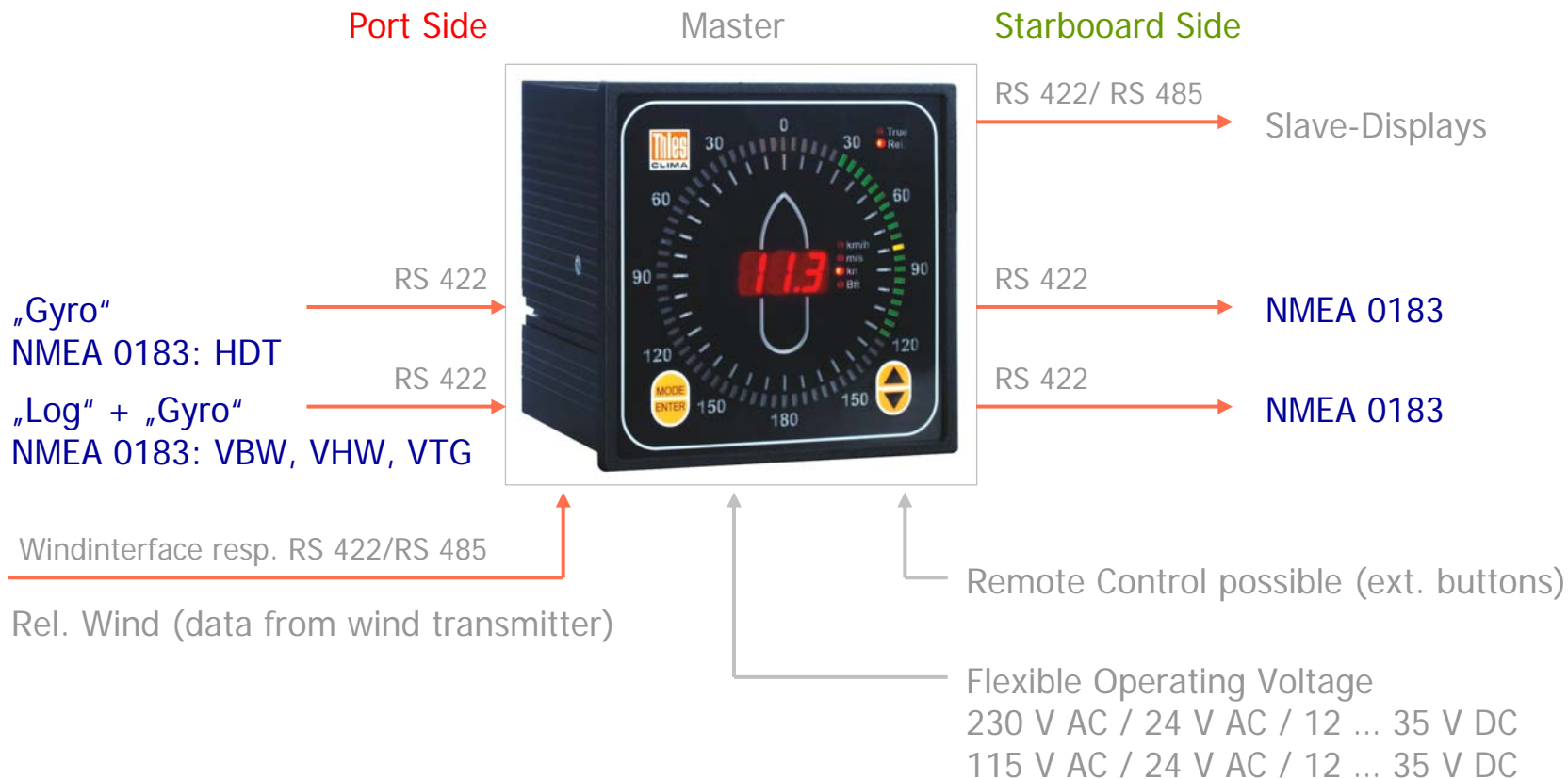


# Wind Display LED (1)

- 
- Coloured LED's > Easy readability
  - WS as instantaneous value
  - Selectable units (m/s, kn, km/h, Beaufort)
  - WD as instantaneous, delayed value or variation
  - 1 x RS 422 (RS 485) input interface
  - 1 x RS 422 (RS 485) output interface
  - Output of different telegrams (LED, Ultrasonic, NMEA)
  - Master/Slave-operation, up to 10 further displays
  - Internal test procedures / error message
  - Control panel opening 138 x 138 mm
  - Dimension 144 x 144 x 135 mm


# Wind Display LED (2) 4.3251.xx.001

## WS and WD as „True“ or „Rel.“-Value



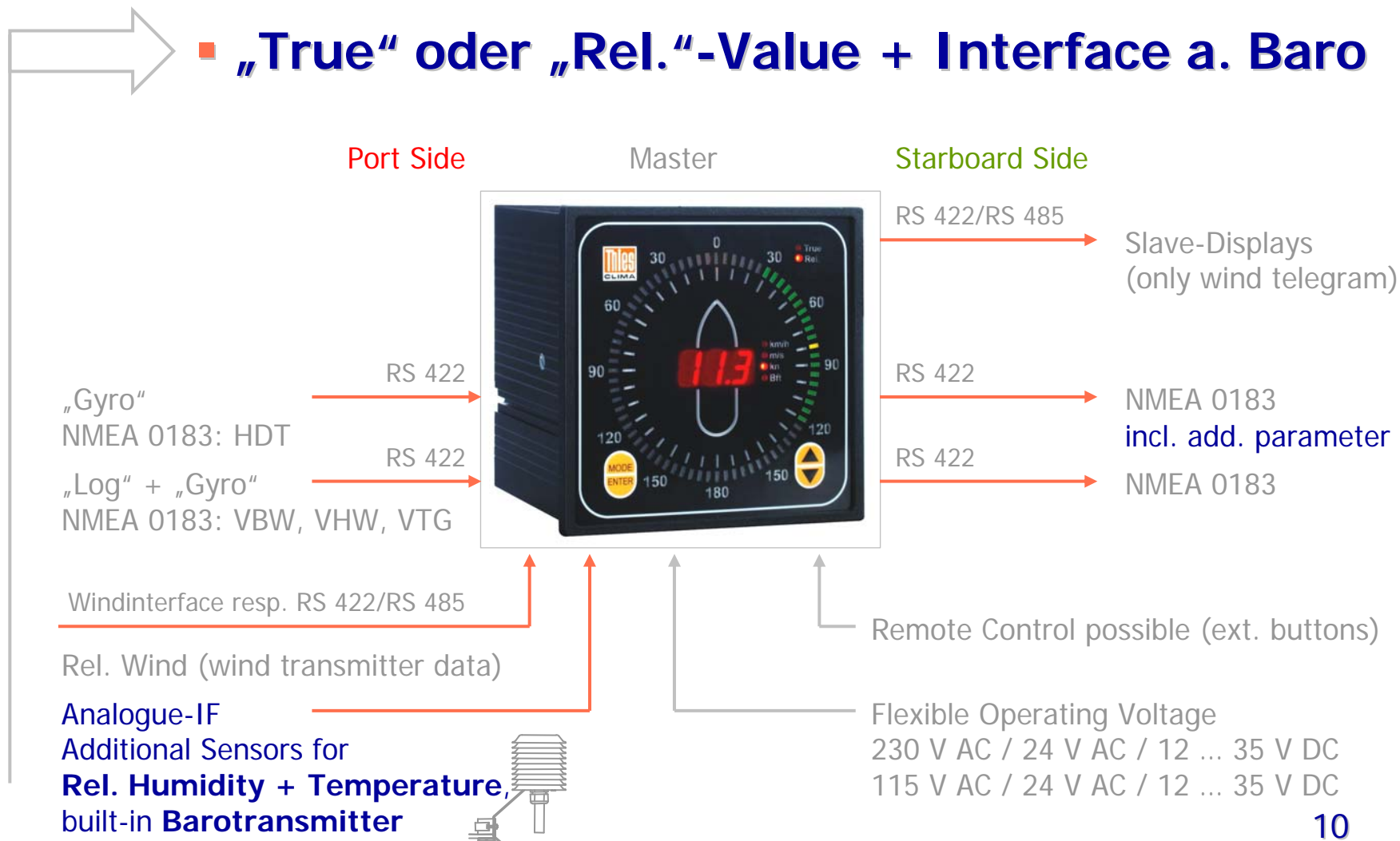


## Winddisplay LED (2)


- 
- In addition to Display 1:
  - Calculation of the „True Wind“
  - Indication of the „True“ oder „Rel.“- value
  - WD oft the „True Wind“ either corresponds to geogr. North or to the direction of ship's bow (adjustable)
  - Course: 180° Wind Display Shifting
  - 3 x RS 422 input interface
  - 3 x RS 422 output interface (selectable between RS 422 (fullduplex) and RS 485 (halfduplex))

# Wind Display LED (3) 4.3251.xx.002

## „True“ oder „Rel.“-Value + Interface a. Baro



## Winddisplay LED (3)

- 
- In addition to Display 2:
  - 2 x analogue inputs for temperature + humidity (Pt 100 + 0...1 V)
  - Built-in barotransmitter
  - Serial output of the additional parameters
  - Calculation of parameters in different units (abs. humidity, dew point)

# Weather Display LED (3.1) 9.2750.xx.900

## ■ Display of additional Parameters

Input vom Wind Display  
NMEA 0183

RS 422



Serial Output of measuring value

RS 422


Additional Displaying of  
Temperature, Rel. Humidity and Baro  
(Control panel opening 138 x 138 mm,  
Dimension 144 x 144 x 135 mm)

Flexible Operating Voltage

230 V AC / 24 V AC / 12 ... 35 V DC

115 V AC / 24 V AC / 12 ... 35 V DC

## Testet and Proved

- 
- Temperature range -10 ... +50 °C
  - Humidity range non-condensing
  - EMV EN 60945  
EN 61000-6-2  
EN 61000-6-3
  - Oscillation EN 60945, IEC 60068-2-6
  - Environmental audit EN 60945
  - Compass safety distance EN 60945  
Magnet-Regelkomp. 0,50 m  
Magnet-Steuerkomp. 0,35 m
  - Low potential voltage EN 61010
  - Protection class IP23, EN 60529

# Weather and Environmental monitoring Technology needs a competent partner

**THIES** Clima - Worldwide



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Meteorology-Environmental Technology

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