

NT311 + TPU

PATENT PENDING MONITORING SYSTEM OF THE ENVIRONMENTAL CONDITIONS OF ELECTRIC CABINS



The NT311 control unit, combined with the TPU sensor, was designed with the aim of allowing the environmental monitoring of the electrical panels and cabins and of the machines inside.

Using the NT311 + TPU system it will be possible to monitor:

- **Temperature** from -40°C to +70°C
- **Deposited dustiness** index from 10 to 25 (dSt)
- **Humidity** 10% to 90% (RH)
- **Status of 2 clean contacts** (used for example to control access or other additional signals)

The NT311 control unit is available in three versions:

- NT311 BASIC
- NT311 D
- NT311 ETH

Power supply range 85-260Vca 50 / 60Hz.
Compact size for DIN rail installation.

The programming thresholds foreseen for the NT311 device, in relation to the monitored quantities, are:

- **THi temperature:** programming range from 10°C to 60°C
- **TLo temperature:** programming range from -25°C to 10°C
- **RH humidity:** programming range from 10% to 90%
- **Dust deposit dSt:** programming range from 10 dSt to 25 dSt
- **Door inputs D1-D2 door signaling:** open (OPE) closed (CLO)

The TPU sensor is connected to the control unit via power link cable and digital communication.

A useful system for planning and managing maintenance interventions on your systems.

TECHNICAL SPECIFICATIONS

NT311

POWER SUPPLY

Rated values 85-260 Vac-dc 50/60 Hz
Vdc with reversible polarities

INPUTS

1 TPU sensor input (temperature, dust and humidity)
2 inputs for NC door opening alarm contacts
Removable rear terminals

OUTPUTS

1 alarm relay (ALARM)
1 relay for sensor fault or working anomaly (FAULT)
1 relay for fan control (FAN)
1 relay for heating management (HEATER)
Output contacts capacity: 10A-250 Vac-res COS ϕ =1
Ethernet output 10Base T/ 100Base-TX Modbus TCP slave

TESTS AND PERFORMANCES

Assembling in accordance to CE rules
Protection against electromagnetic noises CEI-EN61000-4-4
Dielectric strength: 1500 Vac for 1 minute from relays to power supply
Ambient operating temperature: from -20°C to +60°C
Humidity: 90% non-condensing
Self-extinguishing housing Blend PC/ABS 94_V0
IP20 protection
Burden: 3VA
Self-diagnostic circuit
Option: tropicalization

DISPLAYING AND DATA MANAGEMENT

2 displays 13 mm with 3 digits for displaying measured values, messages and channels
2 leds to display the state of the alarms (ALARM-FAULT)
2 leds selection of display mode (SCAN-MAN)
1 led to display the state of FAN
1 led to display the state of HEATER
1 high room temperature threshold HI TEMP.
(from 10°C to 60 °C)
1 low room temperature threshold TEMP.LO
(from -25°C to 10°C)
1 RH high humidity threshold (from 10%RH to 90%RH)
1 DST high dust deposit threshold (from 10 dSt to 25 dSt)
Door 1-Door 2 door alarm activation selection
Sensor diagnostic
Data storage diagnostic (Ech)
Access to programming through front keyboard
Automatic exit from relay programming, display and test after 1 minute's inactivity
Selection of display mode for scanning or manual
Fail Safe function relay FAULT

DIMENSIONS

Mounting DIN rail 106.60 x 122 x 53.50 mm

OPTIONS

BASIC version
DIGITAL RS485 Modbus Version

TPU

INPUTS

1 NT311 digital BUS input (TPU IN)

OUTPUTS

1 sensor digital BUS output (TPU OUT)

PERFORMANCES

Ambient operating temperature: from -40°C to +70°C
Humidity: 90% non-condensing
Housing PC UL 94 HB
IP20 protection
Option: tropicalization

DATA MANAGEMENT

Internal temperature sensor
(Reading range from -40°C to 70°C tolerance 1% +/-1°C)
Internal relative humidity sensor
(Reading range from 0%RH a 90%RH tolerance +/-5%)
3 internal sensors for depositing of dust
(Reading range from 10 dSt a 25 dSt Offset +/-2 dst)

DIMENSIONS

110 x 50.1 x 35 mm

