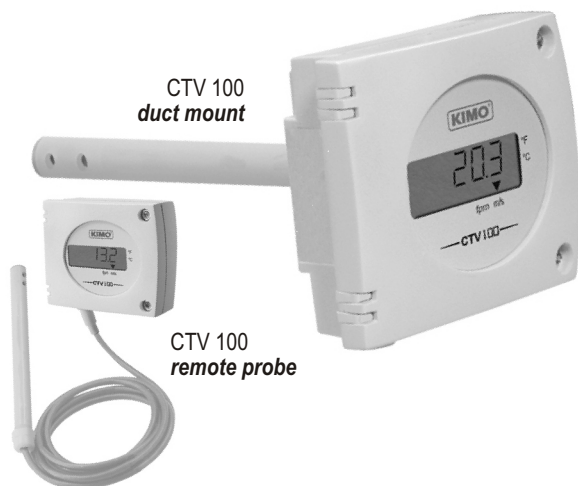


### Temperature and air velocity transmitter

# CTV 100



CTV 100  
duct mount

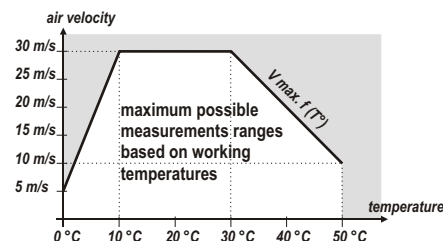
CTV 100  
remote probe

- Temperature and air velocity transmitter type CTV100.
- Ranges from 0-5 m/s to 0-30 m/s and 0 to +50°C, -20 to +80°C, -50 to +50°C, 0 to +100°C (see "Configuration")
- 0-10 V or 4-20 mA output, active, power supply 24 Vac/Vdc (3-4 wires)
- ABS IP 65 housing, with or without display
- Alternating display of air velocity and temperature
- Quick and easy mounting "1/4 turn" system with wall-mount plate

#### Features of the transmitter

##### Air velocity

Working principle : the air velocity measurement is made with a hotwire, in constant thermal equilibrium. The temperature is maintained and measured with a PT 100 element.



Measuring range ..... 0 to 5m/s, 0 to 10m/s, 0 to 15m/s, 0 to 20m/s, 0 to 30m/s

Units of measurement ..... m/s and fpm

Accuracy \* ..... ±3% of reading ±0,3 m/s

Response time ..... 1/e (63%) 2 sec.

Resolution ..... 0,1 m/s

Type of fluid..... air and neutral gases

##### Temperature

Measuring range ..... 0 to +50°C, -20 to +80°C, -50 to +50°C, 0 to +100°C

Units of measurement ..... °C, °F

Accuracy \* ..... ±0,5% of reading ±0,4°C

Response time ..... 1/e (63%) 5 sec.

Resolution ..... 0,1°C

Type of sensor..... Pt100 class A as per DIN IEC751

Type of fluid..... air and neutral gases

#### Features of the housing

WITH or WITHOUT display

Housing ..... ABS

Fire-proof classification ..... HB as per UL94

Dimensions ..... see drawings beside

Protection ..... IP 65

Display ..... 5-digit LCD 5 digits. Dimensions 50x15mm  
..... Alternating display of air velocity and temperature.

Height of the digits ..... 10 mm

Cable grip ..... for cables Ø 7 mm max.

Weight..... 145 g (with display) - 110 g (without display)



#### Technical Specifications

Output/ Power supply ..... active 0-10 V or 4-20 mA (power supply 24 Vac/Vdc±10%), 3-4 wires  
..... maximum load : 500 Ohms (4-20 mA)  
..... minimum load : 1 K Ohms (0-10 V)

Consumption ..... 40 mA (0-10V) or max. 80 mA (4-20 mA)

Electro-magnetical compatibility ..... EN 61326

Electrical connection ..... screw terminal block for cable Ø1.5mm² max.

Communication to PC ..... Kimo RS 232 cable

Working temperature (housing) ..... 0 to +50°C

Working temperature (probe)..... 0 to +50°C

Storage temperature ..... -10 to +70°C

Environment ..... air and neutral gases

\*All the accuracies indicated in this technical datasheet were stated in laboratories conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

#### Part number

To order, just add the codes to complete the part number :

##### Transmitter / power supply / Output

**A** Active • 24 Vac/Vdc • 4-20mA  
**V** Active • 24 Vac/Vdc • 0-10V

##### Display

**O** With display  
**N** Without display

##### Probe

**A** Duct mount  
**D** Remote

##### Length

**150** 150 mm  
**300** 300 mm

**CTV100** - [ ] [ ] [ ] [ ] [ ]

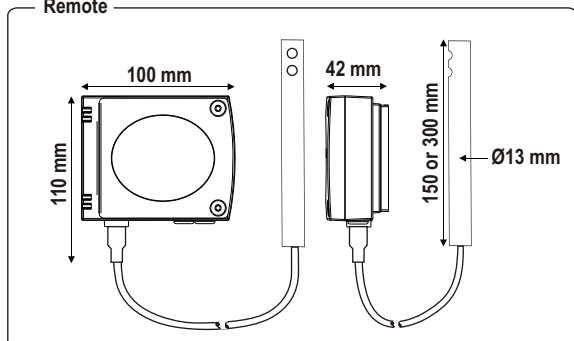
Example : CTV100-AOD150

Model : air velocity transmitter CTV100, active transmitter 4-20 mA output, with display and remote probe length 150mm

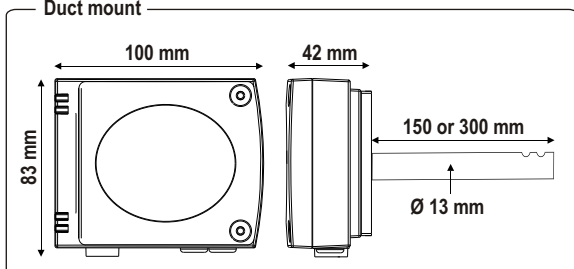
#### Dimensions of the housing

(including the wall-mount plate)

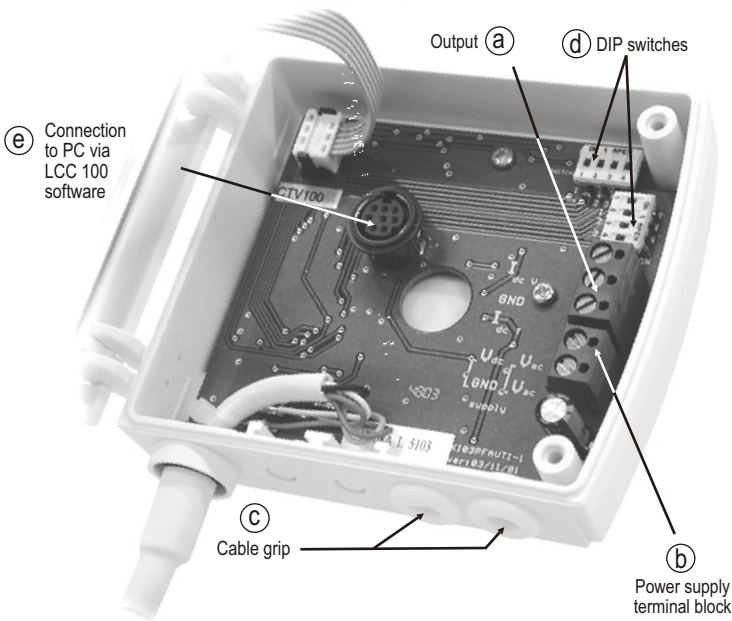
Remote



Duct mount



## Connection



For the models

### CTV 100-ANA, CTV 100-AND, CTV 100-AOA, CTV100-AOD

• Output 4-20 mA - active

- (a)  Idc V .....direct current (air velocity)  
 GND .....ground  
 Idc T .....direct current (temperature)

**OR**

For the models

### CTV 100-VNA, CTV 100-VND, CTV 100-VOA, CTV100-VOD

• Output 0-10 V - active

- (a)  Vdc V .....direct voltage (air velocity)  
 GND .....ground  
 Vdc T .....direct voltage (temperature)

#### Power supply

- (b)  Vdc .....direct voltage  
 GND .....ground

**OR**

- (b)  Vac.....alternative voltage (phase)  
 Vac.....alternative voltage (neutral)

- (c) Cable grip : to insert the cable, it is required to slightly cut the rubber.

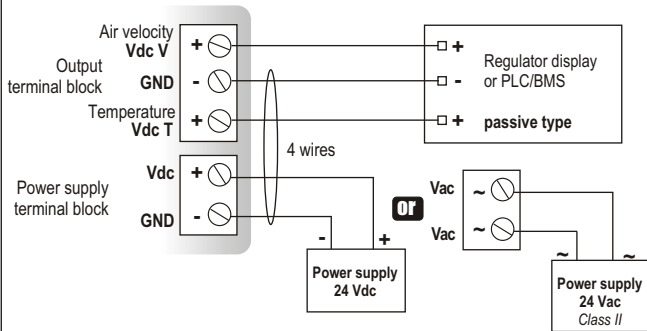
## Electrical connection - as per norm NFC15-100

⚠ This connection must be made by a qualified technician. To make the connection, the transmitter must not be energized.

For the models

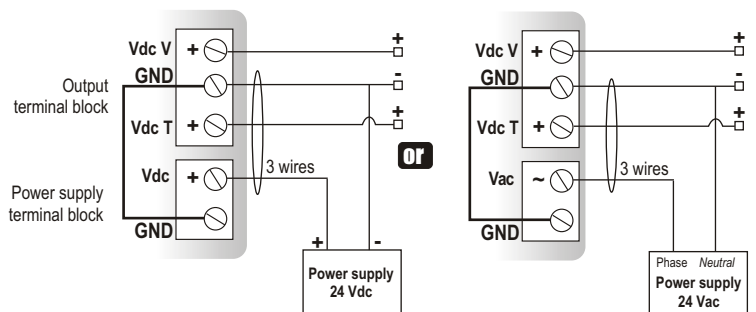
### CTV 100-VNA, CTV 100-VND, CTV 100-VOA, CTV100-VOD • Output 0-10 V - active

#### 4 wires



To make a 3-wire connection, before powering up the transmitter, please connect the output ground to the input ground. See drawing below.

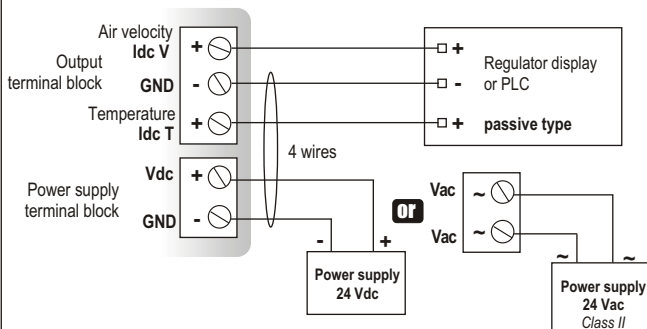
#### 3 wires



For the models

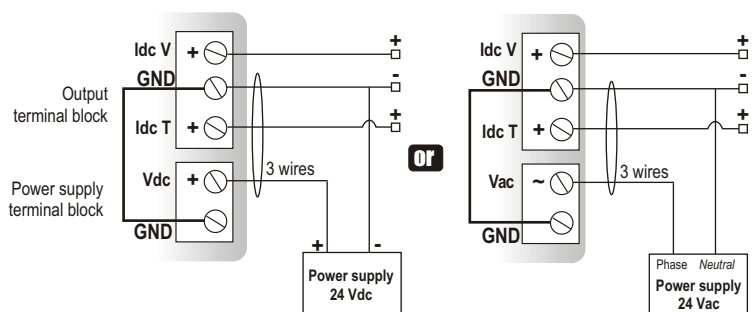
### CTV 100-ANA, CTV 100-AND, CTV 100-AOA, CTV100-AOD • Output 4-20 mA - active

#### 4 wires



To make a 3-wire connection, before powering up the transmitter, please connect the output ground to the input ground. See drawing below.

#### 3 wires

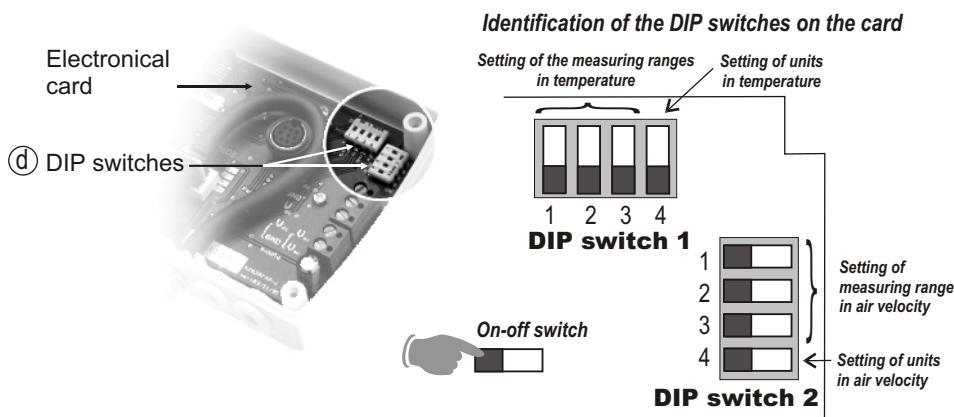


## Configuration

It is possible to configure the measuring ranges, the units, the output of the transmitter (according to the model) either by **DIP switch** and/or via **software** (connections ③ and ④ on drawing "connection").

### Configuration by DIP switch

To configure the transmitter, please unscrew the 2 screws from the housing and then, open it.



To configure the transmitter, **it must not be energized**. Then, you can make the settings required, thanks to the DIP switches (as shown on the drawing beside). When the transmitter is configured, you can power it up.

**Caution !**

Please follow carefully the combinations beside with the DIP switch. If the combinations are wrong, the following message will appear on the display of the transmitter "CONF ERROR". In that case, you will have to unplug the transmitter, replace the DIP switches correctly, and then power the transmitter up.

#### Temperature units setting DIP switch 1

To set the measuring unit, please put the on-off switch 4 of units as shown beside.

Configurations	°C	°F
Combinations	 1 2 3 4	 1 2 3 4

#### Temperature measuring ranges setting DIP switch 1

To set the measuring range in temperature, please put the on-off switches 1, 2 and 3 of ranges as shown beside.

Configurations	0 to 50°C	-20 to 80°C	-50 to 50°C	0 to 100°C
Combinations	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4

#### Air velocity measuring units setting DIP switch 2

To set the measuring unit in air velocity, please put the on-off switch 4 of units as shown beside.

Configurations	m/s	fpm
Combinations	 1 2 3 4	 1 2 3 4

#### Air velocity measuring ranges setting DIP switch 2

To set the measuring range in air velocity, please put the on-off switches 1, 2 and 3 of the measuring range as shown beside.

Configurations	0 to 5 m/s	0 to 10 m/s	0 to 15 m/s	0 to 20 m/s	0 to 30 m/s
Combinations	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4

### Initialization the transmitter

When the transmitter is powered up, it initializes and displays the digits  $\overline{00000}$ , and then its configuration including :

- the measuring range
- the analog output.

#### 1- The measuring range

The following message is displayed :  $\overline{Lo}$ . This is the low value of the measuring range, and its digit value : **ex** :  $\overline{0}$ .  
 The following message is displayed :  $\overline{Hi}$ . This is the high value of the measuring range and its digit value : **ex** :  $\overline{30}$ .  
 The arrow displayed (at the bottom or on the right of the screen) is relative to the unit of measurement : **ex** : from 0 to 30 m/s.

#### 2- The analog output

If the analog output is in 4-20mA, then the following message will appear  $\overline{4-20A}$ .  
 If the analog output is 0-10 V, then the following message will appear  $\overline{0-10V}$ .

The transmitter can measure several parameters (CTV 100 => air velocity + temperature). The transmitter will first display the configuration of air velocity parameters, and secondly the configuration of temperature parameters.

After the display of the configurations, the transmitter displays  $\overline{- - - -}$ , which confirms that the initialization is finished and you can start the measurements.

■ Configuration via **software** (with optional LCC100 software)



**An easy and friendly configuration with the software !**

You can configure your own intermediary ranges.

Example : for a transmitter with a range of 0-30 m/s, the minimum delta of the range is 5 m/s. It means that you can configure your transmitter from 5 to 10 m/s.

• To access the configuration via software, you must first position **the DIP switches** as per the following picture (shown beside), and then connect the cable to the connection of the transmitter (see connection drawing).



• Please refer to the user manual of the LCC 100 to make the configuration.

**Caution !**

The configuration of the parameters can be done **either by DIP switch, or by software** (you cannot combine both solutions).

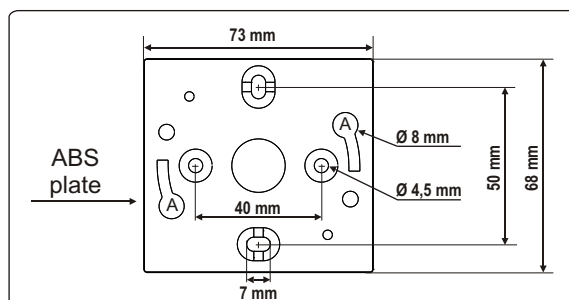


■ **Mounting**

**Wall-mount**

Installation : mount the ABS plate on the wall (this plate is supplied with the transmitter). Drilling : Ø 6 mm (with the screws and pins supplied with the transmitter).

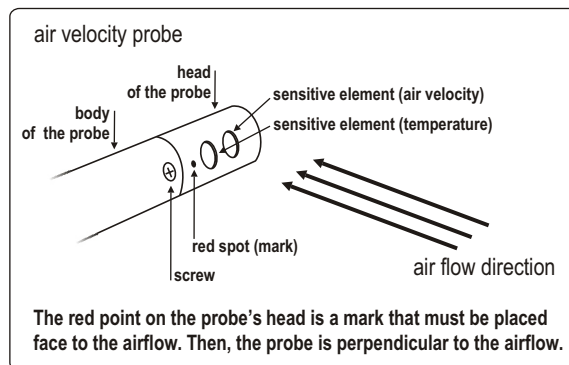
Insert the transmitter on the plate (see A on the drawing beside) and rotate its housing in clockwise direction until you hear a "click" which confirms that the transmitter is correctly installed). For the model with duct mount, an additional drilling of Ø 14 mm must be done before mounting the plate.



**Position of the measuring element in the air flow**

The probe must be placed perpendicular to the air flow, as shown beside. For the duct mount probes, you can place the probe's head front to the air flow, and keep the housing straight :

- Locate the red point marked on the probe's head.
- Remove the screw located on the tip of the probe's body.
- Rotate the probe's head by ¼ turn, ½ turn or ¾ turn, in order to place the red spot front to the air flow.
- replace the screw on the probe's body.



■ **Maintenance**

Please avoid any aggressive solvent. Please protect the transmitter and its probes from any cleaning product containing formol, that may be used for cleaning rooms or ducts. Please clean the sensitive element with the special cleaning spray sold by Kimo.

■ **Options**

- Power supply class 2, input 230 Vac, output 24 Vdc, ref.KIAL-100A
- Configuration software LCC 100 with RS 232 cable.



■ **Accessories**

- Sliding fittings
- Mounting brackets
- Wall-mount support for hotwire probe



**EXPORT DEPARTMENT**

Tel : + 33. 1. 60. 06. 69. 25 - Fax : + 33. 1. 60. 06. 69. 29  
site : www.kimo.fr e-mail : export@kimo.fr



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