

English

Electrical Installation Manual for Conditioner of Measurer





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<u>1- Mounting the electronic conditionner</u>

The electronic conditioner must be placed in the electric cabinet or in a protection enclosure to protect it from the aggressive workshop environment (oil vapors, steam, etc...). It is best to fix it on a 35mm Din rail.

The electronic conditioner must be installed more than 10 cm from all switches, relays or other electric gear liable to disturb its operation..

The device's operating temperature must not be greater than +50°C and not less than 0°C.

The device's storage temperature (not in operation) must not be greater than +85°C and not less than -20°C.

The CDT-404-2 complies with and respects the standards described below: Electromagnetic Compatibility – Requirements for home appliances, electric toolings and analog devices -

- Part 1 : Emission : <u>NF EN 55014</u>-1 February 2002.

- Part 2 : Immunity : <u>NF EN 55014</u>-2 April 2002.

Information processing devices – Radio interference characteristics – Limits and measurement methods. <u>NF EN 55022</u> April 2001.

Low voltage standard <u>NF EN 61010-1</u> June 2001.

Conditioner dimensions :



2- Description of the front face

On the front side of the conditioner are the main connectors, buttons and indicators :



Power supply – 3-pin power connector 24VDC

The electronic conditioner must be supplied with 24VDC.



Power consumption of Touchscreen ETC1 : **2,5W** (100mA) Power consumption of Conditioner CDT-404 : **5,5W** (220mA)

A 3-pin screw connector is supplied with the conditioner.

Important : For a good operation of all devices (Screen and conditioners), it is imperative to connect the conditioner to the ground

ACN Connector (option)

The 7-pin cylindrical connector allows connecting an optional accessory: The ACN.

5-pin cylindrical connector- Measurer

Sensor1 and Sensor2 connectors allow connecting the measurers to the conditioner.



Reference: PC02A Designation : Internal sensor with axial cable output Length : 4 meters

SUB-D15 femal-pin connector for Inputs/Outputs

The SUB-D15 connectors I/O Sensor 1 et I/O Sensor 2 allow the conditioner to communicate with the machine :

- The machine sends informations to the conditioner (Inputs of the conditioner): « Valid », « RAZ » or « Masking ».
- The conditioner sends informations to the machine (Outputs of the conditioner) : « Good Measurement », « Machine Shutdown » or « Mini / Maxi ».



Reference: PC04 Designation : Câble SUB-D15 Entrée/Sortie Length : 3 meters

2 Inputs/Outputs cables are supplied with the

device. This cable has on one side a female SUB-D15 connector and the other side no connector.

Inputs pinlist					
PINS	SENSOR 1 OR 2 SIGNAL	WIRE COLOR			
4	INPUT COMMON	ORANGE			
14	RESET TO ZERO	BROWN / WHITE			
7	MASKING	BLUE			
15	VALID	RED / WHITE			

INPUT COMMON (4) has a potential of 0 volts and is only used for inputs.

RESET TO ZERO (14) allows resetting the measurement to zero and therefore canceling an out-of-tolerance state.

The connection of this input is optional, because the defect may be reset manually by

pressing the Raz icon Raz on the touchscreen.

This means that if this inpt is not wired, when a broken tool is detected – the machine will be shutdown at the end of cycle – The operator should manually reset by pressing

the Raz icon Raz.

This input should be <u>**a dry contact**</u> of common wire to reset wire.

MASKING (7) allows not taking into account a part's measurement (good or bad) and ignoring it. The connection of this input is optional because it doesn't prevent the device from operating correctly. But if this input is not connected, you may not use this function, and it will be useless to set its parameters. This function is fully detailed in **subsection 3.1 Masking a measurement, page 8 in PROPC2003EN manual.**

This input should be <u>a dry contact</u> of the common wire to the masking wire.

The **VALID** (15) must be wired to activate the functionality of the amplifier because it synchronizes the analysis of each measurement with the machine cycle.

The activation of this input through the PLC or switch must be made after the taking of each measurement every cycle. This input should be <u>a dry contact</u> of the common wire to the valid wire.

If you do not have a process controller or programmable track on your machine to send these signals, you can obtain a signal via a mechanical switch placed (limit switch) at the cam shaft; this signal will be triggered when the cam passes by the switch.

<u>IMPORTANT</u> : The signals required for these inputs must be pulsed signals (momentary – 50ms maxi) and must not be continuous signals.

Outputs pinlist

SIGNAL	PINS	RELAYS	WIRE COLOR
MINI	1	NORMALLY OPEN (NO)	BLACK
24V DC MAX 1A MAX	2	NORMALLY CLOSED (NC)	BROWN
	9	COMMON	GREY
ΜΑΧΙ	11	NORMALLY OPEN (NO)	PINK
24V DC MAX 1A MAX	10	NORMALLY CLOSED (NC)	WHITE
	3	COMMON	RED
GOOD MEASURE-	6	NORMALLY OPEN (NO)	DARK GREEN
24V DC MAX	13	COMMUN	BLACK / WHITE
120 mA MAX			
	5	NORMALLY CLOSED (NC)	YELLOW
	12	COMMON	LIGHT GREEN
120 MA MAX			

The MIN output can be wired either Normally Open (NO) using pins 1 and 9 (Black and Grey wires) or Normally Closed (NC) using pins 2 and 9 (Brown and Gray wires). When a measurement is not within min. tolerance, this output switches as soon as the VALID input closes (if no masking activated).

It remains switched until the reset is completed by closing the reset input or by pressing the Raz icon Raz on the touchscreen.

IMPORTANT: The voltage used for these outputs (min. and max.) must not exceed **24VDC** with a max. current of **1 A**.

The **MAX** output can be wired either **Normally Open (NO)** using pins **11** and **3** (Pink and Red wires) or **Normally Closed (NC)** using pins **10** and **3** (White and Red wires). When a measurement is not within max. tolerance, this output switches as soon as the VALID input closes (if no masking activated).

It remains switched until the reset is completed by closing the reset input or by pressing

the Raz icon 🔜 on the touchscreen.

IMPORTANT: The voltage used for these outputs (min. and max.) must not exceed **24VDC** with a max. current of **1 A**.

The **GOOD MEASUREMENT** output can be wired only **Normally Open (NO)** using pins **6** and **13** (Dark Green and Black/White wires). When a measurement is not within the min. or max. tolerances, this output is closed as soon as the VALID closes (if no masking activated).

However it is possible to hold on this output during the whole cycle, until the next TOP VALID. See paragraph Additional settings, in PROGCDT-PC2 manual.

IMPORTANT: The voltage used for these outputs (min. and max.) must not exceed **24VDC** with a max. current of **120 mA**.

The **MACHINE SHUTDOWN** output can be wired only **Normally Closed (NC)** using pins **5** and **12** (Yellow and Light Green wires). When a measurement is not within tolerance, this output is opened as soon as the VALID closes (if no masking activated). It remains open

until reset by closing the reset input or by pressing the RAZ icon **Res** on the touchscreen control page.

IMPORTANT: The voltage used for these outputs (min. and max.) must not exceed **24VDC** with a max. current of **120 mA**.

Power-on indicator

This blue light is used to see if the conditioner is switched on and it has several conditions :

- The blue light flashes => the conditioner is not paired with the touchscreen.

- The blue light is fixed => the conditioner is paired and ready for operation.

Pairing Button ID

This button is used to pair the conditioner on the touchscreen. The pairing procedure is described in the CDT-PC2 programming manual.

English





4- Touchscreen connection

The touchscreen is connected to the electronic conditioner via SUB-D9 Shielded cable (**CORSER01**). It connects to the SUB-D9 female **BUS** connector on the left side of the conditioner and to the SUB-D9 male **BUS** connector on the back of the touch screen.



5- Multi-conditioner connection

The connection of several conditioners can be done in two ways :

1- The first way; if the configuration of the electrical cabinet allows it; is to stack the conditioners one after the other. The screen always plugs in the same way with the shielded serial cable, from the SUB-D9 BUS connector at the back of the screen to the SUB-D9 BUS connector on the left side of the conditioner (see above paragraph 3-Touchscreen connection)



Shielded serial Cable

Ref. : **CORSER01** /Shielded serial Cable 1 meter Ref. : **CORSER06** /- Shielded serial Cable 6 meters Ref. : **CORSER10** / Shielded serial Cable 10 meters

> Only one power supply is needed on the first conditioner. The following conditioners are powered by the **BUS** connection.

The second conditioner is plug laterally to the first. The connection is made by the **SUB-D9 BUS connection** **2- The second way** is to connect the different conditioners with a shielded serial cable identical to that uses ton connect the screen.

The screen always plugs in the same way through a shielded serial cable, from the **SUB-D9 BUS connector** at the back of the screen to the **SUB-D9 BUS connector** on the left side ofe the conditioner (see above paragraph 3- Touchscreen connection)



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