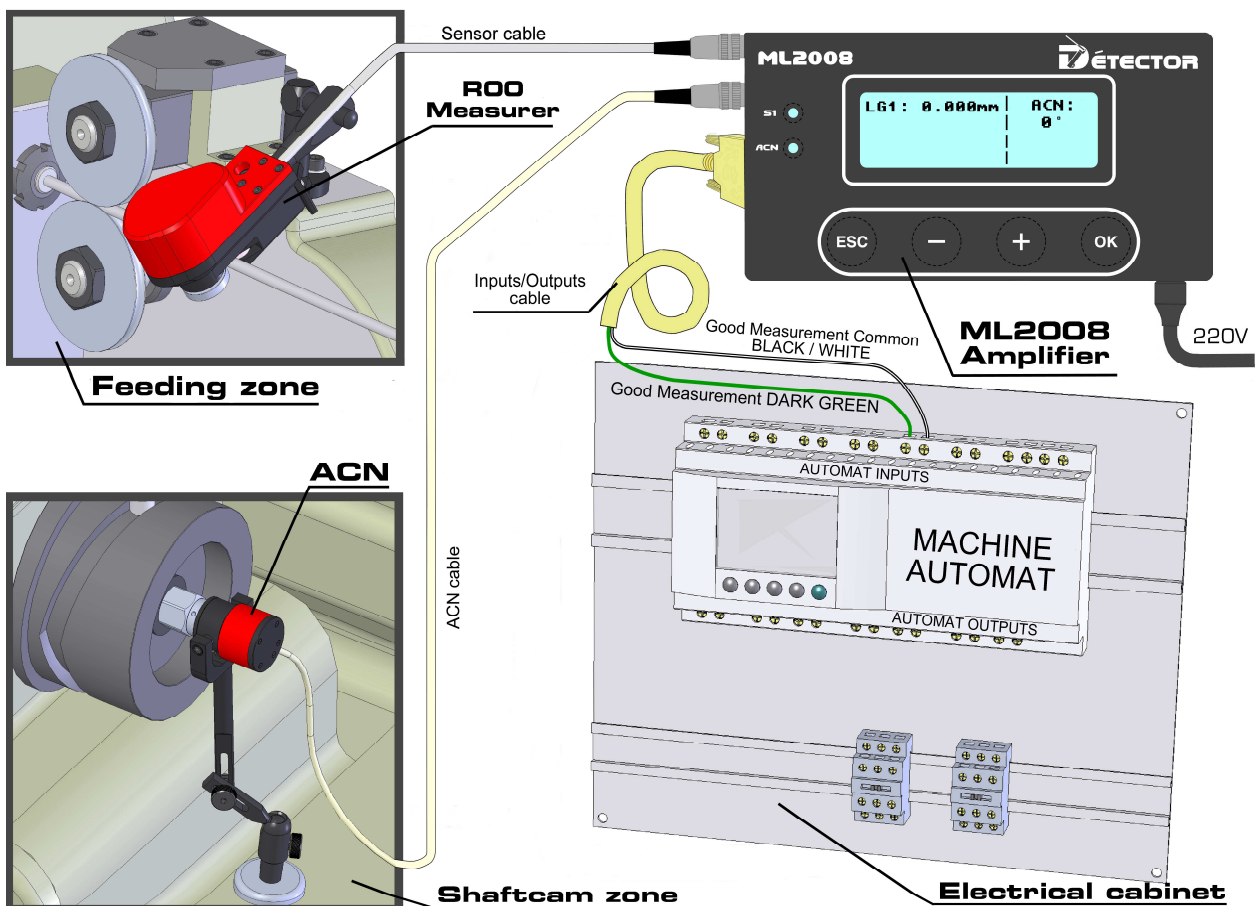


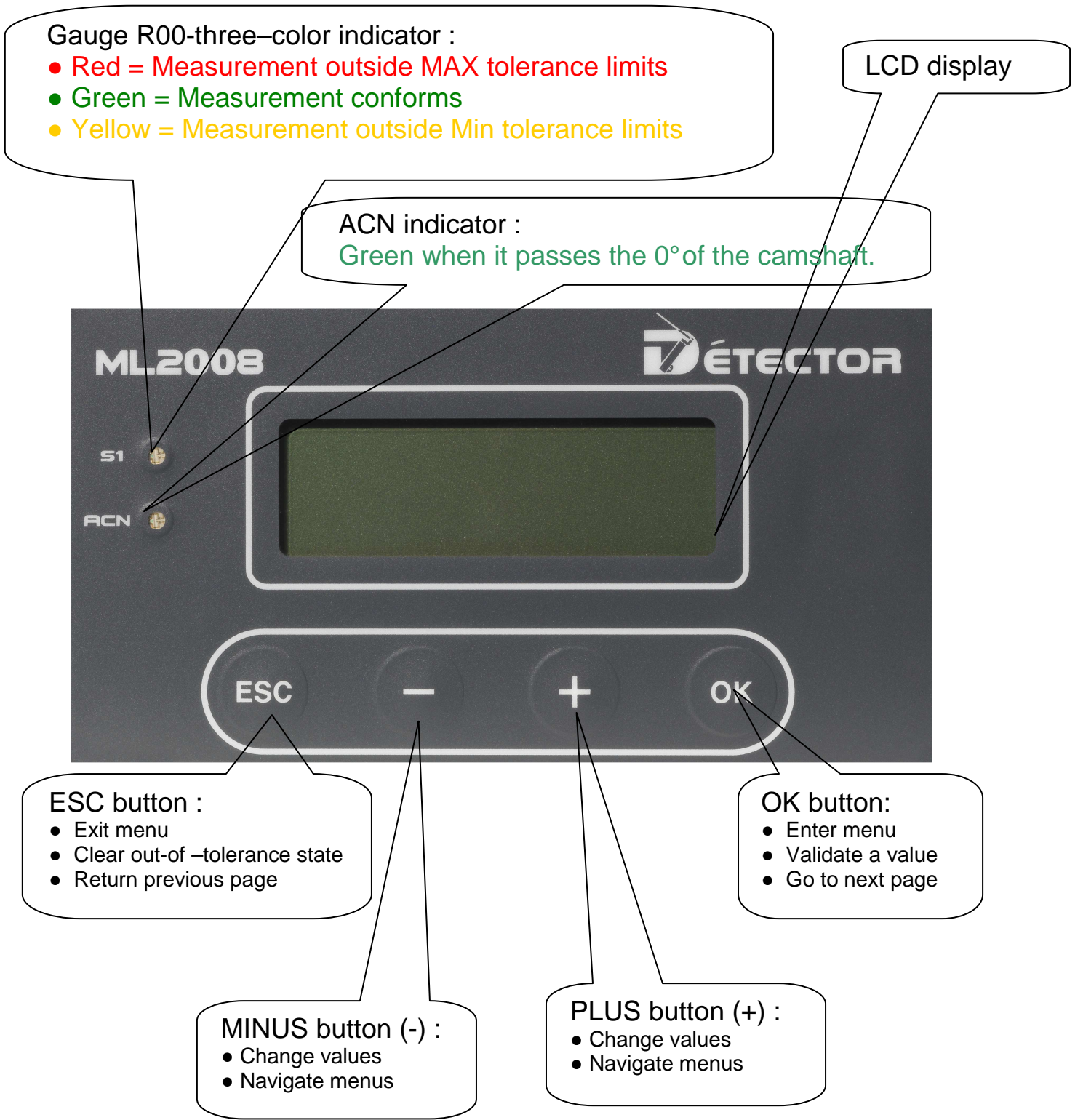
Electrical Installation Manual Amplifier ML2008



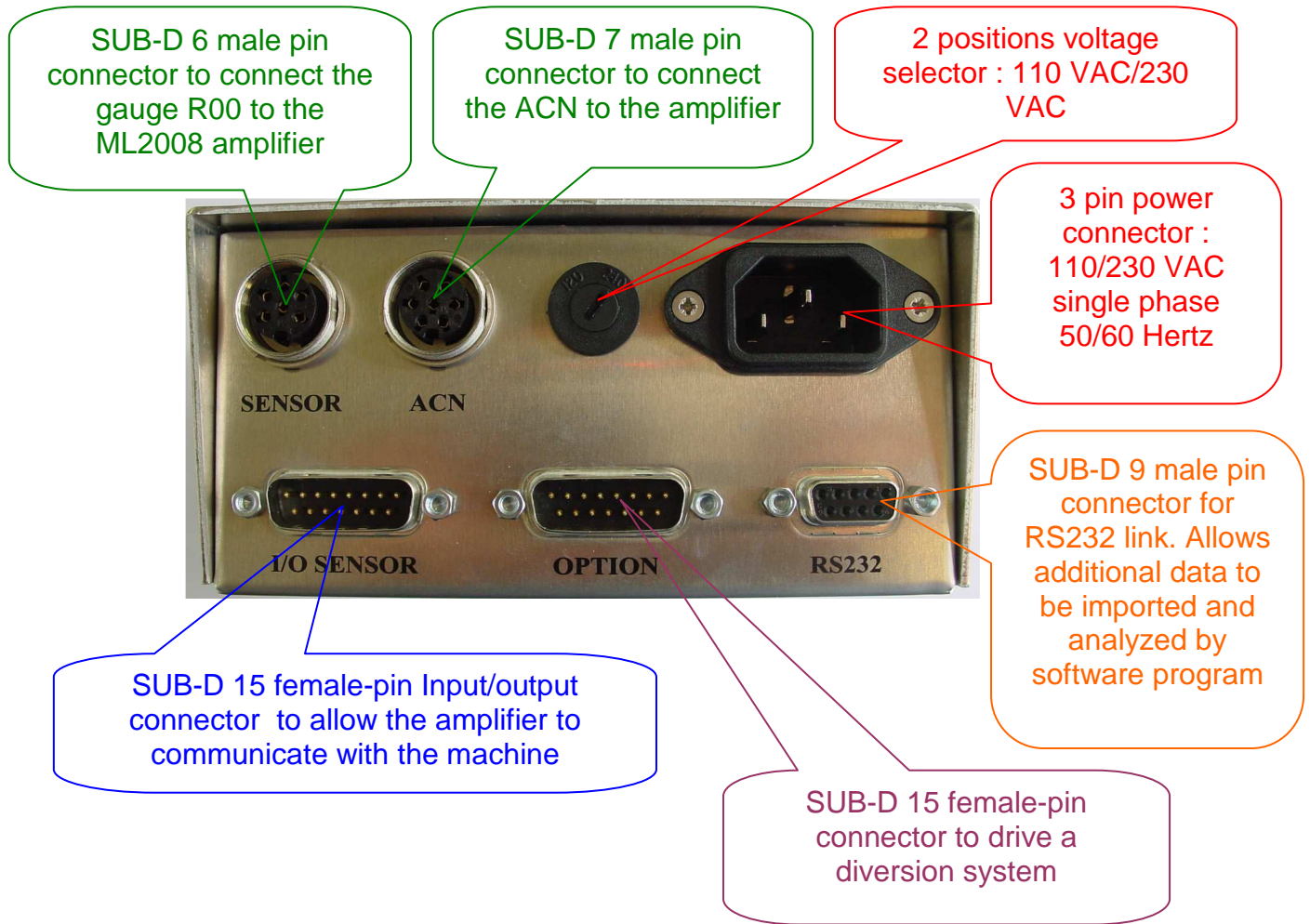
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1. Presentation of the ML2008 amplifier

1.1 Description of the front panel



1.2 Description of the rear panel



1.3 Description of the inputs/outputs

- Input pinlist

PINS	SIGNAL	WIRE COLOR	
4	INPUT COMMON	ORANGE	
14	RESET (ESC button on front panel)	BROWN / WHITE	
7	PROFILE SELECTOR	BLUE	
15	VALID	RED / WHITE	

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

RESET (14) allows resetting the measurement to zero and therefore cancelling an out of tolerance state. The connection of this input is optional because the measurement may be reset manually by pressing ESC button on the amplifier's front panel. This input should be connected to a dry contact.

The PROFILE SELECTOR (7) allows the changing from one profile to an other with an external button on the machine. (See function of the profil ("ML2008 PARAMETER SETTING AND ADJUSTING MANUAL"))

In order to use this input, it is necessary to activate the profile function parameter in "active input".

The connection of this output is optional because it doesn't prevent the device from operating correctly.

This input should be connected to a dry contact.

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 connected to a dry contact.

IMPORTANT : The signals required for these inputs must be pulsed signals (momentary) and must not be continuous signals.

• Output pinlist

SIGNAL	PINS	RELAYS	WIRE COLOR
DUMP FUNCTION <i>48V DC MAX</i> <i>1 AMP MAX</i>	1	NORMALLY OPEN (NO)	BLACK
	2	NORMALLY CLOSED (NC)	BROWN
	9	COMMON	GRAY
PROFIL FUNCTION <i>48V DC MAX</i> <i>1 AMP MAX</i>	11	NORMALLY OPEN (NO)	PINK
	10	NORMALLY CLOSED (NC)	WHITE
	3	COMMON	RED
GOOD MEASUREMENT <i>48V DC MAX</i> <i>100 mA MAX</i>	6	NORMALLY OPEN (NO)	DARK GREEN
	13	COMMON	BLACK / WHITE
MACHINE SHUTDOWN <i>48V DC MAX</i> <i>100 mA MAX</i>	5	NORMALLY CLOSED (NC)	YELLOW
	12	COMMON	LIGHT GREEN

The DUMP output (make+break) is wired Normally Open (NO) using pins 1 and 9 (black and grey wires) or Normally closed (NC) using pins 2 and 9 (brown and grey wires)

The state of this output is linked with the parameter setting of the DUMP FUNCTION set in the amplifier. (See Dump Function “ML2008 PARAMETER SETTING AND ADJUSTING MANUAL”)

The connection of this output is optional because it doesn't prevent the device from operating correctly.

The connection of the PROFILE output (make and break) should be made :

The PROFIL 1 corresponds to the state Normally Open (NO). Use pins 11 and 3 (Pink and red wires)

The PROFIL 2 corresponds to the state Normally closed (NC). Use pins 10 and 3 (White and red wires)

The state of this input is directly linked with the state of the PROFIL SELECTOR state.

The connection of this output is optional, because it doesn't prevent the device from operating correctly.

IMPORTANT : The voltage used for these outputs (min. and max .) must not exceed 48 V DC with a max. current of 1A.

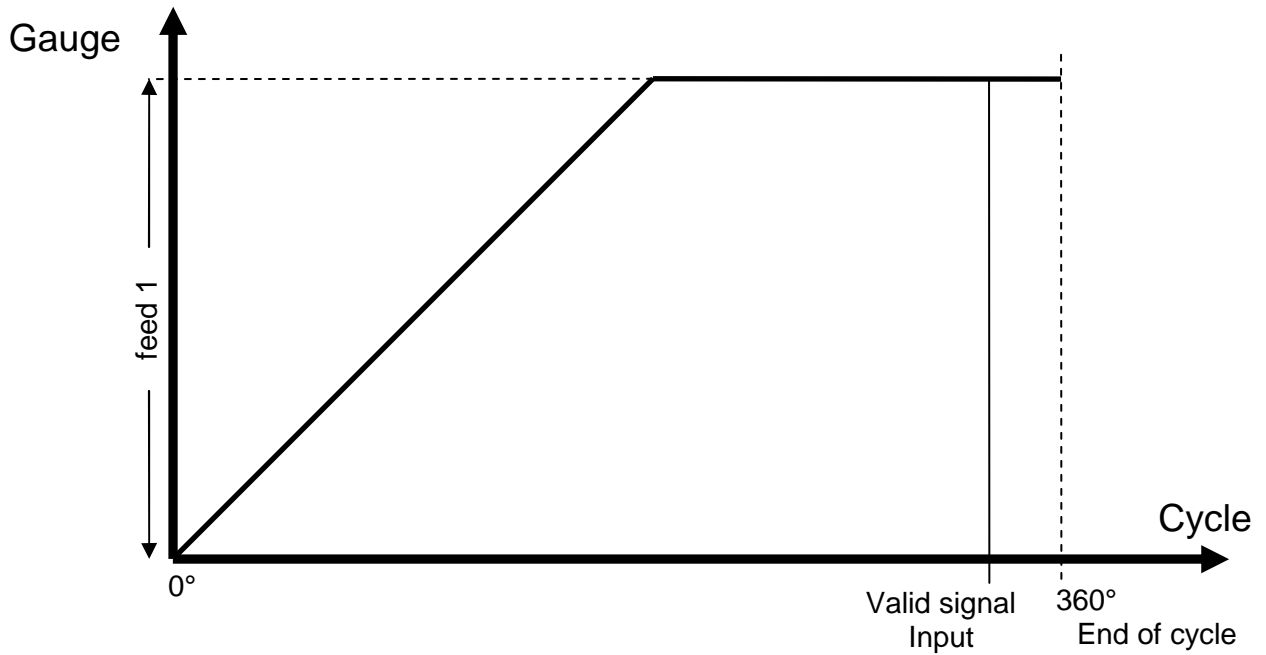
The GOOD MEASUREMENT output is a static relay (opto-MOS) that is wired NORMALLY OPEN (NO) only using pins 6 and 13 (Dark green and Black/White wires). When a measurement is within the tolerances limits, this output is closed as soon as the VALID closes.

The MACHINE SHUTDOWN output is a static relay (opto-MOS) that is wired Normally Closed (NC) only using pins 5 and 12 (Yellow and Light green wires). When a measurement is not within tolerances limits, this output is opened as soon as the VALID closes. It remains opened until the next valid signal or until reset because the RT0 input is closed or the ESC button on the front panel is pressed.

IMPORTANT : The voltage of these outputs must not exceed 48 V DC with a max. current of 1A.

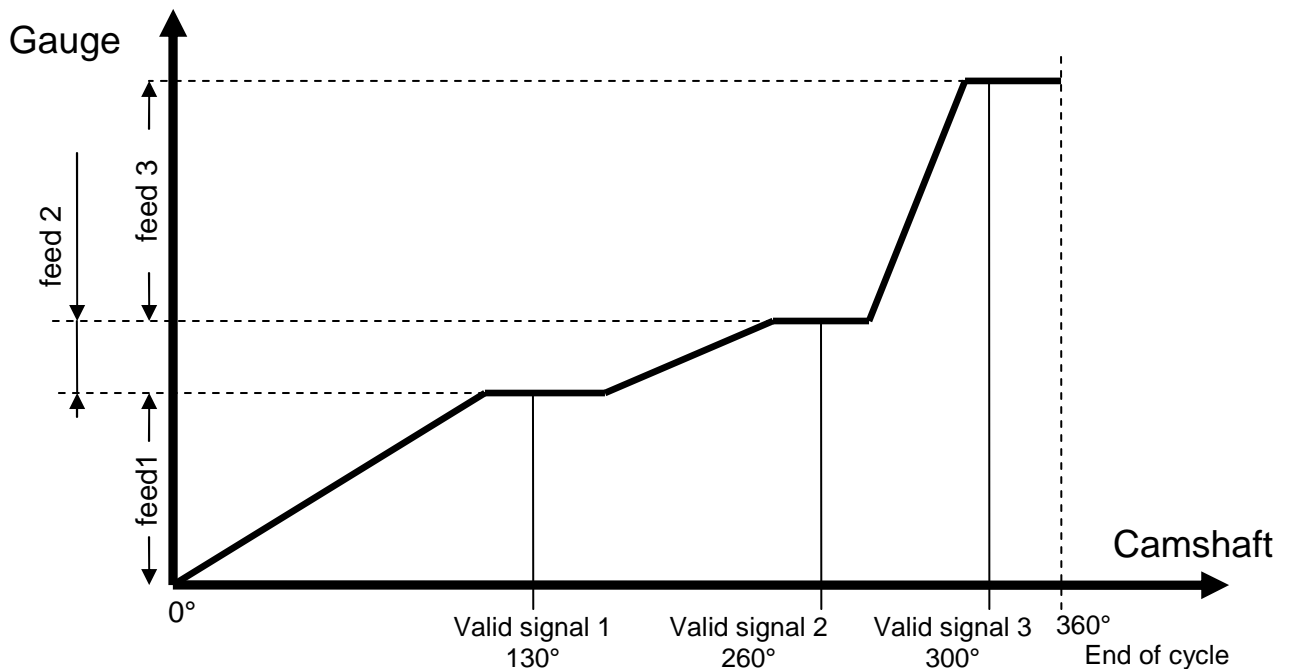
1.4 Timing diagram of a cycle

Diagram : 1 feed + TOP VALID Input



Measurement 1 = Position gauge Valid Signal – Position start of cycle 0°

Diagram : 3 feeds + ACN

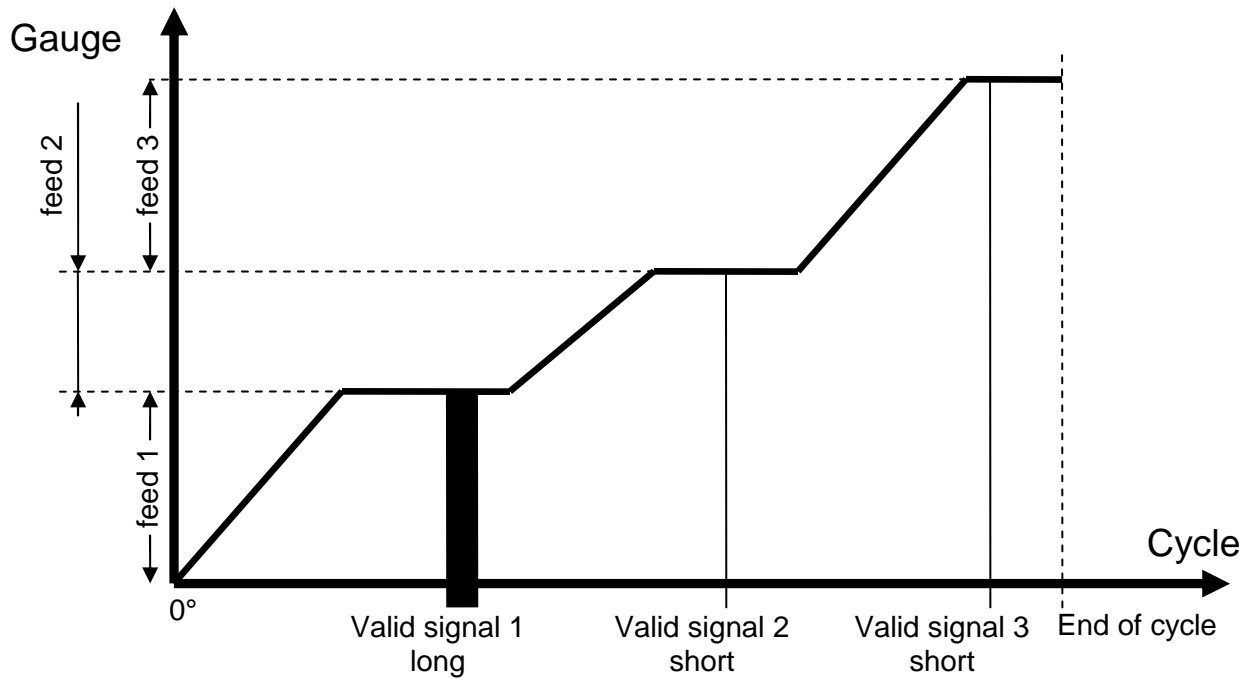


Measurement 1 = Position gauge Valid Signal 1 – Position gauge start of cycle 0°

Measurement 2 = Position gauge Valid Signal 2 – Position gauge Valid signal 1

Measurement 3 = Position gauge Valid Signal 3 – Position gauge end of cycle 360°

Diagram : 3 feeds + Automat



The first Valid Signal is always longer as the others. It allows the amplifier to be sure that it is the first Valid signal.

- Measurement 1 = Position gauge Valid Signal 1 – Position gauge start of cycle 0°
- Measurement 2 = Position gauge Valid Signal 2 – Position gauge Valid signal 1
- Measurement 3 = Position gauge Valid Signal 3 – Position gauge end of cycle 360°

2. Electrical installation

2.1 Installing the amplifier

The amplifier must be placed outside the machine environment, such as in the electrical cabinet's front panel. However, if the amplifier can not be installed in the electrical cabinet, it must be placed in a protective enclosure to protect it from the aggressive workshop environment (oil vapors, steam...)

A protective enclosure (optional) can be provided for this purpose. It is referenced in our catalogue as PC10.

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

Since the sensor cable is 4 meters long, the box should not be placed too far from the station where the measurement is taken. However, 1,5 to 10 meter cable extensions are available. Don't hesitate to contact us.

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.

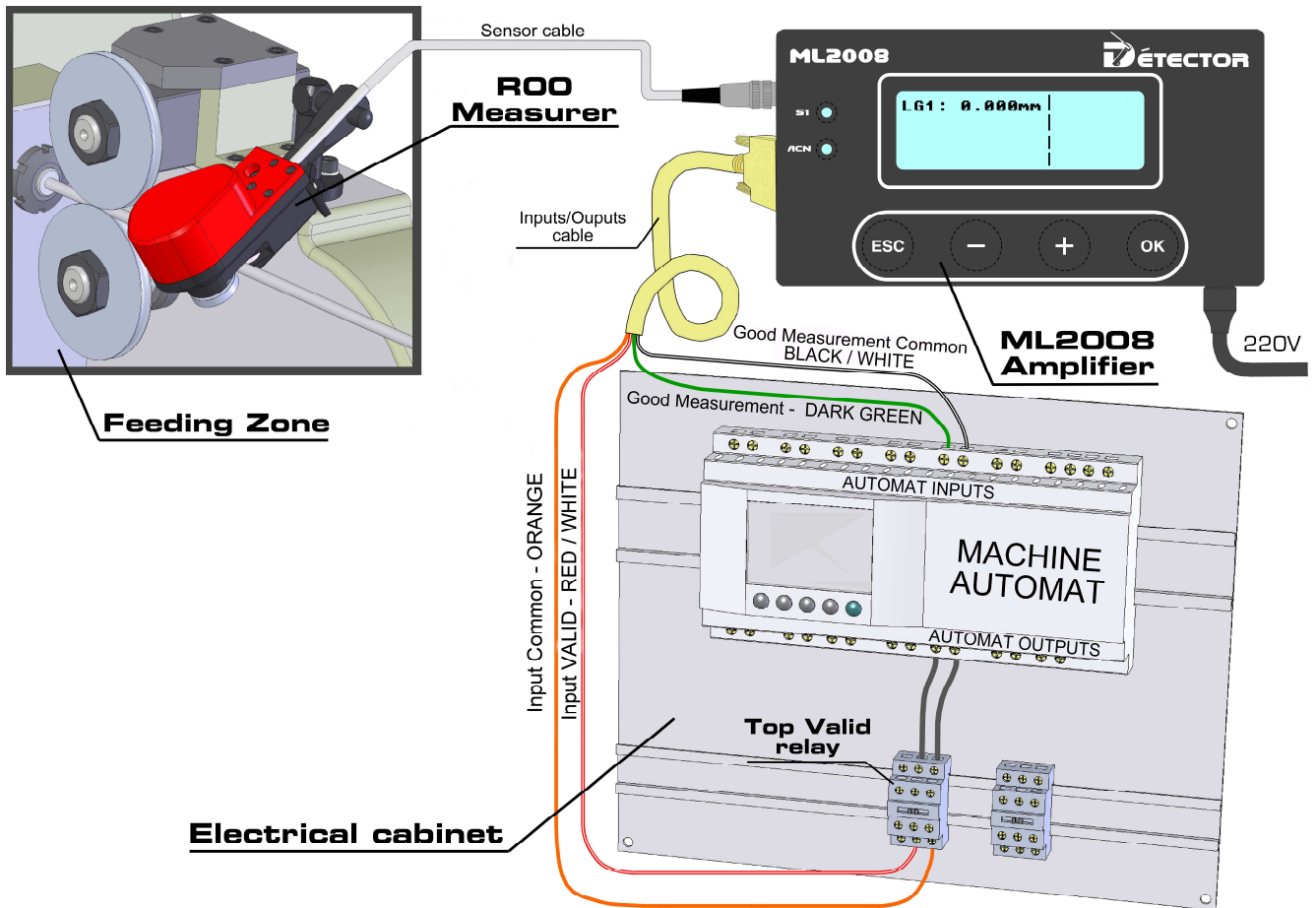
Amplifier's external dimensions excluding the front panel (embedded part): L 135mm, H/67.5mm, D/145mm. (IP30)

The Front's panel dimensions (part outside cabinet): l/144mm, H/76mm, Th/3mm. (IP65)

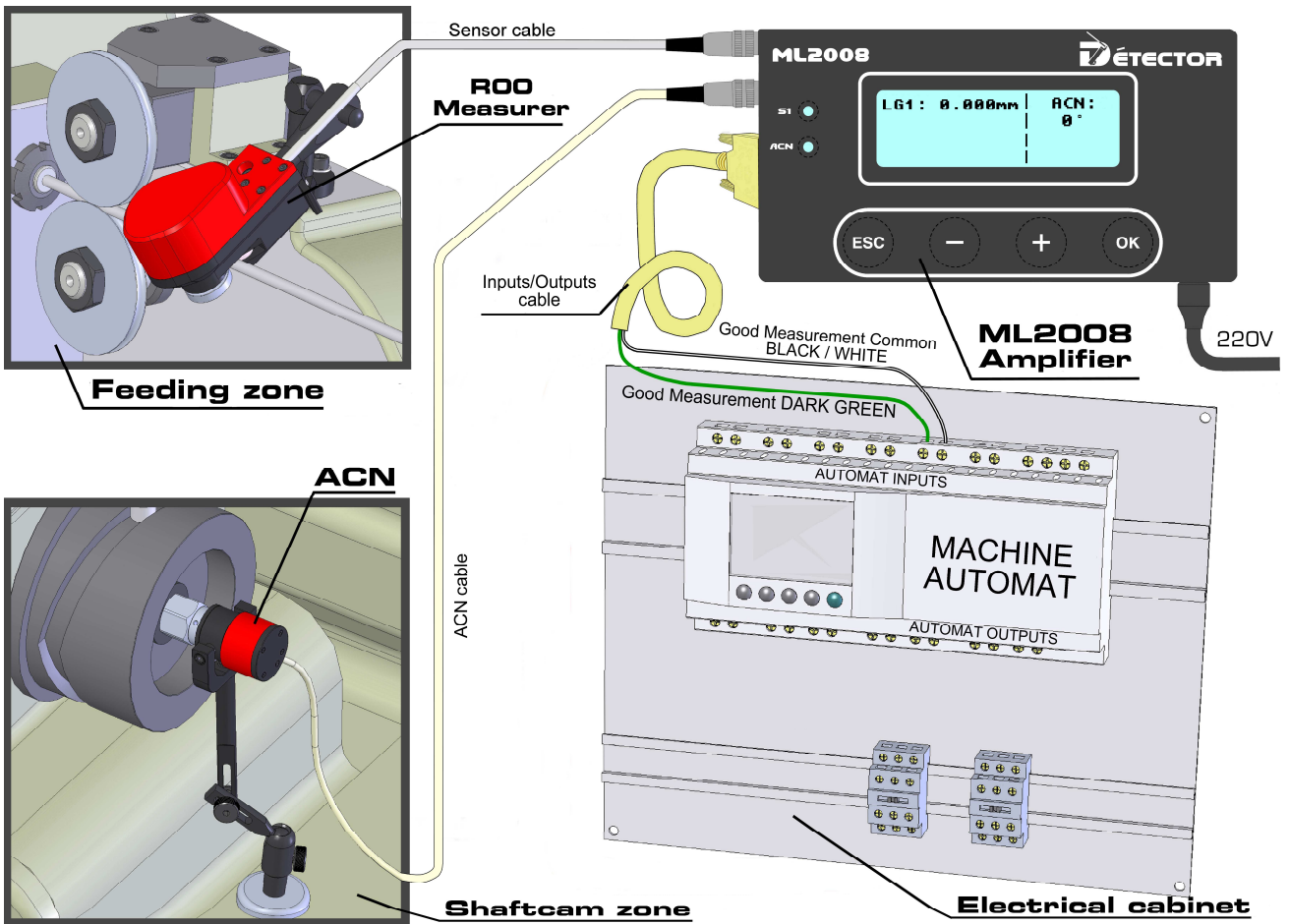


2.2 Installation drawing

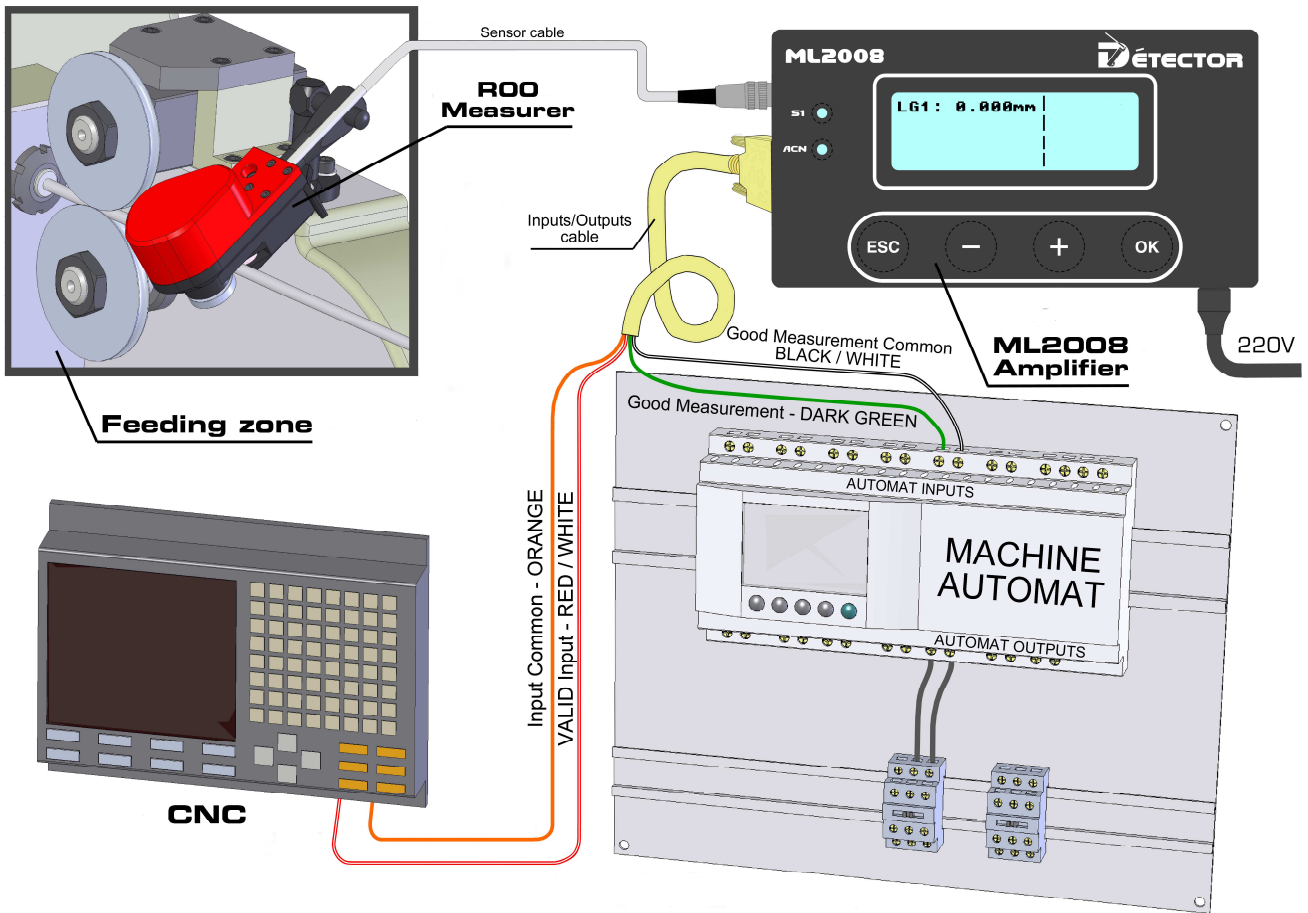
2.2.A - Standard installation on cam machine + Input (only 1 measure)



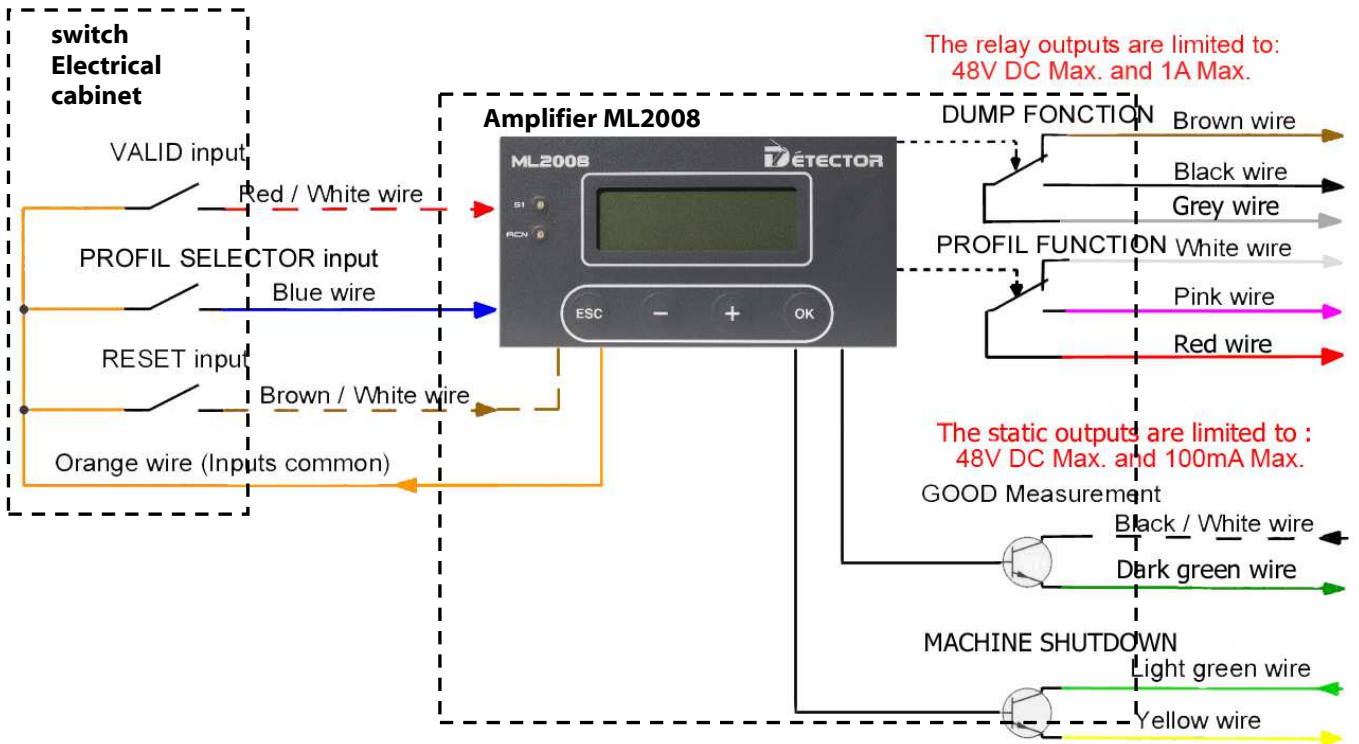
2.2.B - Installation on cam machine + ACN (4 measures max)



2.2.C - Installation on CNC machine + Input controlled by CNC (4 measures max)



2.3 Electrical wiring





Distributor

A large, empty rounded rectangular box with a thin black border, intended for the distributor's name.

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