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## Generals Mod. 284

The detector has been designed to enable the continuous on-line inspection of insulating coating of pipelines, **without earthing electrodes**.

The inspection is carried out by means of two identical brushes, sliding along the coating, connected to the activated poles (one positive and one negative) of two symmetrical and synchronised pulse generators, with their mass poles connected to earth.

This arrangement makes it possible to apply two synchronised pulse voltages of opposite polarity to the coating, while keeping the potential of the pipeline metal the same as that of earth.

The switch **(1)** connects the apparatus to the 230V network, activating the high voltage outputs (lamp **2** lights up) and the Crest Voltmeters **(3)** which enable real-time reading of **two opposing pulse voltages actually present** on the insulating coating, regardless the load represented by the coating (prevailinglly capacitive).

The switches **4P** and **4N** make it possible to select the voltage range (positive and negative respectively) suitable for the type of applied coating, while the potentiometers **5P** and **5N** allow the continuous adjustment in order to achieve a perfect balance between the absolute values of the two pulse voltages.

This possibility is extremely important since it enables the potential of the pipe to be kept at zero with respect to the earth.

The presence of a possible leak is signalled by a piezoelectric buzzer and it is available as free switching.

The buzzer sensivity is adjusted by means of potentiometer **2** operating on it up to achieve the alarm buzz at the moment of the discharge toward the leak.

## Safety

**N o t e:** We recommend to connect the unit external ground terminal to the factory grounding system, using a copper conductor of a min. 16 sqmm. section. The network grounding cable can be connected to the internal terminal board for equal capacity purposes only.

Due to the very high voltage involved and to the remarkable unit power: please follow the instructions listed below.

- a) place H.T. electrodes in position not approachable to not assigned personnel;
- b) supply the working sites and assigned personnel with all safety means adequate for H.V. (insulating gloves and boots, insulating boards, etc).
- c) lock the unit control panel and keep not assigned personnel far from controls;
- d) avoid any possible contact between personnel and live pipe.

## Technical Data

Total Power	120	VA
Maximum pulse voltage (no load)	± 38	KV
Maximum pulse voltage (680pF)	± 30	KV
Pulse repetition frequency	20 ± 5	Hz
Crest Voltmeter Range	± (0,1 +50)	KV
Measurement Error	± 5	%
Dimensions	1000 x 600 x 300	mm
Weight	40	kg

## Conformity Declaration

We declare that the Holiday Detector, our Mod. 284 is complying with the following Standards:

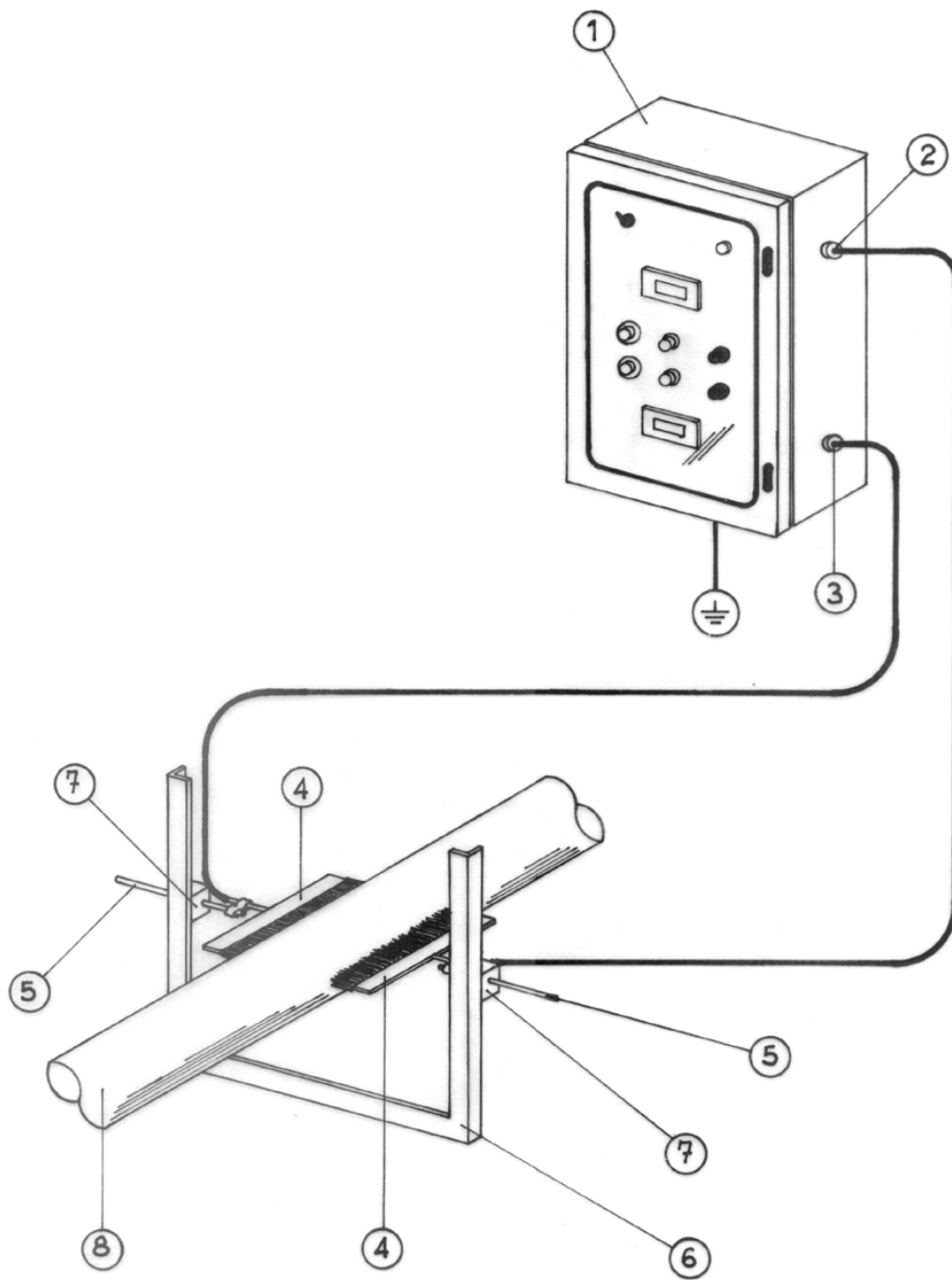
<b>EN 50081-2(1993)</b>	Electromagnetic compatibility	Generic standard emission. Part. 2: Industrial environment.
<b>EN 50082-2(1995)</b>	Electromagnetic compatibility	Generic immunity standard. Part. 2: Industrial environment.
<b>EN 55011 (1990)</b>	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment.	
<b>EN61000-3-2 (1995)</b>	Electromagnetic compatibility (EMC)	Part. 3: Limits. Section 2: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase).
<b>EN61000-3-3 (1995)</b>	Electromagnetic compatibility (EMC)	Part. 3: Limits. Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A.
<b>EN 61000-4-2 (1995)</b>	Electromagnetic compatibility (EMC)	Part. 4: Testing and measurement techniques Section 2: Electrostatic discharge test - Basic EMC Publication.
<b>EN61000-4-4 (1995)</b>	Electromagnetic compatibility (EMC)	Part. 4: Testing and measurement techniques Section 4: Electrical fast transient/burst immunity test - Basic EMC publication.
<b>EN 61000-4-8 (1993)</b>	Electromagnetic compatibility (EMC)	Part. 4: Testing and measurement techniques Section 8: Power frequency magnetic field immunity test - Basic EMC Publication.
<b>ENV 50140 (1993)</b>	Electromagnetic compatibility Basic immunity standard	Radiated radio-frequency electromagnetic field Immunity test.
<b>ENV 50141(1993)</b>	Electromagnetic compatibility Basic immunity standard	Conducted disturbances induced by radio-frequency fields – Immunity test.
<b>ENV 50204 (1995)</b>	Radiated electromagnetic field from digital radio telephones	Immunity test.

as stated in the Test Report No. **EMC 2999/96** and, therefore it complies with the **EMC norms** for the **CE** marking.

## 8.0 Attached DWG

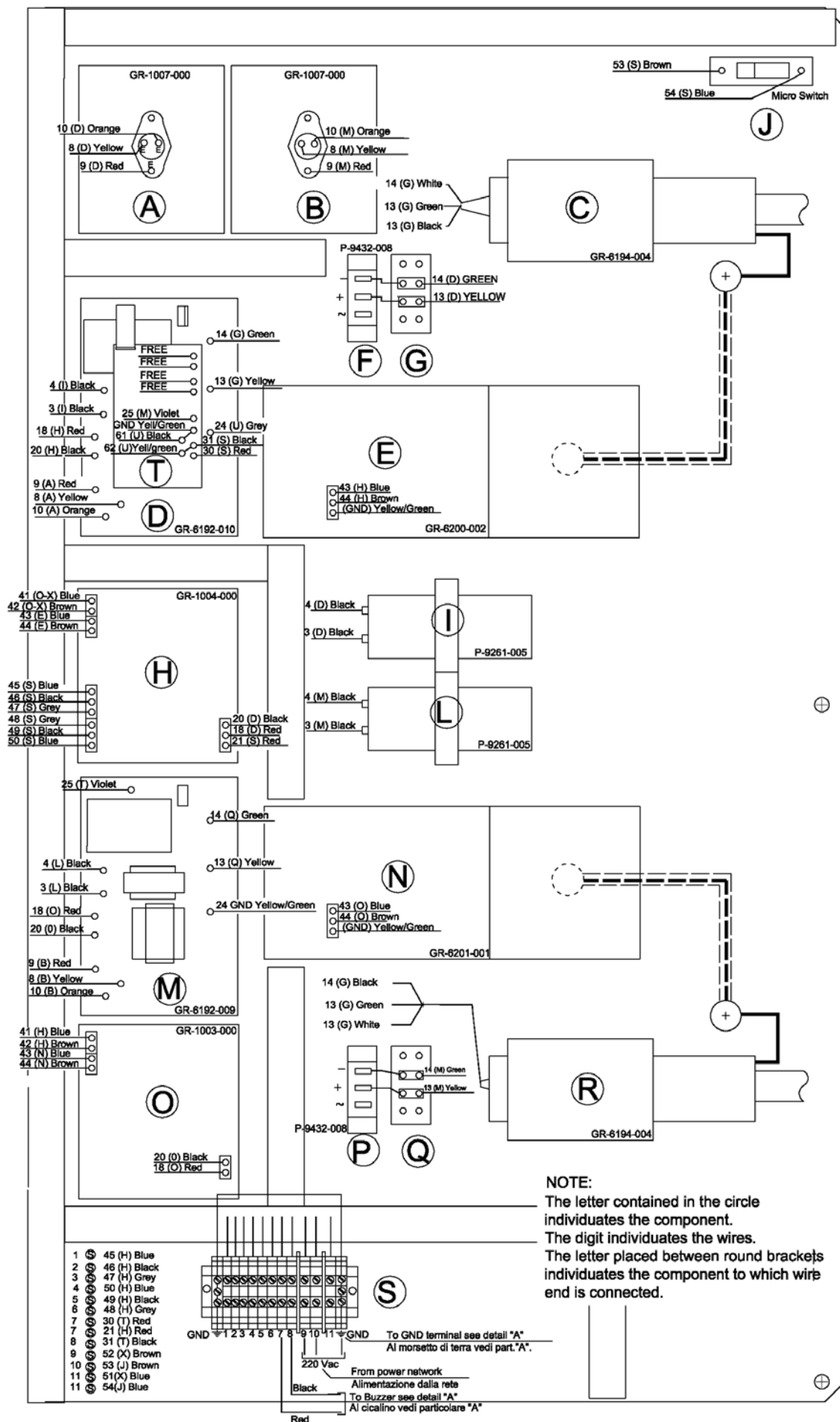
PR-0953-001	MOD.284 IN-PROCESS HOLIDAY DETECTOR
PM-1056-001-01	WIRING DIAGRAM
PM-1056-001-02	WIRING DIAGRAM
S-0372-000	H.V. OUTPUTS WAVEFORMS
S-0373-000	H.V. COILS AND TRIGGER WAVEFORMS

PR-1056-004 – IN-PROCESS HOLIDAY DETECTOR

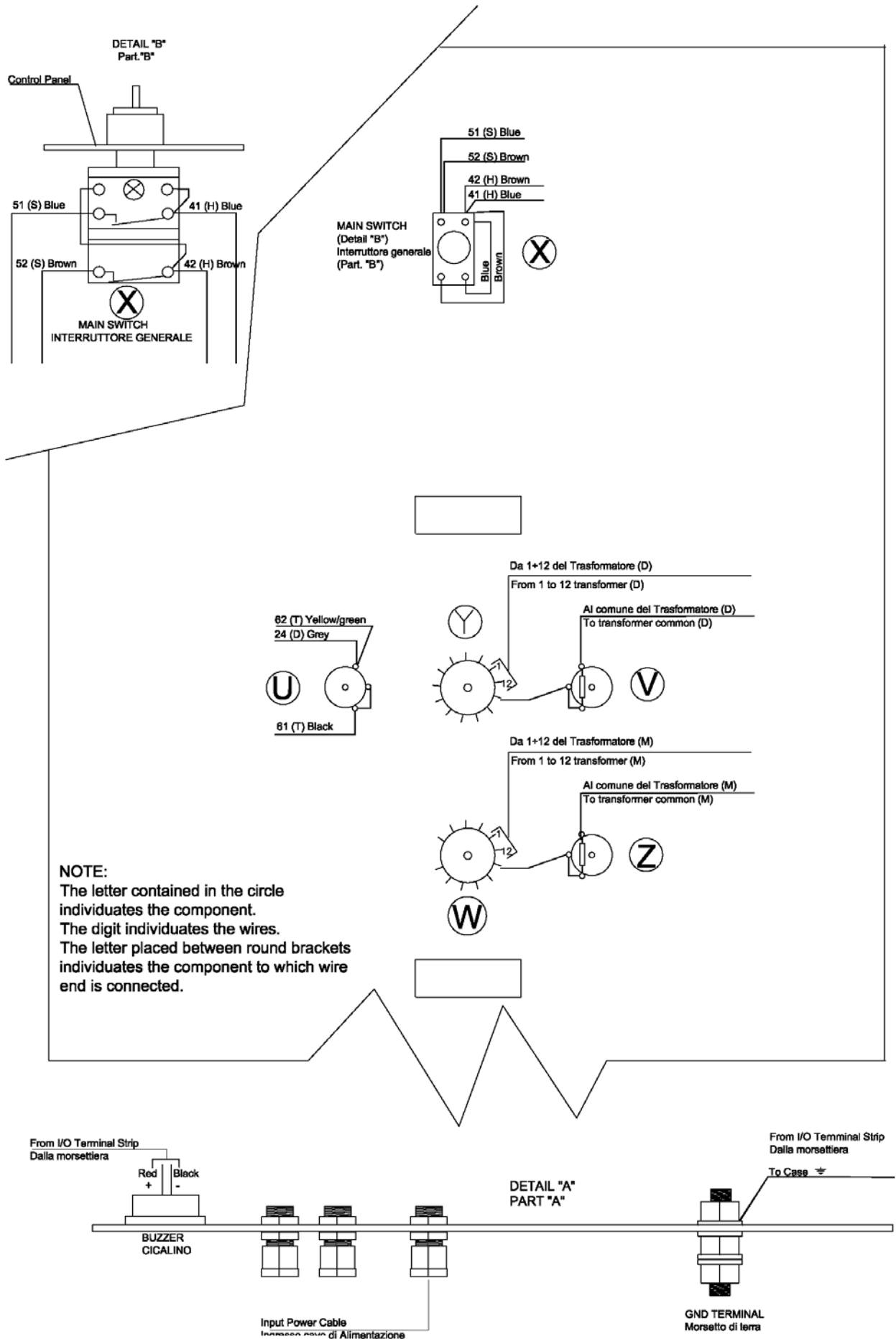


- 1) MOD. 284 UNIT
- 2) POSITIVE H.V. OUTPUT
- 3) NEGATIVE H.V. OUTPUT
- 4) TESTING BRUSHES
- 5) ADJUSTABLE ARMS
- 6) BRUSHES SUPPORT FRAME
- 7) INSULATING REST
- 8) ROTOTRASLATING PIPE

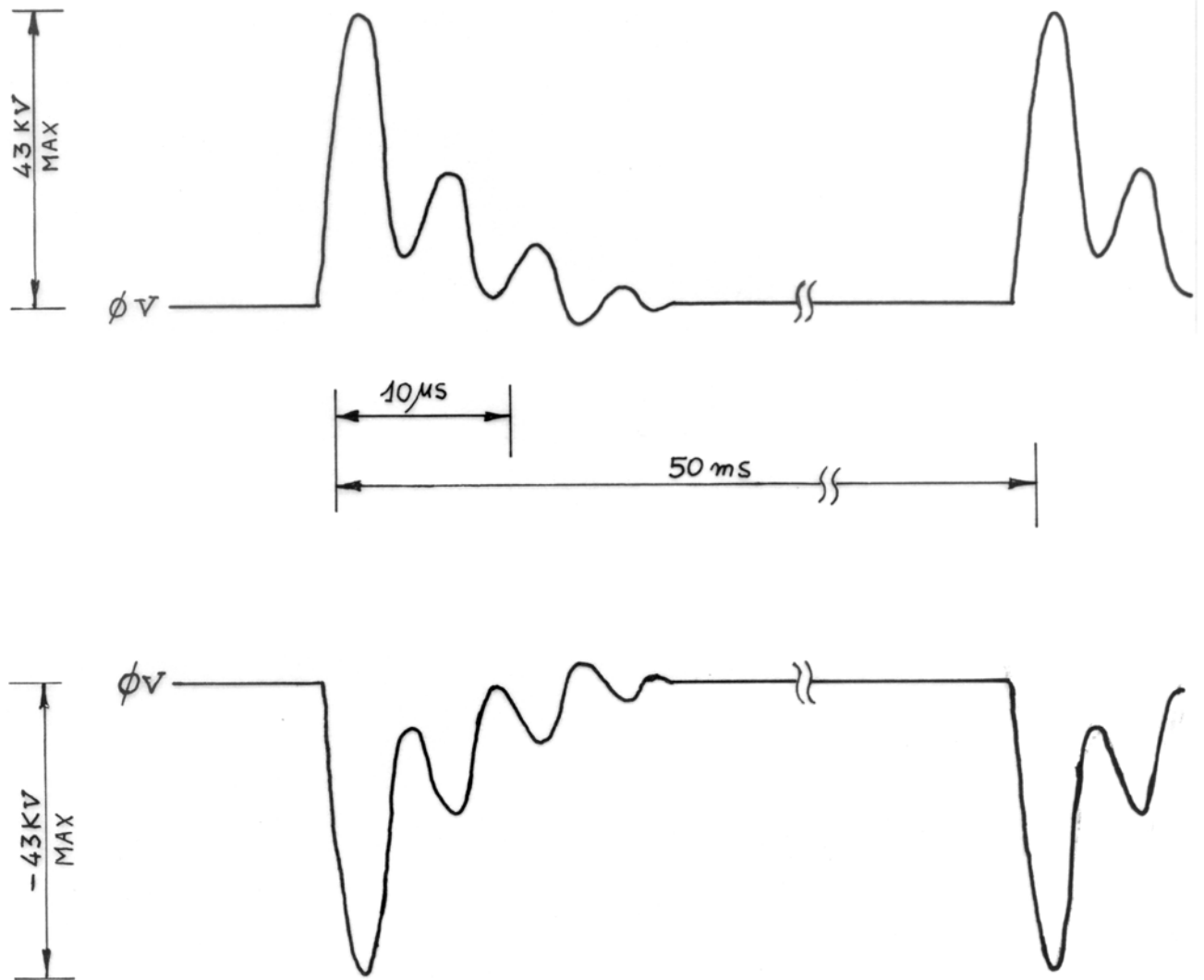
PM-1056-001-01 - WIRING DIAGRAM



PM-1056-001-02 - WIRING DIAGRAM

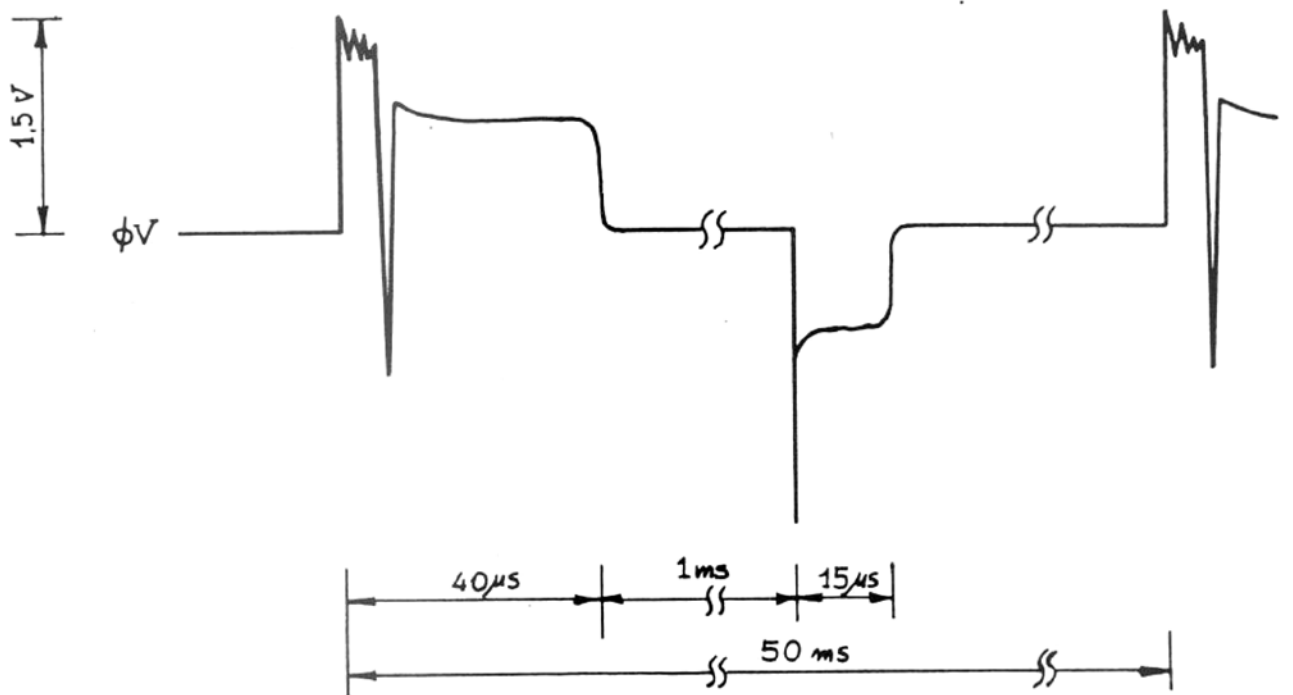


S-0372-000- H.V. OUTPUTS WAVEFORMS

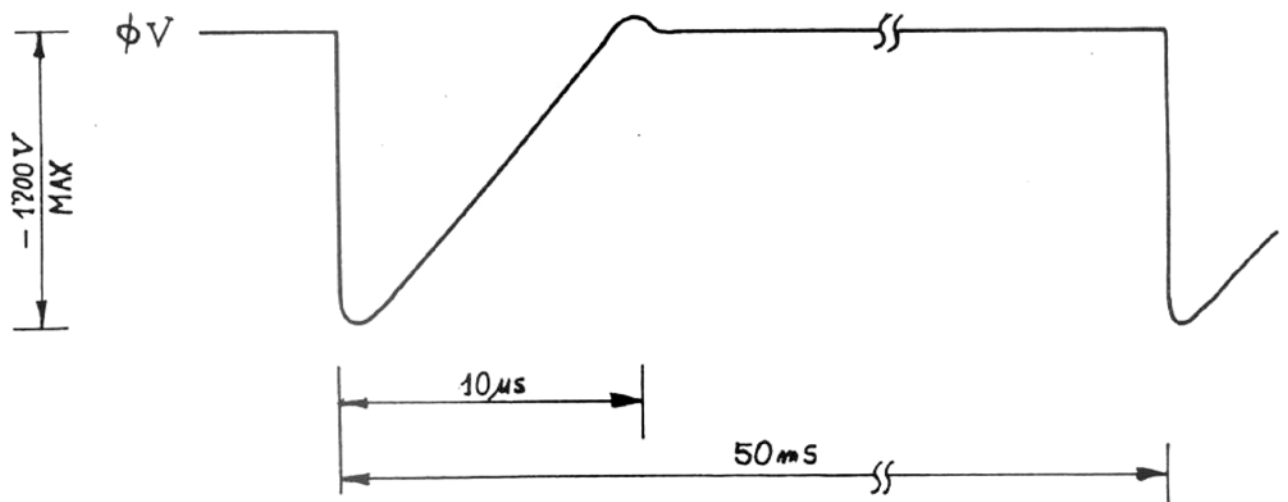




S-0373-000- H.V. COILS AND TRIGGER WAVEFORMS



**T = TRIGGER**



**P = PRIMARY WINDING H.V. COIL**  
**PRIMARIO BOBINE ALTA TENSIONE**

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