



# TA 1400-0111

Technical Instruction

## Testing of spark plugs using (DSO)



© INNIO Jenbacher GmbH & Co OG  
Achenseestr. 1-3  
A-6200 Jenbach, Austria  
[www.innio.com](http://www.innio.com)



|   |   |   |
|---|---|---|
| 1 | Checking the spark plugs with a DSO on the engine ..... | 1 |
| 2 | High voltage course .....                               | 1 |
| 3 | Revision code .....                                     | 6 |

---

**The target recipients of this document are:**

Customers, distribution partners, service partners, commissioning partners, subsidiaries/branches, Jenbach location

---

**INNIO proprietary information: CONFIDENTIAL**

The information contained in this document is the proprietary information of INNIO Jenbacher GmbH & Co OG and its subsidiaries and is disclosed in confidence. It is the property of INNIO and shall not be used, disclosed to others or reproduced without express written consent. This includes but is not limited to use for the creation, manufacture, development or derivation of any repairs, modifications, spare parts, designs or configuration changes, or for obtaining government or regulatory approval to do so. If consent is given for reproduction in whole or in part, this notice and the notice set forth on each page of this document shall appear in any such reproduction in whole or in part.

---

**UNCONTROLLED WHEN PRINTED OR TRANSMITTED ELECTRONICALLY**

---

## 1 Checking the spark plugs with a DSO on the engine

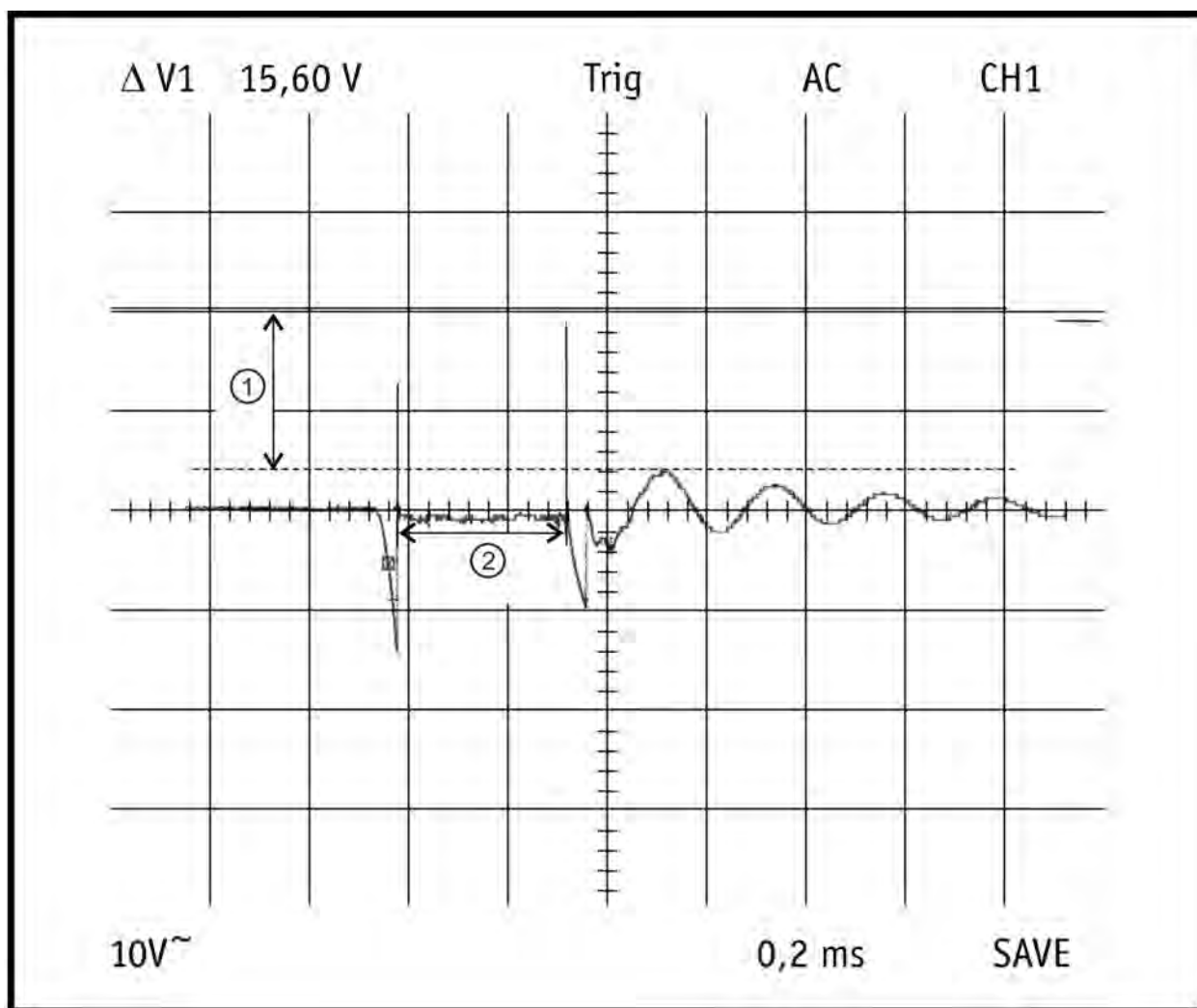
- 1.1 Spark plug measurements must only be carried out with the engine at full load and the Leanox controller fully adjusted. The high voltage characteristics of the spark plug can be measured as described in Technical Instruction No. 1400-0151.

1.2 **Standard values for the high voltage characteristics of an operational ignition system:**

|                               |                         |
|-------------------------------|-------------------------|
| High voltage capacity:        | UH > 35 kV              |
| Ignition voltage requirement: | UZ < 32 kV at full load |

## 2 High voltage course

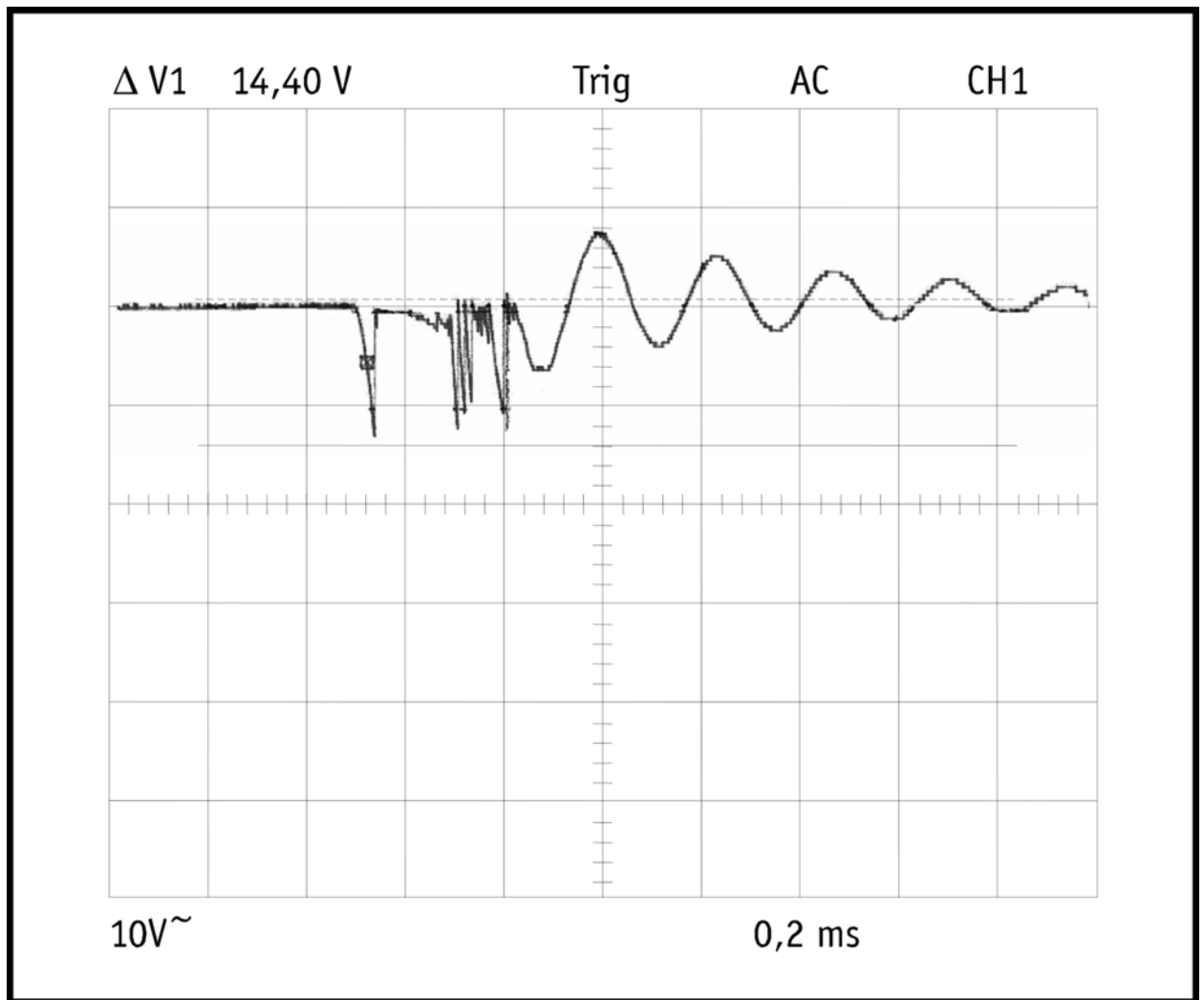
High voltage characteristics of an operational ignition system:



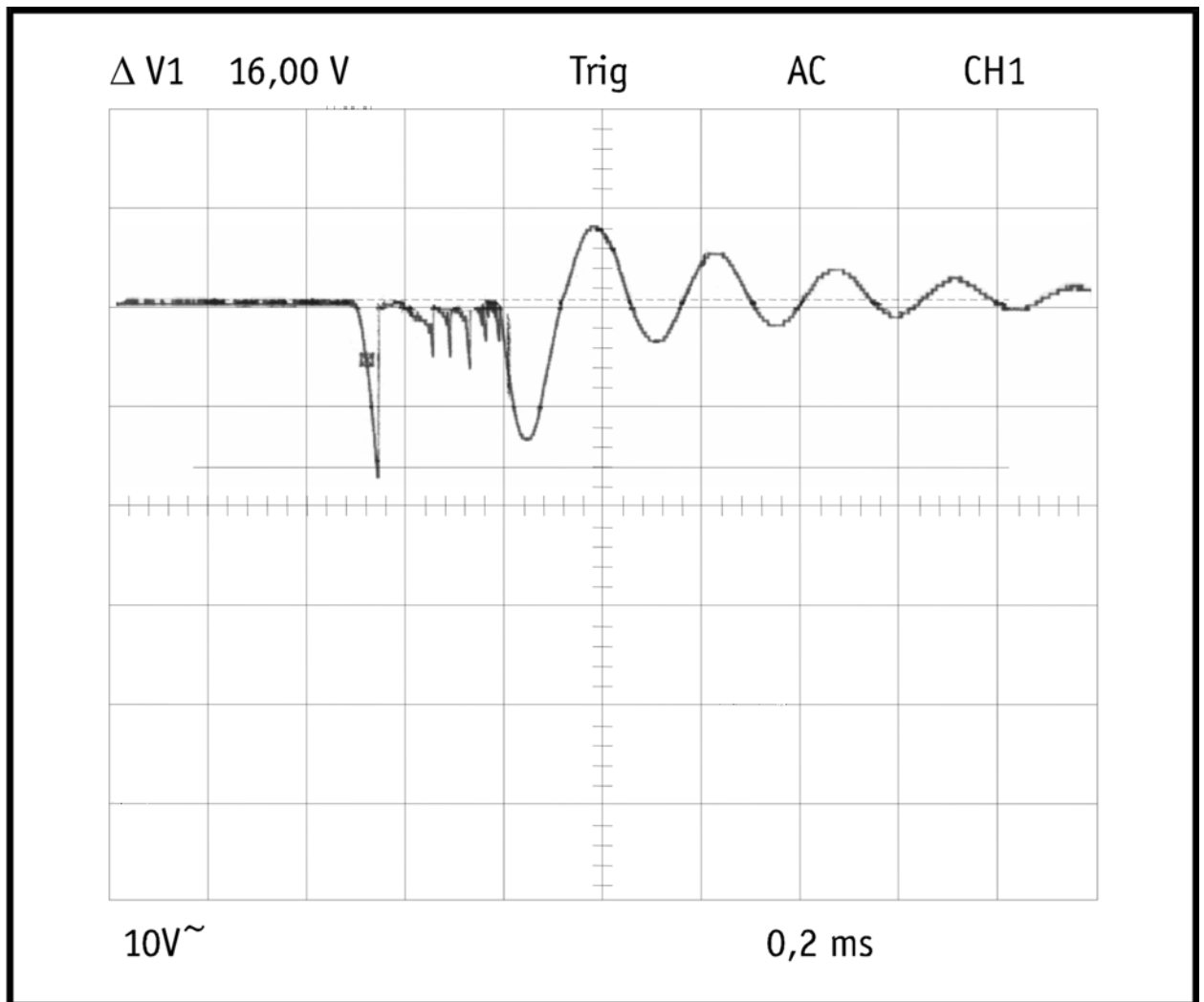
① Required high voltage

② combustion duration

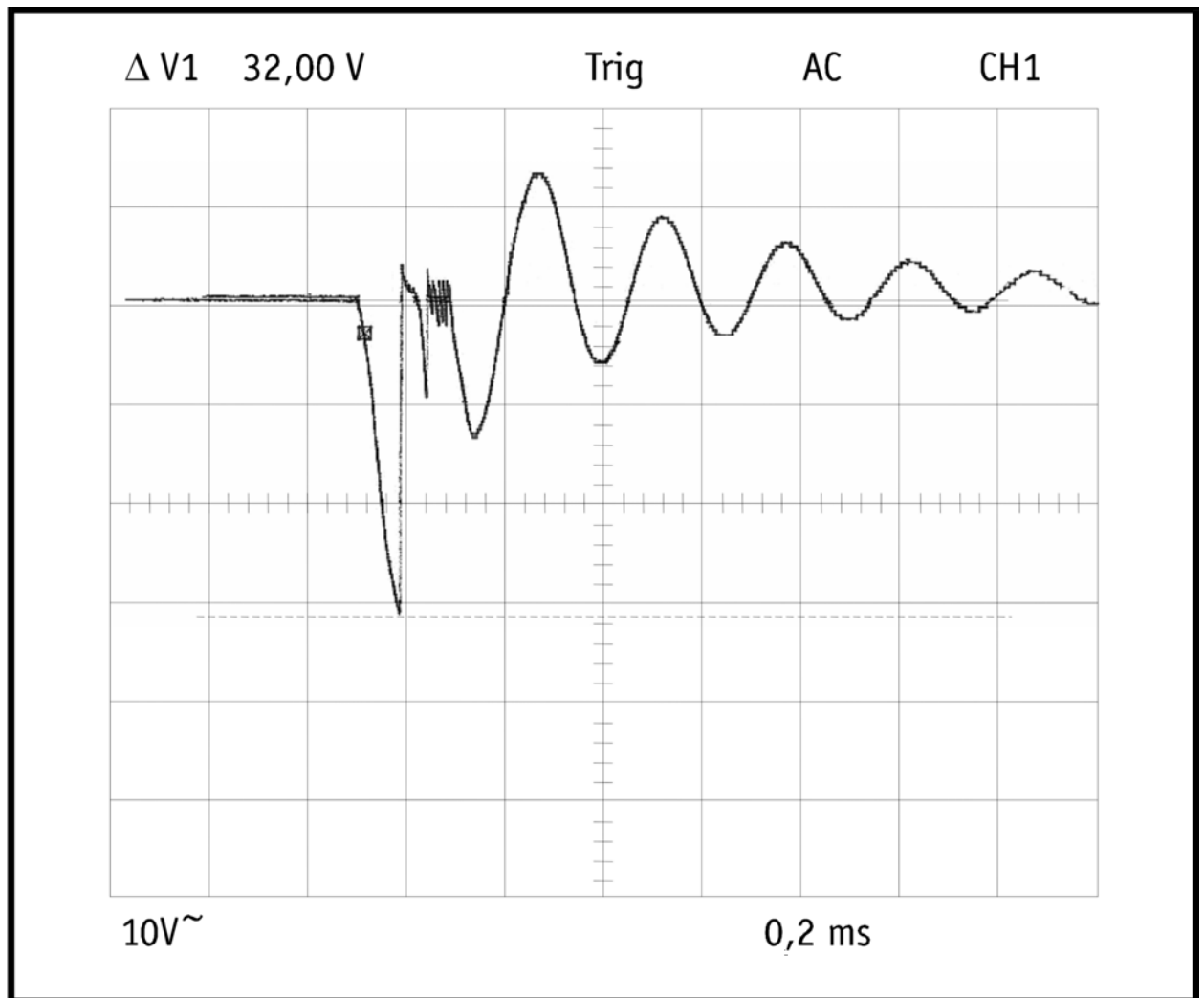
High voltage characteristics of a defective spark plug; arc-over due to crack in insulator:



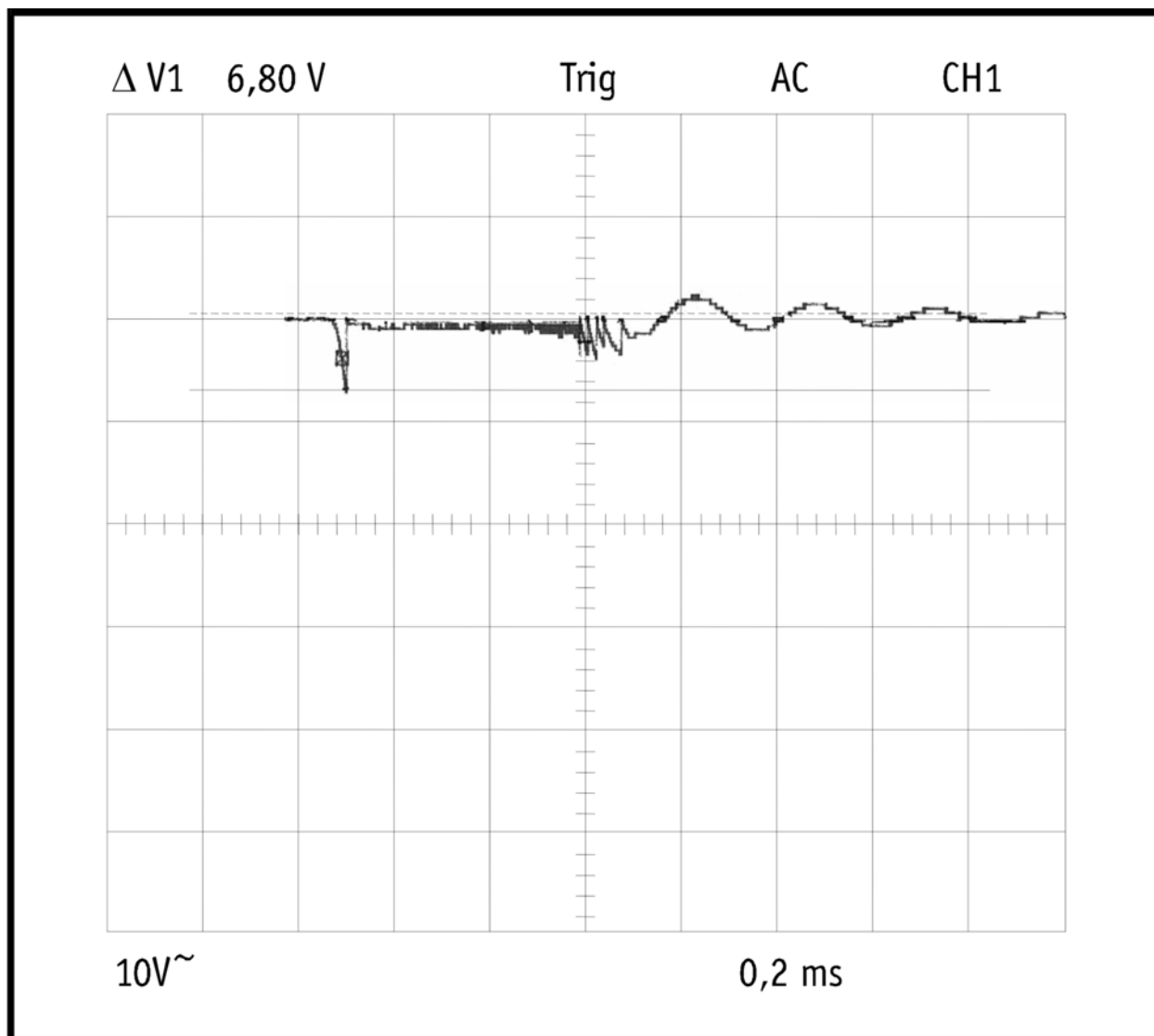
High voltage characteristics of a spark plug with dirt in the spark plug air gap  
(conductive combustion residuals, e.g. lubricants, etc.):



High voltage characteristics of a spark plug with excessive electrode air gap or inadequate high voltage capacity in the ignition coil:



High voltage characteristics of a spark plug with inadequate electrode air gap:



### 3 Revision code

#### Revision history

| Index | Date       | Description / Revision summary  | Expert Auditor      |
|-------|------------|---|---------------------|
| 2     | 30.04.2019 | GE durch INNIO ersetzt / GE replaced by INNIO   | Opoku<br>Pichler R. |
| 1     | 26.05.2010 | Umstellung auf CMS / Change to Content Management System<br>ersetzt / replaced Index: h | Schartner<br>Giese  |