

Operating Instruction

Hall-Effect RPM Sensing Cable



Legal Notice

Operating instructions for Hall-effect rpm sensing cable

WOW! Würth Online World GmbH

Schliffenstrasse Falkhof

74653 Künzelsau

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A Safety notes

1 General safety notes



- The Hall-effect rpm sensing cable is only determined for the use on motorcycles. Precondition for the use of this system is profound knowledge of motorcycle engineering and also the knowledge of sources of danger and hazards in the workshop or rather on the motorcycle.
- Completely and thoroughly read the operating instructions before using the Hall-effect rpm sensing cable.
- All notes given in the individual sections of the instructions are in effect. On principle it is required to follow the undermentioned steps and safety guidelines.

The following points are merely an abridgement, which shall not restrict all other safety precautions.

2 Safety notes for Hall-effect rpm sensing cable



In order to avoid incorrect handling and injury of the user or destruction of the sensing cable arising from this, pay attention to the following:

- Trainees are allowed to use the Hall-effect rpm sensing system only under supervision.
- Protect the tool from liquids like water, oil or fuel (it is not waterproof).
- Protect the device from strong impacts (do not drop).
- Protect the tool from rotating parts.
- Protect the connecting cable from hot components.
- Regularly check the connection cables/accessory parts for damage (danger of tool destruction due to short circuit).
- Regularly check the cables of high-voltage components for damage (marten damage etc.).

3 Safety precautions regarding high voltage:



The Hall-effect rpm sensing cable picks off the rpm on high-voltage ignition components (e.g. ignition coil). Disregarding the safety notes can lead to severe injuries or even death. Therefore regard the following:

- Regularly check the cables of high-voltage components for damage (marten damage etc.).
- Do not touch energised components when working on the running engine.
- Regularly check the Hall-effect rpm sensing and adapter cable for the diagnostic tool for damages.
- Only use original parts.

4 Safety precautions regarding the danger of suffocation



Carbon monoxide is arising with running engine. This leads to hypoxia in blood if inhaled (danger to life!). Therefore regard the following:

- Ensure sufficient aeration of workspace.
- Cut in and connect exhaust extraction system when engine is running.

5 Safety precautions regarding the danger of burning



If the engine is running, some components can become very hot (up to several 100 °C). Therefore regard the following:

- Always use safety equipment (gauntlets etc.).
- Do not run access lines near hot components.

6 Safety precautions regarding the danger of injury



During working on the vehicle there is a danger of injury through rotating components or inadvertent rolling of vehicle. Therefore regard the following:

- Do not reach into rotating components when engine is running.
- Prevent inadvertent rolling of the motorcycle.
- Do not run cables near rotating parts.

B Product description

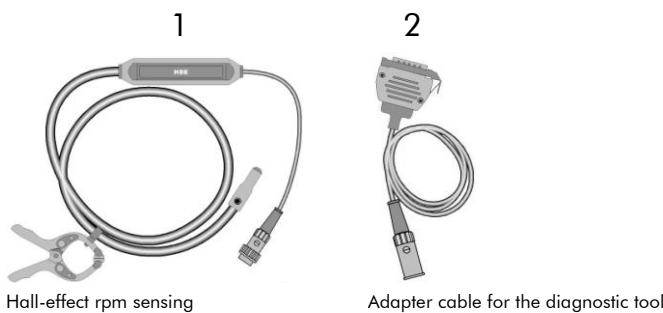
1 Normal use

Hall-effect rpm sensing enables to determine the idle rpm without sophisticated adaptations and to display it with a WOW!-diagnostic tool.

The Hall-effect rpm sensing cable can be used on ignition coils, single-spark coils, camshaft sensors and other components, which create a magnetic field depending on the rpm.

The Hall sensor inside the cable registers the magnetic field emitted by these components and thereof calculates the engine rpm.

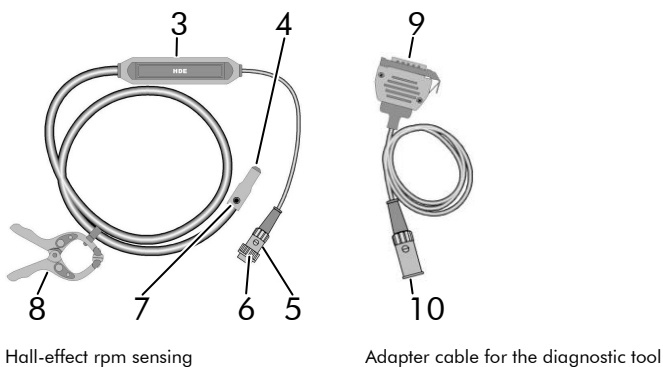
2 Delivery contents



Contents of delivery:

	Item	Amount
1	Hall-effect rpm sensing	1
2	Adapter cable for diagnostic tool (not with emission analyser)	1
3	Operating Instructions	1

3 Tool description



	Item
3	Analysis electronics
4	Sensor for rpm sensing
5	HDE connection for adapter cable (10)
6	Union nut for fastening the connections
7	Adjustment mark for adjusting the sensor
8	Fastening clamp for Hall-effect rpm sensing cable to the motorcycle
9	RS232 connection for diagnostic tool RS232 port
10	Adapter cable connection for Hall-effect rpm sensing connection (5)

C Connection and measurement

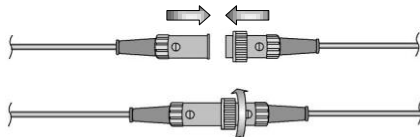
1 Hall-effect rpm sensing connection to the diagnostic tool

1.1 Preconditions

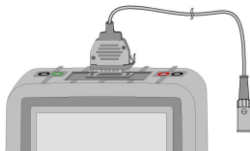
- Engine component with sufficient magnetic field strength
- Engine component without damages
- Engine component accessible
- Faultless engine operation
- Steady idle rpm
- Diagnostic tool with rpm pickoff function

1.2 Connecting the cable to the diagnostic tool

1. Connect the Hall-effect rpm sensing connection (5) to the adapter cable (10) or to the trigger line of the emission analyser and fasten it with the union nut (6).



2. Connect the diagnostic plug of the adapter cable (9) to the diagnostic tool.



3. Switch on the tool.
4. Select the rpm pickoff function on the tool.
5. Start the engine.



WARNING!

Electric high voltage in ignition components!

Severe injuries or even death in case of electric shock!

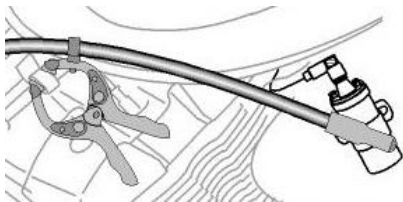
Do not touch energised components when working on the running engine!

**CAUTION!****Risk of injuries through rotating parts!**

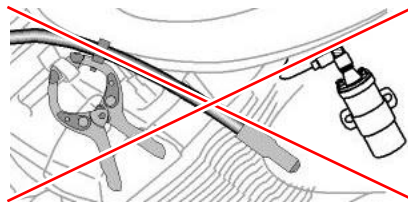
During working on the vehicle there is a danger of injury through rotating components!

- Do not reach into rotating components when engine is running!
- Do not run cables near rotating parts!

6. Apply the Hall-effect sensor (4) to any of the engine components (here ignition coil).



Correct: Sensor in direct contact to ignition coil



Wrong: Sensor near the ignition coil

The diagnostic tool shows the rpm.

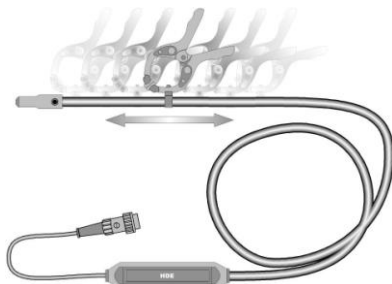
**NOTE**

The rpm indication requires the adjustment mark (7) directly at the engine component.

7. Fasten the Hall-effect rpm sensing cable (1) with the fastening clamp (8) at a suitable point.



Now move the fastening clamp with the ring.



You can now start with the diagnostic work.

2 Troubleshooting

The following list shall help you to repair smaller problems yourself. Therefore select the suitable problem description and check or rather carry out the steps one after the other listed under **Solution** until the problem is solved.

Problem	Reason	Solution
Wrong rpm value	<ul style="list-style-type: none"> Interference of magnetic fields through other components 	<ul style="list-style-type: none"> Do the manual rpm adaptation with the diagnostic tool. Readjust the sensor Increase the sensor distance to the adjacent engine components.
	<ul style="list-style-type: none"> Faulty cable/cable connections. 	<ul style="list-style-type: none"> Check the cables/cable connections for faults.
No rpm	<ul style="list-style-type: none"> Only insufficient magnetic field around the engine components. 	<ul style="list-style-type: none"> Readjust the sensor Apply the sensor to another component. Repair the engine system.
	<ul style="list-style-type: none"> Faulty cable/cable connections. 	<ul style="list-style-type: none"> Check the cables/cable connections for faults.
	<ul style="list-style-type: none"> Defect diagnostic tool. 	<ul style="list-style-type: none"> Get the diagnostic tool repaired.
	<ul style="list-style-type: none"> Defect Hall-effect rpm sensing cable. 	<ul style="list-style-type: none"> Replace the Hall-effect rpm sensing cable.

D General information

1 Maintenance and care

As every measuring tool, HDE should also be handled with care. Therefore regard the following:

- Check all cables/accessories for damage before use.
- Clean all parts afterwards with a dry lint-free cloth.
- Always wind the Hall-effect rpm sensing cable and the adapter cable carefully.
- Only use original spare parts.

2 Disposal

In compliance with directive 2002/96/EG of the European Parliament and Council of 27 January 2003, relating to used electrical and electronic appliances, and the national statute governing the distribution, return and environmental disposal of electrical and electronic appliances (Waste Electrical and electronic Equipment (WEEE) regulation) of 16 March 2005, we undertake to take back and to dispose this device, distributed after 13 August 2005, at the conclusion of its service life.

Since, in the case of the present device, this relates to an exclusively commercially used instrument (B2B), it must not be handed over to a public disposal facility.

Subject to the provision of the date of purchase and the tool number, this tool can be disposed of by:

WOW! Würth Online World GmbH

Schliffenstrasse Falkhof

74653 Künzelsau

Tel.: +49 (07940) 15-1770

3 International Offices

GERMANY

WOW! Würth Online World
GmbH
Schliffenstraße Falkhof
74653 Künzelsau
☎ +49 (0) 7940/15-1770
☎ +49 (0) 7940/15-3299
Kfz-Technik-Hotline:
☎ 0180 / 5005078
e-Mail: info@wow-portal.com
<http://www.wow-portal.com>

AUSTRIA

Würth Handelsgesellschaft
m.b.H.
Würth Straße 1
3071 Böheimkirchen
AUSTRIA
☎ +43 5 08242 0
☎ +43 5 08242 5 33 33
e-Mail: info@wuerth.at
<http://www.wuerth.at>

BELGIUM

Würth België N.V.
Everdongenlaan 29
2300 Turnhout
☎ +32 14 445 566
☎ +32 14 445 567
e-Mail: info@wurth.be
<http://www.wurth.be>

BOSNIA AND HERZEGOVINA

WURTH BH d.o.o.
Binjezevo bb
71240 Hadzici, BiH
☎ +387 33 775 000
☎ +387 33 775 019
e-Mail: info@wurth.ba
<http://www.wurth.ba>

BULGARIA

Würth Bulgarien EOOD
Mladost 4
Business Park Sofia 1
1715 Sofia
☎ +359 2 965 99 55
☎ +359 2 965 99 66
e-Mail: office@wuerth.bg
<http://www.wuerth.bg>

CROATIA

Würth-Hrvatska d.o.o.
Franje Lucica 23/III
10000 Zagreb
CROATIA
☎ +385 1 349 87 84
☎ +385 1 349 87 83
e-Mail:
wurth.hrvatska@wuerth.com.hr
<http://www.wuerth.com.hr>

CYPRUS

Würth Cyprus Ltd.
4, Vitona Str.
2033 Strovolos Industrial Estate
2083 Lefkosia
☎ +357 22 512 086
☎ +357 22 512 091
e-Mail: wuerthcy@cytanet.com.cy

CZECH REPUBLIC

Würth, spol. s r.o.
Prumyslová zóna
Neprevázka 137
29301 Mladá Boleslav
☎ +420 326 345 111
☎ +420 326 345 119
e-Mail: info@wuerth.cz
<http://www.wuerth.cz>

DENMARK

Würth Danmark A/S
Montagevej 6
DK-6000 Kolding
☎ +45 79 323 232
☎ +45 79 323 242
e-Mail: mail@wuerth.dk
<http://www.wuerth.dk>

FRANCE

Würth France SA
Z.I. Ouest
Rue Georges Besse - BP 13
67158 Erstein Cedex
☎ +33 3 88 645 300
☎ +33 3 88 64 60 94
<http://www.wurth.fr>

Assistance technique WOW!

☎ +33 3 88 64 54 42
du lundi au vendredi
de 8h00 à 12h00 et
de 13h30 à 17h00

GREAT BRITAIN

Würth U.K. Ltd.
1 Centurion Way
Erith
Kent DA 18 4 AE
☎ +44 208 319 60 00
☎ +44 208 319 64 00
e-Mail: info@wurth.co.uk
<http://www.wurth.co.uk>

GREECE

Würth Hellas S.A.
23rd Klm. National Road
Athens-Lamia
145 68 Krioneri
☎ +30 210 6 290 800
☎ +30 210 8 161 691
e-Mail: info@wurth.gr
<http://www.wurth.gr>

HUNGARY

Würth Szereléstechnika KFT
Gyár utca 2
2040 Budaörs
☎ +36 23 418 130
☎ +36 23 421 777
e-Mail: wuerth@wuerth.hu
<http://www.wuerth.hu>

IRELAND

Würth Ireland Ltd.
Monacloine Industrial Estate
Ballysimon Road
Limerick
☎ +353 61 430 200
☎ +353 61 412 428
e-Mail: cs@wuerth.ie
<http://www.wuerth.ie>

ISRAEL

Würth Israel Ltd.
Hatothen 2
Zone 34
Caesarea Industrial Park
P.O. Box 3585
☎ +972 4 632 88 00
☎ +972 4 627 09 99
e-Mail: wurth@wurth.co.il
<http://www.wurth.co.il>

ITALY

Würth S.r.l.
Bahnhofstraße 51
39044 Neumarkt (BZ)
☎ +39 0471 828 111
☎ +39 0471 828 600
e-Mail: vendite@wuerth.it
<http://www.wuerth.it>

Assistenza WOW!

☎ +39 0471 827 789

MACEDONIA

Wuerth - Macedonia d.o.o.e.l.
ul. Prvomajska b.b.
1000 Skopje
☎ +389 2 272 80 80
☎ +389 2 272 88 72
e-Mail: contact@wurth.com.mk
<http://www.wurth.com.mk>

NETHERLANDS

Würth Nederland B.V.
Het Sterrenbeeld 35
5215 MK 's-Hertogenbosch
Postbus 344
5201 AH 's-Hertogenbosch
☎ +31 73 6 291 911
☎ +31 73 6 291 922
e-Mail: info@wurth.nl
<http://www.wurth.nl>

NORWAY

Würth Norge AS
Morteveien 12,
Gjellerasen Naeringspark
1481 Hagan
☎ +47 464 01 500
☎ +47 464 01 501
e-Mail: kontakt@wuerth.no
<http://www.wuerth.no>

POLAND

Würth Polska Sp. z o.o.
u. Plochocinska 33
03-044 Warszawa
☎ +48 22 5 102 000
☎ +48 22 5 102 001
e-Mail: biuro@wurth.pl
<http://www.wurth.pl>

PORTUGAL

Würth Técnica de Montagem
Lda.
Estrada Nacional, 249-4
Abrunheira
2710-089 Sintra
PORTUGAL
☎ +351 219 157 200
☎ +351 219 151 331
E-Mail: info@wurth.pt
<http://www.wurth.pt>

SERBIA

Würth d.o.o.
Pancevacki put 38
11210 Krnjaca - Beograd
☎ +381 11 2 078 200
☎ +381 11 2 078 225
e-Mail: office@wurth.co.yu
<http://www.wurth.co.yu>

SLOVAKIA

Würth s.r.o.
Pribylinská ul. c. 2
83255 Bratislava 3
☎ +421 2 49 201 211
☎ +421 2 49 201 299
e-Mail: wurth@wurth.sk
<http://www.wurth.sk>

SWITZERLAND

Würth AG
Dornwydenweg 11
4144 Arlesheim
☎ +41 61 705 91 11
☎ +41 61 705 94 94
e-Mail: info@wuerth-ag.ch
<http://www.wuerth-ag.ch>

SOUTH AFRICA

Wuerth South Africa (Pty.) Ltd.
P.O. Box 616
Isando 1600
Johannesburg
☎ +27 11 281 1000
☎ +27 11 974 6169
e-Mail: wurthsa@wurth.co.za
<http://www.wurth.co.za>

TURKEY

Würth Sanayi Ürünleri Tic. Ltd.
Sti.
Eski Silivri Caddesi No. 46
34535 Mimarşinan
Büyükcemece
☎ +90 212 866 6200
☎ +90 212 866 84 85
e-Mail: info@wurth.com.tr
<http://www.wurth.com.tr>