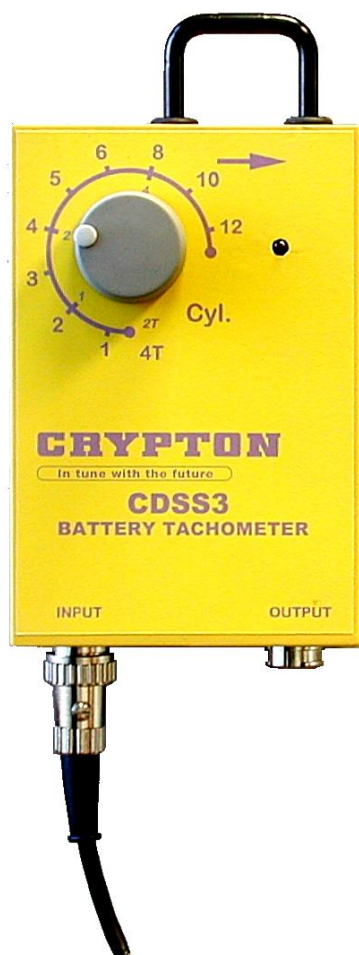


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In tune with the future



CDSS3 BATTERY TACHOMETER

Operating Instructions

TES 1402/C
Feb 2006

IMPORTANT

Every reasonable effort has been made to ensure that information within these Operating Instructions is correct at the time of release, but Crypton cannot accept responsibility for any errors that may occur.

The information in these Operating Instructions is subject to change without notice, and does not represent a commitment on the part of Crypton.

Service & Warranty

The reliability of this equipment is fully supported by our service agent, Transervice, with repair workshops and field service engineers to provide a full range of After-Sales Care, including installation, contract maintenance, factory overhaul and emergency repairs on site. Please refer to the page at the end of this manual for full details.

Note:

Your attention is drawn to our Terms & Conditions of Sale, particularly paragraph 2. If a service engineer is called out under service warranty where, upon inspection and test the equipment is found to be in full working order and no fault found, the user is liable to be charged the cost incurred for this call out. Before calling out an engineer, ensure your equipment is faulty by checking its operation, particularly mains supply and fault codes/self test if applicable.

WARNING:

Do not attempt to operate this equipment unless you have read and understood these instructions.

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Safety

- ! Always follow the vehicle manufacturer's instructions when holding the cut off speed of Diesel engines
- ! When connecting the tachometer, be careful to avoid rotating or hot components (e.g. fan, exhaust manifold)
- ! When connecting to the battery take care to avoid shorting the positive terminal to any parts which may be at ground potential (i.e. metalwork).
- ! Unless authorised, do not remove or make any alteration to any part of the supplied equipment. Contact the supplier
- ! Do not use the battery tachometer for any other purpose than for which it is intended
- ! Keep this users manual in an easily accessible place

Introduction

The CDSS3 derives engine speed by monitoring the alternator ripple voltage across the battery. When the alternator is charging, the ripple frequency varies slightly or modulates in proportion to the engine speed.

The unit uses this frequency modulation to derive an engine speed signal that is used to drive the inductive clamp currently fitted on Crypton gas analysers and has a signal output that can drive Dieseltune smokemeters DX230 and DX250.

Important Notes:

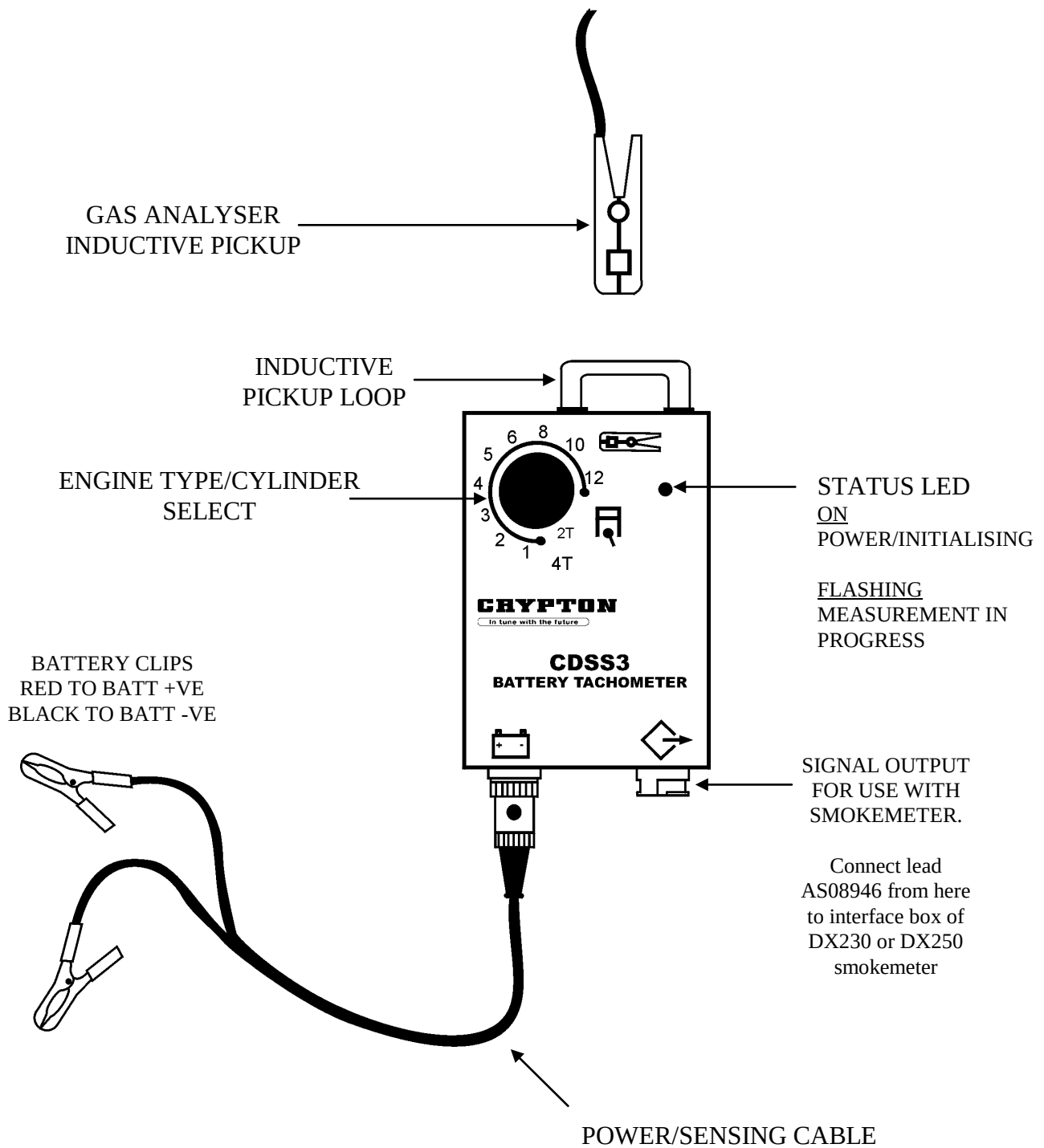
The CDSS3 is designed for use with petrol and diesel emission procedures only. The engine speed signal is not derived from Cylinder number 1 and therefore **MUST NOT** be used for Timing purposes as in the Crypton IETD and STS engine test programs – the speed will read correctly but the timing will be wrong.

The CDSS3 produces a signal equivalent to a conventional ignition system (i.e. one pulse per engine cycle). When defining the ignition system on the host analyser, it is therefore imperative that a conventional distributor system is selected, irrespective of that fitted to the vehicle. Selecting DIS for example will result in the readings being divided by 2.

List of Contents

- 1 x CDSS3
- 1 x Power/Sensing cable
- 1 x Operating Instructions
- 1 x Storage Case

Connections



Fitting

The CDSS3 is supplied with a magnetic tile affixed to the back, so fitting is simply a case of attaching the unit to a suitable flat metallic surface, such as the top of the host analyser. When used with DX230 or DX250 smokemeters, connect lead AS08946 from signal output to Tacho input of smokemeter interface box. When used with gas analyser, connect the inductive clip of analyser to the trigger loop on CDSS3.

Operation

Attach the crocodile clips on CDSS3 power/sensing cable to battery terminals, ensuring that the polarity is correct.

Use the selector knob to set engine type and number of cylinders.

Example: For a four cylinder four stroke engine, the selector should be set to 4 on the 4T scale. For a vehicle fitted with a Distributorless Ignition System (DIS) the setting will be the same.

Start engine, switch on vehicle lights and allow to idle.

The unit will search for a steady speed each time it is powered up, if the engine speed falls or the engine type is changed. This is the initialisation period and may last up to 17 seconds. During this time, the status LED will flash slowly and the rpm will read zero.

Once the speed has been detected, readings will appear on the host analyser. The CDSS3 updates 10 readings per second.

Note: On some vehicles readings may be unstable or inaccurate. To minimise the risk of this:-

Ensure that the vehicle headlights are switched on.

Keep the engine speed stable during the initialisation time <17Sec.

If, after initialisation the speed is stable but reading double, change the cylinder setting until the correct value appears.

Technical Data

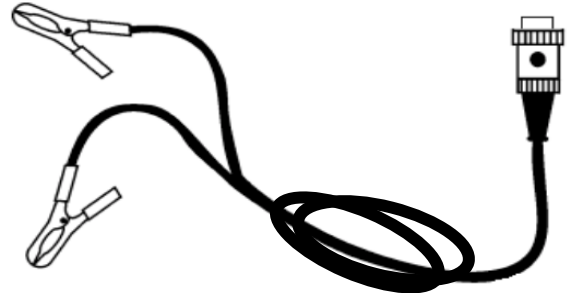
Engine type	4-stroke Diesel and petrol
Measurement range	400 – 9999 rpm
Accuracy	± 20 rpm below 2000 rpm. $\pm 2\%$ above 2000 rpm
Response	<1 Second
Initialisation	≤ 17 Seconds
Power supply	9 - 15V dc <0.5A Reverse Polarity Protection
Operating temperature	0 to +45°C
Humidity	<90% non - condensing
Dimensions	144 x 98 x 40mm
Weight	385g

Spares and After Sales Service

Spare parts and service are available through our service agent. Initial contact should be made via the Crypton Product Support Helpline on 01278 436225. All spare parts purchases are subject to minimum order values.

Spares Parts

Power/Sensing cable **CABL3016**

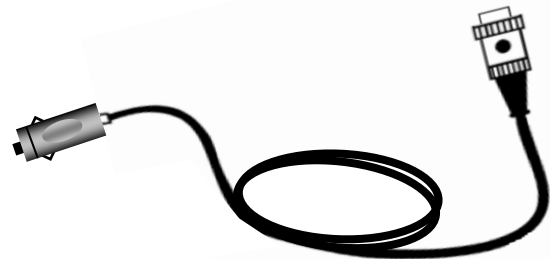


Signal cable to DX230/DX250 smokemeters **AS08946**

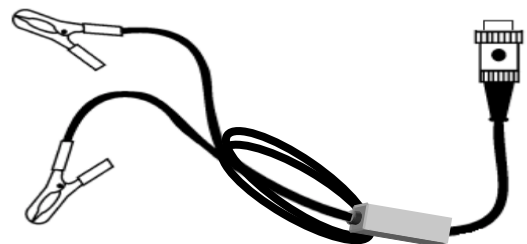


Optional Parts

Power/Sensing cable **CABL3023**
(for connection to vehicle accessory socket)



24V Power/Sensing cable **ELMU0220**
(for connection to 24v vehicle battery)



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Crypton Technology Business Park, Bristol Road, Bridgwater,
Somerset TA6 4BX

Tel: +44 (0) 1278 436200 Fax: +44 (0) 1278 450567 Email:

sales@CryptonTechnology.com

Website: www.cryptontechnology.com