

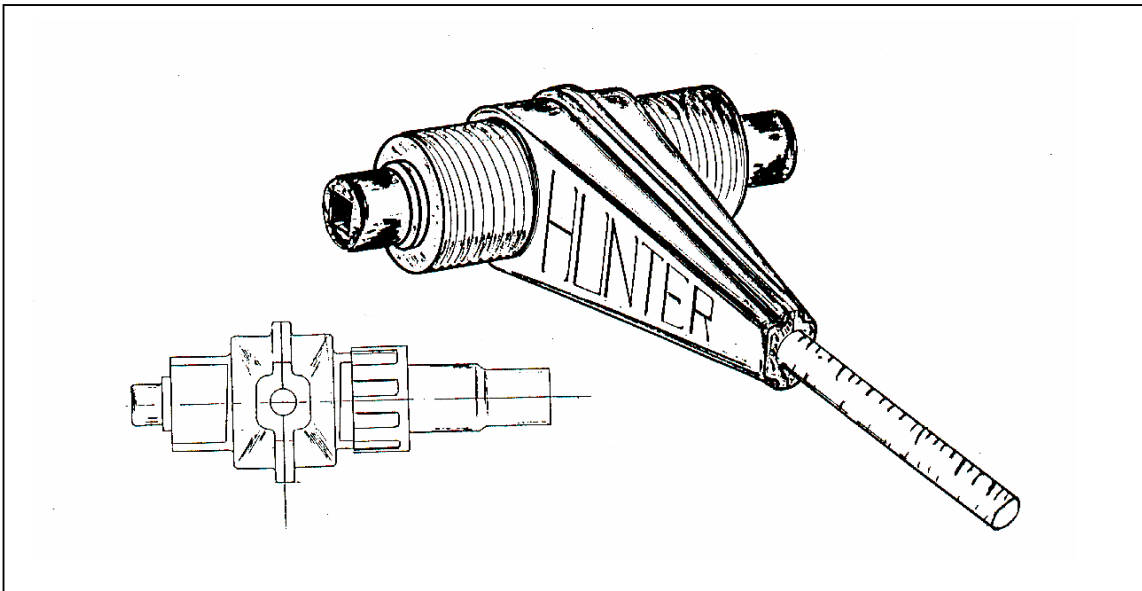
# INDEX

		<u>Pages</u>
Transducer types:	line drawings characteristics	1 to 17
Fitting of Universal transducer		1(a)
Installation notes:	extension cables	18
Leyland/LDV/Sherpa:	transducer type	19
In-field testing of Hunter transducer		20
Vehicle Application List		
Standard Terms and Conditions of Trading		
Warranty		

**NOTE: The information contained in this catalogue is based on our experience to date and is believed to be reliable. It is intended as a guide for use by persons having technical skill, at their own discretion and risk.**

(for information on full range of interfaces, refer to Interface catalogue)

## UNIVERSAL TRANSDUCER



When involved in fitting retrofit on-board electronic equipment to vehicles, a problem arises in that the correct transducer is not always available in stock. The Hunter Universal transducer, supplied with end fitting kit, overcomes this problem. It can be used when speedo or gearbox fitting of custom-made transducers is not possible.

With one crimping tool the whole job can be completed with the speedo cable in situ by semi-skilled labour. The transducer will accommodate both commonly used size inner drive cables and the different size outer cables.

**PLEASE NOTE: THE FITTING OF THE UNIVERSAL TRANSDUCER CAN ONLY BE INSTALLED CORRECTLY BY USING OUR CP101 CRIMPING PLIERS, SPECIFICALLY DESIGNED FOR THIS PURPOSE. USE OF OTHER CRIMPING TOOLS WILL INEVITABLY MEAN THAT AN UNSATISFACTORY PERFORMANCE WILL BE ACHIEVED.**

### **BENEFITS**

- Save valuable labour time.
- Cut down stock inventory.
- Able to give instant service.
- Self lubricated.
- Cable entry clamped and sealed against water ingress.
- Lightweight, no supporting brackets required.

**s a i l e s  
m a r k e t i n g l t d.**

15 Aintree Road, Keytec 7 Business Park, Pershore, Worcs WR10 2JN

Tel: 01386 554210 Fax: 01386 552461

e-mail: [sales@salesmarketing.com](mailto:sales@salesmarketing.com)

website: [www.salesmarketing.com](http://www.salesmarketing.com)

## **SPECIFICATION**

The Hunter transducers offer equipment manufacturers and retrofit workshops a highly reliable transducer with excellent mark space ratio at a competitive price.

### **Operating Parameters**

Supply voltage:	+5V to +18VDC
Typical supply current:	6mA at +5V
Temperature range:	-40°C to +120°C
Square wave output	
Signal output:	Max sink 10mA (excess will cause damage)

### **Mechanical Details**

- Robust construction.
- Designed to operate in-line with commonly used automotive speedo cables.
- Provision for lock wire sealing can be made if required, for volume orders.
- Standard length of cable 2 metres (see Options).

### **Installation Notes**

It is recommended that the transducer is powered from the equipment to which the output is destined. This overcomes the problems caused by spikes and surges on normal automotive supply lines. All transducers are normally fitted with a 4.7k pull-up resistor enabling the output to be interfaced with all standard logic circuits.

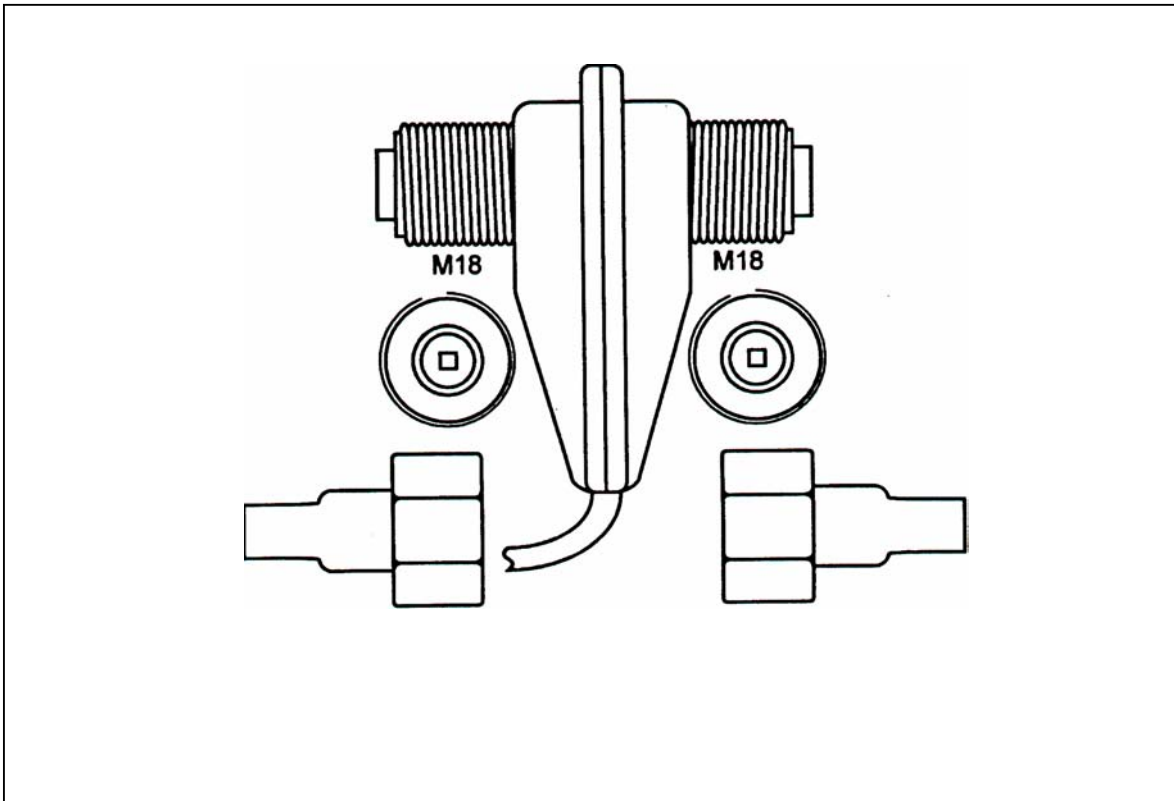
### **Cable Colour Code**

Brown	:	+VE supply
Blue	:	-VE supply
Green/Yellow	:	Square wave output

### **Options (when ordering)**

Alternative cable length    Connector on cable end    No pull up resistor

The standard transducer is supplied with 4 pulses per revolution  
Alternatives are 1 pulse and 8 pulse



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	Universal
4	12V/24V	2m	Universal
8	12V/24V	2m	Universal

**TWIN OUTPUT**

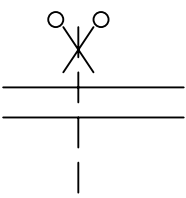
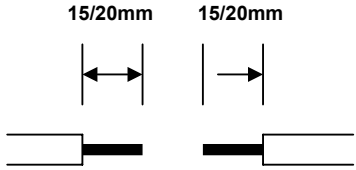
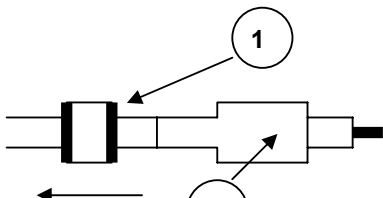
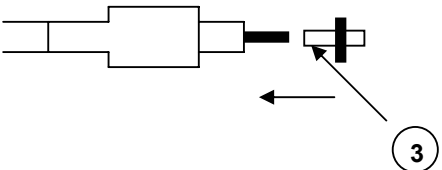
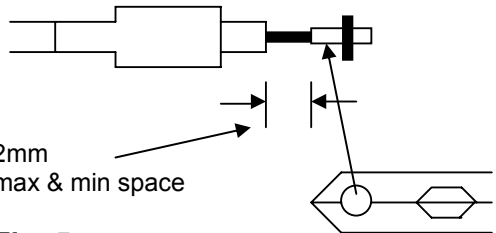
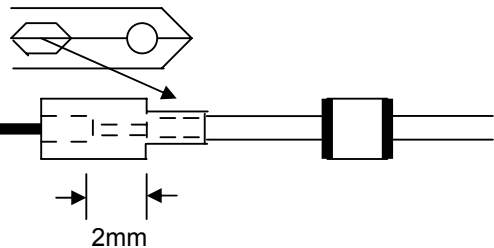
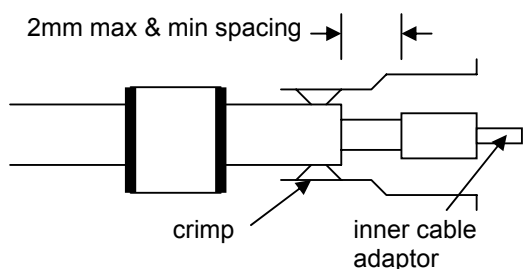
Pulses	Supply voltage	Cable length	Transducer type
8	12V	5m	Universal

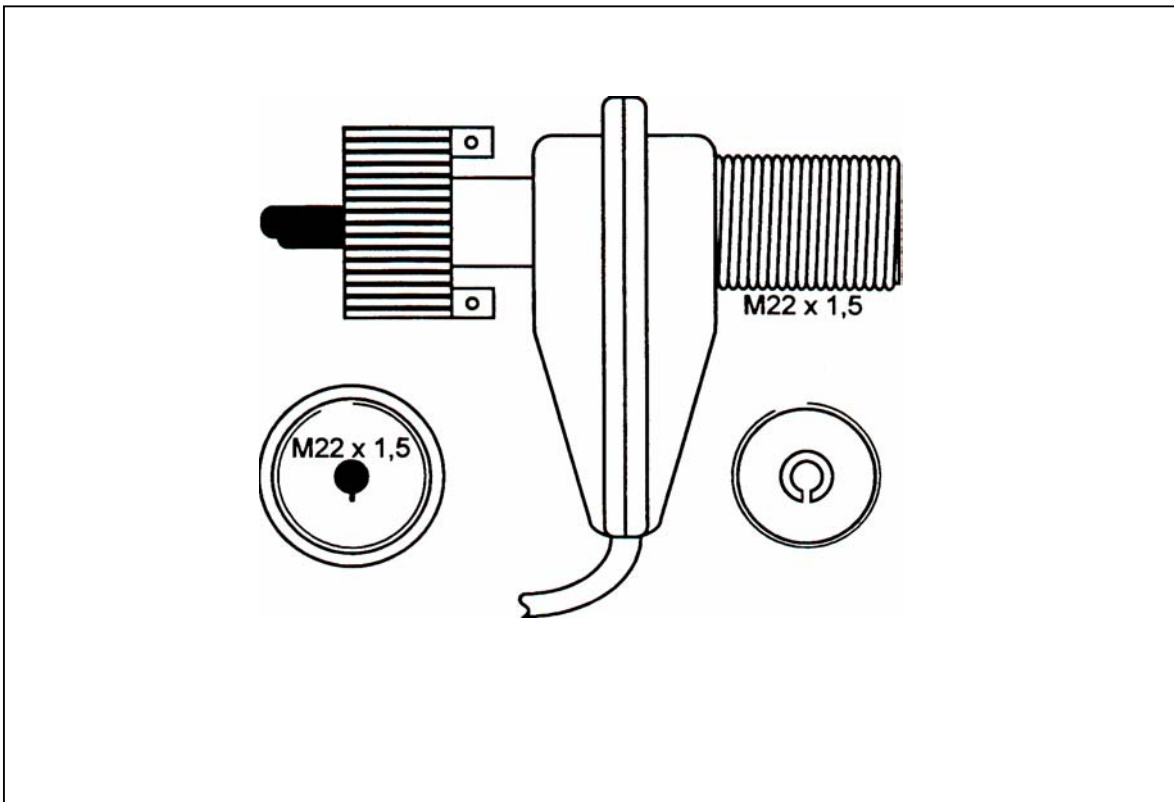
**Please specify at time of ordering :**

**1, 4 or 8 pulses  
12V or 24V**

The Hunter universal transducer offers equipment manufacturers and retrofit workshops a highly reliable rotary transducer with excellent mark space ratio and at a competitive price.

## INSTALLATION

 <p><b>Fig. 1</b></p>	 <p><b>Fig. 2</b></p>	 <p><b>Fig. 3</b></p>
<p>Select suitable position on speedo cable in engine bay. Cut through both inner and outer cables using a fine tooth hacksaw (32 teeth/inch) is recommended).</p>	<p>Cut back outer cable 15mm from the cut ends, leaving inner cable showing. Ensure that inner cable is not withdrawn from its location at speedo head and gearbox, otherwise it could be cut too short.</p>	<p>Slide unit (1) and sleeve (2) over the outer cable away from the cut ends.</p>
 <p><b>Fig. 4</b></p>	 <p><b>Fig. 5</b></p>	
<p>Slide the drive pin (3) over the inner cable.</p>	<p>Crimp the unit on to the inner speedo cable using the small crimping head on the crimping pliers.</p>	
 <p><b>Fig. 6</b></p>	 <p><b>Fig. 7</b></p>	
<p>Slide sleeve forward until it sits 2mm away from the outer cable. Crimp on to outer cable using large slot on pliers.</p>	<p>It is essential when crimping the ferrule to the outer cable that there is a space between the rear face of the brass drive pin and the cut end of the outer cable. The cross section above shows the correct fitting when the nut is tightened on the transducer. <b>Note:</b> any rubbing of the rear face of the adaptor and the cut end of the outer cable will cause speedo flickering and eventually inner cable failure.</p>	



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m/5m	61H
4	12V/24V	2m/5m	61H
8	12V/24V	2m/5m	61H

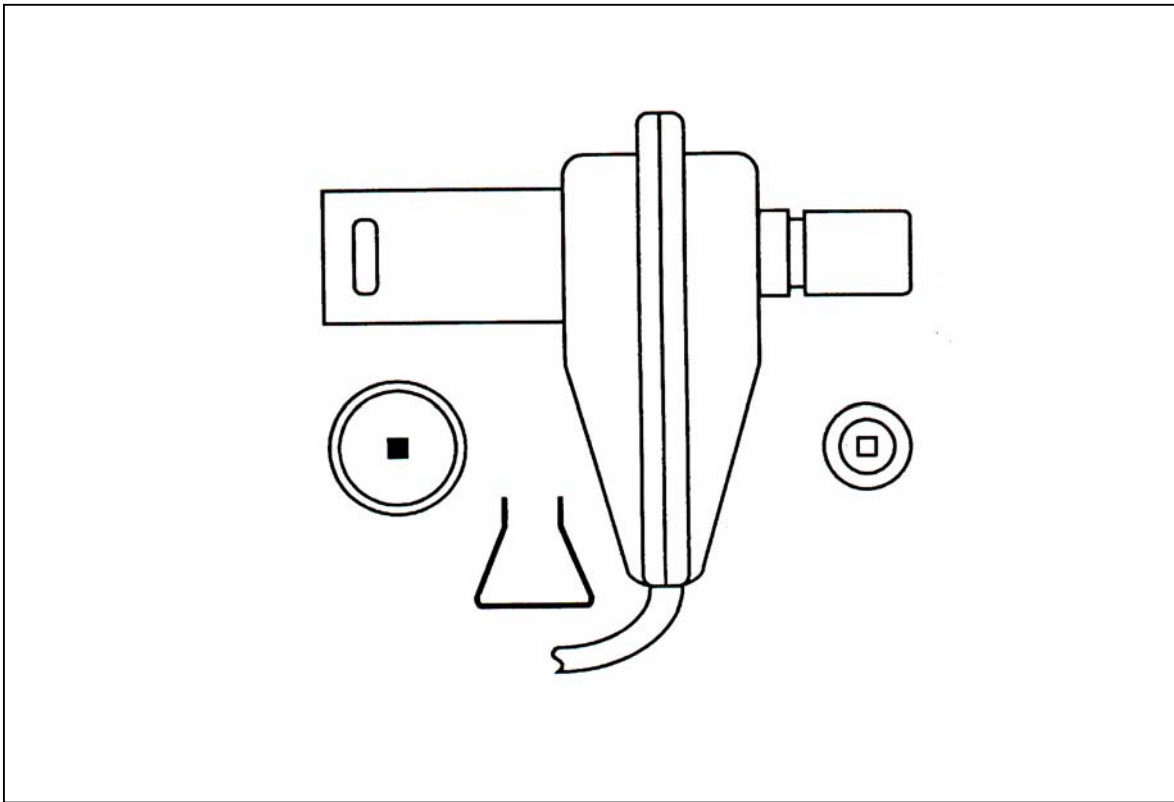
**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	3.5m	61H
8	12V	5m	61H

If required for a Proton, a 10mm washer is fitted between the adaptor and 61H free wheeling nut, the transducer type is 61H(P).

Please specify at time of ordering :

- 1, 4 or 8 pulses
- 12V or 24V
- Cable length required



**STANDARD**

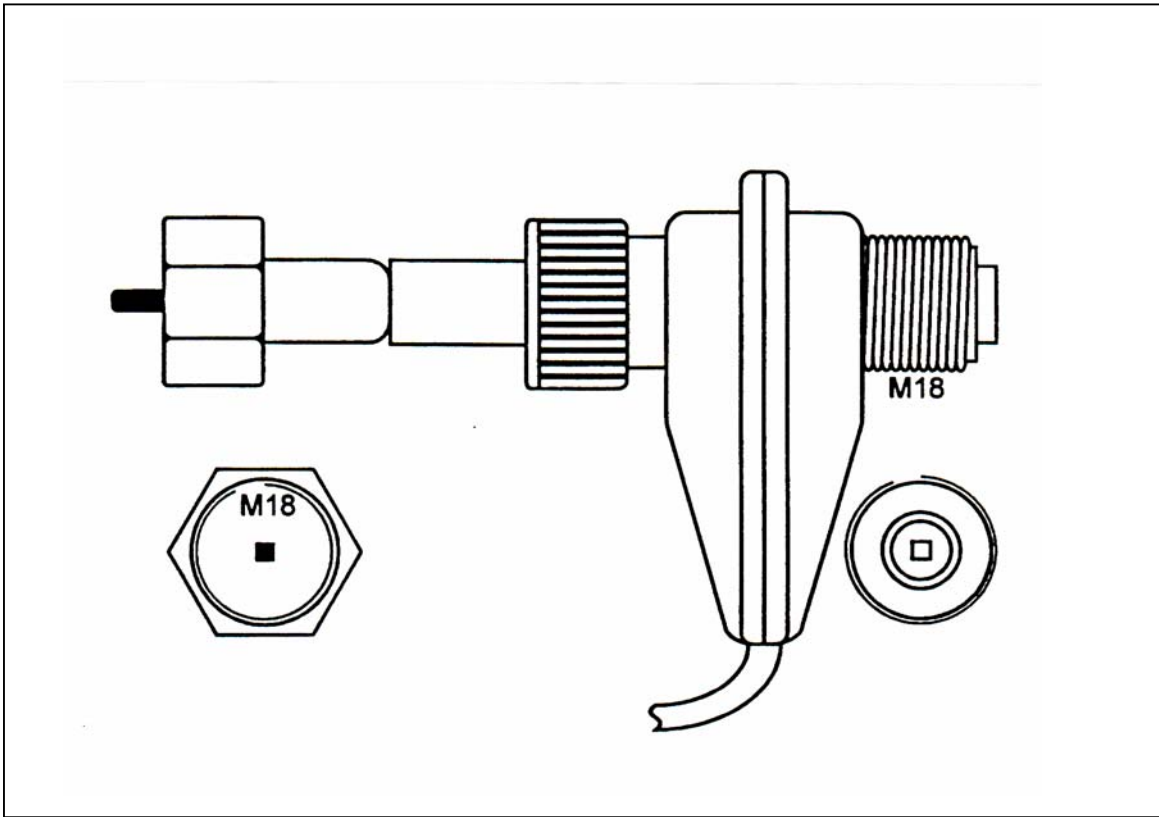
Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	62H
4	12V/24V	2m	62H
8	12V/24V	2m	62H

**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	62H

**Please specify at time of ordering :**

**1, 4 or 8 pulses  
12V or 24V**



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	65H
4	12V/24V	2m	65H
8	12V/24V	2m	65H

**TWIN OUTPUT**

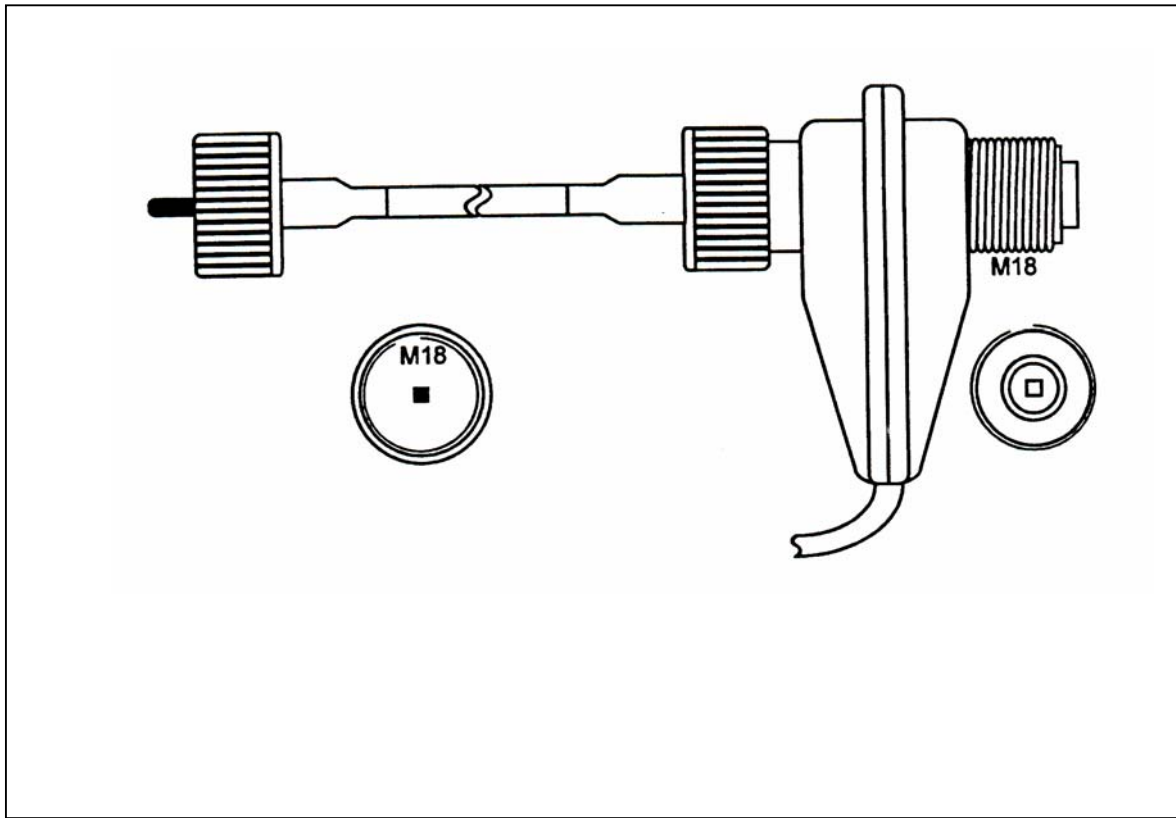
Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	65H

The 65H transducer is supplied with a short protruding drive pin to suit Vauxhall, etc, applications. However, if the application is for a Ford vehicle, requiring a longer pin, transfer the pin and twin nut adaptor to the other side of the transducer.

Please specify at time of ordering :

1, 4 or 8 pulses  
12V or 24V





**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	65HC
4	12V/24V	2m	65HC
8	12V/24V	2m	65HC

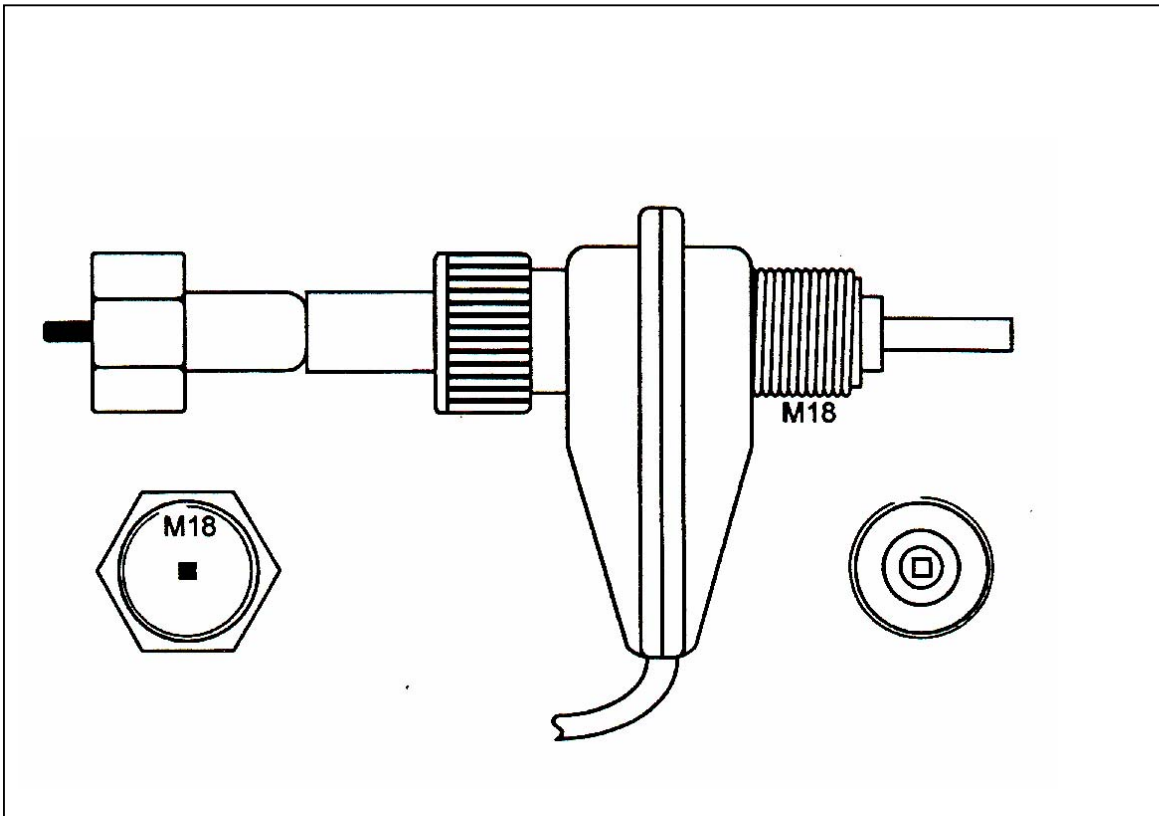
**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	65HC

Supplied with 6" extension cable

Please specify at time of ordering :

1, 4 or 8 pulses  
12V or 24V



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	66H
4	12V/24V	2m	66H
8	12V/24V	2m	66H

**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	66H
8	12V	5m	66H

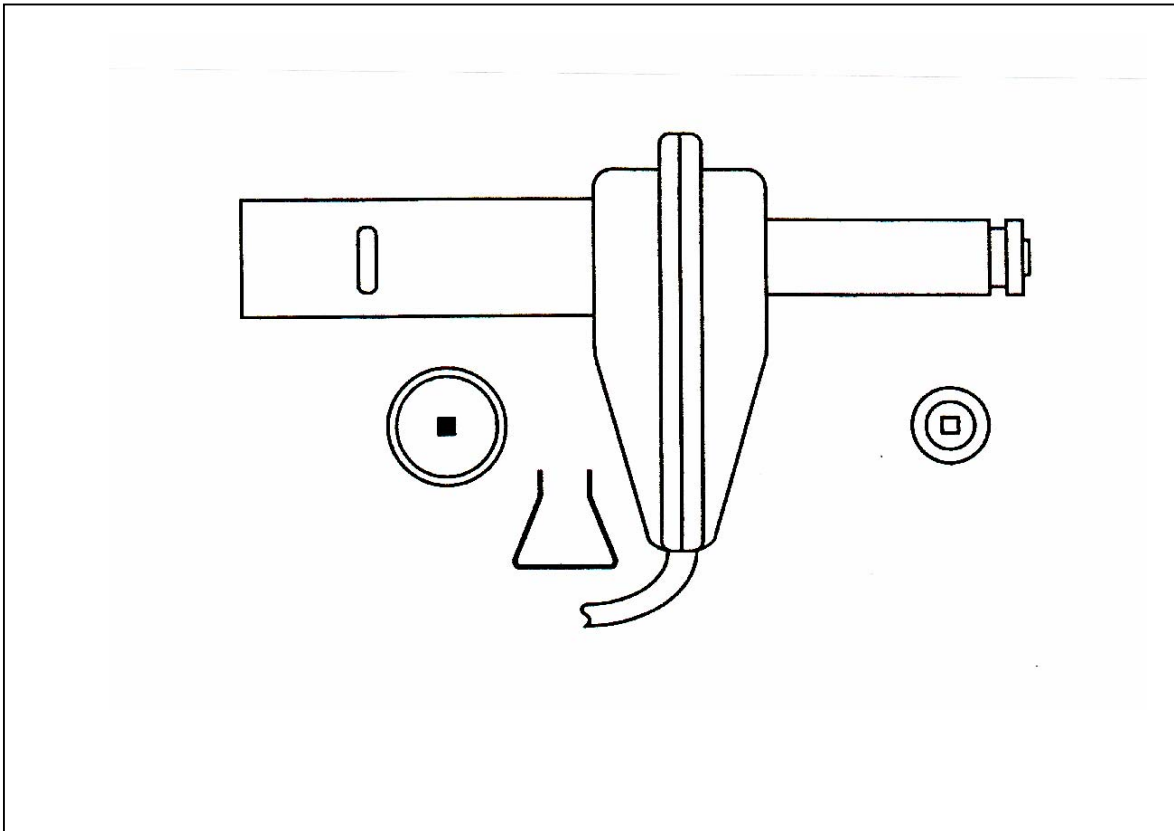
If required for Mercedes speedo head, a longer adaptor is needed and also an extension cable, the transducer type is 66H(M)C.

Please specify at time of ordering :

1, 4 or 8 pulses

12V or 24V

If twin output, length of cable required



**STANDARD**

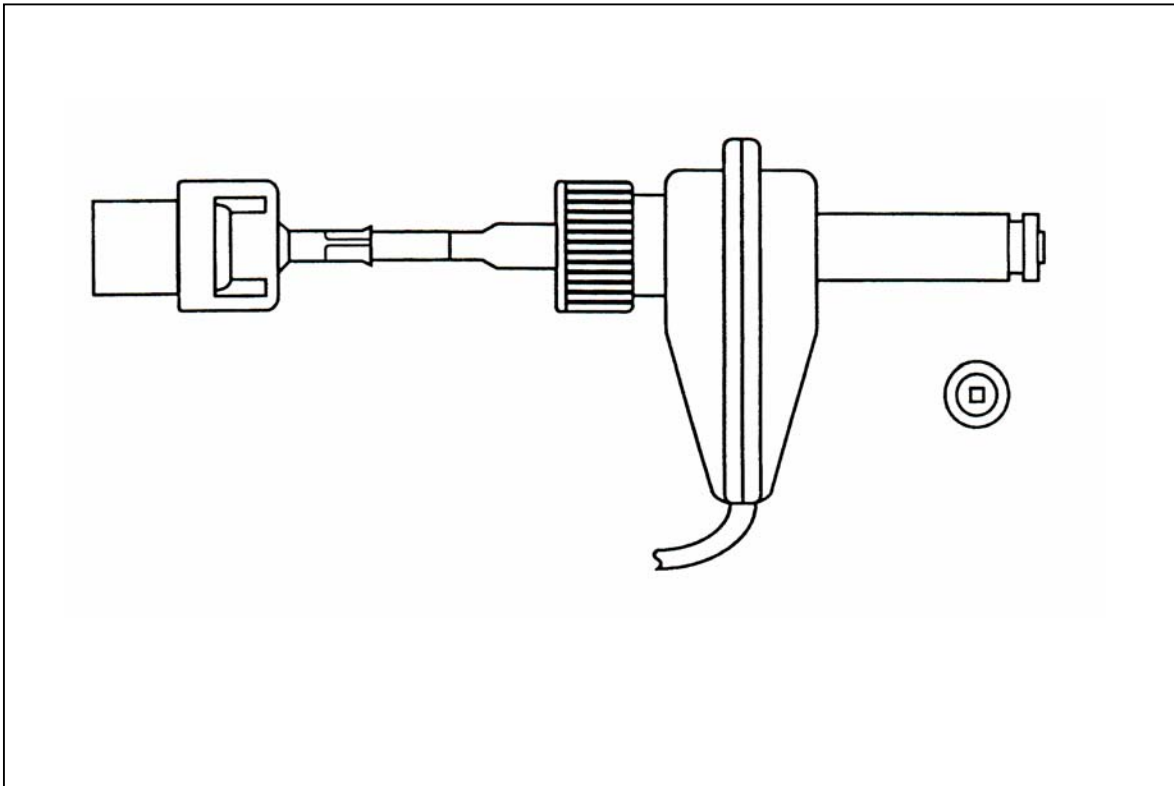
Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	67H
4	12V/24V	2m	67H
8	12V/24V	2m	67H

**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	67H

**Please specify at time of ordering :**

**1, 4 or 8 pulses  
12V or 24V**



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m/5m	67HC
4	12V/24V	2m/5m	67HC
8	12V/24V	2m/5m	67HC

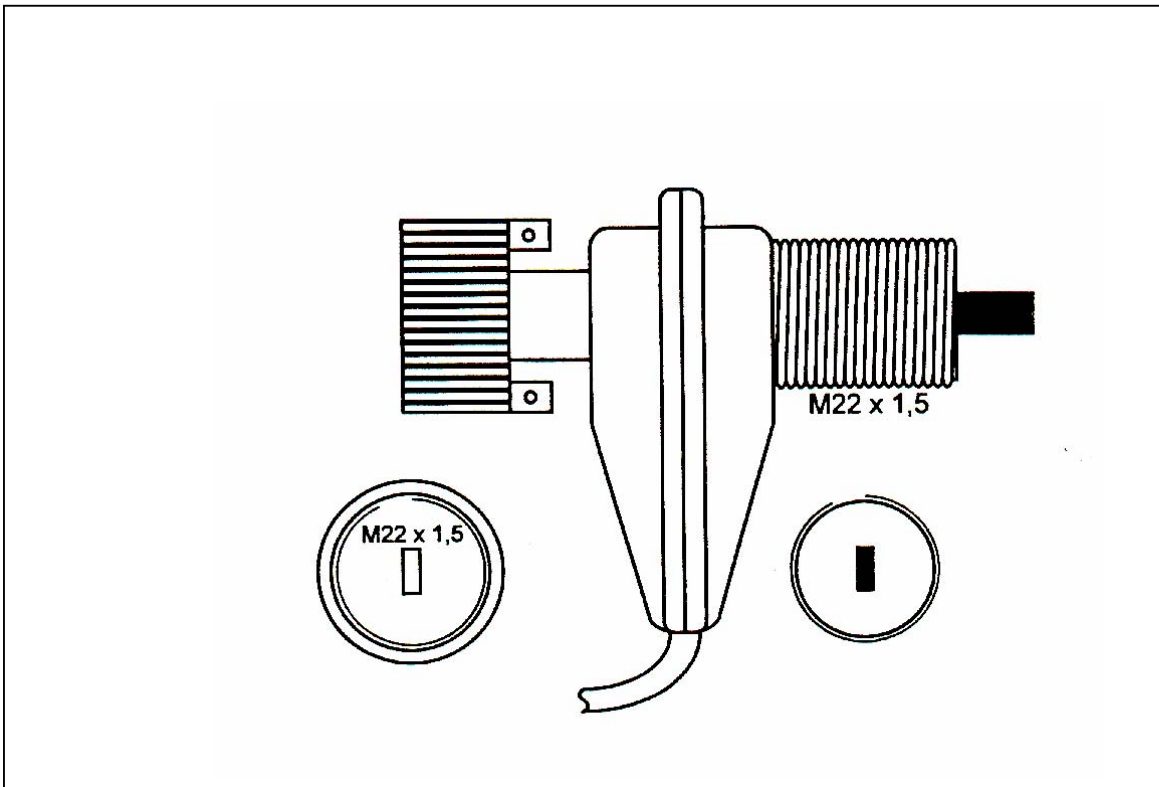
**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	67HC

Supplied with 3.5" extension cable  
 If required for Landrover Discovery, a 6" cable is needed and  
 transducer type is 67HC/6

Please specify at time of ordering :

1, 4 or 8 pulses  
 12V or 24V



**STANDARD**

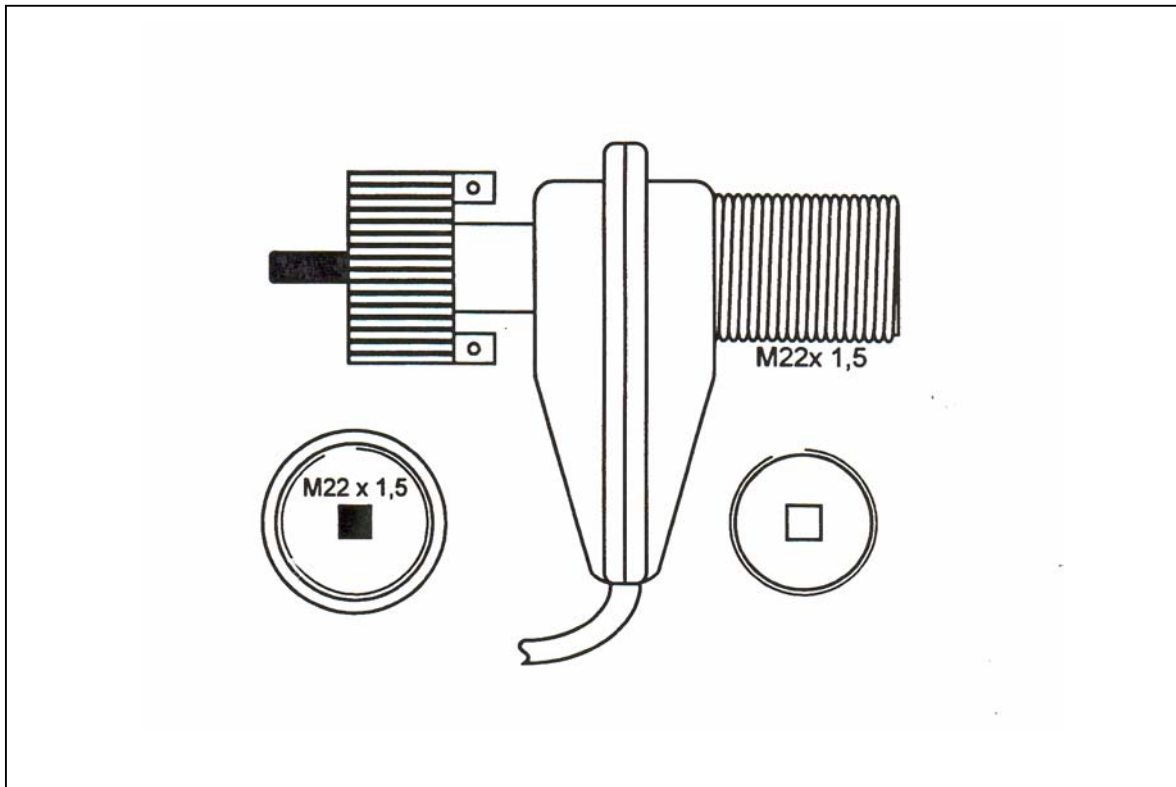
Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m/5m	68H
4	12V/24V	2m/5m	68H
8	12V/24V	2m/5m	68H

**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	5m	68H

Please specify at time of ordering :

1, 4 or 8 pulses  
12V or 24V

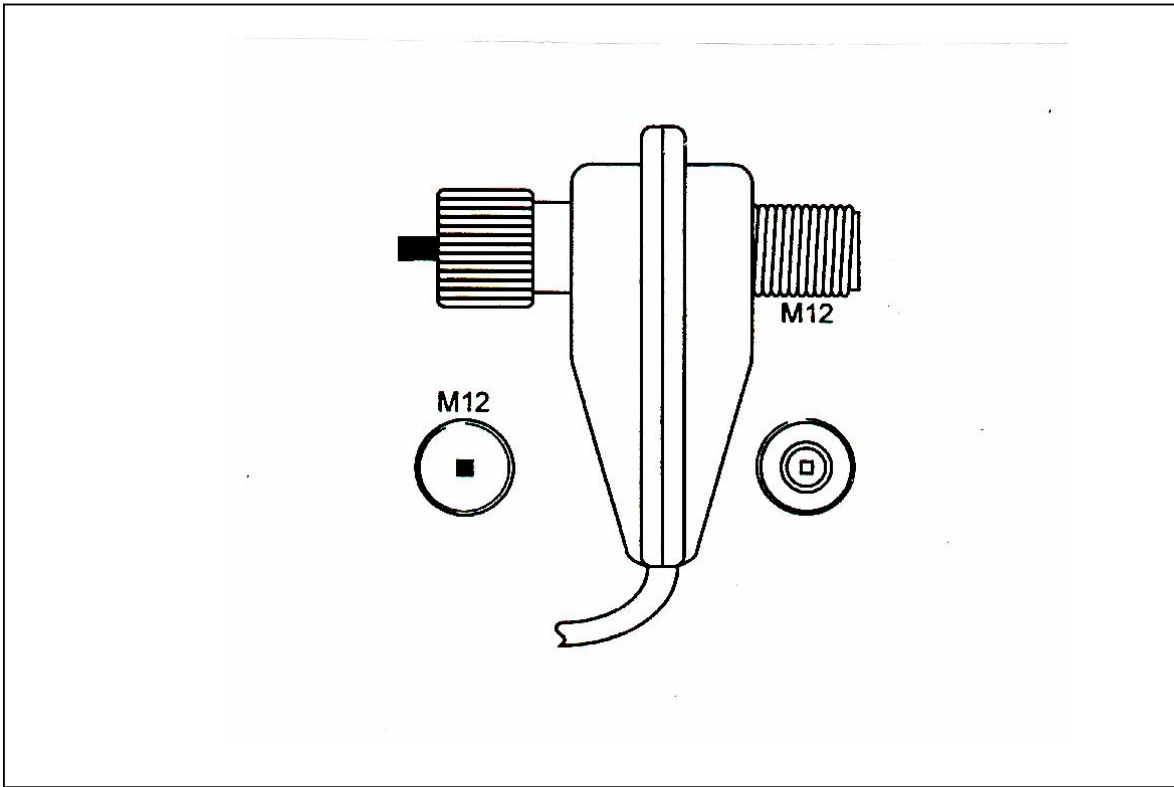


**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V/24V	2m	69H
4	12V/24V	2m	69H
8	12V/24V	2m	69H

**Please specify at time of ordering :**

**1, 4 or 8 pulses  
12V or 24V**



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V	2m	71H
4	12V	2m	71H
8	12V	2m	71H

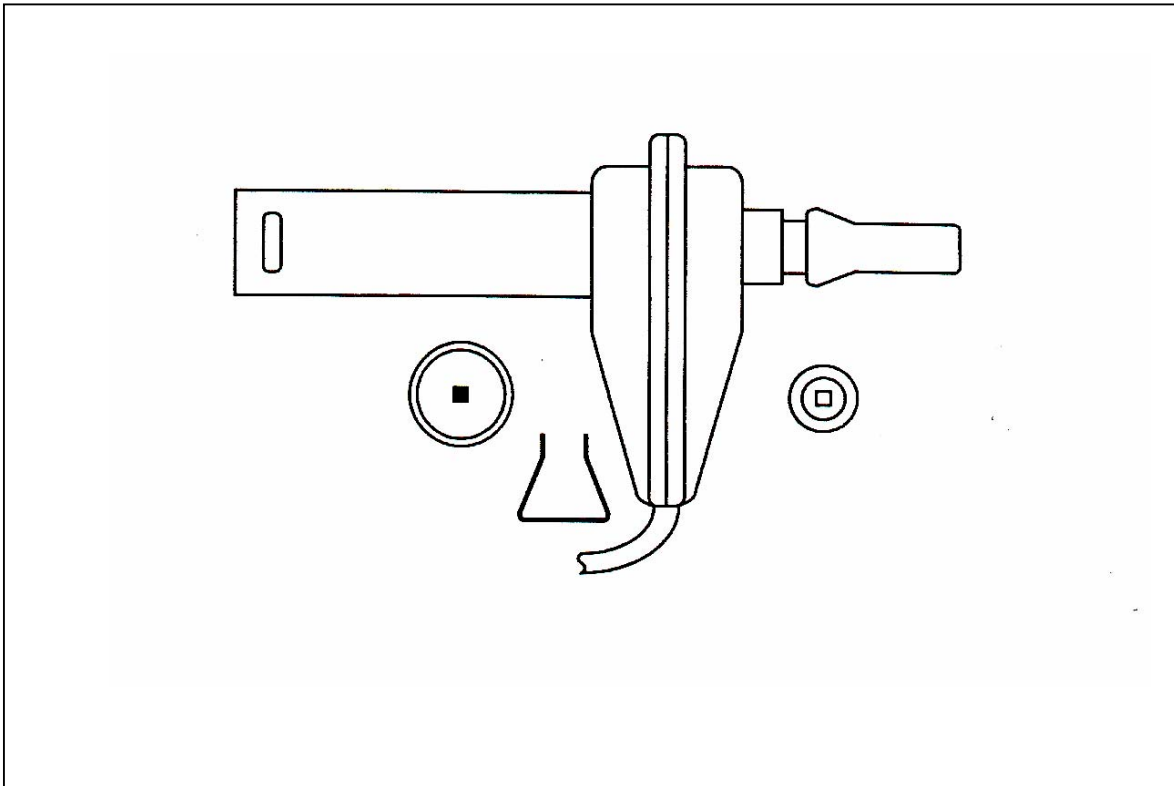
**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	71H

If required for a Honda ST1100 Motorcycle, a 3mm drive pin is needed and the transducer type is 71H3

Please specify at time of ordering :

1, 4 or 8 pulses



**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V	2m/5m	72H4 *
4	12V	2m/5m	72H4 *
8	12V	2m/5m	72H4 *

**TWIN OUTPUT**

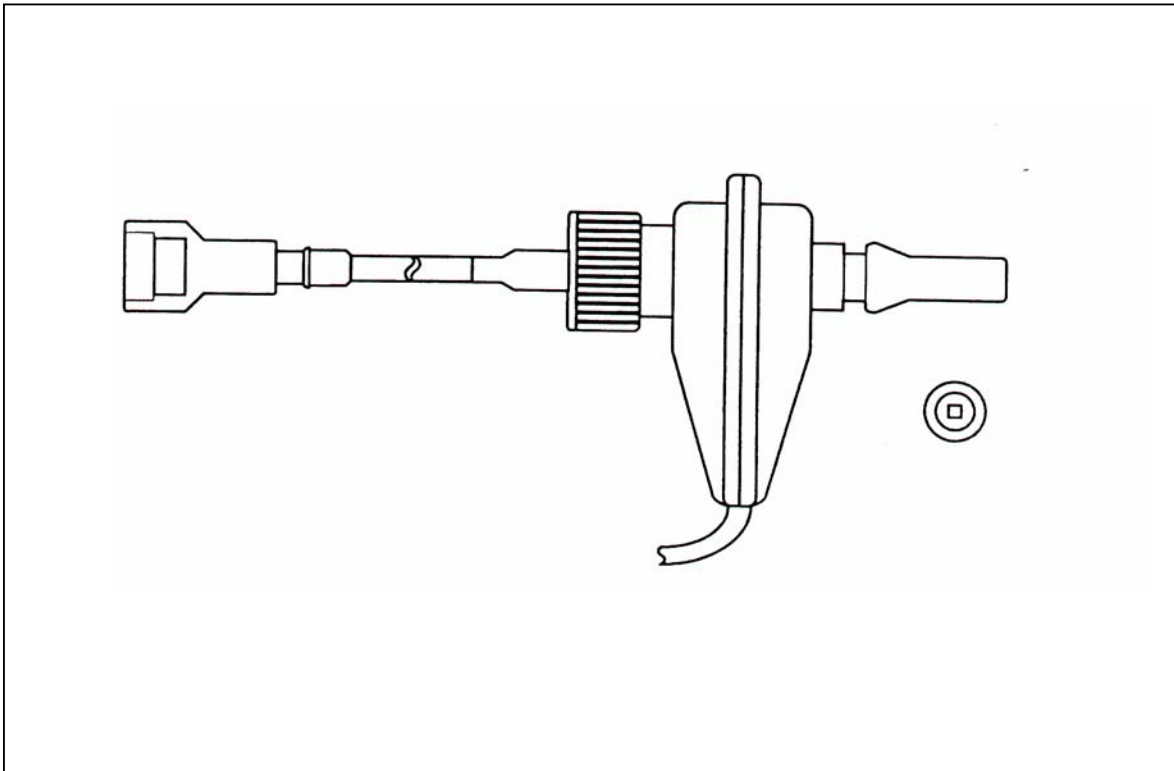
Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	72H4*

\* '4' denotes 4mm drive pin. Can also be supplied with 3mm drive pin, transducer type is 72H3.

Please specify at time of ordering :

1, 4 or 8 pulses  
Length of cable





**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V	2m/5m	72H4C/8
4	12V	2m/5m	72H4C/8
8	12V	2m/5m	72H4C/8

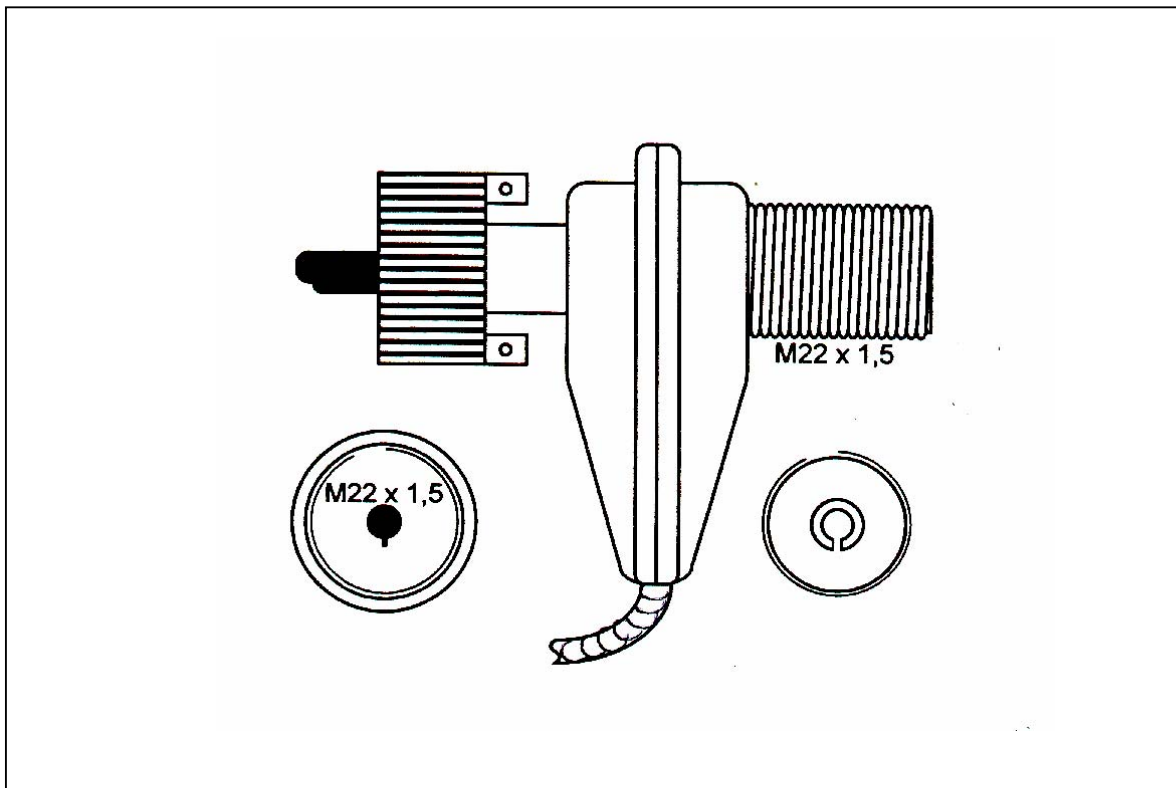
**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	72H4C/8
8	12V	5m	72H4C/8

Supplied as standard with 8” extension cable. Can also be supplied with 12” and 18” extension cables and the transducer types are 72H4C/12 and 72H4C/18. If 3mm drive is required, the transducer types are 72H3C/8, 72H3C/12 and 72H3C/18.

Please specify at time of ordering :

1, 4 or 8 pulses  
Length of cable



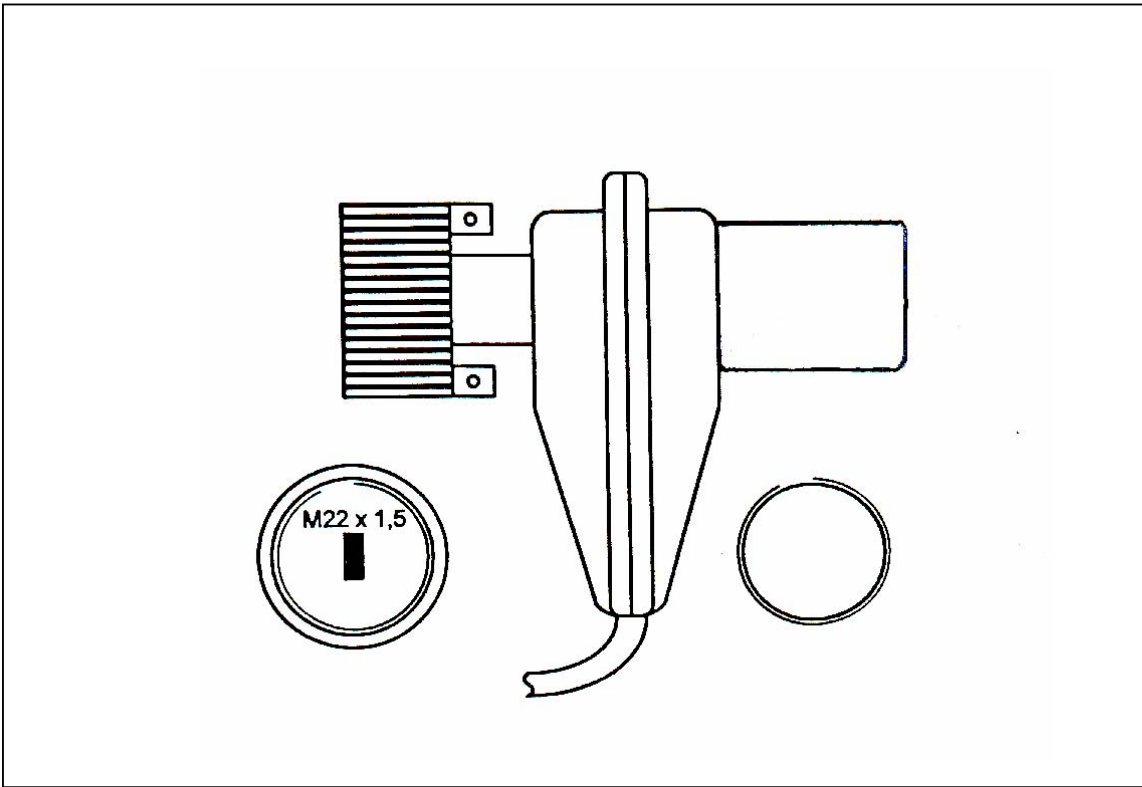
**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V	2m	75H
4	12V	2m	75H
8	12V	2m	75H

**Supplied with armoured cable**

**Please specify at time of ordering :**

**1, 4 or 8 pulses**

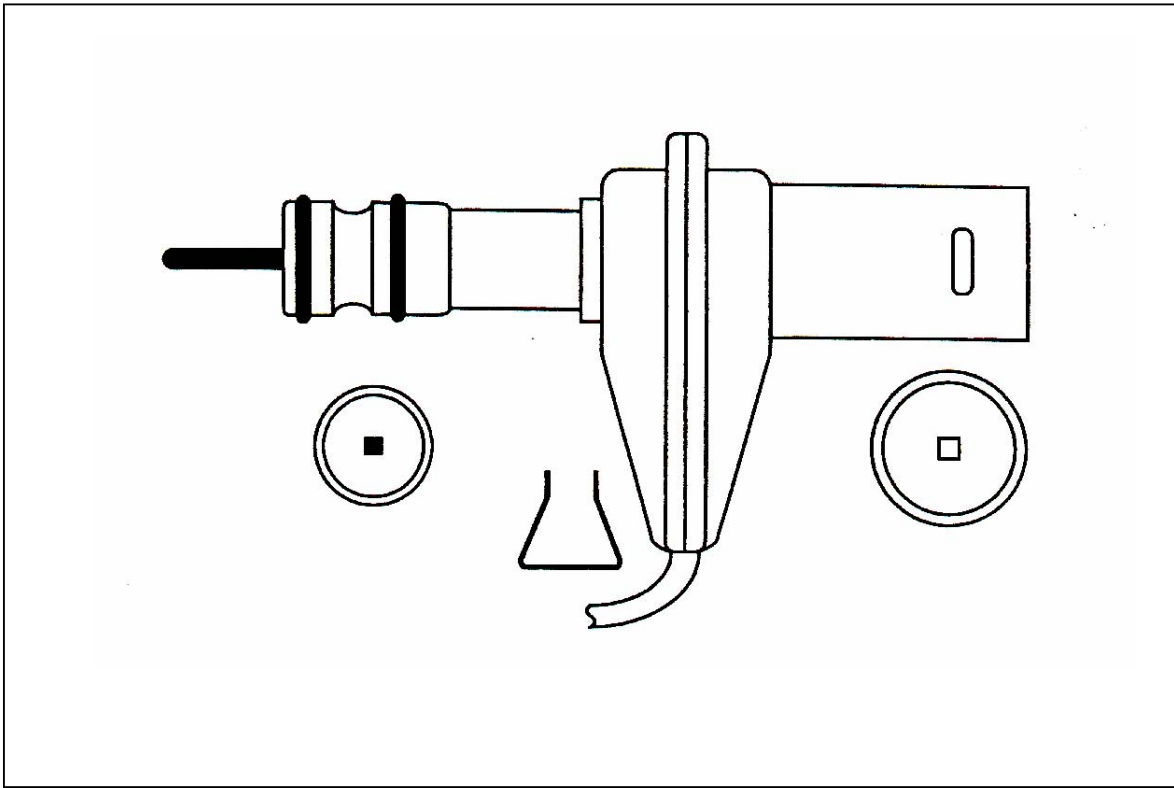


**STANDARD**

Pulses	Supply voltage	Cable length	Transducer type
1	12V	2m	79H
4	12V	2m	79H
8	12V	2m	79H

**Please specify at time of ordering :**

**1, 4 or 8 pulses**



**STANDARD**

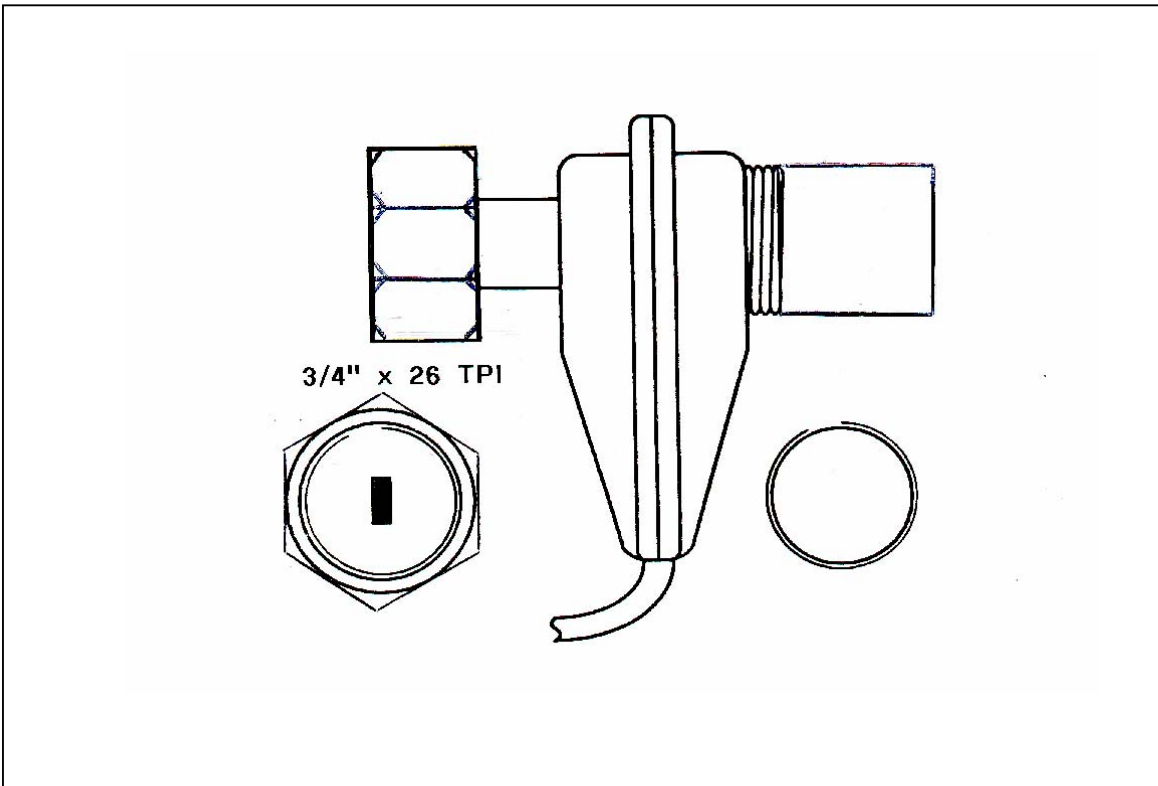
Pulses	Supply voltage	Cable length	Transducer type
1	12V	2m/5m	80H
4	12V	2m/5m	80H
8	12V	2m/5m	80H

**TWIN OUTPUT**

Pulses	Supply voltage	Cable length	Transducer type
8	12V	2m	80H
8	12V	5m	80H

Please specify at time of ordering :

1, 4 or 8 pulses  
Length of cable



**STANDARD**

<b>Pulses</b>	<b>Supply voltage</b>	<b>Cable length</b>	<b>Transducer type</b>
<b>1</b>	<b>12V</b>	<b>2m</b>	<b>FX4H</b>
<b>4</b>	<b>12V</b>	<b>2m</b>	<b>FX4H</b>
<b>8</b>	<b>12V</b>	<b>2m</b>	<b>FX4H</b>

**Please specify at time of ordering :**

**1, 4 or 8 pulses**

## TRANSDUCERS FITTED WITH EXTENSION CABLES

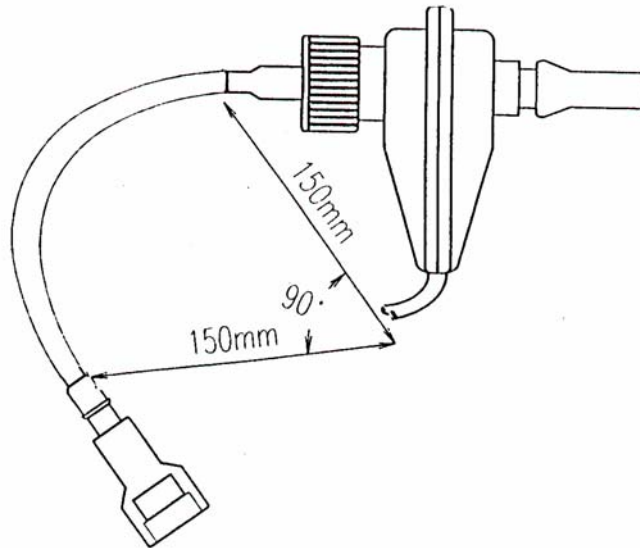
**On a range of the Hunter transducers an extension cable is fitted to overcome space restriction.**

As we have no control over the fitting of these items, no warranty is given on extension cables.

The speedo cable run has been specially designed by the manufacturers to ensure long life. Since our extension cables are manufactured to exactly the same specification then, provided they are fitted correctly, the life span should be the same as the speedo cable.

Please note care must be taken to follow as close as possible the original run of the speedo cable. No kinks, no sharp bends, no pressure points.

As a rule of thumb, no cable should be bent in a curve less than 150mm (6 inches) radius and there should be no bends within 2 inches of the end ferrules.



The original speedo cable will need to be repositioned to allow for the extra extension and it may be necessary to reinstall new clips and ties.

**NOTE:** A kink or sharp bend will always result in the inner cable breaking soon after installation. The breakage of the inner cable will damage the inside of the outer cable, so the extension cable is scrap.

## HUNTER TRANSDUCERS TO SUIT LEYLAND/LDV/SHERPA VEHICLES

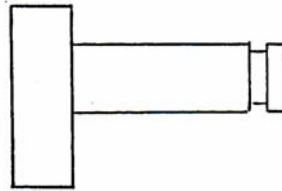
As Leyland never appear to stick to a standard speedo cable, it means that either a 67H or a 72H transducer is required. Leyland speedo cable fittings change from month to month, or even week to week.

Below are some guidelines to assist:

- \* Remove the speedo head and disconnect the speedo cable from it.
- \* Now examine the part of the speedo head from which you have just removed the speedo cable. There are two distinct shapes:

### 67H

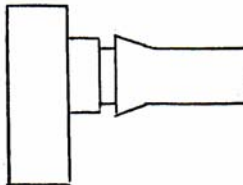
Speedo head



**Note** straight parallel tube with groove close to the end.

### 72H

Speedo head



**Note** ramp approx. halfway down and groove close to rear of speedo head.

If, after examination, it is established that a 72H type transducer is required, there is still one more fact required.

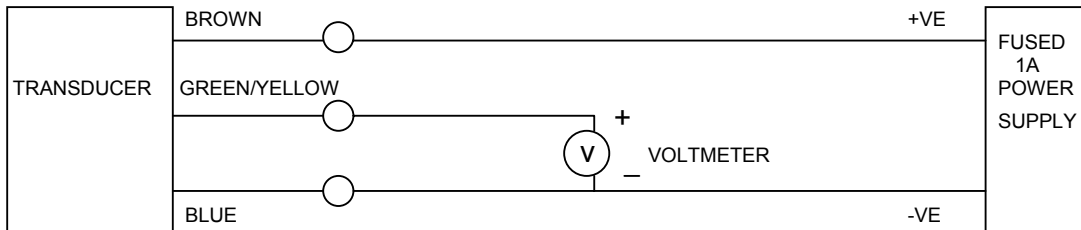
The 72H transducer comes in two sizes of drive. The 72H4 equals a 4mm drive, the 72H3 equals a 3mm drive. That is the size of drive pin. The actual sizes are 2.7 to 2.9mm (= 3mm) and 3.1 to 3.2mm (= 4mm).

Should you try to fit a 72H4 to a speedo head and it fails to fit completely on, unscrew the round tube on the end of the transducer by screwing it **clockwise** as it has a left-hand thread. Once this part has been removed it will expose the drive pin. Offer up the transducer to the speedo head and you will be able to see if the pin is entering the speedo head. If it does not then you require a 72H3. Carefully replace the transducer adaptor (anti clockwise) **ensuring you do not over-tighten the part** as this will break the threaded portion of the transducer.

**Note:** if the vehicle is an LDV Cub then a 61H transducer is required, which fits at the gearbox end of the speedo cable.

## IN-FIELD TESTING OF TRANSDUCER

### Standard 12 volt transducer



The power supply must be fused by a 1 amp, or less, fast blow fuse.

For 12 volt transducers, use a supply voltage of between 5 volts min. and 18 volts max.

The suspect transducer is connected as in the above diagram and the transducer shaft is turned very slowly while watching the volt meter (AVO, etc).

The reading for a 12 volt unit should alternate between 10mV (approx) and slightly less than the supply voltage being used.

**NOTE:** on a supply voltage of 8 volts the typical reading would be 0.01 to 7.87 volts.

On a supply voltage of 12 volts the typical reading would be 0.01 to 11.75 volts.

**On special 24 volt transducers the internal voltage regulator will maintain the voltage output at approx. 11.80 volts, so the range would be 10mV to 11.80 volts.**



## VEHICLE APPLICATION LIST

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
ALFA ROMEO	147,156,166	Electronic* CB5*	CAN Bus
ASIA	Topic	61H	Gearbox
AUDI	80 100 A3,A6,A8 A4,A6,TT Avant	Electronic* Electronic* Electronic* CB5* 65H	CAN Bus Gearbox
BMW	All types  Mini	Electronic* or CB5* CB5*	CAN Bus CAN Bus
CITROEN	C5 C15 D C25 C25 D '91 Series 2 C35 RD AX,BX,CX,XM,ZX Berlingo Berlingo +96 Berlingo 2001 Evasion Jumper Jumpy Relay 1.9D  Relay 2.5  Saxo Saxo +96 Visa, Visa Bestel Xantia Xsara 2.0 litre	CB5* 71H 68H 72H3 68H 71H 80H Electronic* CB5* Electronic* 68H 80H 68H 80H or Universal  80H Electronic* 71H 71H CB5*	CAN Bus Split cable Gearbox Speedo head Gearbox Split cable Gearbox CAN Bus CAN Bus Gearbox Gearbox Gearbox Gearbox see Page 1(a) Gearbox
CHRYSLER	Cherokee Grand Cherokee Grand Cherokee 2001 with Mercedes engine PT Cruiser Voyager	Electronic* Electronic* CAN Bus* Electronic* Electronic*	CB5 SMMI02 SMMI02

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
DAEWOO	Espero	65H	Gearbox
DAF	200/400 400 3.5 ton truck 300	68H 72H4C/8 or 67H 72H4 67HC	Gearbox Speedo head Speedo head Speedo head Speedo head
DAIHATSU		62H	Speedo head
FAIRWAY		75H	Gearbox
FIAT	Bravo - Brava Cinquecento Croma Ducato '94- Ducato '94+  Fiorino Marea Panda 1000 Punto  Scudo Stilo Tempra Tipo Tipo DGT Ulysse Uno van	Electronic* 66H 65HC 72H3 68H or 80H 65H Electronic* 66H Universal or 66H 80H CB5* 65HC 65HC Electronic* Electronic* 66H	Gearbox Gearbox Speedo head Gearbox Gearbox Gearbox see Page1(a) Gearbox Gearbox CAN Bus Gearbox Gearbox CAN Bus Gearbox Gearbox
FORD	Cargo Courier Escort '98- Escort '98+ Fiesta Fiesta 2002 Galaxy Galaxy 2001  Granada '94- Granada '94+ Ka Ka 2001 Maverick Mercury villager	68H 65H 65H 65H 65H CB5* Electronic* CB7* or CB5* 67H Electronic* Electronic* CB7* 61H Electronic*	Gearbox Gearbox Gearbox Split cable Gearbox CAN Bus SCP Bus CAN Bus Speedo head Speedo head SCP Bus Gearbox

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
<b>FORD</b>			
	Modivan	Electronic*	
	Mondeo	65H	Gearbox
	Mondeo 2001	CB7*	SCP Bus
	Mondeo 2002	CB5*	CAN Bus
	Orion	65H	Gearbox
	P100	67H	Speedo head
	Probe	Electronic*	
	Puma 2001	CB7*	SCP Bus
	Scorpio '96-	Universal	See Page1(a)
	Scorpio '96+	Electronic*	
	Sierra '94-	67H	Speedo head
	Sierra '94+	67HC	Speedo head
	Transit '94-	67H	Speedo head
	Transit '94+	67HC	Speedo head
	Transit '98+	Electronic*	
<b>FSO</b>			
		65H	Gearbox
<b>FX4 (for provinces only)</b>			
		FX4H	Gearbox
<b>HGV' s</b>			
	normally	68H	Gearbox
<b>HONDA</b>			
	Accord	61H	Gearbox
	Civic	61H	Gearbox
	Civic Shuttle 1.5	62H	Speedo head
	Concerto	62H	Speedo head
	CRV	Electronic*	
	CRX	61H	Gearbox
		or	
	Legend	61H	Gearbox
	Prelude	61H	Gearbox
	Shuttle	Electronic*	
	ST 100 Motorcycle	71H3	Speedo head
<b>HYUNDAI</b>			
	H100	61H	Gearbox
	H200	Electronic*	
	Campo	61H	Gearbox
	Lantra	61H	Gearbox
	Scoupe	Electronic*	
	Sonata	61H	Gearbox
	Stellar	62H	Speedo head
<b>ISUZU</b>			
	Trooper	61H	Gearbox
	Trooper 3.1 '93+	Electronic*	
	Vehicross	Electronic*	

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
IVECO	Daily '89-	68H	Gearbox
	Daily '89+	Electronic*	
	S35 '90+	Electronic*	
JAGUAR	XK8/XKR/XJR	CB5*	CAN Bus
	S-Type	CB7*	SCP Bus
	S-Type R	CB5*	CAN Bus
	X-Type	CB5*	CAN Bus
	3.0 Executive	CB5*	CAN Bus
KIA	All types	61H	Gearbox
LADA	All types	66H	Gearbox
LANCIA	Dedra	72H3	Speedo head
	Delta	65H	Gearbox
	Thema '98-	72H3	Speedo head
	Thema '98+	Electronic*	
	Ypsilon	Electronic*	
	Zeta	Electronic*	
LANDROVER	90	72H4C/8	Speedo head
	Defender 110	72H4C/12	Speedo head
	Discovery	67HC/6	Speedo head
	Series 2	71H	Split cable
	Freelander	CB5*	CAN Bus
	LDV	Convoy	72H4C/8
67HC			Speedo head
Cub		61H	Gearbox
		62H	Speedo head
Pilot			
LEYLAND		Boxer	72H3C/8
	Sherpa	72H3C/8	Speedo head
	Sherpa 400 (3mm)	67H	Speedo head
	Sherpa 400 (4mm)	72H4	Speedo head
MAZDA	121, 323, 626	61H	Gearbox
	Capella	Electronic*	
	E-2000 truck	61H	Gearbox
	E-2200 truck	61H	Gearbox
	MPV	Electronic*	
	MX3/MX6	Electronic*	
	MX5/MX7	61H (P)	Gearbox
	Pick-up	61H	Gearbox
	RX7	Electronic*	

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
MERCEDES	100 minitruck	65HC	Gearbox
	190	66H (M)	Speedo head
	200	66H (M)	Speedo head
	207,208,210	68H	Gearbox
	230,250,260,280	Electronic	
	300 SL	Electronic*	
	307,308,309,310,312	68H	Gearbox
	350	Electronic*	
	407,410,412	68H	Gearbox
	500 SEL	Electronic*	
	508,709	68H	Gearbox
	814	Electronic*	
	C-class	CB5*	CAN Bus
	CLK/SLK	CB5*	CAN Bus
	E-class	CB5*	CAN Bus
	G Wagon	68H	Gearbox
	E-class	CB5*	CAN Bus
	M-class	CB5*	CAN Bus
	S-class	CB5*	CAN Bus
	Sprinter (to 1999)	SMMI02*	
	(from 2000)	CB5*	CAN Bus
	V-class/Vito	SMM102*	
		CB5*	CAN Bus
W123	65H	Speedo head	
W124,190,201,300	66H (M)	Speedo head	
METROCAB		79H	Reduction box
MITSUBISHI	Canter F1 35T	61H or 68H	Gearbox
	Carisma	Universal	see Page 1 (a)
	Colt (all models)	61H	Gearbox
	Eclipse	61H	Gearbox
	L200, L300	61H	Gearbox
	L400	Electronic*	
	Galant	61H	Gearbox
	Lancer 1/8D	61H	Gearbox
	Lancer '95+	Electronic*	
	Pajero )	61H	Gearbox
	)	62H	Speedo head
	Shogun	Electronic*	
	Sigma '93-	61H	Gearbox
	Sigma '93+	Electronic*	
	Space Gear	61H	Gearbox
Space Runner	61H	Gearbox	
Space Wagon	61H (P)	Gearbox	

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
NISSAN	100 NX	Electronic*	
	200 SX	Electronic*	
	300 ZX	Electronic*	
	Almera	61H	Gearbox
	Bluebird	61H	Gearbox
	Cabstar	61H	Gearbox
	Kingcab	61H	Gearbox
	Maxima '91	Electronic*	
	Micra	61H	Gearbox
	Patrol	Electronic*	
	Prairie	61H	Gearbox
	Prairie Pro	Electronic*	
	Primera '95-	61H	Gearbox
	Primera '95+	Electronic*	
	Q-bic	Electronic*	
	Serena '96-	61H	Gearbox
	Serena '96+	Electronic*	
	Sunny '95-	61H	Gearbox
	Sunny '95+	Electronic*	
	Terrano 1	61H	Gearbox
	Terrano II )	61H	Gearbox
	)	62H	Speedo head
	Trade	61H	Gearbox
	Urvan, Vanette '95-	61H	Gearbox
	Urvan, Vanette '95+	Electronic*	
	Sailer	61H	Gearbox
PEUGEOT	106 )	80H	Gearbox
	)	72H4	Speedo head
	205 )	72H4C/8	Speedo head
	)	Universal	
	206 Hdi 2003	SMMI02*	
	305,306,309	72H4C/8	Speedo head
	307	CB5*	CAN Bus
	405	80H	Gearbox
	406	Electronic*	
	406 HDi 2001	CB5*	CAN Bus
	504,505	72H4C/8	Speedo head
	J5/J7 truck	72H3	Speedo head
	605	80H	Gearbox
	605 SRI	Electronic*	
	607	CB5*	CAN Bus
	806 '95-	72H3	Speedo head
	806 '95+	Electronic*	
	Expert	80H	Gearbox
	Expert (turbo diesel)	possibly Electronic	

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
PEUGEOT	Partner	Electronic*	
	Boxer	68H	Gearbox
		or 80H	Gearbox
	Boxter Motorhome	80H	Gearbox
		or 72H4C/8	Speedo head
PORSCHE	All types	CB5*	CAN Bus
PROTON		61H (P)	Gearbox
RANGE ROVER		71H	Speedo head
	Vogue Range Rover 2002 with BME engine	Electronic* CB5*	CAN Bus
RENAULT	5	72H4C/8	Speedo head
	5 Expresse	72H4C/8	Speedo head
	9 Turbo	Electronic*	
	11	72H4	Speedo head
	18,19,21	72H4	Speedo head
	25	Electronic*	
	25 TS/GTS/TX	72H4	Speedo head
	B-90 35D truck	72H4	Speedo head
	B-110 60D truck	72H4	Speedo head
	Bivio	68H	Gearbox
	Clio	72H4	Speedo head
	Espace	72H4C/8	Speedo head
	Espace 2002	CB5*	CAN Bus
	Extra	72H4C/8	Speedo head
	Kangoo	Electronic*	
	Laguna	72H4C/8	Speedo head
	Laguna 2001	CB5*	CAN Bus
	Master '97-	68H	Gearbox
	'97+	Electronic*	
	Megane	Electronic*	
	Megane 2001	CB5*	CAN Bus
	Nevada	72H3	Speedo head
	Rapid	72H3	Speedo head
Safrane	72H3	Speedo head	
Savanna	72H4	Speedo head	
Trafic	72H4C/8	Speedo head	
Twingo	Electronic*		
ROLLS ROYCE		71H	Speedo head

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
ROVER	200 and 400 series	62H	Speedo head
	214 and 414	split cable	65H
		(the split is a joint approx 12" the gearbox end of speedo cable and the 65H fits into this joint)	
	820, 825, 827	Electronic*	
	Maestro	67H or 72H4	Speedo head
	Metro	67H or 72H4	Speedo head
	Montego	67H or 72H4	Speedo head
	75	CB5*	CAN Bus
SAAB	90, 900	69H	Gearbox
	9000	Electronic*	
	95	Electronic*	
	9-5	CB5*	CAN Bus
SEAT	Alhambra	Electronic*	
	Arosa	Electronic*	
	Cordoba	Electronic*	
	Ibiza	65H	Gearbox
	Inca	Electronic*	
	Leon	CB5*	CAN Bus
	Marbella	65H	Gearbox
	Terra	65H	Gearbox
	Toledo	Universal	see Page 1 (a)
SKODA	Favorit	65H	Gearbox
	Felicia	65H	Gearbox
	Octavia )	Electronic*	
	)	CB5*	CAN Bus
	Pick-up	65H	Gearbox
SMART CAR		CB5*	CAN Bus
SUBARU	Legacy	62H	Speedo head
	Station	62H	Speedo head
SUZUKI	Alto	61H	Gearbox
	Baleno	Electronic*	
	Carry	61H	Gearbox
	Samora	61H	Gearbox
	Sedan	61H	Gearbox

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.



VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
SUZUKI	Swift )	61H	Gearbox
	)	62H	Speedo head
	Vitara	61H	Gearbox
	X90	61H	Gearbox
TALBOT	Express	72H3C/8	Speedo head
TOYOTA	Avensis	Electronic*	
	Camry	61H	Gearbox
	Carina	61H	Gearbox
	Carina E	Electronic*	
	Carina SX	Electronic*	
	Celica	61H	Gearbox
	Corolla	61H	Gearbox
	Dyna	61H	Gearbox
	Emina	Electronic*	
	Landcruiser )	61H	Gearbox
	)	62H	Speedo head
	Lexus	Electronic*	
	Hi-Ace, Lite-Ace	61H	Gearbox
	Hi-Lux	61H	Gearbox
	Picnic	Electronic*	
	Previa	Electronic*	
Space Cruiser	61H	Gearbox	
Starlet	61H	Gearbox	
VAUXHALL/OPEL	Arena		
	Astra	65H	Gearbox
	Brava	61H	Gearbox
	Carlton	65HC	Gearbox
	Cavalier	65H	Gearbox
	Combo van	65HC	Gearbox
	Frontera	61H	Gearbox
	Corsa	65HC	Gearbox
	Corsa +Sept '96	Electronic*	
	Kadett	65H	Gearbox
	Kadett GSI	Electronic*	
	Midi )	61H	Gearbox
	)	62H	Speedo head
	Montery	Electronic*	
	Monza	Electronic*	
	Nova	65H	Gearbox
	Omega	65HC	Gearbox
	Omega (CD)	Electronic*	
Rekord	65H	Gearbox	

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

VEHICLE TYPE	MODEL	TRANSDUCER TYPE	FITTING
VAUXHALL	Senator	Electronic*	
	Vectra	65H	Gearbox
	Vectra CD	Electronic*	
	Zafira	CB5*	CAN Bus
VOLKSWAGEN	Caddy '96-	65H	Gearbox
	Caddy '96+	Electronic*	
	Caravelle	65H	mid speedo at joint
	Caravelle '97+	Electronic*	
	Golf	65H	Gearbox
	Golf '92+	Electronic*	
	Golf '01+	CB5*	CAN Bus
	Jetta	65H	Gearbox
	LT van	65H	Gearbox
	Passat )	65H	Gearbox
	)	66H	Gearbox
	Passat '97+	Electronic*	
	Passat '00+	CB5*	CAN Bus
	Polo '95-	65H	Gearbox
	Polo '95+	Electronic*	
	Sharan	CB5*	CAN Bus
	Taro	61H	Gearbox
	Transporter '96-	65H	split cable
	Transporter '96+	Electronic*	
	Vento '94-	65H	Gearbox
Vento '94+	Electronic*		
VOLVO	240,245,440	Universal	see Page 1(a)
	440 (with on-board computer)	Electronic*	
	480 series	Electronic*	
	740,760	Electronic*	
	850	Electronic*	
	FS7	Electronic*	
	S40,S70	Electronic*	
	V40	Electronic*	
	S90,V90	Electronic*	
YUGO	all types	65H	Gearbox

\* See the INTERFACE catalogue re our full range of interfaces, including CAN Bus.

## **STANDARD TERMS AND CONDITIONS OF TRADING**

All references herein to seller refer to SAILES MARKETING and unless agreed in writing all goods are supplied on the following terms and conditions to the exclusion of any terms and conditions stipulated by the buyer.

### **1. ORDERS**

- 1.1. The quoted price of the goods is based on the market prices and rates for materials, labour and transport effective at the date of the order and is subject to variation up to the time of delivery if there is an increase in such prices or rates beyond the seller's control.
- 1.2. In the event of such variation increasing the cost of the goods by more than 10%, the buyer shall have the right to cancel the undelivered balance of the order.
- 1.3. In the event of orders placed by buyers for outside the UK, the placing of such an order shall constitute a warranty by the buyer that delivery of the goods in accordance with the order does not contravene any laws or regulations of the country to which such delivery is made.

### **2. DELIVERIES**

- 2.1. All prices quoted by the seller are ex works unless specifically stated otherwise.
- 2.2. At the discretion of the seller the goods may be delivered in instalments and invoiced separately.
- 2.3. All delivery dates are to be treated as estimates and may be subject to alteration due to circumstances beyond the seller's control.

### **3. PAYMENT AND TERMS**

- 3.1. All prices are strictly nett and any quantity discounts, etc, agreed will be stated in writing by the seller.
- 3.2. Payment for goods will be as stated on the invoice, or as agreed, and shall be in sterling.
- 3.3. Carriage and packing charges will be added at cost by the seller.

### **4. WARRANTIES AND LIABILITY**

- 4.1. All goods supplied by the seller are guaranteed for a period of twelve months from the date of fitting in respect of defects in materials and faulty workmanship. All other warranties, expressed or implied, statutory or otherwise, are hereby excluded and the seller shall not be liable for any loss, injury or damage arising directly or indirectly from the use, application or storage of its goods.
- 4.2. The buyer shall be responsible for ensuring the fitness of purpose of the product for the buyer's applications. In no event shall any breach of contract or tort or negligence or failure of any kind on the part of the seller be accepted as liability for loss of revenue or consequential loss or damage arising from any cause whatsoever. The seller does not accept liability for products which fail to operate by reason of incorrect installation or application or have been subject to misuse, neglect or accident.
- 4.3. In the event of an inspection by the seller not disclosing a defect within the terms of this warranty, the seller will charge the buyer for the expense of the inspection.

### **5. CANCELLATION AND RETURNS**

- 5.1. Any cancellation of an order accepted by the seller can only be made with the written consent of the seller and will be subject to such cancellation charges as may be determined by the seller.
- 5.2. No goods may be returned without the prior approval of the seller. In the event of goods being returned, for any reason, such goods must be returned carriage paid.

### **6. SPECIFICATION**

- 6.1. The seller reserves the right to alter product specifications without notice, providing that the buyer's performance requirements as stated on the buyer's order are not infringed.

### **7. RESERVATION OF TITLE**

- 7.1. The ownership of the goods shall remain with the seller until full payment of all sums due has been received.
- 7.2. Notwithstanding the seller's retention of the title in Condition 7.1 all risk or loss or damage shall pass to the buyer immediately upon delivery.

### **8. LAW APPLICABLE**

- 8.1. Any contract shall operate under E.U. law and shall be deemed to be made at the seller's premises.

## TRANSDUCER WARRANTY

Below are some of the ground rules regarding warranty claims on transducers.

1. The power supply to the transducer must not be connected directly to the vehicle supply. It should be connected to the unit to which the output signal is supplied, and the design of the unit will have incorporated protection against spikes in voltage supply. The maximum signal line current is 10mA.
2. The transducer magnet shafts are made of very high grade engineering plastic, at a cost of £14,000 per ton and are designed to withstand all normal turning forces (twisting) that a transducer shaft is subject to. It will give many years of service, it will not, however, bend! Bending the shaft while fitting will, in some extreme instances, cause it to break. The 61H is a prime example because in trying to locate the drive slot, some ham-fisted fitters try to bend the transducer round and break the shaft. We **do not** accept a broken shaft as a warranty claim on this unit.
3. The 65H is a very clever design inasmuch that it can be used both on Vauxhall and Ford front wheel drive vehicles. Again, if the fitting instructions are adhered to no problem will arise. The transducer is now supplied in Vauxhall configuration, i.e. with a short protrusion of the drive pin. To use the **same** transducer on a Ford application, the drive pin **must** be placed in the other end of the transducer and, of course, the twin nut adaptors changed over as well.

If fitters fail to adhere to the instructions and accidentally fit a 65H in long pin configuration to, say, a Vauxhall vehicle, then all the end float in the magnet shaft is forced against the inner body of the transducer. This will cause undue friction, lead to seizure of the shaft and a failed unit. Again we do not accept this seizure as a warranty claim.

4. We have transducers in our range which have extension cables, similar and equal to the end part of a speedo cable. These extension cables are removable from the transducer and are a replacement part.

Again, because we have **absolutely no control** over how fitters fit this item we do not warranty the extension cable. If it is fitted correctly with minimum curvature and minimum bends it will work and last as long as any speedo cable.

5. Our universal transducer has an exceptionally strong and large shaft (as do all our range) and, if fitted as per instructions and using the correct crimping tool, will last for years.

All these warnings may, in the first instance, seem very negative to you but, if the warnings are adhered to, we can count on the same type of relationship that we have with such customers as TVI, Peugeot and many, many other long standing accounts.

We endeavour to only promise what we can achieve and to keep these promises. However, should large volume orders be required then a lead time to build up production levels may be necessary.

This company believes in stating its policy 'up front' so that no misunderstanding can take place. In this way we avoid disappointing our customers and it assists in keeping a good, honest relationship that will last.