VDO cockpit vision / international

Instruments

Technical Product Manual

SIEMENS VDO

SIEMENS VDO
A u t o m o t i v e

19. Pyrometer
Exhaust-gas Temperature Measuring System (dia. 52 mm)
(only for VDO cockpit international)

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Installation instructions

999-165-026:   VDO cockpit international

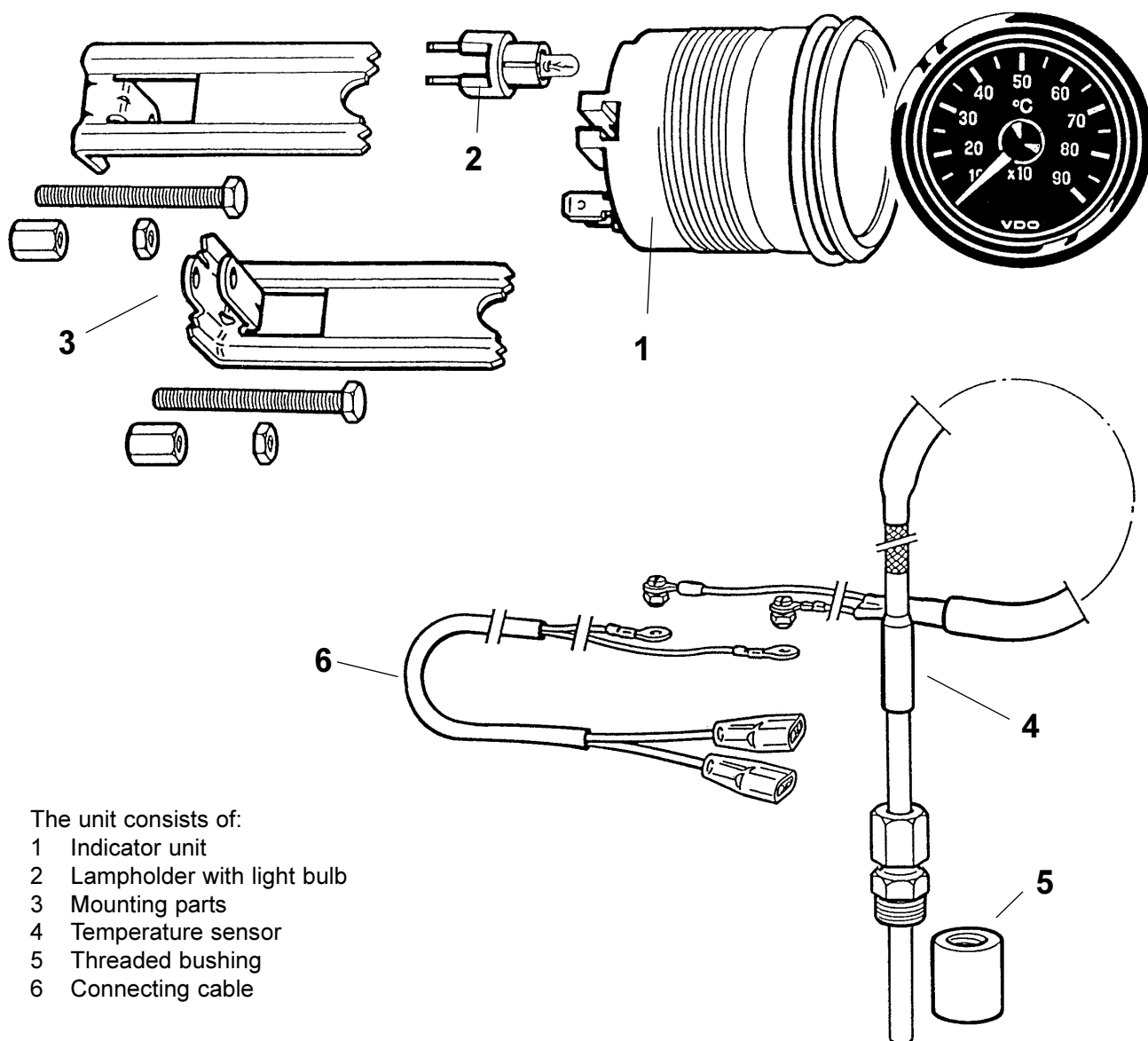see file 'Installation Instructions (MA)'.

19. Pyrometer
Exhaust-gas Temperature Measuring System (dia. 52 mm)
(only for VDO cockpit international)

19.1 General Informations

The exhaust-gas temperature measuring system has been designed for landbound vehicles (with the exception of motorcycles) or stationary systems only.

The pyrometer serves to monitor accurately the temperature in the elbow flange of the exhaust pipe and indicates eventual thermal overload of the engine.

A temperature sensor installed in the exhaust pipe measures the exhaust temperature and transmits the data (100°C to 900°C) to an analog indicator unit (turning magnet ratio measuring movement, pointer deflection up to 320°: designation of function see tachometer, dia. 52 mm).

The unit consists of:
1   Indicator unit
2   Lampholder with light bulb
3   Mounting parts
4   Temperature sensor
5   Threaded bushing
6   Connecting cable

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19.2 Technical Data (Indicator Unit)

Temperature gauge, electronic
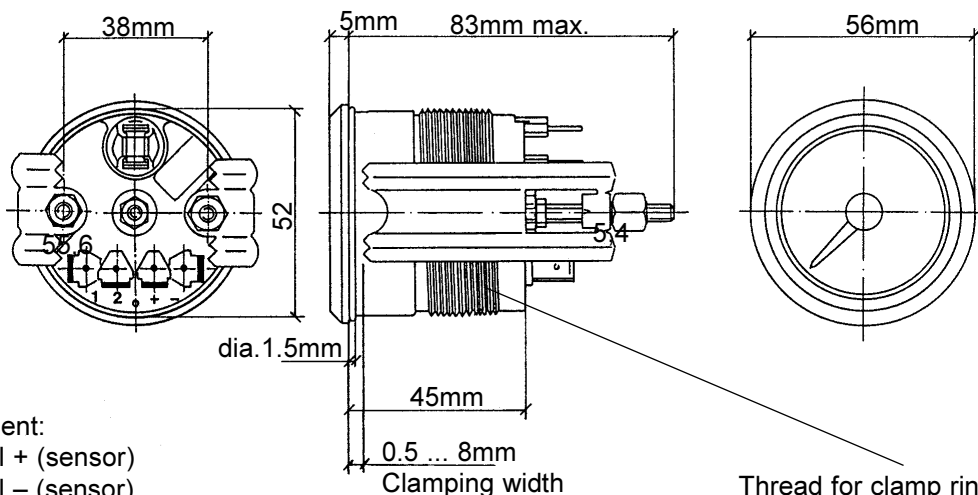(Instrument separate not available. Only as set.)

VDO cockpit international

dia. 52 mm   Floodlight

Operating voltage:	10.8 ... 16 V
Movement:	System Ke ($\rightarrow$ 320°C)
Current consumption:	< 100 mA (without illumination)
Operating temperature:	– 20°C ... + 70°C
Storage temperature:	– 30°C ... + 85°C
Illumination:	1 light bulb 12 V, 2 W
Protection:	IP64 DIN 40050 from the front
Connections:	reverse-polarity protection
Vibration resistance:	max. 1g eff., 25 ... 500 Hz, duration 8 h, f: 1 octave/min.
Nominal position:	NL 0 to NL 90, DIN 16257

Mounting hole: dia. 53mm

38mm

5mm   83mm max.

56mm

52

58.6

dia.1.5mm

45mm

5.4

0.5 ... 8mm
Clamping width

Thread for clamp ring (option)
(clamping width:
0,5 ... 12 or 12 ... 23mm)

Pin assignment:
Pin 1: Signal + (sensor)
Pin 2: Signal – (sensor)
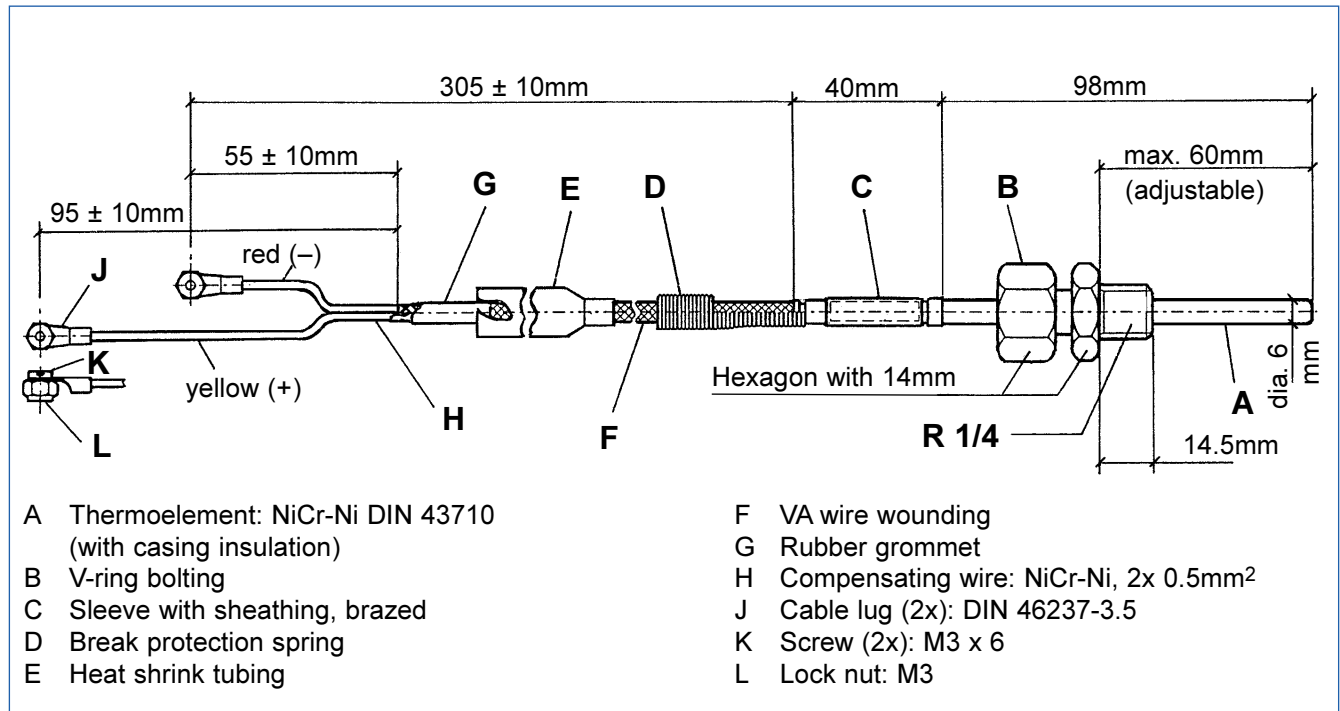Pin +: + 12 V, terminal 15
Pin –: Ground, terminal 31

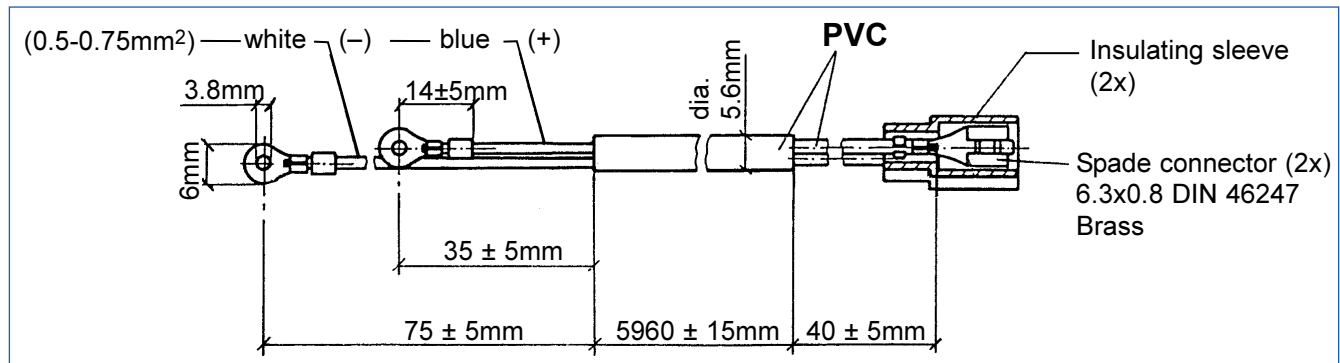SIEMENS VDO
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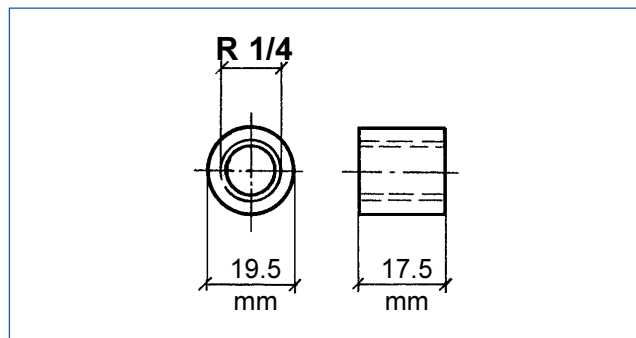### 19.3 Technical Data (Temperature Sensor, Connecting Cable, Threaded Bushing)

Temperature sensor 2pole (insulated return)

A	Thermoelement: NiCr-Ni DIN 43710 (with casing insulation)	F VA wire wounding
B	V-ring bolting	G Rubber grommet
C	Sleeve with sheathing, brazed	H Compensating wire: NiCr-Ni, 2x 0.5mm^2
D	Break protection spring	J Cable lug (2x): DIN 46237-3.5
E	Heat shrink tubing	K Screw (2x): M3 x 6
		L Lock nut: M3

Connecting cable

Threaded bushing (steel)

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19.4 Temperature Sensor

The temperature sensor needed to operate the pyrometer is supplied with threaded bushing and connecting cable.

Install the temperature sensor in the exhaust pipe near the elbow flange.
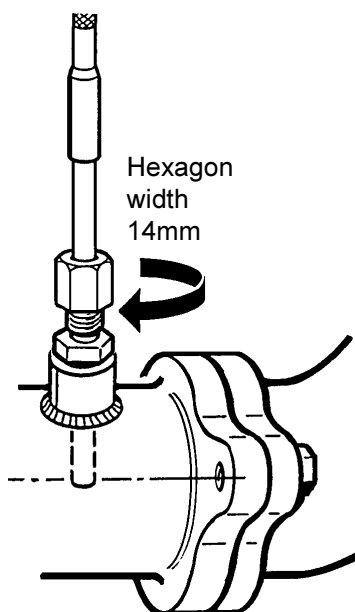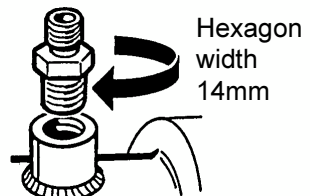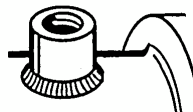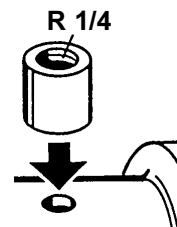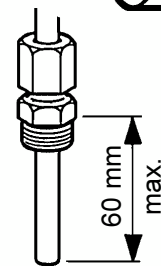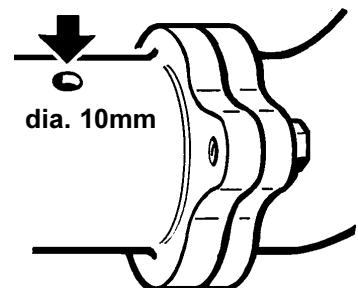Mounting hole: dia. 10 mm.
Mount the threaded bushing centrically and weld on.

⚠ The weld must form a thight seal.
Always follow the safety instructions and advice of the welding equipment manufacturer.

⚠
Adjustment depth up to the middle of exhaust pipe (max. 60 mm).

dia. 10mm

60 mm max.

R 1/4

Hexagon width 14mm

Hexagon width 14mm

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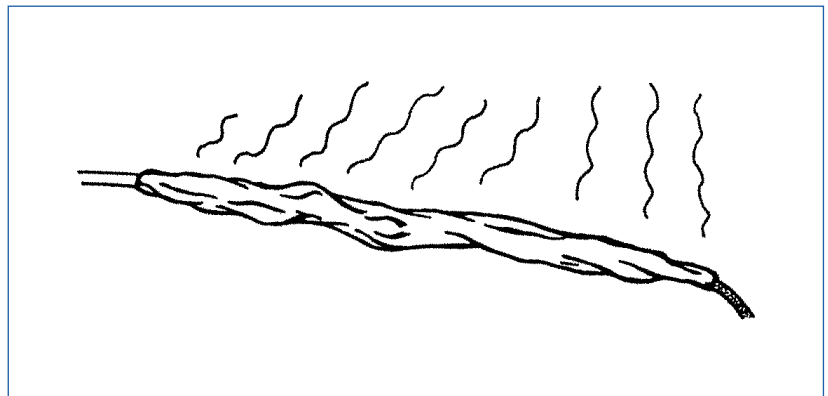### (only for VDO cockpit international)

19.4 Temperature Sensor

Connect the white cable of the temperature sensor with the red cable of the connecting cable and the yellow cable of the temperatur sensor with the blue cable of the connecting cable.
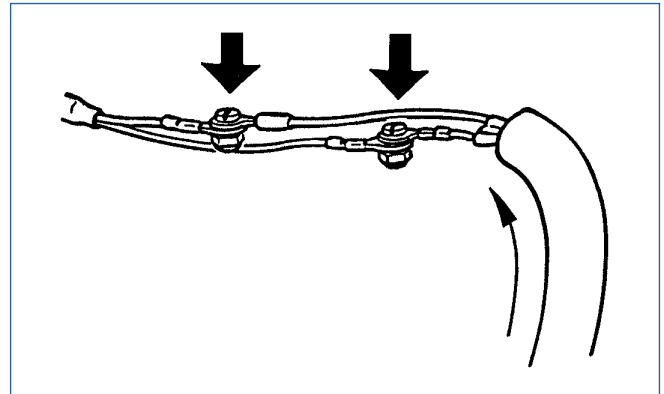
Slide the heat shrink tubing over the cable connections and then heat with a hot-air fan over the entire length until it shrinks.

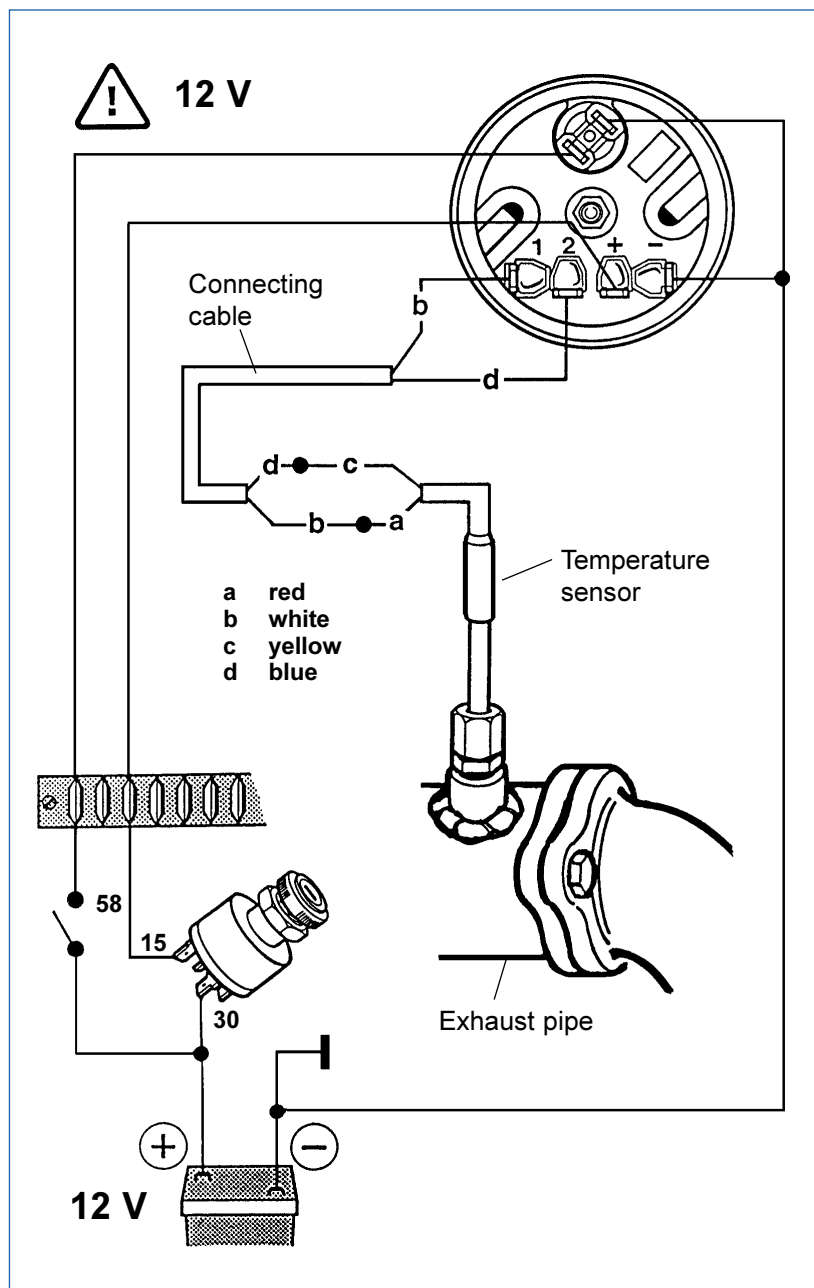⚠ Always follow the safety advice of the hot-air fan manufacturer.

⚠ Do not shorten the connecting cable (measuring lead).

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19.5 Wiring Diagram

12 V

Connecting cable

b

d

d — c

b — a

a   red
b   white
c   yellow
d   blue

Temperature sensor

Exhaust pipe

58

15

30

12 V

Do not shorten the connecting cable (measuring lead).

19. Pyrometer
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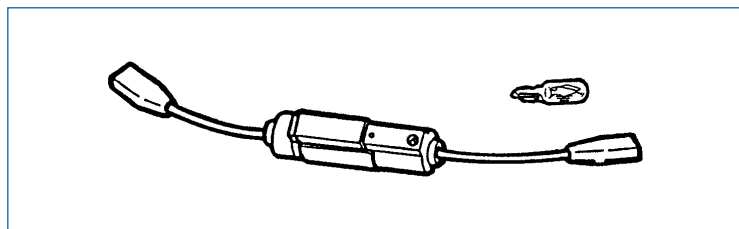### (only for VDO cockpit international)

19.6 Dropping Resistor For 24 V

The electronic exterior temperature indicating instrument (rated voltage 12 V) can also be used with a rated voltage of 24 V if an external dropping resistor (option) is installed in the plus wire (terminal 15).
In this case the operating voltage can be 21 V to 32 V.

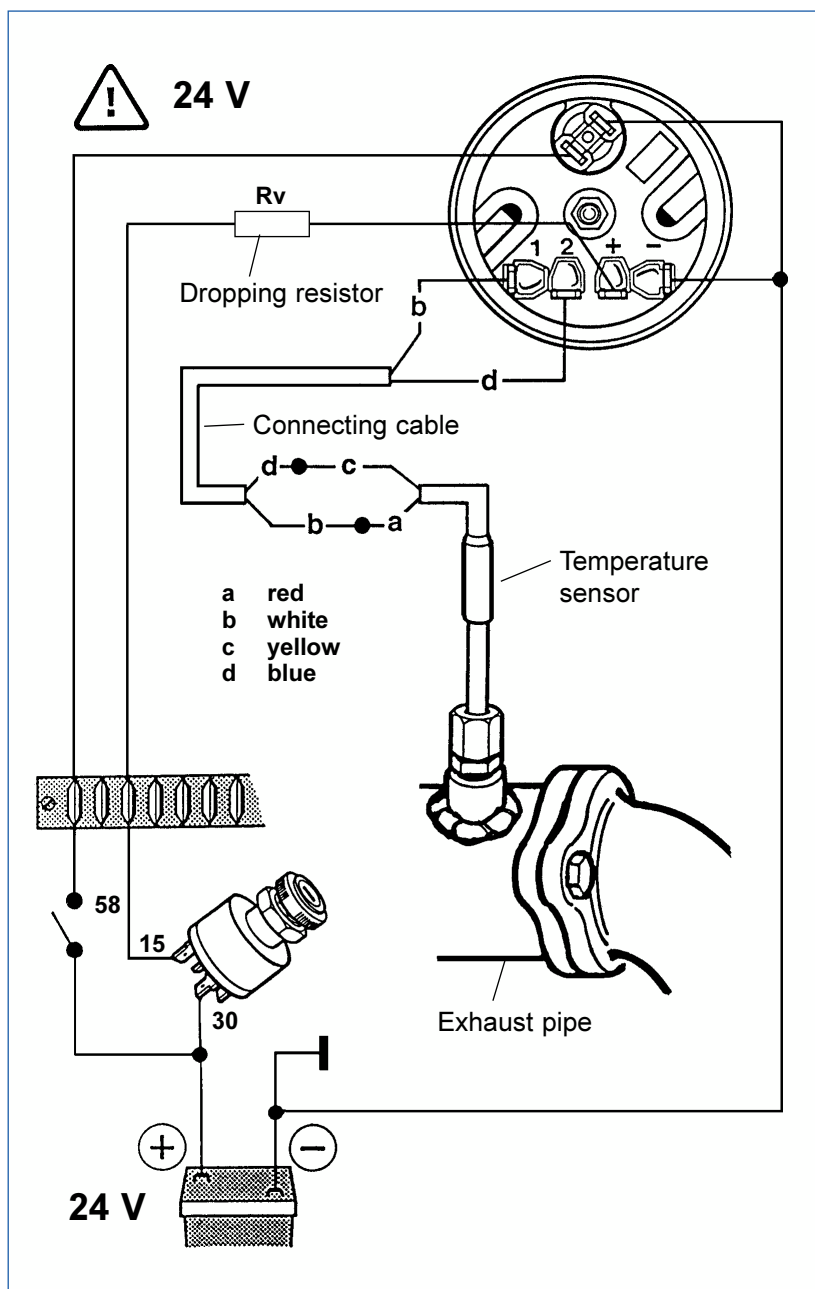⚠ Replace 12 V light bulb by a 24 V light bulb.

The dropping resistor is supplied with a 24 V 2 W light bulb.
Part No.: 800-005-027G

Wiring diagram

⚠ Do not shorten the connecting cable (measuring lead).

24 V

Rv
Dropping resistor

Connecting cable

d — c
b — a

a   red
b   white
c   yellow
d   blue

Temperature sensor

Exhaust pipe

58
15
30

24 V

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19.7 Systems Survey

VDO cockpit international (Floodlight) dia. 52 mm   **Part No.   397-015-. . .**

Dial		Special feature	Part No.
Range	Imprint		
100°C ... 900°C	10 ... 90 x10 °C	12 V	**003C**