

7. Electric Temperature Gauge (dia. 52 mm)

Contents	Page
7.1 General informations	7 - 2
7.2 Technical data	7 - 4
7.3 Temperature sensors	7 - 6
7.4 Wiring diagrams	7 - 10
7.5 Testing instructions	7 - 11
7.6 Instruments survey	7 - 13
7.7 Installation instructions	7 - 15

7. Electric Temperature Gauge (dia. 52 mm)

7.1 General Informations

The electrical oil temperature gauge has been designed for land-bound vehicles or stationary systems only (exception: motorcycles).

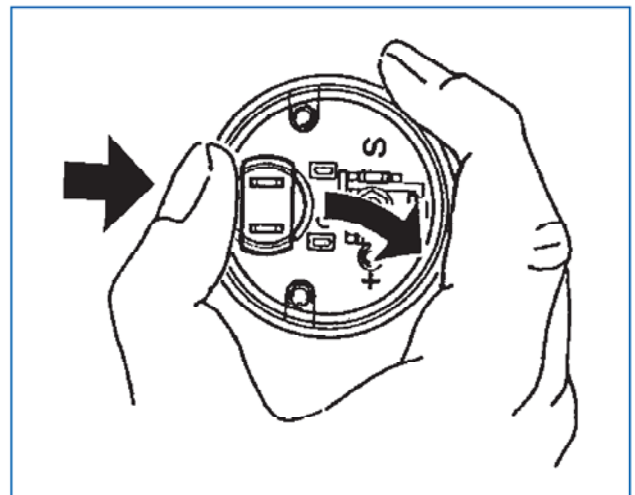
The instrument has an analog temperature display graduated in °C or °F.

Temperature sensors of the following types, adapted to the indicator temperature range, can be used:

negative earth,
insulated earth,
negative earth with warning contact.



The lamp socket is clipped in.
To replace the light bulb, carefully, with the thumb,
push the lamp holder out to the side.



7. Electric Temperature Gauge (dia. 52 mm)

Designation of function

Movement: System Ke (90°)

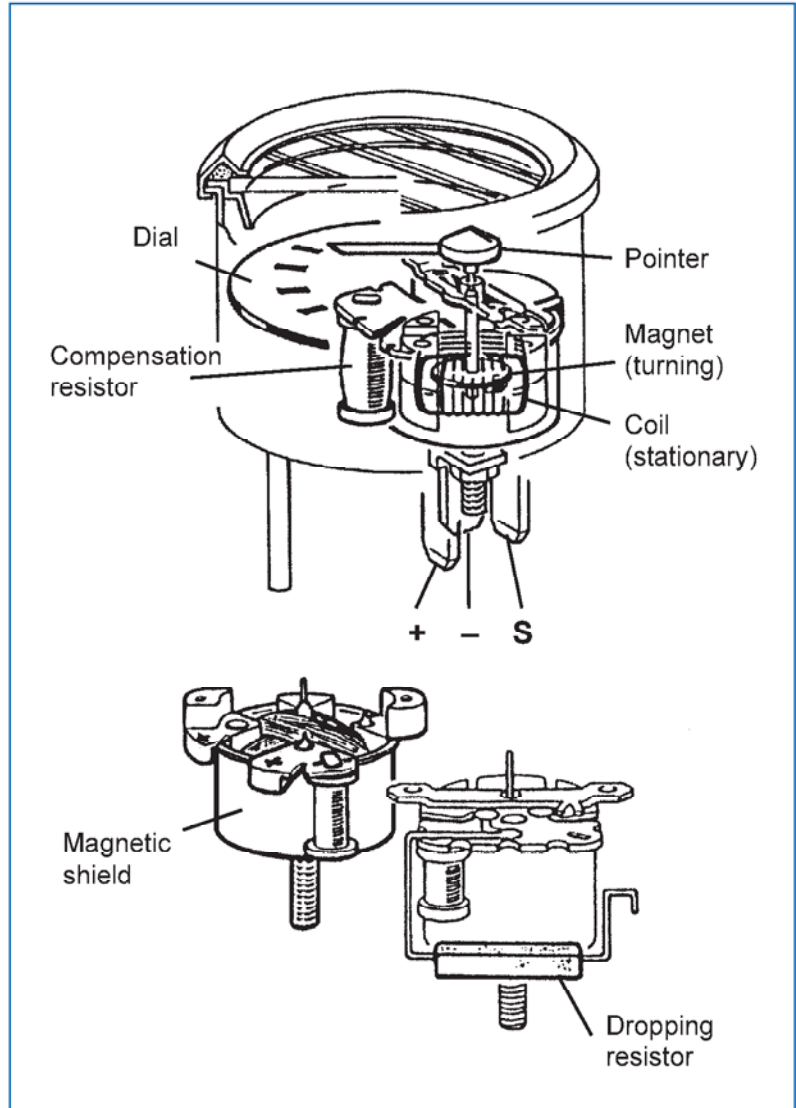
(Turning magnet movement for ratio indication, maximum pointer travel 90°)

The temperature indicator applies the resistance measurement principle. A sensor containing a resistor with strong temperature dependence (PTC) converts the temperature of the fluid to a corresponding resistance value.

A turning magnet ratio measuring movement measures this resistance value. This value is displayed by a pointer moving over a dial graduated in temperature units. The turning magnet movement for ratio indication comprises three stationary coils wound at 90° against each other, and a rotating permanent magnet disk in these coils. The coils are connected to determine a ratio, so that the instrument is insensitive to on-board voltage fluctuations.

This means that the pointer travel is only determined by the magnitude of the current flowing through the measuring system.

A magnetic shield prevents effects of external magnetic fields, indication errors due to temperature changes are corrected by a compensating resistor. A dropping resistor is used to adapt the measuring movement to higher operating voltages (e. g. 24V).



7. Electric Temperature Gauge (dia. 52 mm)

7.2 Technical Data

Operating voltage:	11 ... 16 V or 21.5 ... 30 V
Movement:	System Ke (90°)
Current consumption:	131 mA (without illumination)
Operating temp.:	- 30°C ... + 85°C
Storage temperature:	- 40°C ... + 90°C
Illumination:	1 light bulb 14 V, 3.4 W or 24 V, 3 W 2 colour caps, green and red (only at 12 V)
Protection:	IP64 DIN 40050 from the front reverse-polarity protection
Vibration resistance:	max. 1g eff., 25 ... 2000 Hz, duration 8h, f: 1 octave/min.
Nominal position:	NL 0 to NL 90, DIN 16257

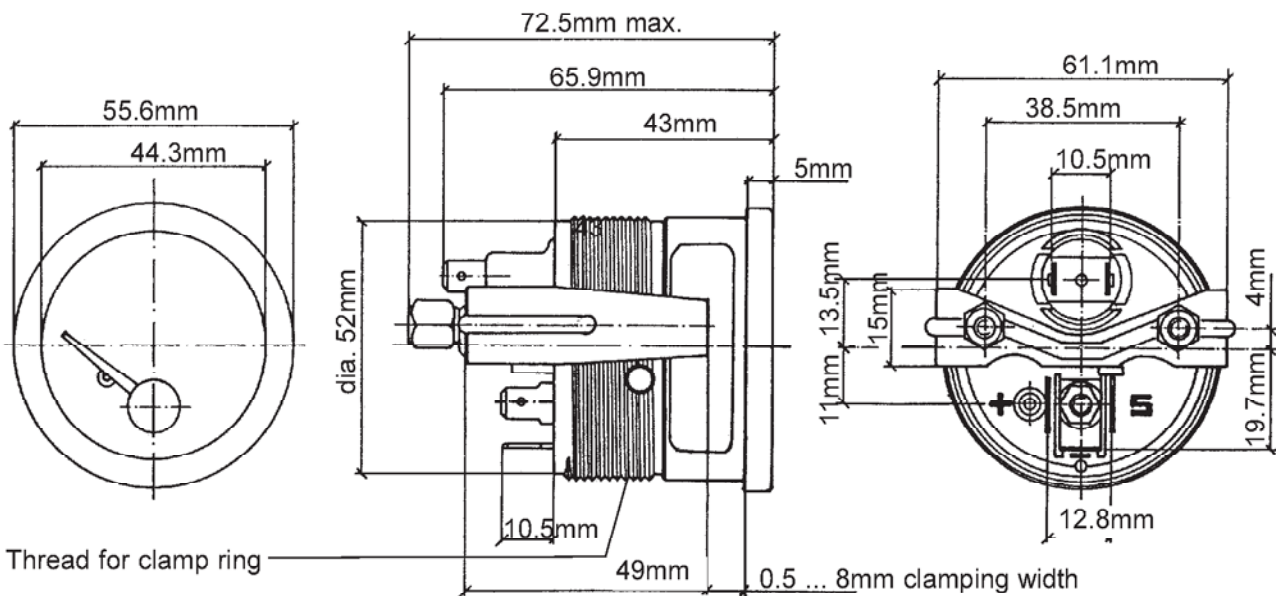
VDO cockpit vision
dia. 52 mm Backlight

Example: electric oil temperature gauge

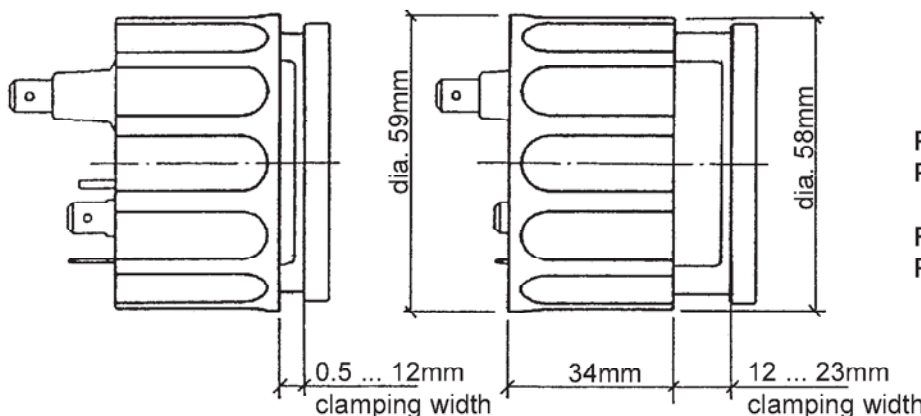


Sensor:
temperature sensor (thermistor),
not included.

Mounting hole: dia. 53mm



Thread for clamp ring



Pin assignment:

Pin +: + 12 V or + 24 V,
terminal 15

Pin -: Ground, terminal 31

Pin S: Sensor

7. Electric Temperature Gauge (dia. 52 mm)

7.2 Technical Data

Operating voltage:	11 ... 16 V or 21.5 ... 30 V
Movement:	System Ke (90°)
Current consumption:	131mA (without illumination) 106mA = 60°C ... 200°C (without illumination)
Operating temp.:	- 30°C ... + 85°C
Storage temperature:	- 40°C ... + 90°C
Illumination:	1 light bulb 14 V, 3.4 W or 24 V, 3 W
Protection:	IP64 DIN 40050 from the front reverse-polarity protection
Vibration resistance:	max. 1g eff., 25 ... 2000 Hz, duration 8h, f: 1 octave/min.
Nominal position:	NL 0 to NL 90, DIN16 257

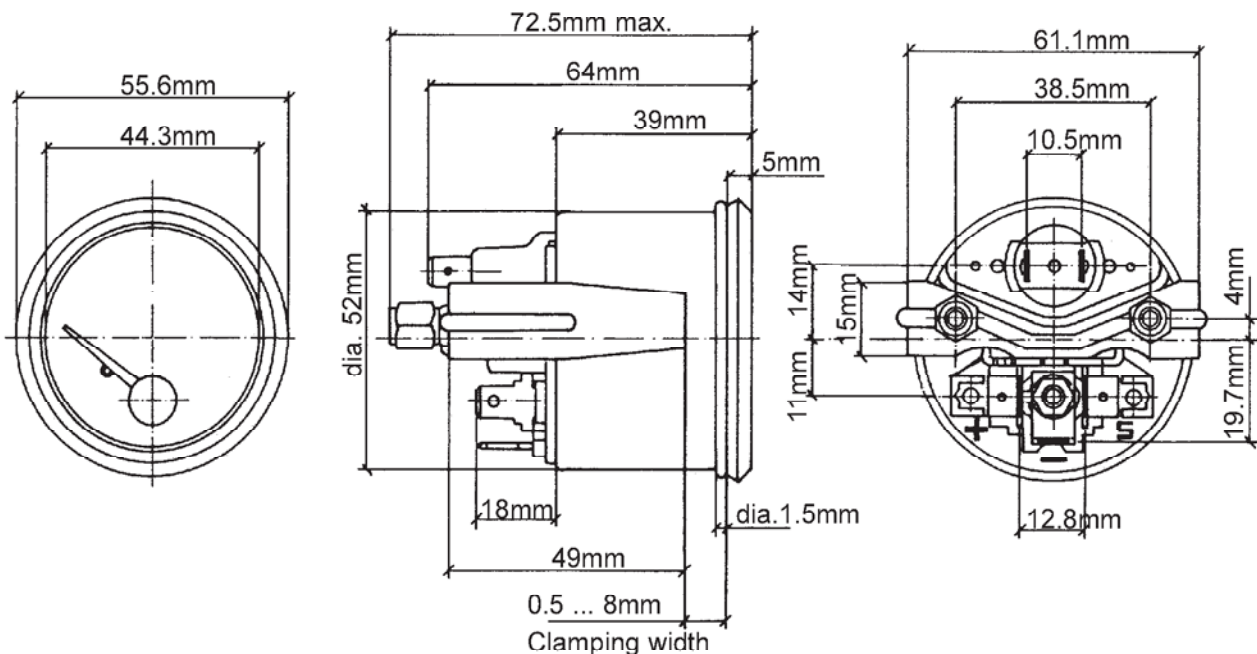
VDO cockpit international dia. 52 mm Floodlight

Example:
electric oil temperature gauge



Sensor:
temperature sensor (thermistor),
not included.

Mounting hole: dia. 53mm



Pin assignment:
Pin +: + 12 V or + 24 V,
terminal 15
Pin -: ground, terminal 31
Pin S: Sensor