

# Fluid Level Measurement

## Fluid Level/Temperature Gauges

### Reservoir Equipment



## A proven solution for tank oil level measurement

### Universal fixing designed for front or rear tank mounting

Fluid level/temperature gauges are available in 3 sizes each with 2-hole mounting at 76mm, 127mm and 254mm mounting centres. The high-visibility viewing lens is a one-piece design for added security, moulded in shatterproof, transparent polyamide.



## Contact Information:

Parker Hannifin  
**Hydraulic Filter Division Europe**

**European Product Information Centre**  
Freephone: 00800 27 27 5374  
(from AT, BE, CH, CZ, DE, EE, ES, FI, FR, IE, IT, PT, SE, SK, UK)  
filtrationinfo@parker.com

[www.parker.com/hfde](http://www.parker.com/hfde)

## Product Features:

- 3 sizes of fluid level/temperature gauge. 2 hole mounting.
- 76mm, 127mm and 254mm mounting centres.
- A one-piece design, high-visibility viewing lens for added security.
- Moulded in shatterproof, transparent polyamide.

## Specification



### Construction:

**Lens** Transparent polyamide.  
**Lens base** Nylon 66.  
**Shroud** High impact polystyrene.  
 No aluminium content.

### Bolts:

Steel.

### Seals:

Nitrile.

### Maximum working pressure:

1 bar.

### Working temperature:

-30°C to +90°C.

### Fluid compatibility:

Mineral and petroleum based oils.

### Note:

A 500mm model with metal shroud finished in black available.

### Recommended bolt tightening torque:

10 Nm maximum.

### Thermometer scale range:

+30°C to +90°C.

### Temperature Indicator:

Blue alcohol.

### Note:

1. Locate seals in mounting recess before fitting.
2. Select the size required by studying the installation details to determine a part number.

## Size 1 Installation Details

### For 'through hole' mounting:

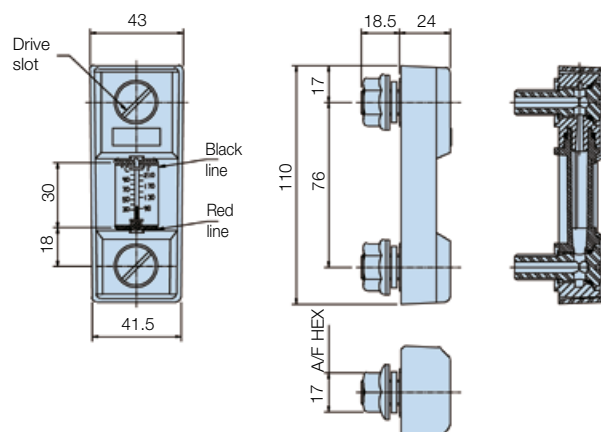
Hole size	-Thread-	
	M10	M12
Preferred	11.0	13.0
Maximum	13.0	14.0
Torque = 10Nm max		

### For tapped holes:

Holes to be tapped square to mounting face.  
 Tolerance on hole centres: +0.5  
 -0.2

### For welded back nuts:

The above details should be combined.



## Installation and Application Information

### Simple to Install

The universal fixing is designed for either front or rear fixing. Just two holes in the tank – threaded for front fixing – and the gauge is ready to install. After positioning the gauge the bolts are simply tightened to provide a secure seal. There is no fear of leakage with the square section seals and the two-point mounting system eliminates problems with tank distortion. M10 and M12 bolt thread options are available.

### Easy to Read

The high-visibility lens is one-piece for added security and moulded in shatterproof, transparent polyamide for an accurate and clear oil level and temperature indication. Further gauge protection is provided by a specially designed shroud moulded in high-impact, black polystyrene.

## Size 1 Ordering Information

### Standard products table

Part number	Supersedes	Description	Centres	Thread	Max temp	Weight
<b>FL69121</b>	FLT.121	Fluid level/temp	76mm	M10	90°C	0.13Kg
<b>FL69123</b>	FLT.123	Fluid level/temp	76mm	M12	90°C	0.13Kg
<b>FL69111</b>	FL.111	Fluid level	76mm	M10	90°C	0.13Kg
<b>FL69113</b>	FL.113	Fluid level	76mm	M12	90°C	0.13Kg

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

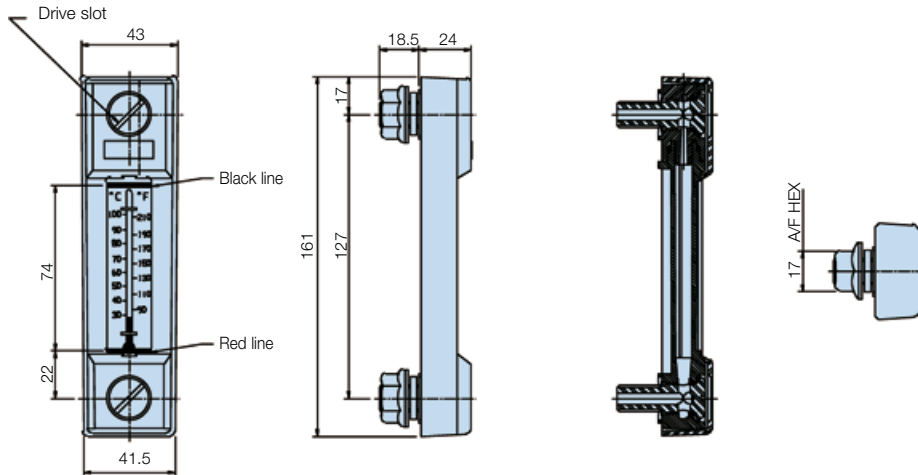
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.



# Fluid Level/Temperature Gauges

## Reservoir Equipment

### Size 2 Installation Details



### Size 2 Ordering Information

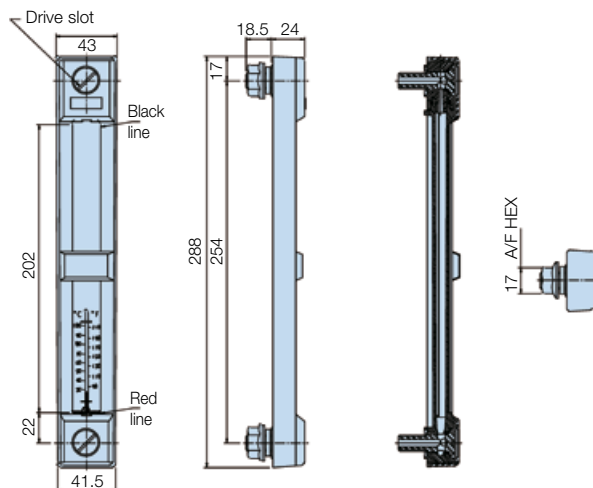
#### Standard products table

Part number	Supersedes	Description	Centres	Thread	Max temp	Weight
<b>FL69221</b>	FLT.221	Fluid level/temp	127mm	M10	90°C	0.15Kg
<b>FL69223</b>	FLT.223	Fluid level/temp	127mm	M12	90°C	0.15Kg
<b>FL69211</b>	FL.211	Fluid level	127mm	M10	90°C	0.15Kg
<b>FL69213</b>	FL.213	Fluid level	127mm	M12	90°C	0.15Kg

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### Size 3 Installation Details



### Size 3 Ordering Information

#### Standard products table

Part number	Supersedes	Description	Centres	Thread	Max temp	Weight
<b>FL69321</b>	FLT.321	Fluid level/temp	254mm	M10	90°C	0.23Kg
<b>FL69323</b>	FLT.323	Fluid level/temp	254mm	M12	90°C	0.23Kg
<b>FL69311</b>	FL.311	Fluid level	254mm	M10	90°C	0.23Kg
<b>FL69313</b>	FL.313	Fluid level	254mm	M12	90°C	0.23Kg

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# Reservoir Float & Level Switches

Reservoir Equipment



## Cost effective reservoir solution

### Float switches designed for on-site adjustment

A range of high quality, adjustable float switches. A reliable design using reed switches and available in 3 lengths – 500mm, 1000mm and 1500mm. additionally a capacitive level switch is available designed to detect the loss of fluid below its position in the tank.



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## Product Features:

- Adjustable float switches – 3 lengths available.
- Capacitive level switch designed to give a low level alarm.
- High quality, adjustable float switches available in 3 lengths – 500mm, 1000mm and 1500mm.
- Capacitive level switch – rugged construction, simple to install and with no moving components.
- Cost effective reservoir solutions with many applications.

# FL Series

## Adjustable Float Switch Reservoir Equipment

### Features & Benefits



The **FL Series** is a range of vertically mounted, single float level switches operating on the proven reed switch and magnet principle.

The **FL Series** float switch can be tailored by the user for a particular application, by adjusting the length of the float switch tube. It is also possible for the user to select the switching configuration by inverting the float, giving either open on rise or close on rise operation.

The unit is supplied part assembled, with detailed instructions for the user to complete assembly to the specifications of the application and to install the unit.

### Float Switch Features Include:

- Float switches can be adjusted on site
- Reliable design using reed switches
- 3 lengths available, 500mm, 1000mm and 1500mm

The **FL Series** is designed to be adjusted by the user to fit their tank. The unit consists of a stem with the reed switch and float already set in position. The customer can cut the stem to fit their tank, and assemble it to the header. The unit is then ready to be fitted to the tank.

The unit has a factory set “Open On Rise” switching configuration, but this can be changed by reversing the float.

Note: FL Series switches supplied as loose parts so no IP class applies. If assembled correctly by the customer, the IP class is IP67.

### Typical Specification

#### Installation

Mounting: 1" BSP threaded header  
Gasket: 2.0mm thick sealing washer  
Length: Adjustable up to 1500mm

#### Electrical specification

Supply voltage: 240 Vac maximum  
300 Vdc maximum

Switching current: 0.5A

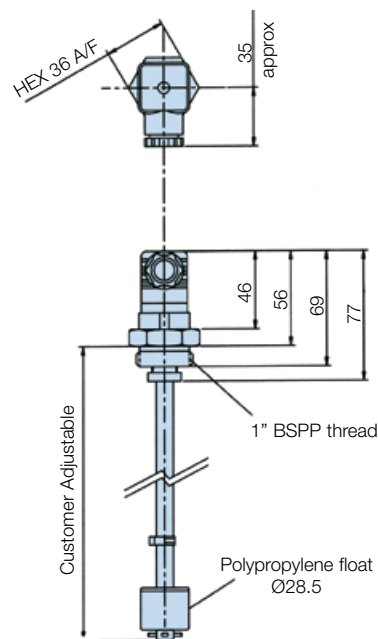
#### Material specification

Header: Brass  
Stem: Brass  
Float: Polypropylene  
Gasket: Klingersil grade C4324 to BS7531 grade Y

#### Other parameters

Fluid types: Any liquids compatible with brass and polypropylene

### Installation Drawing



### Ordering Information

#### Standard products table

Part number	Supersedes	Description
<b>FL050010R</b>	FL-0500-1-0R	500mm long float level switch
<b>FL100010R</b>	FL-1000-1-0R	1000mm long float level switch
<b>FL150010R</b>	FL-1500-1-0R	1500mm long float level switch

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

# CLS46

## Capacitive Level Switch Reservoir Equipment

### Features & Benefits



The **CLS46 Liquid Level Switch** is an active device which is designed to give an alarm signal if fluid falls below a preset level. It will only give an output signal after a few seconds of low level to eliminate false alarms due to turbulence. The fact that the **CLS46 Series** has no moving parts and incorporates a built in delay means that it is ideal in applications where mechanically operated switches mis-trigger due to vibration and fluid turbulence.

### Features Include:

- Rugged construction
- Simple to install
- Delay circuitry prevents false alarms
- Purely electronic, no moving components
- Integrated test feature

The **CLS46 Capacitive Level Switch** is designed to detect the loss of fluid below its position in the tank.

The **CLS46 Series** has no moving parts and it is therefore suitable for all applications, particularly where space and access inside a vessel is at a minimum.

The **CLS46 Series** compliments the existing range of level measurement instrumentation supplied by Parker Hannifin.

### Technical Specification

Dimensions: See drawing

#### Electrical rating:

Supply voltage: 7-40 Vdc      Supply current: 3.0mA  
Max. load current: 1.0A      Alarm delay time: 10.0 seconds

#### Connections:

V+: Positive power supply  
GND: Negative power supply or GND  
Output: Transistor switched to GND on alarm  
Test: Ground to operate  
Body: Connected to ground

#### Fluid types:

Mineral oils, typically used in engines or hydraulic actuators compatible with brass, PTFE and NBR.

#### Construction:

Body: Brass      Probe: PTFE  
Terminals: SAE CA210 brass, tin plated  
Seals: NBR  
Connector: 30% glass filled nylon 6

#### Environmental ratings

Max. pressure: 5.0 bar (72 PSI)  
Temp. ranges: Fluid: -40°C to +130°C  
Ambient: -40°C to +100°C  
Storage: -50°C to +140°C

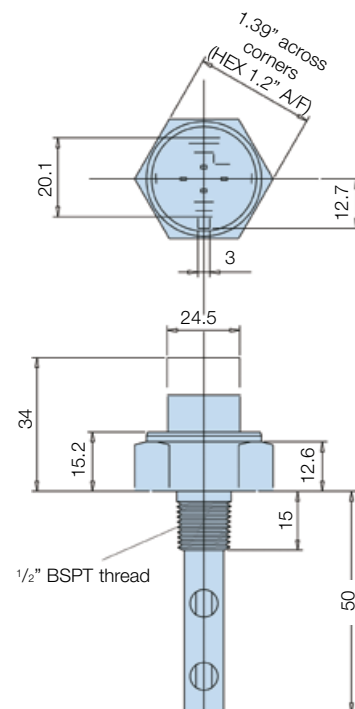
Sealing: IP67

Vibration: 6g 10-50Hz (600-3000rpm)

Shock: 50g, 6.3mS

Weight: 53g

### Installation Details



### Ordering Information

#### Standard products table

Part number	Description
<b>CLS46</b>	Capacitive fluid level sensor
CLS46Connector	Capacitive fluid level sensor connector

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Note 3: CLS46 does not include the connector.

