A background image of water splashing, with a vertical stream of water falling from the top and a larger splash at the bottom. The water is rendered in a light, semi-transparent style against a white background.

# Water Level Sensors

## Section 10

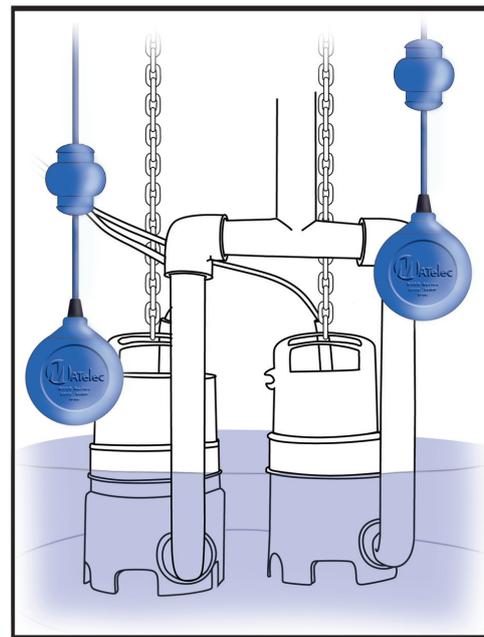
# Water Level Sensors

## Float Switches

The 9000 Series MATElec Float Switch, which utilises an innovative, yet simple 'fool proof' switching concept, has greatly enhanced Float Switch reliability. The positive microswitching eliminates the possibility of more than one circuit being in operation at any one time. The design innovation of the Switch is the 'sliding detent action' which obviates wave induced oscillation (common in mercury type switches) while maintaining consistency in switching level accuracy.

The smooth robust ABS switch housing on the 9006, 9008 and 9010 models, prevents adhesion of foreign materials.

Our extensive range of switches, cable types and cable lengths ensures we have the 'right' product to suit the application.



## Common Features & Specifications

<b>Liquid Temperature:</b>	Min 0°C (32°F) Max 60°C (140°F)
<b>Liquid Density:</b>	Min .65g/cm <sup>2</sup> Max 1.5g/cm <sup>2</sup>
<b>Protection:</b>	IP68 @ 20m (65ft)
<b>Working Pressure:</b>	.35MPa
<b>Switching Speed:</b>	600/min
<b>Contact Life:</b>	10 000 switches
<b>Switching Angle:</b>	20° (from horizontal)
<b>Max Voltage:</b>	750Vac
<b>Cable Size:</b>	ø 7mm/3 x .75mm <sup>2</sup> (9008 & 9010) or ø 6mm/3 x .5mm <sup>2</sup> (9006)
<b>Housing Material:</b>	ABS - Acrylonine Butadiene Styrene
<b>Cable Material:</b>	Oil / chemical resistant, submersible neoprene rubber cable
<b>Chemical Resistance:</b>	Acid - Good Alkaline - Good Petro - Good

# Water Level Sensors

## The Range



### 9006 Series

Product Code	Cable Length	Cable Type	Contacts	Switch Rating
FSW-12529	6m	Neoprene Rubber	N/C & N/O	6Amp
FSW-12530	10m	Neoprene Rubber	N/C & N/O	6Amp
FSW-12531	15m	Neoprene Rubber	N/C & N/O	6Amp
FSW-12532	20m	Neoprene Rubber	N/C & N/O	6Amp
FSW-12533	30m	Neoprene Rubber	N/C & N/O	6Amp
FSW-12534	40m	Neoprene Rubber	N/C & N/O	6Amp



### 9008 Series

Product Code	Cable Length	Cable Type	Contacts	Switch Rating
FSW-12511	6m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12512	10m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12513	15m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12514	20m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12515	30m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12516	40m	Neoprene Rubber	N/C & N/O	10Amp



### 9010 Series

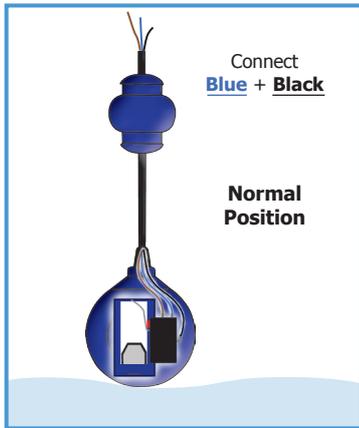
Product Code	Cable Length	Cable Type	Contacts	Switch Rating
FSW-12517	10m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12518	15m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12519	20m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12520	30m	Neoprene Rubber	N/C & N/O	10Amp
FSW-12521	40m	Neoprene Rubber	N/C & N/O	10Amp



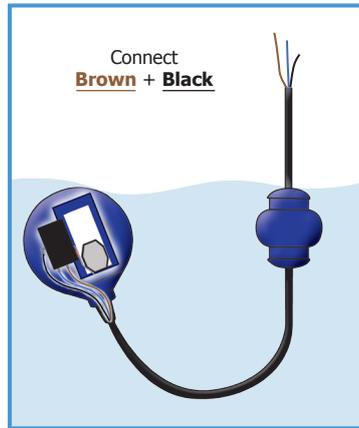
# Water Level Sensors Wiring Instructions



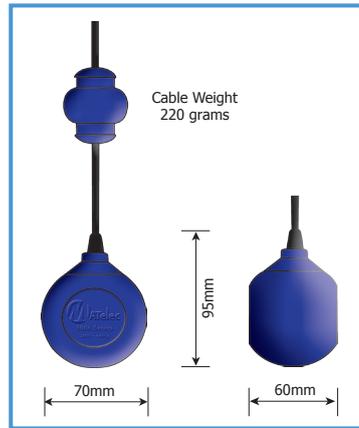
## 9006 Series - Wiring Instructions



Close on Fall - (Normally Closed)

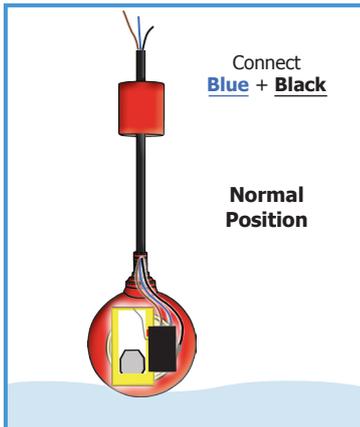


Close on Rise

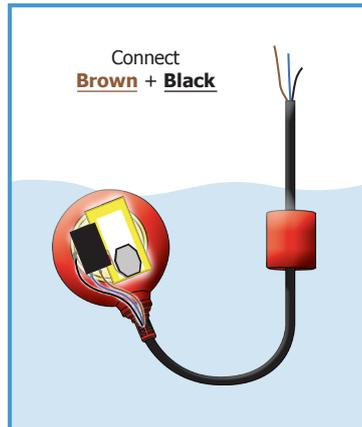


Dimensions

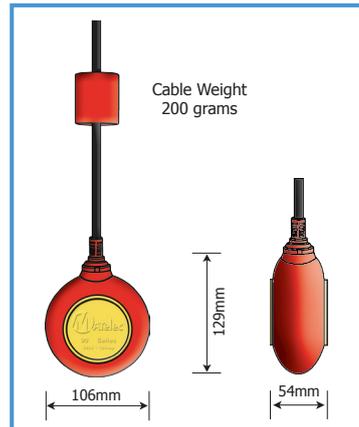
## 9008 Series - Wiring Instructions



Close on Fall - (Normally Closed)

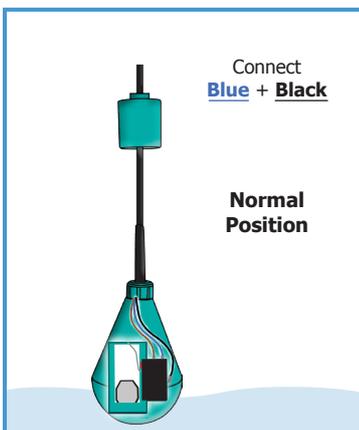


Close on Rise

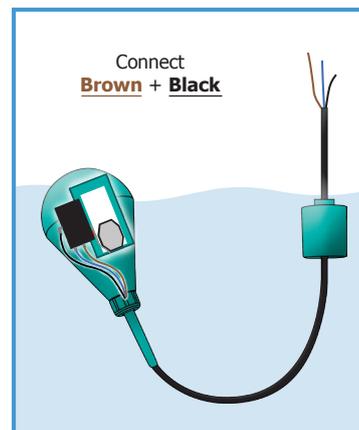


Dimensions

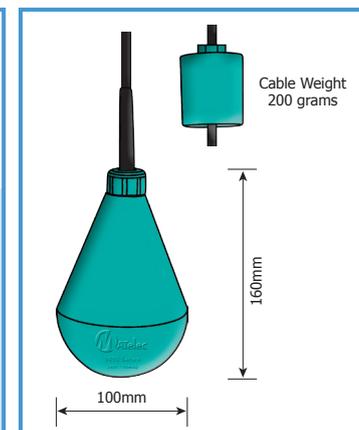
## 9010 Series - Wiring Instructions



Close on Fall - (Normally Closed)



Close on Rise



Dimensions

# Water Level Sensors

## Magnetic Float Switch



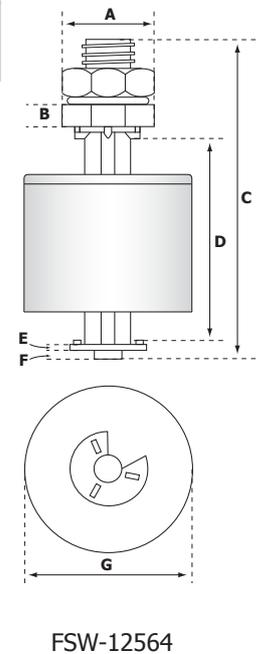
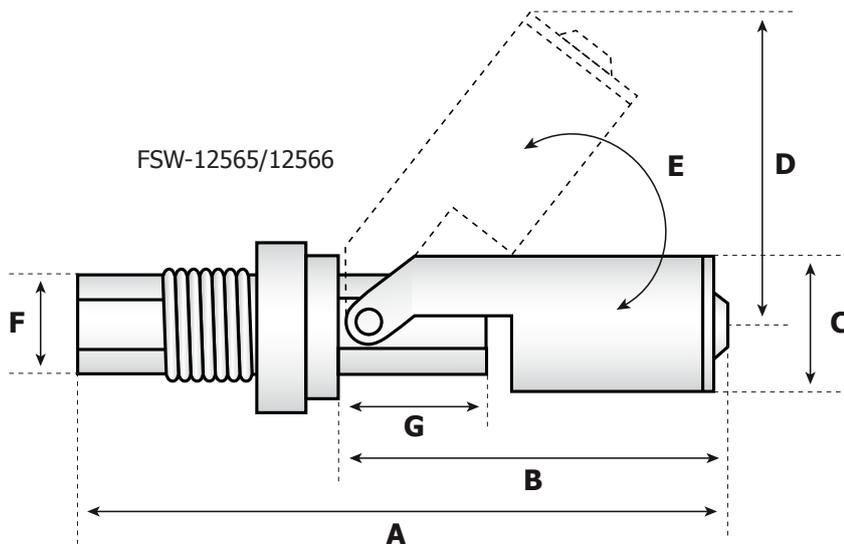
### FSW-12564 & FPC-12565

High quality housing suitable for most liquids eg: oils, mild chemicals. Fully immersible. Ideal for water tank systems such as rain or waste water management, activating boat bilge pumps etc.

Can be used to control pumps or electric valves when liquid levels change. Features a waterproof membrane which mounts on the inside of the tank.

### Dimensions

	A	B	C	D	E	F	G	Cable Length
FSW-12564	14mm	5mm	51mm	28mm	1mm	1.5mm	28mmØ	300mm
FSW-12565	88mm	56mm	18mm	40mm	45°	12mm	24mm	300mm
FSW-12566	88mm	56mm	18mm	40mm	45°	12mm	24mm	10m



## Common Features & Specifications

Switching Current:	0.5A DC
Contact Rating:	1.5A @ 200Vdc (max)
Contact Resistance:	100mΩ
Insulation Resistance:	10 <sup>12</sup> Ω
Magnetic Sensitivity:	20 to 50 AT
Operate Time:	0.8ms
Temperature Rating:	-30°C to 147°C

# Water Level Sensors

## Multi Level Float Switch

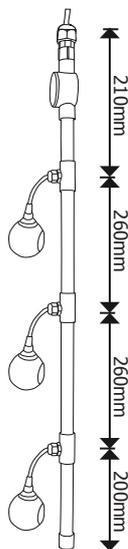
### FPC-12545 Specifications

Product Code	Operating Temperature	Housing Material	Cable Type
FPC-12545	0°C - 45°C	PVC	Neoprene Rubber

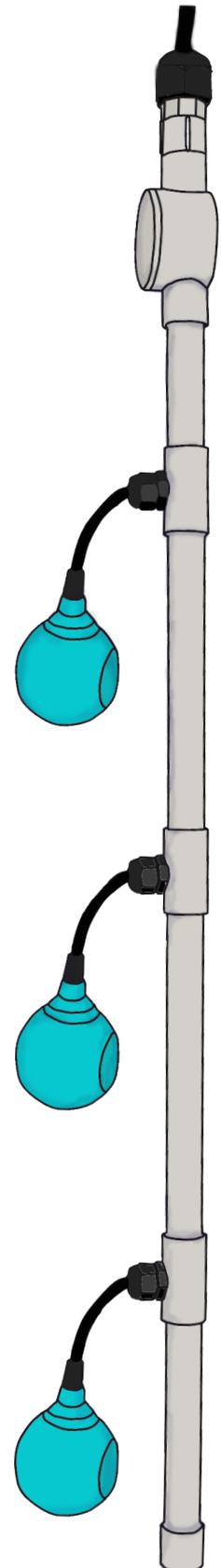
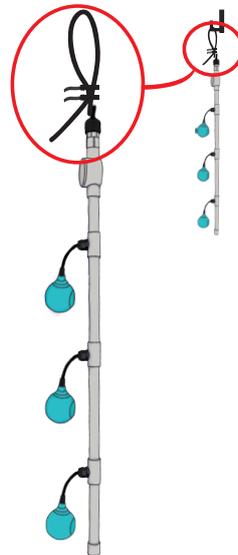
### Features:

- No more tangled floats
- No more setting up with conduits and ties
- No more trying to pull multiple float wires through undersized conduit
- No more trying to decipher which wires relate to which floats
- Resin filled / potted connection - fully submersible
- Neoprene rubber float cables
- Horizontal pivot point for switching accuracy / consistency
- Internally weighted obviating current induced travel

### Dimensions



### Mounting



### Connection



	Brown		Common
	Blue		Low
	White		Medium
	Orange		High

Artwork not drawn to scale

# Water Level Sensors

## Conductivity Probes



The MATElec Conductivity Probe is designed and manufactured with four preset, Stainless Steel Sensing Points. These would commonly be used as Common, Stop, Start and High Level.

The Probe would normally be set up in conjunction with a Conductivity Relay, which would interface with a Pump Control Circuit

The Probe can be used in a wide range of applications including: Potable, Grey, Black, Storm and Rain water.

Whilst the Probe has no serviceable parts, a periodic wipe down is recommended to maintain optimum performance.

### Features

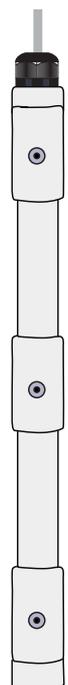
316 Single Stainless Steel Sensing Points

### Specifications

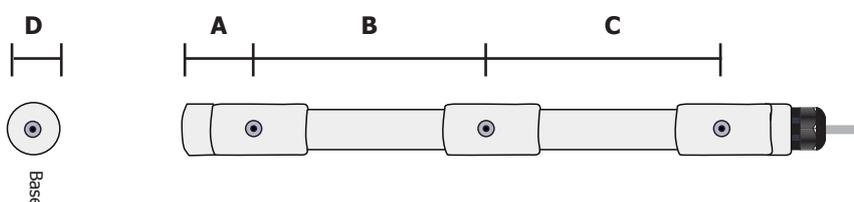
Mounting	Operating Temperature	Housing Material	Cable Type	Sensing Points
Directly into liquid (submersible)	0°C - 50°C	PVC	PVC	316 Stainless Steel

### The Range

CODE	SENSING POINTS	A (mm)	B (mm)	C (mm)	D (mm)	CABLE (m)
FPC-12530	4	55	50	50	30	10
FPC-12531	4	55	100	100	30	10
FPC-12532	4	55	150	150	30	10
FPC-12533	4	55	300	300	30	10



### Dimensions



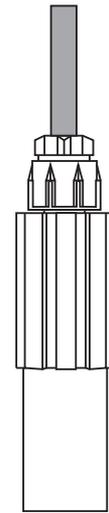
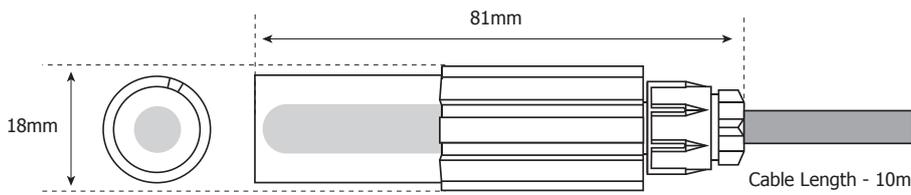
## FPC-12521 Specifications

Product Code	Weight	Mounting	Operating Temperature	Housing Material	Cable Type	Sensing Points
FPC-12521	45grams	Directly into liquid (submersible)	0°C - 75°C	ABS	Neoprene Rubber	304 Stainless Steel

### Features

Single Stainless Steel Sensing Points

### Dimensions



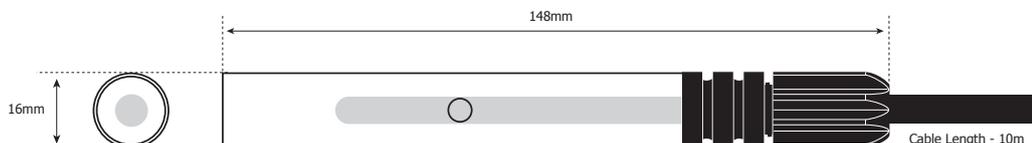
## FPC-12520 Specifications

Product Code	Weight	Mounting	Operating Temperature	Housing Material	Cable Type	Sensing Points
FPC-12520	100grams	Directly into liquid (submersible)	0°C - 75°C	304 Stainless Steel	Neoprene Rubber	304 Stainless Steel

### Features

Dual Stainless Steel Sensing Points

### Dimensions



# Water Level Sensors

## Hydrostatic Pressure Transducer



### FPC-12571 Functional Overview

This MATElec Hydrostatic Pressure Transducer is designed to be used for potable/raw/ rain water applications. (Not recommended for waste water. See model FPC-12570) The unit is suited to 4-20mA applications where precise level readings are required.

### Features

- Pressure Range: 0-1bar (0-10m)
- Small body diameter - 28mm
- Excellent repeatability and long term stability
- Excellent anti-interference ability
- Application: depth or level measurement in wells, open water and ground water level measurement

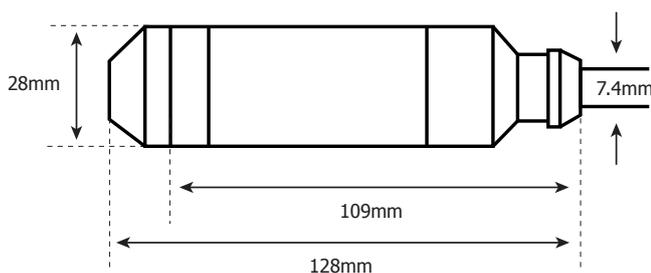


## Specifications & Dimensions

<b>Pressure Range:</b>	Gauge pressure: 0-1bar (0-10m)
<b>Level Range:</b>	0m-200m (site dependent)
<b>Overload Pressure:</b>	1.5 times full scale
<b>Accuracy:</b>	0.5% F.S
<b>Supply Voltage:</b>	12~30Vdc ; 24Vdc
<b>Output Signals:</b>	4~20mA
<b>Temperature Ranges:</b>	Compensated Temperature: 0~50°C Media: -10~70°C Environment: -30~85°C Storage: -40~125°C

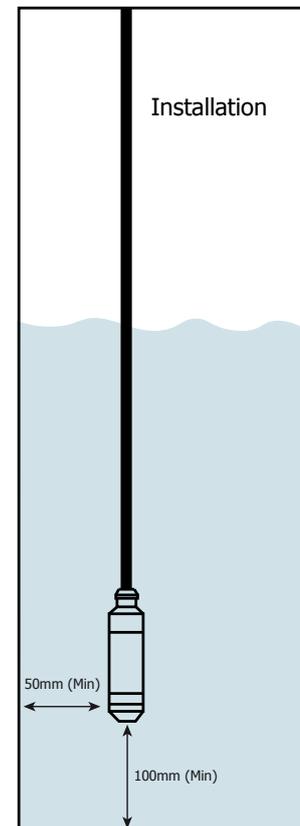
<b>Temperature Compensation:</b>	0.02%F.S./°C
<b>Electrical Connection:</b>	Vented Cable
<b>Protection Classification:</b>	Sensor is IP68
<b>Vibration:</b>	20g ; 20~5000HZ
<b>Housing Material:</b>	316 Stainless Steel
<b>Operating Life:</b>	>1x10 <sup>8</sup> Pressure Cycles

### Dimensions



### FPC-12569 Hydrostatic Transducer Bracket

Optional "non kink" Hanging Bracket



# Water Level Sensors

## Hydrostatic Pressure Transducer



### FPC-12570 Functional Overview

This MATElec Hydrostatic Pressure Transducer is designed to be used for both potable/raw/rain water and waste water applications. The unit is suited to 4-20mA applications where precise level readings are required.

### Features

- Pressure Range: 0-1bar (0-10m)
- Small body diameter - 39mm
- Excellent repeatability and long term stability
- Excellent anti-interference ability
- Application: depth or level measurement in wells, open water and ground water level measurement

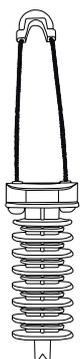
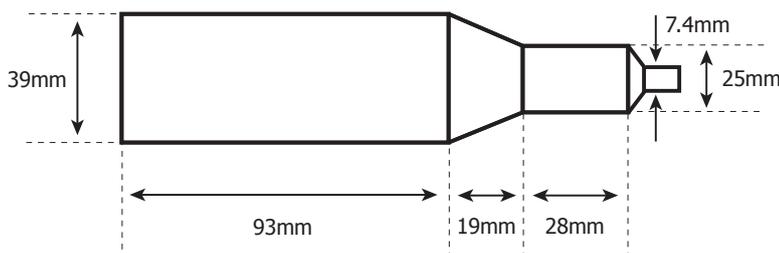


## Specifications & Dimensions

**Pressure Range:** Gauge pressure: 0-1bar (0-10m)  
**Level Range:** 0m-200m (site dependent)  
**Overload Pressure:** 1.5 times full scale  
**Accuracy:** 0.5% F.S  
**Supply Voltage:** 12~30Vdc ; 24Vdc  
**Output Signals:** 4~20mA  
**Temperature Ranges:** Compensated Temperature: 0~50°C  
 Media: -10~70°C  
 Environment: -30~85°C  
 Storage: -40~125°C

**Temperature Compensation:** 0.02%F.S./°C  
**Electrical Connection:** Vented Cable  
**Protection Classification:** Sensor is IP68  
**Vibration:** 20g ; 20~5000HZ  
**Housing Material:** Stainless Steel  
**Operating Life:** >1x10<sup>8</sup> Pressure Cycles

### Dimensions



### FPC-12569 Hydrostatic Transducer Bracket

Optional "non kink" Hanging Bracket

