PRECISION™
ENGINEERING INDUSTRIES

Continues Improvement....

JAS-ANZ

Precision Engineering Industries

AN ISO 9001:2008 & S.S.I. Certified Company

MAGNETIC FLOAT LEVEL CENSOR & SCR BATTERY CHARGER

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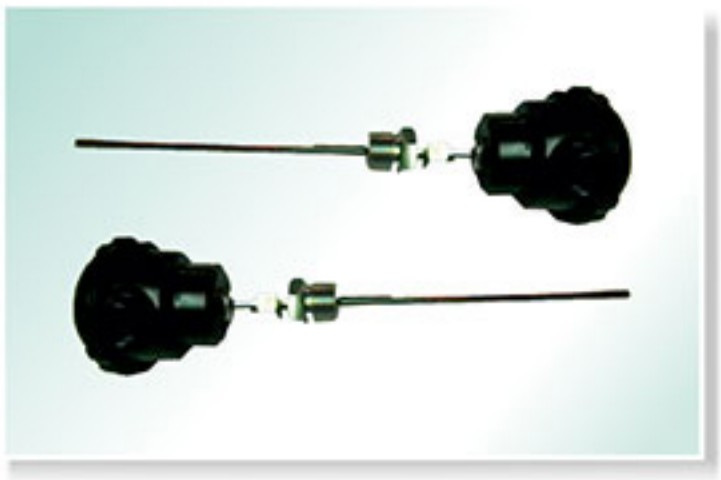
PRECISION™ ENGINEERING INDUSTRIES

RTD TEMPERATURE SENSOR



PVMT-42-1" BSP(M)-PG9

Model	:	(PVMT-42-1" BSP(M)-PG9
Process Connection	:	Threaded to 1" BSP (M)
Material of Construction	:	Hex, Pipe & stopper in SS 316 & Float in SS 316 L.
Type of Switch	:	SPST
No of Switches	:	Maximum 2 Any (2 Levels only)
Switch Rating	:	100VA
Total Stem Length	:	As per your Requirement (Maximum up to 1 meter)
Float	:	28mm dia x 28mm or 28mm dia x 47 mm
Maximum switching Voltage	:	300 VAC / DC
Maximum Working Temperature	:	125°C
Maximum working Pressure	:	4 kg/cm²
Enclosure	:	DIN 43650 Plug & socket Type Connector

NOTE : We can give maximum up to 4 levels with 4 floats with PG9 Cable Gland as shown in the photograph on the front page of our catalogue. More details on request.

PVMT-16V

Model	:	(PVMT-16V)
Process Connection	:	¼" BSP(M)
Mounting Hole	:	13 mm
Gaskets	:	PTFE Teflon flat Ring
Material of Construction	:	SS 316
Type of Switch	:	SPST
Switch Rating	:	60VA
Total Stem Length	:	80mm below hex
Float	:	41mm dia x 54mm long
Maximum switching Voltage	:	230 VAC / DC
Maximum Working Temperature	:	125°C
Maximum working Pressure	:	7 kg/cm²
Wire Length	:	1 meter long 19/36 SWG PTFE insulated
Wire color code	:	Red- Common, Black –NC, Yellow - NO
Model	:	VMT- 16m-L PVMT 19 ML
Process Connection	:	¼" BSP(M)

PVMT- 16 -3" TC

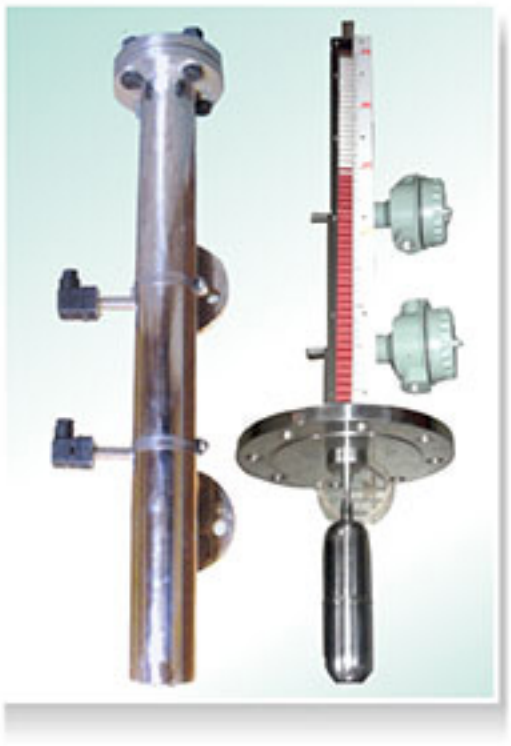
Model	:	PVMT- 16 -3" TC
Process Connection	:	3" TC (Any other TC size can be given)
Material of Construction	:	SS 316.
Type of Switch	:	2 Nos. SPST Reed – Switches. (Maximum of 4 Levels)
Contact Configuration	:	Low Level – makes / breaks on fall of level.
	:	High Level – makes / breaks on rise of level.
Switch Rating	:	100 VA
Total Stem Length	:	As per your Requirement
Float	:	50mm dia x 85mm long.
Maximum switching Voltage	:	300 VAC / DC
Maximum Working Temperature	:	125°C (Higher Temperature of 175°C optional)
Maximum working Pressure	:	10 kg/cm²
Enclosure	:	Cast Aluminum Weather proof - IP66

PSMT F 82

Model (SMT-04-F82) or (SMT-04-F92) Side mounted miniature level switch. 82 or 92mm square flange with 4 bolt holes of 10/14 mm dia on 82 or 92 mm PCD respectively . Material of construction – SS 304 (For wetted parts in SS 316 please denote by 16 instead of 04 in the model). Float diameter – 48mm. SPDT Reed switch rated 100VA, Maximum switching voltage – 230 VAC/200 VDC, maximum switching current – 3 Amp. Bakelite terminal with SS 304 enclosure having neoprene grommet for cable entry. Maximum working pressure- 10 kg/sq.cm & Temperature – 125 deg C. Specific gravity – Down to 0.5.

BI-COLOUR ROLLER

Scale	:	Black Powder Coated Aluminium/Acrylic/Stailess Steel 304, engraved Markings & numerals.
Process Connection	:	3/4" ASA 150 Lbs flanged as Standard. Other connections as per customers' specification.
Mounting	:	Side/Top Mounted Center to Center Distance between flanges:500, 1000, 1500 mm Or as per request. (Max. 3000 mm) For Top mounting. Please specify tank height.
No of Electric Contacts	:	High, Low or Both High and Low
Type of Contacts	:	Adjustable externally throughout the range.
Operating Temperature	:	Please Specify
Operating Pressure	:	Please Specify
Specific Gravity of the Fluid	:	Please Specify



- ***BYEPASS TYPE LEVEL SWITCH WITH EXTERNALLY ADJUSTABLE NON INVASIVE ELECTRIC CONTACTS.***
- ***BICOLOR ROLLER INDICATOR OR A TRANSMITTER CAN BE ATTACHED AT SITE. WITHOUT INTERRUPING THE PROCESS***

TERMINAL ENCLOSURE DETAILS

Cast Aluminum Flame Proof Enclosure as per IS 2148-2004 and IP 66-WP.
Suitable for group I, II A & II B gases.
Group II available on request.

Cast Aluminum Weather proof enclosure IP 66-WP.
SS 304 Weather Proof Enclosure.

DETAILED OF STANDARD FLANGED CONNECTIONS

Flange F60, F65, F82, F92 SATANDARD CONNECTION (All Dimension in mm)	Flange Denoted	Outside Dia Dimension	Bolt-Hole Circle Dia (PCD)	No. of Bolt-Hole	Bolt-Hole Dia	Thick-ness
	F60	78 Dia	60	4	6	8
	F65	78 Dia	65	4	6	8
	F82	82 mm (SQR)	82	4	10	10
	F92S	92 mm (SQR)	92	4	14	12
	F92	120 Dia	92	4	14	12
	F120	150 Dia	120	4	14	12

Any other connections as per ASA/DIN/JIS/BS Table on request to suit specific requirements.

Ordering Specifications for Top Mounted Level Switches.

a) Material of Construction : SS304 / SS 316 / SS316L / PVC / PP or others.
b) Process Connection : Flanged - our standard / or as per ASA, DIN, BS OR JIS
Threaded - 1". 11/2" - BSP or NPT.
c) Enclosure : Castt Aluminum Weather proof / SS weather proof / Flame proof /
DIN 43650 plug & Socket type.
d) Total Stem Length : Maximum up to 3 meters
e) No. of Levels : 1,2,3,4, up to maximum of 5
f) No of Floats : 1,2,3,4, or 5 Contact Configuration.
g) Configuration : Low Level - makes / breaks on fall of level.
High Level - makes / breaks on fall of level.
h) Switching Distance from flange
i) Height of Tank
j) Operating process Temperature
k) Operating process Pressure
l) Operating Voltage
m) Specific gravity and name of liquit.
n) Application

Note : *Product Development being a continues feature, Dimensions are likely to be changed without notice.*

SALIENT FEATURES:

- Reed – Switch actuated level switches work on the principal of magnetic flux linkage and therefore they are glandless and leak-proof instruments.
- No Power Consumption.
- Contacts are potential free, NO, NC or changeover contacts can be provided.
- Practically no maintenance is required except periodic cleaning.
- As reed – switches are inside metallic tube - guide pipe, they are protected from mechanical damage.
- As the reed switches are "hermetically sealed –in – glass", under an inert gas atmosphere' contacts are protected from contamination.
- Reed switches, due to their low contact resistance are generally recommended for low voltage application. Reed switches have rhodium contacts.
- Wherever Low Voltage are available 24V or less Reed-Switch actuated level switches may be used directly, Otherwise it should be used in conjunction with our " Electronic control Unit". This ensures enhanced life of the level switch.
- Wide operating temperature range from - 40°C + 125°C. Higher temperatures up to 175°C as optional.
- Reed- Actuated level switches are ideal where vibration is involved.
- In a single level switch we offer a maximum of 5 level sensing.
- For highly viscous liquids heavy floats with Teflon coated guide pipes are available & also our Model VMT-EXT can be used.

PVMT 19m-L

Model	:	PVMT-19m-L
Process Connection	:	¼" BSP(M)
Mounting Hole	:	13 mm
Gaskets	:	PTFE Teflon flat Ring
Material of Construction	:	SS 316
Type of Switch	:	SPST
Switch Rating	:	60VA / 100VA
Total Stem Length	:	32mm horizontal & 75 mm vertical
Float		28mm dia x 28mm long
Maximum switching Voltage	:	300 VAC / DC
Maximum Working Temperature	:	125°C
Maximum working Pressure	:	4 kg/cm²
Wire Length	:	1 meter long 19/36 SWG PTFE insulated

NOTE : By reversing the float the contacts can be changed from NO to NC or vice versa.

MAGNETIC LEVEL SWITCHES

MAGNETIC LEVEL SWITCHES
DUAL MAGNET HORIZONTAL MOUNTING FLOAT SWITCH

Principle of operation : PRECISION Make model PMLS Magnetic level switches work on the principal of magnetic repulsion and therefore they are glandless and leak proof instruments. A permanent magnet fitted in the tail piece of the float repels another magnet inside the switch housing which in turn operates an SPDT micro switch. Micro switch contacts can be utilized for initiating audio-visual signals or pump control.

SALIENT FEATURES:

- As our switches work on magnetic repulsion principal, they are glandless and leak proof.
- No power consumption.
- Internal assembly wirings are Teflon insulated.
- Internal switch assembly bracket is of cast aluminum.
- Practically no ,maintenance is required except periodic cleaning.
- Suitable for 2.5" (65 mm) NB nozzle mounting.(for 63 mm Dia float) and 2" (51 mm) NB nozzle for 48
- Differential between make and break 10mm approximately.
- Maximum working pressure 10kg/cm².
- Maximum working temperature - 250° C. (Process Temperature)
- Contact ratings of MICROSWITCH 5 AMPS at 230 VAC Resistive.
- No of contacts : 1 change over as standard. Optional – 2 change over for high temperature up to 350°C (Process temperature).
- 1 Number SPDT reed switch with current rating 100 VA, max. Switching current 5AMPS, Max, Switching Voltage 230 VAC/ 200 VDC.
- Specific Gravity Range : Down to 0.75.

Note : Flanged connection as per ASA/BS/DIN or JIS available on request, as per customer requirement.

Caution:

- Level Switches should not be used for direct starting / Stopping of pumps. An external relay or contactor must always be used with the level switch.
- PMLS side mounted level switches must always be mounted horizontally with outgoing cable entry

TECHNICAL SPECIFICATION :

PRECISION make Model (PMLS-F82) or (PMLS-F92)Side Mounted magnetic level switch. Process connection -82 or 92 mm square flange with 4 bolt holes of 10/14 mm Dia 82 or 92 mm PCD respectively. Material of construction of Flange, brackets, fulcrum screws, body and cover –SS 304.SS 316 Float, 1 no SPDT micro switch having current rating 5 Amps at 230 VAC resistive. Differential between make and break 10mm approximately. Maximum working pressure 10 kg/sq. cm and temperature 250 deg C. specific gravity down to 0.7 cable entry neoprene grommet. Supplied with 1.5 meter long 3- core PVC cable. F92 in the model no denotes 120 mm Dia round flange with 4 bolt holes of 14 mm on 92 PCD.

OPTIONAL : a) Micro switch with current rating 10Amps at 230 VAC res.
b) Adjustable differential up to approx -250 mm
c) With 2 micro switches i.e., 2 NO + 2 NC.

PVMT- 04- F65 – GN – PG9

Model	:	PVMT- 04- F65 – GN – PG9
Process Connection	:	78mm round flange with 4 nos bolt holes of 5mm dia on 40mm
PCD	:	
Material of Construction	:	Flange in Glass filled nylon, Float in PU & Pipe in SS304.
Type of Switch	:	SPST – Single Level Only.
Switch Rating		60VA
Total Stem Length	:	As per your Requirement
	:	(Maximum up to 1 meter)
Float	:	25mm dia x 25mm long
Maximum switching Voltage	:	230 VAC
Maximum Working	:	
Temperature	:	70°C
Maximum working Pressure	:	2 kg/cm²
Cable Entry	:	PG7
Wire Length	:	1 meter standard (3 Core PVC insulated)

PCLX 3000 micro controller based capacitive level transmitter

FEATURES :

- Microcontroller based design (Precision Make)
- Capacitive sensing
- Linear (4 - 20)mA output
- Calibration and scaling though keyboard
- Compact, rugged and field proven

DESCRIPTION :

Precision Industries offers microcontroller based capacitive level transmitter, designed to accurately measure the level in the liquid tank (For example level of water, diesel, petrol chemicals etc). The max.length of the sensing probe is 4 meter and hence the length of 4000mm can be accurately measured and equivalent (4-20)mA Signal can be transmitted over long distance.

The onsite calibration and scaling is made possible using the push button keys with LED indications to guide the calibration procedure.
The transmitter is available in industrial grade aluminium die cast FLP head to protect against harsh environment.

TECHNICAL SPECIFICATION :

Model	**PCLX-3000**
Input	Capacitor Sensor 50 to 500pF
Output	(4-20)mA over calibrated range RLmax = 400 ohm
Accuracy	Better than +/-0.5% of the range
Calibration	Using Push button switches for ZERO and SPAN
Supply	24VDC@60mA max.
Size	(65 Dia x 20 H) mm
Mounting	Head Mounting

ELECTRONIC CONTROL UNITS

PRECISION Make Electronic control unit in conjunction with level switches can be used for pump control, opening and closing of electrically valves, heaters and or high and low level indication.

The electronic unit model LC1FL reduce the voltage and converts it to 5 VDC for operating of reed switches enhancing their life, above all ensuring operational safety. The LED's in the front panel indicates main power supply on, pump start & stop condition. The start / stop push buttons in the front panel enables testing of the control unit and also manual start and stop. The control unit has a change over potential free relay output contact-hold on type. contact change over takes place between high and low level only. Relay contacts are rated 5 Amps at 230 VAC. Control action can be reversed site by changing connection from NC to NO.For certain application where high and low level indications are required, 2 separate relay output contacts are provided in the control unit-with LED indications for High, Low and mains on.Model LC2FL are used boilers where HL & LL are used for pump start & stop while VLL is used for heater cut off.

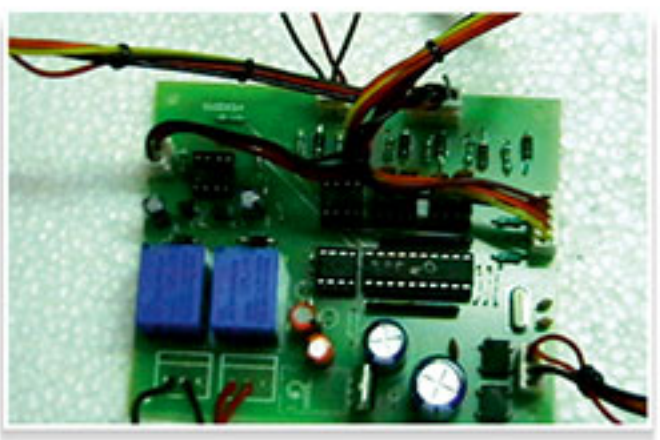
TECHNICAL SPECIFICATION :

Overall Dimension	:	72 x 72 x 110mm
Mounting	:	Flush panel
Panel Output	:	69 x 69
Mains power supply	:	230V AC / 24 VDC
Input Signal	:	Float Switch Contacts
Output		1 Potential free c/o contact (Latching)
Contact Rating	:	5 A at 230 VAC Res
LED Indication	:	Mains On, Start, Stop
Push button	:	Start, Stop
Optional	:	for High & low level two separate relays shall be provided without push buttons.

Overall Dimension	:	72 x 72 x 110mm
Mounting	:	Flush panel
Panel Output	:	69 x 69
Mains power supply	:	230V AC / 24 VDC
Input Signal	:	Float Switch Contacts
Output	:	1 Latching c/o contact between high & low.
		1 c/o for V low level.
Contact Rating	:	5 A at 230 VAC res
LED Indication	:	Mains On, High, Low, Very Low

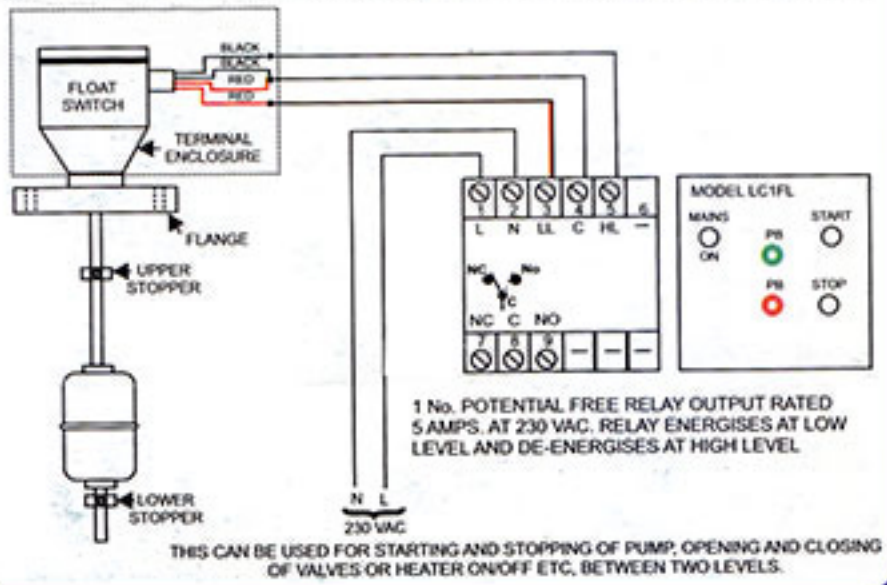
Mounting	:	Flush panel
Panel Output	:	69 x 69
Mains power supply	:	230V AC / 24 VDC
Input Signal	:	Float Switch Contacts
Output	:	1 c/o for V low level.
Contact Rating	:	5 A at 230 VAC res

IC PROGRAMMABLE CONTROLLER



IC PROGRAMMABLE CIRCUIT

PRECISION MAKE 2 POINT LEVEL SWITCH WITH ELECTRONIC CONTROL UNIT
MODEL LC-1FL WITH LATCHING CONTACT BETWEEN HIGH LEVEL AND LOW LEVEL

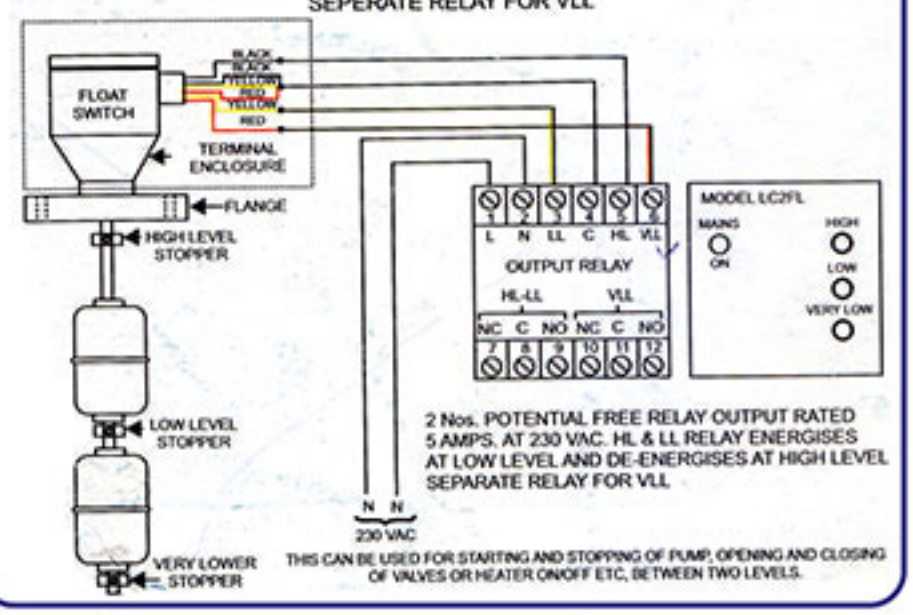


1 No. POTENTIAL FREE RELAY OUTPUT RATED 5 AMPS. AT 230 VAC. RELAY ENERGISES AT LOW LEVEL AND DE-ENERGISES AT HIGH LEVEL

THIS CAN BE USED FOR STARTING AND STOPPING OF PUMP, OPENING AND CLOSING OF VALVES OR HEATER ON/OFF ETC, BETWEEN TWO LEVELS.

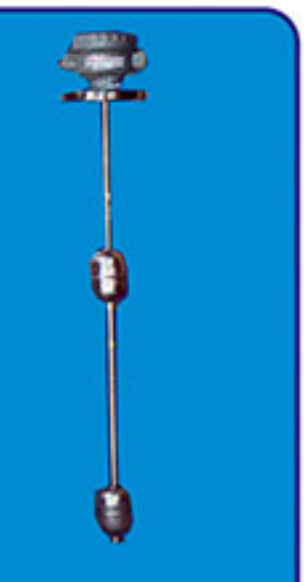
Model
(VMT-04-F82)

PRECISION MAKE 3 POINT LEVEL SWITCH WITH ELECTRONIC CONTROL UNIT
MODEL LC-2FL WITH LATCHING CONTACT BETWEEN HIGH LEVEL AND LOW LEVEL,
SEPERATE RELAY FOR VLL



2 Nos. POTENTIAL FREE RELAY OUTPUT RATED 5 AMPS. AT 230 VAC. HL & LL RELAY ENERGISES AT LOW LEVEL AND DE-ENERGISES AT HIGH LEVEL SEPARATE RELAY FOR VLL

THIS CAN BE USED FOR STARTING AND STOPPING OF PUMP, OPENING AND CLOSING OF VALVES OR HEATER ON/OFF ETC, BETWEEN TWO LEVELS.



Model
(VMT-04-F92-FLP)

CABLE SUSPENDED FLOAT SWITCH

Cable float switch is a control device for filling and discharging pumps, motor and magnetic valves. it is also an alarm device at certain pre-determined surface levels. it is suitable for use in non-flammable liquids at 250 volts. In dangerous environments (e.g. wells and pumping stations) we recommend 24 V voltage. In potentially explosive atmospheres (e.g. oil tanks) the Switch can be used in conjunction with (Ex) i-isolator switch units. Due to its large float casing the float Switch has a buoyancy which guarantees smooth, trouble-free operation under all conditions. The switch has double chamber and a final rebounding finish to make it absolutely hermetic.

INSTALLATION

Cable Float Switch is simply placed in the liquid so that the float follows the movement of the surface. The switching height differential is adjusted by moving the weight along the cable. The differential is minimum, when weight is nearest to the float. If the viscosity of the liquid is high, we recommend an extra weight on the cable.

Switching element	micro switch
Life of Switch	1 Lac Operations
Reted Voltage	250 VAC
Rated Current	10 A at 230 VAC Res
Optional	15 A at 230 VAC
Pressure rating	2 Bar
Heat rating	70 degrees C.
Standard Cable length	5Mtrs (Max. 20 Mtrs)
Float Material	Polypropylene (PP)
Cable insulation	PVC
Protection	IP 68

OUR PRODUCTS

- Water Level Sensor, Top mounted, Side mounted,
- Level Capacitance Transmitter 4-20 mA Output
- Float Guided level Transmitter 4-20 mA Output
- Bicolour Level Indicator
- Tubulor Level Guage
- SCR Controller Battery Charger
- DG Battery Charger
- Butterfly Valve / Solenoid Valve