LEVEL MEASUREMENT & CONTROL SOLUTIONS

CAPACITANCE TYPE LEVEL SWITCH FOR SOLIDS 114 MLS

Capacitance Type Level Switch 114 MLS uses SBEM's proven capacitance technology with the added feature of Microprocessor . It is a Single or Two point Weatherproof level switch. can be used in a veriety of application for detecting / controlling level of solids / liquids when used with suitable probe unit.

❖ APPLICATIONS:

Detecting / Controlling level of dry / moist,free flowing solids like Cement, clinker, limestone, coal, fly ash,foundry sand, iron ore,nylon / PVC chips, pellets, food grains, etc.

❖ FEATURES:

- ❑ Surface/Pipe mounting versions
- ❑ Built in Time delay and probe failure (Optional)
- ❑ One point or Two point switch available.

❖ SPECIFIACTIONS:

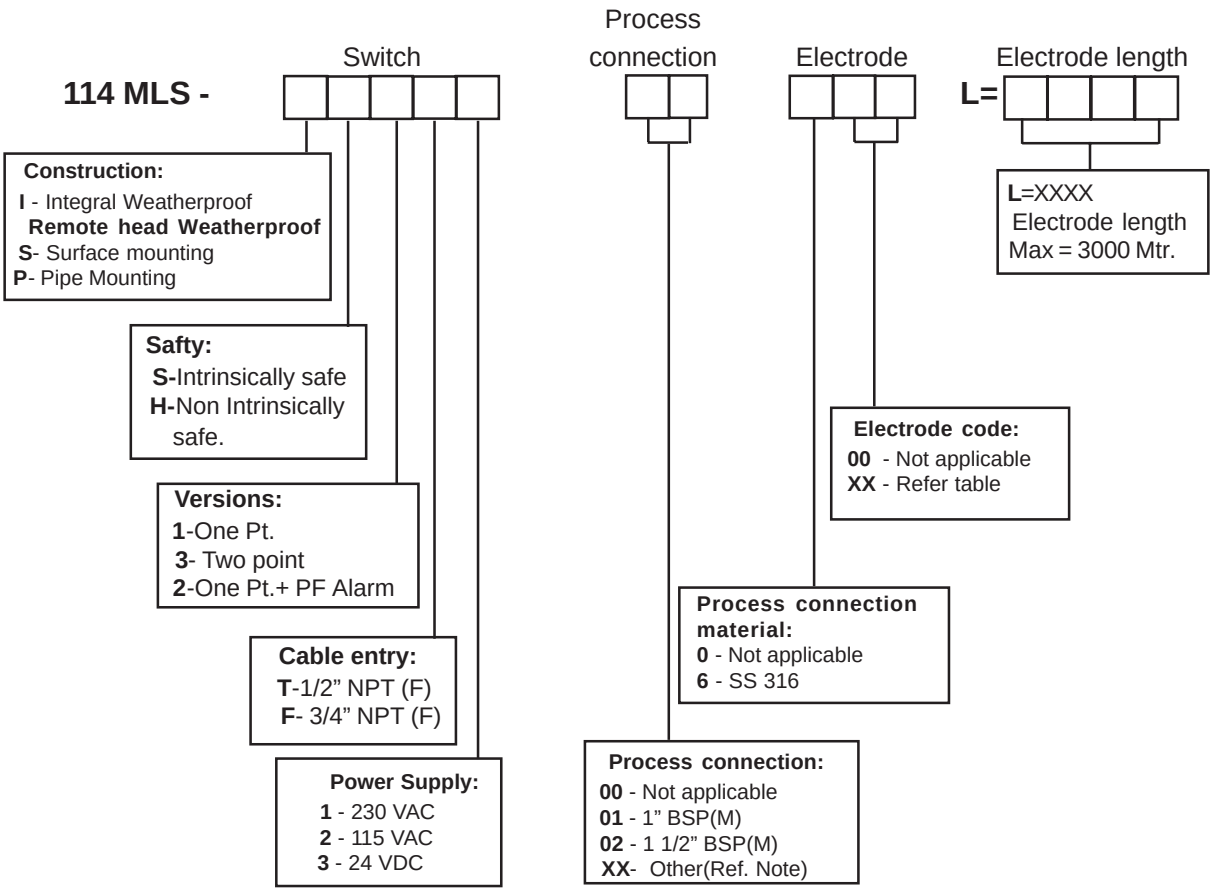
CONTROLLER UNIT :

- ❑ **Power supply:** 115 VAC/ 230VAC/24VDC.
- ❑ **Relay contacts:**
  2 C/O, 5A @ 230VAC,Resistive
- ❑ **Versions:**
  1 – Level alarm (With time delay)
  2 – Level and probe failure alarm (Optional)
- ❑ **Fail safe feature:**
  DIP switch settable fail safe high (FSH) or fail safe low (FSL)
- ❑ **Time delay:**
  0 – 200sec
- ❑ **Controls:**
  Potentiometers to set : Level Alarms.
  : Time Delay.
  DIP-For setting level alarms.
- ❑ **Indications:**
  Red LED for Level Alarms Bi-Color LED for Bi-colour LED for level above set point.
  Red LED for Probe failure (Optional).
- ❑ **Sensitivity:**
  ± 0.5% of probe output
- ❑ **Environmental conditions:**
  Temperature : -10º C to + 60º C
  Relative Humidity : 0 % to 95 %
  (Non condensing)
- ❑ **Terminals:**
  Suitable for 1.5 sq. mm size conductor (Max)
  (Refer Note. 5)
- ❑ **Cable entries :** $^1/_2$" NPT(F), ¾" UNF (F)
- ❑ **Location:**
  Suitable for installation in safe area.
- ❑ **Enclosure:**
  Cast aluminum, Polyurethane painted, Weatherproof to IP-65

ELECTRODES :

Electrode	Duties
Rigid Partially grounded Dia.27 mm PTFE Insulated.	Dry solid, Nylon/PVC chips & pallets, food grains,etc.
Coat safe PTFE Insulated	Moist, free flowing solids,Cement,Fly ash, Bag filler,ESP Hoppers
Coatsafe high Tempera-ture alumina insulated	Fly ash, Clinker

ORDERING CODE :



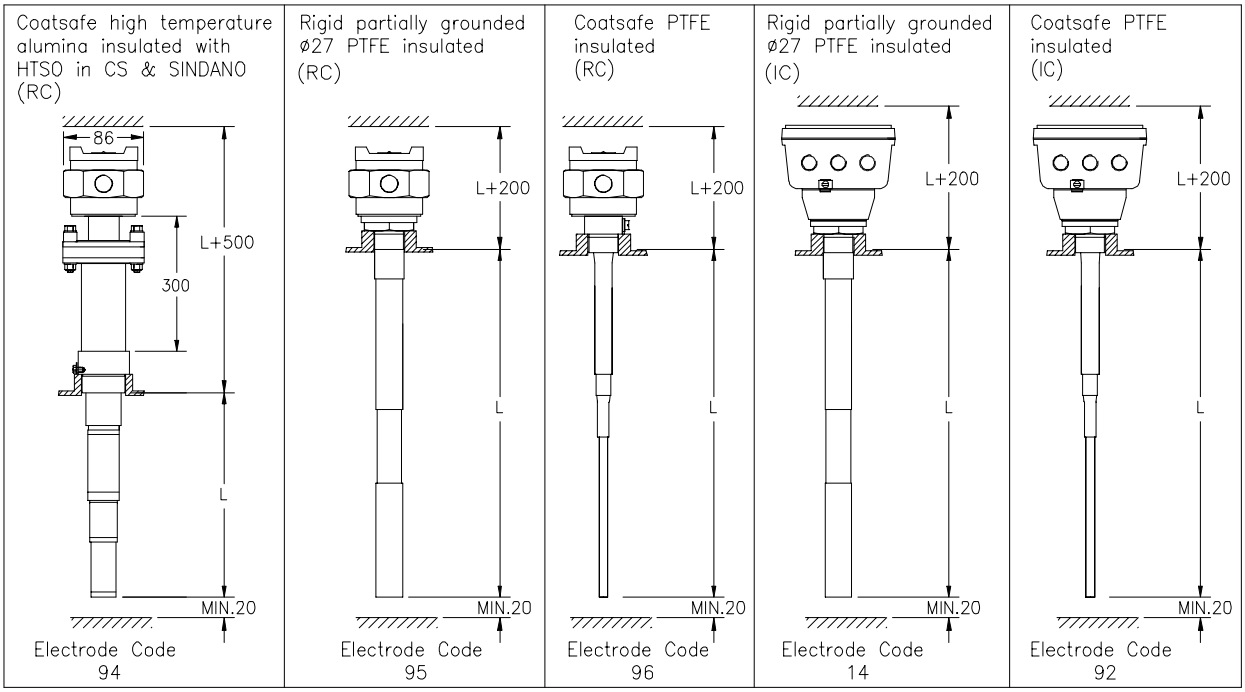
ELECTRODE SELECTION GUIDE :

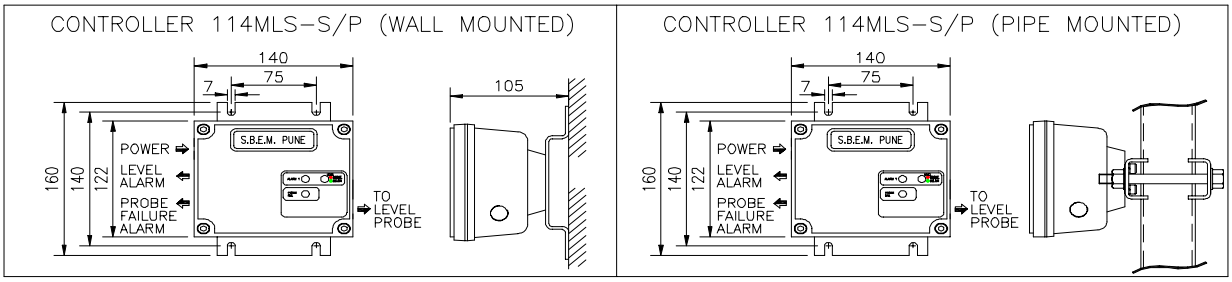
CODE NO.	ELECTRODE DESCRIPTION	SERVICE	PROCESS CONNECTION		MOC OF SENSING ELECTRODE	CONST RUCTION I/R	TRANS DUCER	MTG. V H	ELECTRODE LENGTH (`L`mm)		HYS. mm. TYP.	OPERATING CONDITIONS	
			THD.	INT. FLGD. MIN.					MIN.	MAX.		TEMP. IN °C MAX.	PRES. IN Kg/cm² MAX.
14	RIGID PARTIALLY GROUNDED f27mm PTFE INSULATED	DRY SOLIDS, NYLON / PVC CHIPS & PELLETS, FOOD . GRAINS ETC.	01	-	SS316	I	T910	V H	350 350	3000 3000	50	60	ATM -
95	RIGID PARTIALLY GROUNDED f27mm PTFE INSULATED	DRY SOLIDS, NYLON / PVC CHIPS & PELLETS, FOOD . GRAINS ETC.	01	-	SS316	R	T910	V H	350 350	3000 3000	50	180	ATM -
92	COATSAFE PTFE INSULATED	WET SOLIDS, CEMENT, FLY ASH BAG FILLER, ESP HOPPERS	01	1"	SS316	I	T912D	H	300 450 600		- - -	60	ATM
96	COATSAFE PTFE INSULATED	WET SOLIDS, CEMENT, FLY ASH BAG FILLER, ESP HOPPERS	01	1"	SS316	R	T912D	H	300 450 600		- - -	180	ATM
94	COATSAFE HIGH TEMPERATURE ALUMINA INSULATED	FLY ASH, CLINKER	02	1/2"	SS316	R	T912D	H	300 450 500		- - -	300	ATM -

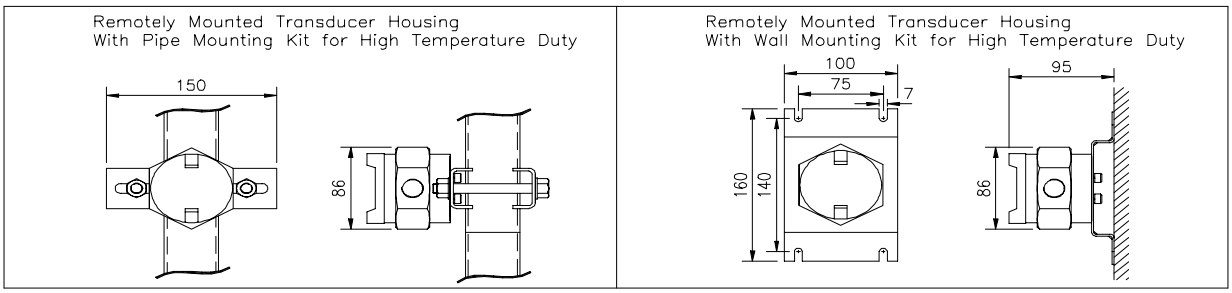
Notes:

1. V/H Indicates mounting orientation : V=Vertical, H= Horizontal.
2. I/R indicates construction : R= Remote, H= Horizontal.
3. Only vertical electrode for Two point operation.
3. Hysterisis varies as per process material sensed.
4. High temperature stand off (HTSO) is recommended for process temperature above 60^0 C
   HTSO in SS 316 : 60^0C to 180^0C.
   HTSO in CS & SINDANO : 180^0C to 300^0C.
   Remotely mounted transducer housing : 300^0C to 600^0C.
5. Cable between Probe head and Controller is 4 core shielded Tinned copper multistrended 3 X 0.5 sq.mm. 100 Mtr.(Max.).
6. Slip on flanges for flanged connection in required material e.g. CS/SS316/SS304,available extra.

DIMENSIONAL DETAILS :

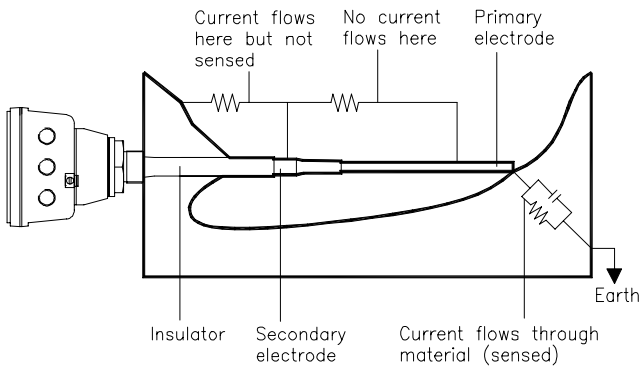






COAT-SAFE PRINCIPLE :

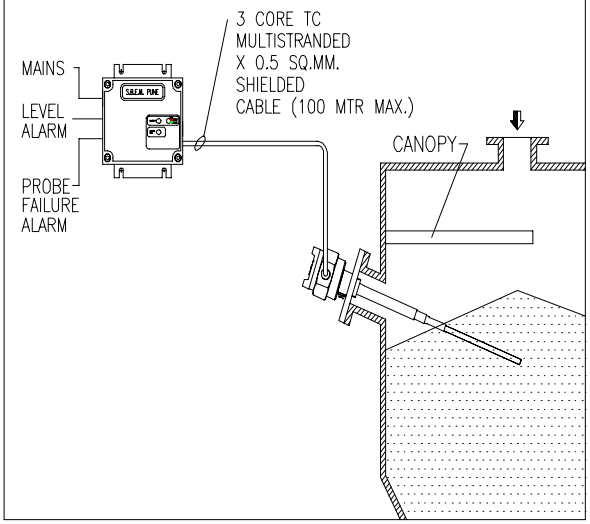
Normal probe may not perform satisfactorily if the process material builds up on the probe to a significant degree. The `coat-safe` electrode is designed to overcome this problem. In this type of electrode, in addition to the primary sensing electrode, a secondary `coat-shield` electrode, insulated from ground & primary electrode is used. This electrode is driven with signal of equal phase & amplitude as primary electrode. Hence when there is a coating / material buildup on electrode , no current flows between primary & secondary electrode. The electronic in strument measures the current that flows from primary electrode to ground. This means that build up is ignored.
Only when the product level in the vessel rises & covers the primary electrode, it causes a current to flow which is sensed, demodulated, amplified & causes the switch to changeover.



APPLICATION DRAWINGS :

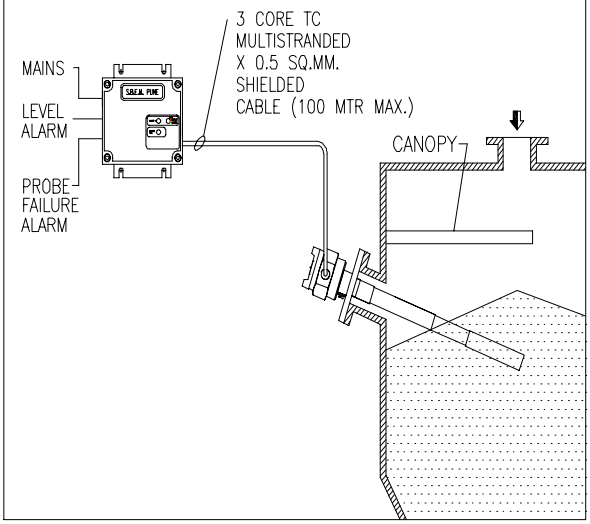
SINGLE POINT SWITCH INCLINED MOUNTED
COATSAFE ELECTRODE FOR FLY ASH

ELEC. CODE: 114MLS– S/P



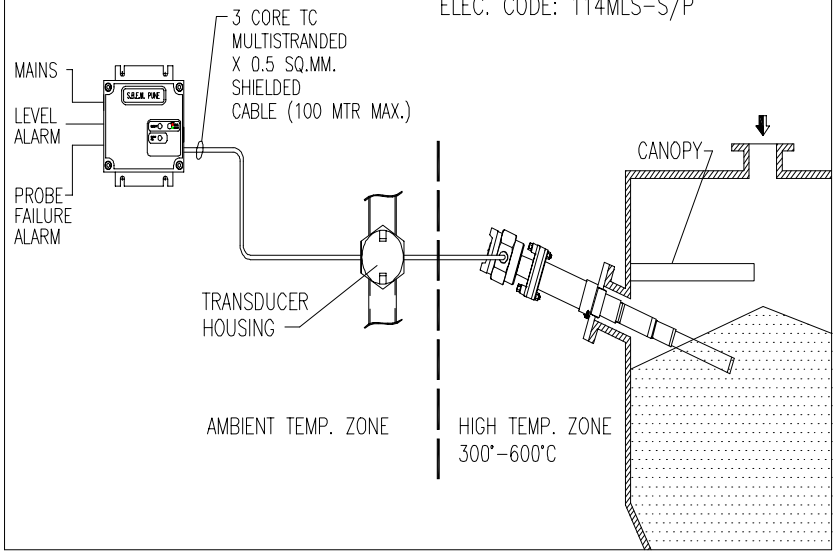
SINGLE POINT SWITCH INCLINED MOUNTED
RIGID PARTIALLY GROUNDED PTFE INSULATED ELECTRODE

ELEC. CODE: 114MLS–S/P



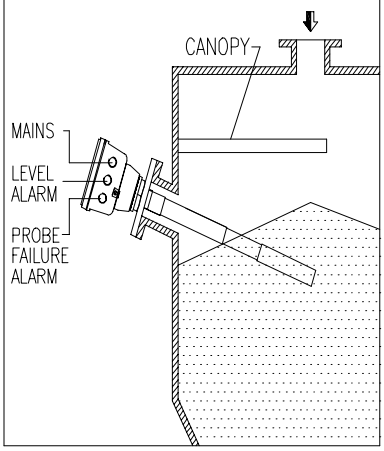
SINGLE POINT SWITCH INCLINED MOUNTED
RIGID PARTIALLY GROUNDED HIGH. TEMPERATURE
ALUMINA INSULATED ELECTRODE

ELEC. CODE: 114MLS–S/P



INTEGRAL TYPE SINGLE POINT SWITCH
RIGID PARTIALLY GROUNDED PTFE
INSULATED ELECTRODE

ELEC. CODE: 114MLS–I



*** Continuous developments may necessitate changes without notice.

LF-114-0807 Rev.00 10/2005

SBEM Pvt. Ltd.

39, Electronic Co-Operative Estate, Pune–Satara Road, Pune – 411 009 (INDIA)
Tel. – 91-20-24220505,24223375 Fax – 91-20-24215670
Email – sbemsales@sbem.co.in, sbemsales@vsnl.com

Works : Bibwewadi Industrial Estate, 691/A/2, Pune-Satara Road, Pune-411 037(India) Email : mfg@sbem.co.in

	MUMBAI	CHENNAI	NEW DELHI
Office :			
Tele. :	91-22-27823601, 27823603	91-44-24451235, 24412947	91-11-26560647, 26969679
Fax :	91-22-27823603	91-44-24412947	91-11-26969679
Email :	mumbai@sbem.co.in	chennai@sbem.co.in	newdelhi@sbem.co.in