



The Need For Every  
Process Industry



# CAPACITANCE TYPE LEVEL TRANSMITTER

**MODEL: SC / L - 700**

**LEVEL**

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**Spink Controls' ELTRAN** – a new-generation capacitance-type level transmitter designed for accurate measurement of a wide range of liquids. These transmitters operate on the fundamental principle of capacitance, where the sensor is selected based on the conductivity and properties of the liquid.

**Working Principle:** It comprises an electronic module and a probe. The probe includes sensing and grounding electrodes (a reference electrode is used if the tank is non-metallic). It is installed at the top of the tank. The sensing electrode and the tank wall (or reference electrode) form a variable capacitor, with the process material acting as the dielectric medium. As the material level changes, the capacitance also changes, given by:

$$C = \epsilon \times \frac{A}{d}$$

Where:

**C** = Capacitance

**ε** = Permittivity of the material

**A** = Area of the electrodes

**d** = Distance between electrodes

This change is detected by the electronic module and converted into a corresponding mA output.



## ENGINEERING SPECIFICATION

TRANSMITTER TYPE	: LOOP POWERED
SUPPLY VOLTAGE	: 12 TO 24 V DC
OUT PUT	: 4-20mA (AT CONSTANT LOAD ≤ 500 Ω)
RESOLUTION	: 2mm
RESPONSE TIME	: < 2 SECONDS
PERMISSIBLE LOAD	: 600 Ω @ 24 VDC
ACCURACY	: ± 0.25% FSR
PRESSURE RATING	: 6 kg/cm <sup>2</sup>
TEMPERATURE RANGE	: -20 to 100° C
CABLE ENTRY	: 3/4" ET
ENCLOSURE	: FLAMEPROOF WEATHERPROOF DIE-CAST Aluminium : Ex db IIA IIB T6 Gb IP 67 & IP 68
DISPLAY	: 4-DIGIT, 7-SEGMENT LED
OPTIONAL FEATURE	: HEAT SINK FOR TEMPERATURES ABOVE 100° C, REMOTE INDICATOR



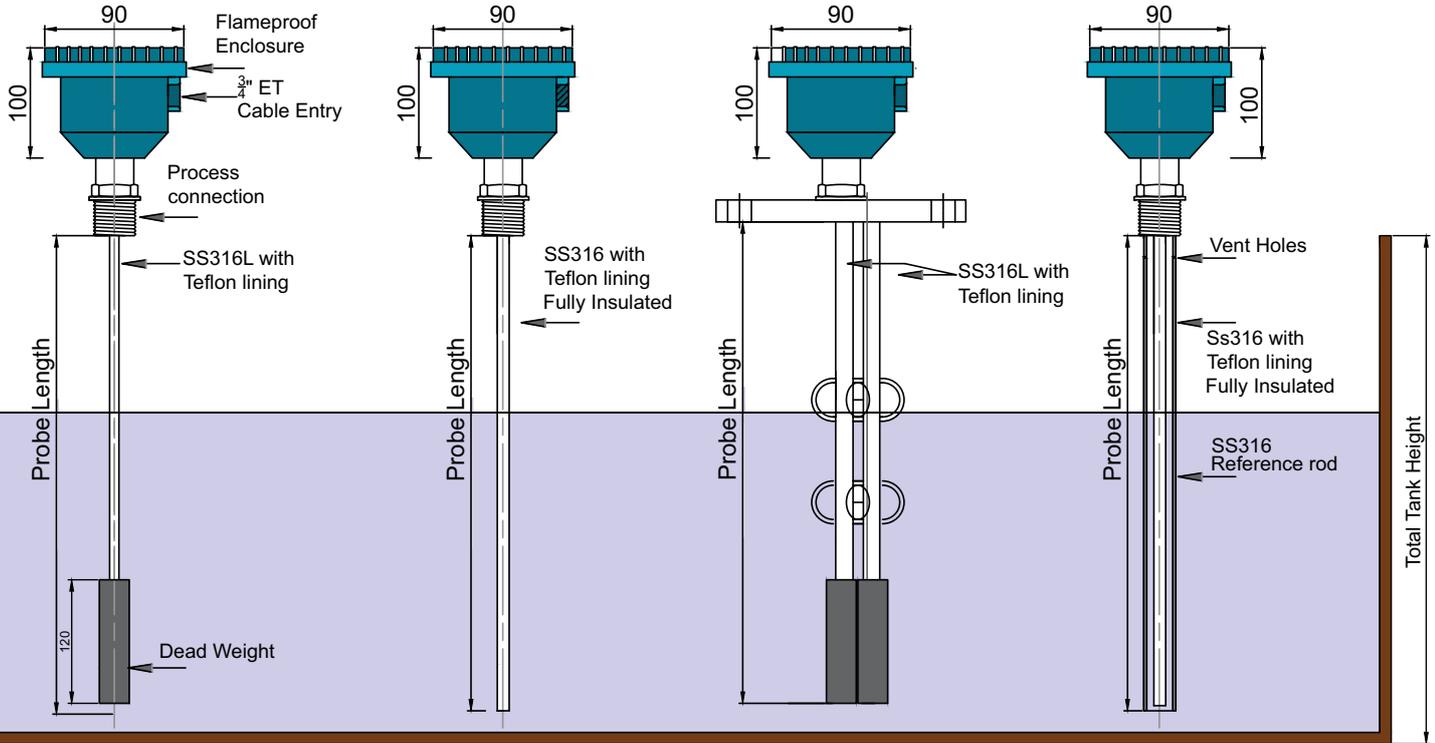
# MODEL SELECTION BASED ON APPLICATION

**SC/L-701**

**SC/L-702**

**SC/L-703F**

**SC/L-703R**



**Flexible Type ELTRAN  
(SC/L-701)**

Simplest model with range **1500mm to 15000mm** for conductive liquids in conductive tanks.

**Rugged type ELTRAN  
(SC/L-702)**

Strong and durable model for harsh environments with level range **up to 2000mm**.

**ELTRAN with Reference Probe  
(SC/L-703F & SC/L-703R)**

Designed to provide stable grounding and accurate readings for **non-conductive liquids** (e.g., fuels) or **non-conductive tanks** (e.g., plastic, FRP)

Available in both:

- Flexible Type (SC/L-703F)
- Rugged Type (SC/L-703R)

## MODEL CODING

Suffix Code	1	2	3	4	5	6	7	8	9	10	11	12	13	Parameters
Model	L-701													Flexible probe
	L-702													Rugged probe
	L-703F													Flexible with reference probe
	L-703R													Rugged with reference probe
Conductivity	A													Conducting
	B													Non-Conductivity (Reference probe)
Digital Indication	IN													With display
	INX													Without display
Electrical Housing	1													Die-cast aluminium: Ex db IIA / IIB T6 Gb IP 67
	2													Die-Cast aluminium: IP 68
Sensor Probe MOC	SS													SS316 with Teflon Line
	AL													Aluminum (Only for Diesel/ Oil application)
Process Connection	TC													Tri Clover End
	F													Flanged ANSI B16.5
	TH													Threaded (BSP or NPT)
	SF													Special Bottom Fitting Plate (Only for Diesel & Oil Application))
Process Connection size							XX							On request(15 - 100 NB)
Process Connection MOC	C1													SS304
	C2													SS316
	C3													SS316L
	C4													PP
	C5													MS
	C6													SS316 WITH PTFE coated
	XX													Other on Request
Dead Weight ( for SC/L-701 Only)	29													29 mm
	34													34 mm
	-													Not Applicable
Power Supply& Output	SO1													24VDC & 4-20mA Output
	SO2													24VDC & 0-5 VDC
	SO3													24VDC & 0-10 VDC
	SO3													24 VDC Supply & RS 485
	SO5													24VDC & RS232 (TTL)
Probe Length											XX			100 - 1500mm (Rugged),1500-15000mm (Flexible)
Heat sink ( Above 100 Deg. C)	HS													with Heat Sink
	WH													Without Heat Sink
Digital Process Controller for Remote indication (SC/L- 1101) - Optional	WD													Required
	WOD													Not required



**Head Office**

303, SIDDHARTH TOWER, G.P. PAI ROAD, KOPRI, THANE (E) - 400603 MAHARASHTRA, INDIA  
 Phone : +91 22 2532 8223  
 +91 22 2532 8224  
 Email : info@spinkcontrolsindia.com

**Plant 1**

GALA No. F-4 A WING, UDYOG BHAVAN-2 ADDITIONAL AMBERNATH, INDUSTRIAL AREA, ANAND NAGAR MIDC AMBERNATH, THANE 421501  
 Phone : +91 9594991196  
 Email : rupa.thakkar@spinkcontrols.com

**Plant 2**

PLOT No.: MS 114/115, AMBERNATH INDUSTRIAL AREA, CHIKHLOLI MIDC, AMBERNATH (W) THANE 421501  
 Phone : +91 7400159593  
 Email : avanti.rangdal@spinkcontrols.com

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 258, 3 FLOOR, RASHTRAKUTA, EMPIRE INDUSTRIALCENTRUM, AMBERNATH INDUSTRIAL AREA, MIDC, CHIKHLOLI, AMBERNATH (W) - 421505, DIST - THANE, MAHARASHTRA, INDIA  
 Phone : +91 9960517361  
 Email : marketing@staticengineering.com  
 Website : www.staticengineering.com

