



CAPACITANCE TYPE LEVEL INDICATOR AND TRANSMITTER
SERIES 103 CLT (FOR NON-CONDUCTIVE MEDIA)

Capacitance type microcontroller based level indicator transmitter, series 103 CLT, can be used in a variety of applications for continuous level indication in nonfuming and nonconductive liquids like mineral oils, cooling oils, turbine oils etc. The same unit can also be used for conductive liquids like with low or medium viscosity like water, water bound solutions etc. (For conductive liquids see leaflet LF-103-0803R02.)

The model 103 CLT is available as an Integral system, where the electronic insert is mounted on the top of the electrode and as Remote system where electronic insert can be mounted separately near the tank.

FEATURES:

- ❑ 2- Wire transmitter.
- ❑ Level to volume conversion with strap.
- ❑ Wide range electrodes to suit various duties.
- ❑ Calibration and programming in sealed condition of the unit.
- ❑ On site calibration. Calibration methods from 2 point calibration to multi-point calibration (upto 10 point.).
- ❑ Easy to install.

SPECIFICATIONS:

❖ TRANSMITTER UNIT

- ❑ Enclosure : Weatherproof (WP), Cast Aluminum polyurethane painted.
- ❑ Protection : IP 65.
- ❑ Location : Safe area.
- ❑ Temperature : 0 – 55° C
- ❑ Humidity : 0 – 95% max.(non condensing)
- ❑ Display : 6-digit LCD display for Level/ % Level/ Volume.
- ❑ Programming Interface : magnetic key PLUGIN for setting and calibration.
- ❑ Display Range : Level = 0 To 7000 mm
% Level = 0.0 To 100.0 %
Volume = 0 To 99999 Litres
- ❑ Accuracy : 2 % of FSD.
- ❑ Output : 4 – 20 mA, with max. Load 500 Ohm, at 24 VDC.
- ❑ Power supply : 24 VDC ± 15%
- ❑ Electrical connections : Suitable for 1.5 sq. mm size conductor (Max.)



- ❑ Cable entries : 1 Nos. of size 1/2" NPT (F) Standard, OR 3/4" UNF /ET (F) Optional.
- ❑ Mounting : On the top of the tank. (Flanged or Threaded)

❖ ELECTRODE

- ❑ Electrode type : Rigid.
- ❑ Electrode material : SS 316
- ❑ Insulation : PTFE sheathing
- ❑ Minimum length : 350 mm
- ❑ Maximum length : 3,000 mm
- ❑ Mounting : Vertical.
- ❑ Process connection : 1" BSP / Flanged
- ❑ Material : CS, SS 316, SS 304.

ORDERING CODE

103-CLT

TRANSMITTER

PROCESS CONNECTION

ELECTRODE

ELECTRODE LENGTH IN mm

Construction:
1- Integral WP
2- Remote Head WP

Function:
0 - Not applicable
1 - Transmitter & Indicator

Mounting:
0 - Not applicable
1 - Surface
2 - pipe

Cable Entries:
T-1/2" NPT(F)
F-3/4" UNF/ET(F)

Output:
0 - Not Applicable
1 - 4 to 20 mA *Prop.Level
2 - 4 to 20 mA*Prop.Volume
* Prop = Proportional

Process Connection:
00 - Not applicable
01 - 1" BSP (minimum).
xx - As per flange table

Process Connection Material:
0 - Not applicable
2 - CS (For flanges only)
4 - SS304
6 - SS 316

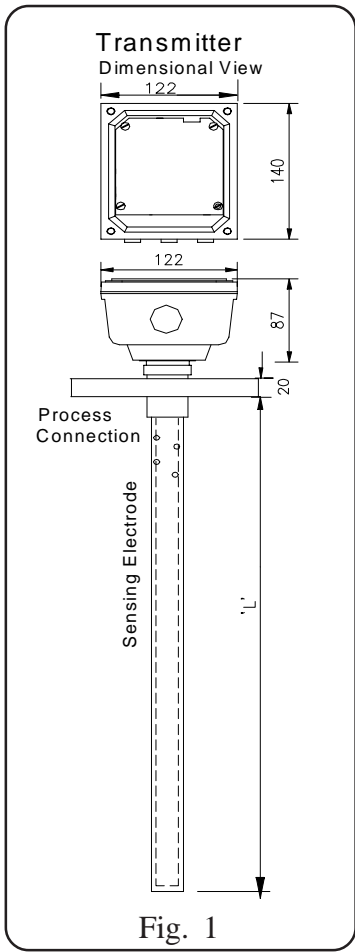
Electrode * Code:
00 - Not applicable
xx - As per electrode selection guide.
* See NOTE Below.

Electrode Material:
0 - Not applicable
6 - SS 316

Coating / Sheathing:
0 - Not applicable
3 - PTFE (sheathing)

Material of outer pipe:
0 - Not applicable
4 - SS 304
6 - SS 316

L = xxxx mm
L = Electrode Length



Flange Table:

Pressure Rating : 150 # (10 kg/cm²)

	ANSI	BS	DIN	IS
1"	11	12	13	14
1 1/2"	16	17	18	19
2 1/2"	26	27	28	29
3"	31	32	33	34
4"	41	42	43	44
5"	51	52	53	54
6"	61	62	63	64

- * NOTE:**
- ❖ All combinations are not possible. Please refer " Electrode Selection Guide " for compatible options.
 - ❖ Transmitter power supply should be 24VDC ±1%, ripple and noise < 100 mV.
 - ❖ In case of Remote type transmitter ordering code will be **103 CLT X2X**.
 - ❖ Slip on flanges of appropriate size can be supplied for electrodes having threaded process connection.

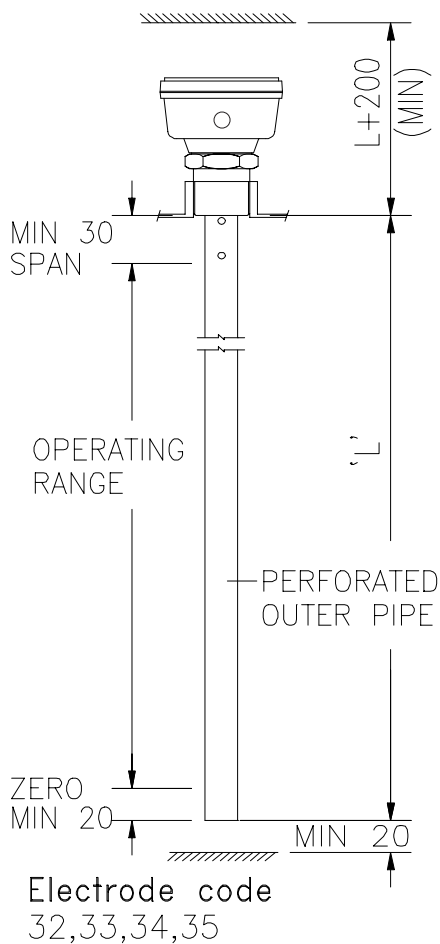
ELECTRODE SELECTOR GUIDE FOR NON-CONDUCTIVE MEDIA :

Code No.	Electrode Description	Process Connection		Material of Construction		MTG.	Electrode Length		Operating Condition		Service
		Thre-aded	Slipon Flanged (minimum)	Sensing Electrode	Outer Pipe		min	max	Temp. In °C max.	Pres. Kg/cm ² max.	
33	Rigid concentric, PTFE Sheathed, 1/2" outer pipe.	1"	1"	6	4,6	V	350	3000	60	ATM	Edible oils, turbine oil, kerosene, synthetic oils and other petroleum products.
34	Rigid concentric, PTFE sheathed, 1/2" outer pipe.	1"	1"	6	4,6	V	350	3000	180	10	
32	Rigid concentric, PTFE sheathed, 3/4" outer pipe.	1"	1 1/2"	6	4,6	V	1000	3000	60	ATM	
35	Rigid concentric, PTFE sheathed, 3/4" outer pipe.	1"	1"	6	4,6	V	1000	3000	180	10	

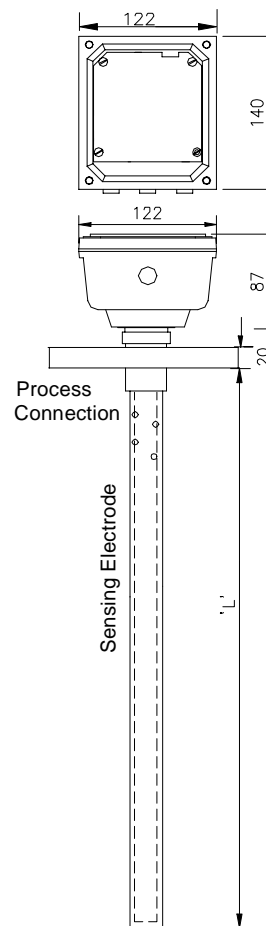
NOTES:

1. These are commonly used electrodes. For special applications, please contact factory.
2. High temperature stand off is recommended for process temperature above 60°C.
3. Power supply 230 VAC to 24 VDC module can be supplied optionally.
4. Display can be set to show the parameters sequentially level, volume, and % volume.
5. For construction Remote Head cabling between indicator and probe head should be 500 mtrs. Max. for 1.5 sqmm.

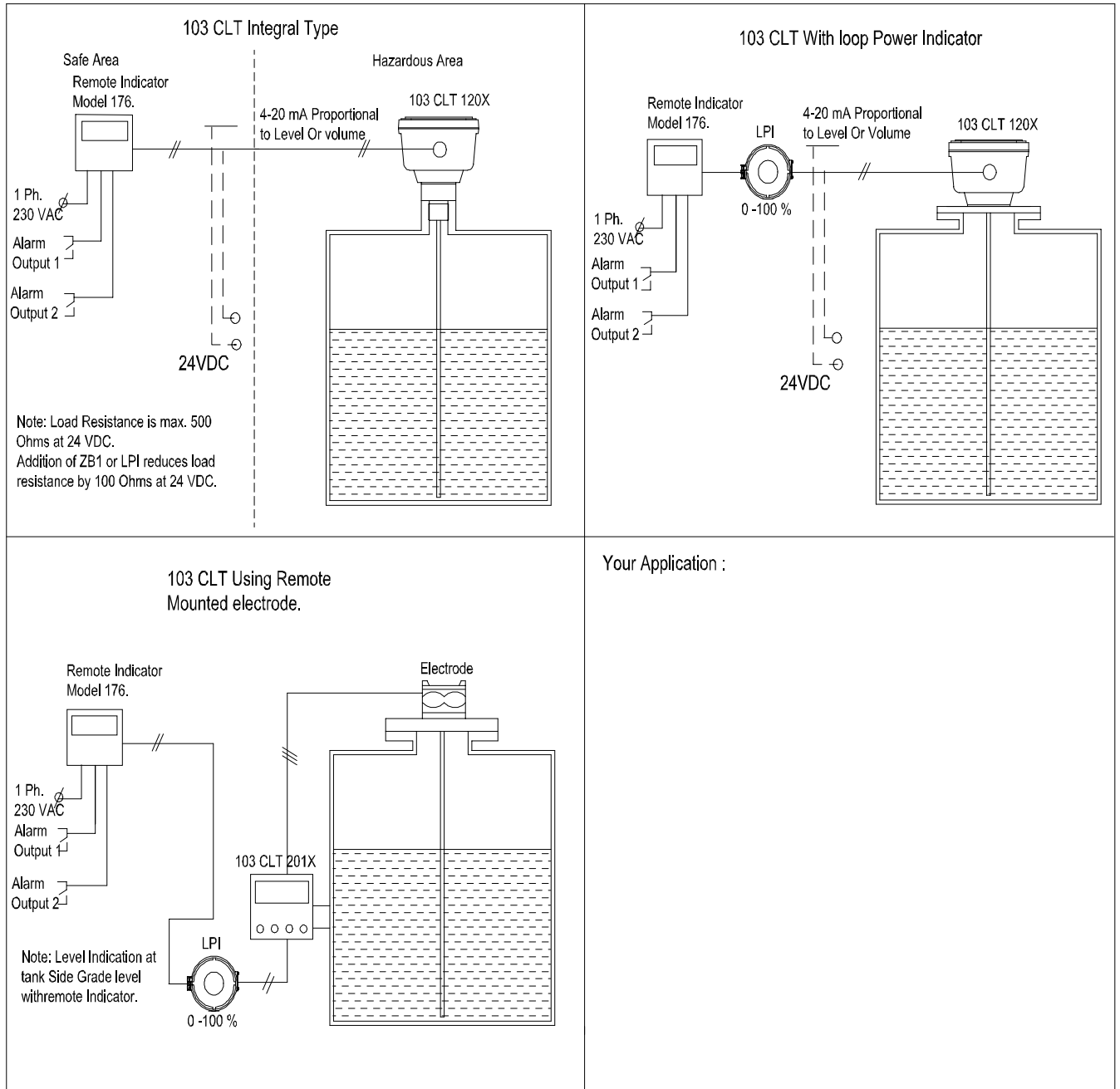
TRANSMITTER WITH CONCENTRIC ELECTRODE:



DIMENSIONAL DETAILS



APPLICATION:



*** Continuous developments may necessitate changes without notice.

LF-103-0804 Rev.02 09/2005



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