

DX-ELT

vibrating level switch is one of the other types of level switches. Unlike other sensors, it is not affected by the sticking of materials on the probe and impacts. It has no jamming problem and has a high sensitivity range.

DX-ELT series sensors generate vibration by means of piezoelectric elements using the resonance principle. Only when solid particulate materials or liquids surround the probe, the vibration frequency drops drastically, resulting in the output signal.

Applications

It can be used in process that containers , silos , free flowing dusts, granules and various types of small particulate solids such as cereals, beans, edible oil process, sugar, animal feed, rice plants, detergents, dye powder, chalk, gypsum, fly-ash, cement, sand, plastic granules, spices, milk powder etc.

Certification



II 1/2 G Ex db IIC Tx¹ Ga/Gb
II 1/2 D Ex (ta/tb) IIIC Tx³ Da/Db
(-) 20 °C (+) 60 °C IP66

*Have a look at the temperature class chart.

Technical Specifications

Fluid	Liquid , Solid , Powder
Wet Parts	316 Stainless Steel
Fork Holder	316 Stainless Steel
Housing Material	Aluminum
Max. Solid Particle Size	≤ 10 mm
Max. Liquid Viscosity	< 1000 mm ² / sn
Measurement Density	For Solid ≥ 0,1 g / cm ³ For Liquid ≥ 0,7 g / cm ³
Vibration Frequency	280KHz (For DX-ELT102, 104, 105) 300 ± 50KHz (For DX-ELT101)
Delay Time	0.5 sec (Vibration Position) 1-2 sec (Vibration Onset) It can be adjusted between 1-60 sec.
Output :	
(For DX-ELT102, 104)	2 x 8A NO / NC Relay 24 VDC / 220 VAC
(For DX-ELT101, 105)	1 x 3A NO / NC Relay 30 VDC / 220 VAC
Supply	15-80 VDC , 15-260 VAC
Power Consumption	2,5 W
Connection	1 BSP (Std.) Male Thread Opt. flanged
Working Pressure	Max. 20 bar (For DX-ELT101, 105) Max. 40 bar (For DX-ELT102, 104)
Housing	Aluminium, B21x
Working Temperature	(-) 20 °C...(+) 145 °C (Std.)
Ambient Temperature	(-) 20 °C...(+) 80 °C
Ambient Humidity	% 95 RH
Protection Class (EN60529)	IP 66 / 68



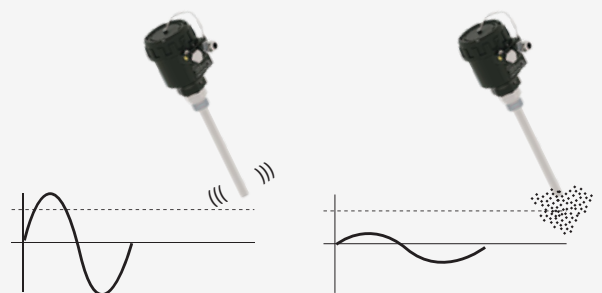
2284 CE EAC

Model

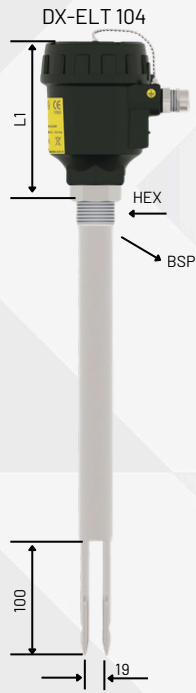
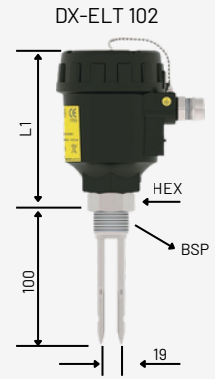
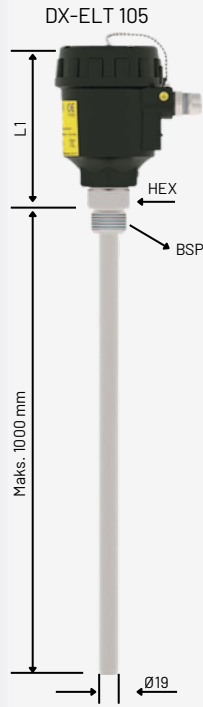
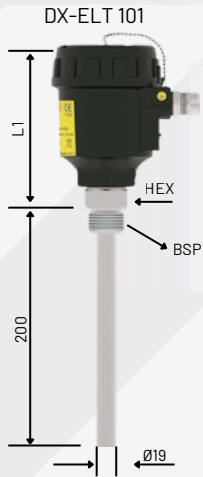
- DX-ELT 101
- DX-ELT 102
- DX-ELT 104
- DX-ELT 105
- DX-ELT201
- DX-ELT202
- DX-ELT204
- DX-ELT 205

Advantages

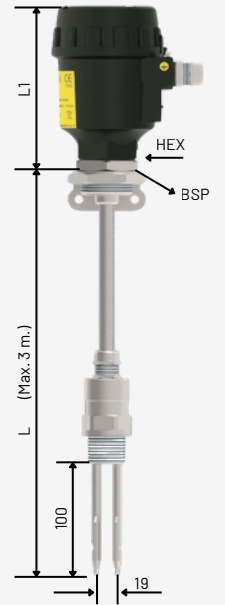
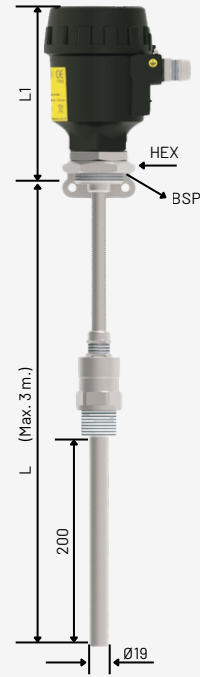
- Suitable for side as well as top mounting
- Minimum and maximum fail safe field selectable
- Process pressure max. 15 bar
- Process temperature max. 145 °C
- Low power consumption.
- No Calibration Required
- Settable switching delay as a standard feature
- Durable Construction
- Immune to External Vibrations



Technical Drawing



Detachable Housing



Dimensions

Model	Conn. BSP (mm)	L (mm)	L1 (mm)	HEX (mm)
DX-ELT 101	1" BSP	220	134	40
DX-ELT 102	1" BSP	125	134	38
DX-ELT 104	1" BSP	Max.1500	134	38
DX-ELT 105	1" BSP	Max.1500	134	38

Label Information

• Ürün Etiketi

Manufacturer Brand: **ensim sensors**

Product Name: **VIBRATION LEVEL SWITCH**

Explosive Protection Area: **II 1/2 G Ex db IIC Tx¹ Ga/Gb**
II 1/2 D Ex (ta/tb) IIIC Tx³ Da/Db
(-)20 °C (+)60 °C IP66

ATEX Class: **II 1/2 G Ex db IIC Tx¹ Ga/Gb**

Model: **Type : DX-ELT 101-200-0006-002-43-1-703/0**

Power Supply: **: 24 VDC / 220 VAC**

Output: **: 1 x 3A NO/NC Relay (for DX-ELT 101)**

Working Conditions: **Process Temperature : (-)20 °C (+)145 °C**

Process Pressure: **: 20 bar**

T (Ambient): **: (-)20 °C (+)60 °C IP66**

Mech. Conn. / Lenght (mm) L: **: 1" BSP Male / 200**

Serial Number: **S.N. : IE23070006-0001**

MADE IN TURKEY

www.ensim.com.tr

Warning Symbols:

Notified DateSign: **CE 2284**

Manufacturer Website: **www.ensim.com.tr**

• Product Label

Manufacturer Brand: **LONCA A.Ş.**

Product Name: **Ferhatpaşa Mah. 37. Sok. No:78/A 34888**
Ataşehir - İstanbul/TÜRKİYE

Manufacturer Website: **www.ensim.com.tr**

Explosive Protection Area: **II 2G Ex d IIC Gb**
II 2D Ex tb IIIC
-20°C ≤ Tamb ≤ +40°C, IP66 / IP68 (2M)

ATEX Classes: **TSE 22ATEX0175U**

Model: **Type: B21x**

Housing Features: **16A 240 VAC 50 / 60Hz**

S.N.: **2601000001**

Housing Serial Number: **26 01 000001**

Product No: **26**

Month: **01**

Year: **00**

Work Order: **000001**

Note: If the ATEX certificate metal label is damaged, you can contact the manufacturer with the serial number.

Ground Label:

Product Label:

Ground Label:

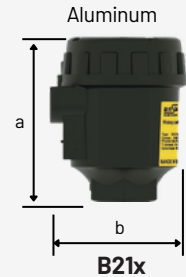
Metal Label:

BSP:

Rod:

Housing

Order Code	Type	Material	Protection Class	Temperature (°C)	Size a x b (mm)
703	B21x	Aluminum	IP66 / 68	-40...+200	132 x 104



Cover Seal : NBR Nitrile Rubber 120 °C, Opt. FPM (Viton) 200 °C)

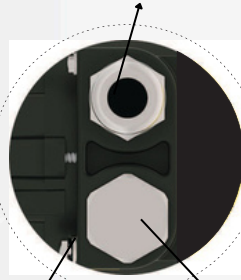
EU-Type Examination Certificate Number : TSE 22ATEX 0175U

The marking of the equipment : **II 2G Ex d IIC Gb**
II 2D Ex tb IIIC

DO NOT OPEN WHEN ENERGIZED
KEEP TIGHT WHEN CIRCUIT ALIVE



Aluminium Housing
Cable Plug
(Suitable Cable Diameter : Ø 6-12mm)



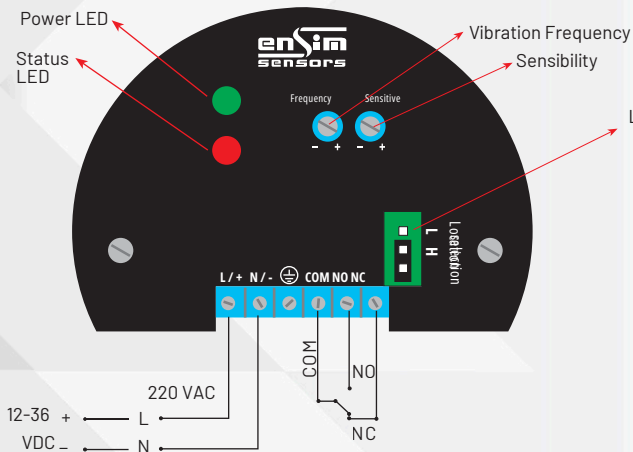
Grounding Terminal (Max. 1.5 mm²)
Recommended cable (5x1.5 mm²)

Bund Stops

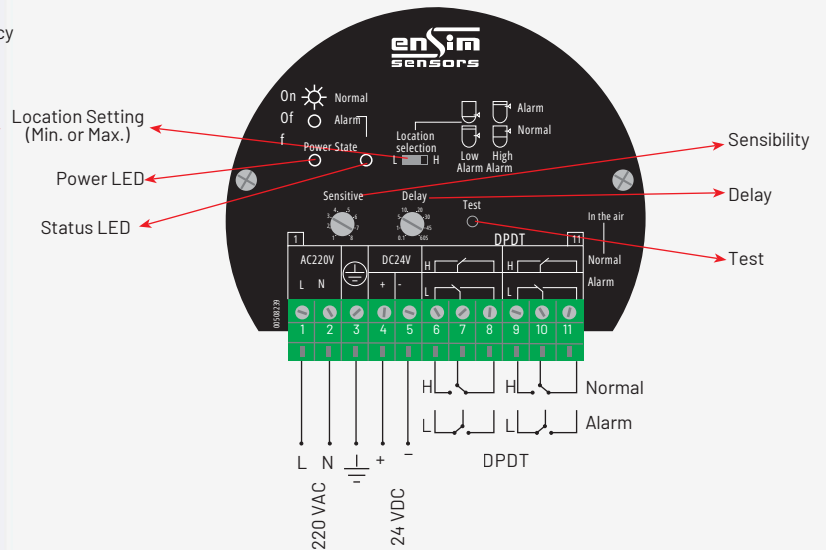


Electrical connection

For DX-ELT 101, 105, 201, 205



For DX-ELT 102, 104, 202, 204



Protection Class

Material : 304 Stainless Steel
Welded manufacturing
Opens - Closes Hinged
To Protect Against external conditions.



Temperature Class Table

STD. MODEL	DX-ELT (Metal)
Working Temperature	(-) 20 °C... (+) 145 °C
Without opening the cover standby time	20 min.

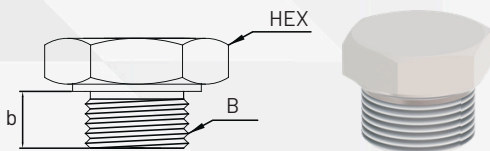
Thermal Protection Insurance is 105 °C

(-) 20° C < T Ambient < (+) 30° C... (+) 60° C Working Temperature : (-) 20... (+) 145°C GROUP II		
DX-ELT (Metal)		
T Ambient MAX. AMBIENT TEMPERATURE ZONE 21 / 1	T Process MAX. PROCESS TEMPERATURE ZONE 20 / 0	TEMPERATURE CLASS
60 °C	<80°C	T6
60 °C	<95°C	T5
60 °C	<130°C	T4
60 °C	<145°C	T3

(-) 20° C < T Ambient < (+) 30° C... (+) 60° C Working Temperature : (-) 20... (+) 145°C GROUP III		
DX-ELT (Metal)		
T Ambient MAX. AMBIENT TEMPERATURE ZONE 21 / 1	T Process MAX. PROCESS TEMPERATURE ZONE 20 / 0	TEMPERATURE CLASS
60 °C	<60°C	T60°C

Mechanical Connection

Thread (Connection has been welded with sensor)

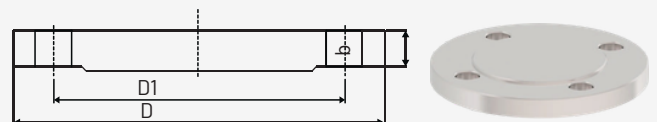


Flanged (Connection has been welded with sensor)

Order Code	(ISO1092-1) PN 16	D (mm)	D1 (mm)	b (mm)
0502	DN 25	165	85	16
0503	DN 32	140	100	16
0505	DN 50	165	125	18
0507	DN 80	200	160	20
0508	DN 100	220	180	20

Order Code	(ISO1092-1) PN 40	D (mm)	D1 (mm)	b (mm)
0702	DN 25	115	85	18
0703	DN 32	140	100	20
0705	DN 50	165	125	20
0707	DN 80	200	160	20
0708	DN 100	235	190	24

Order Code	(ISO228-1) Measurement B	HEX [mm]	Thread Length b [mm]
0001	1/8" BSP	17	12
0002	1/4" BSP	17	12
0003	3/8" BSP	24	20
0004	1/2" BSP	27	14
0005	3/4" BSP	32	14
0006	1" BSP	41	23
0008	1 1/4" BSP	51	23
0009	1 1/2" BSP	60	23
0012	2" BSP	70	23



Order Code	(ISO1092-1) PN 40	D (mm)	D1 (mm)	b (mm)
1005	DN 50	152,4	121	19
1006	DN 65	177,8	139,7	22,2
1007	DN 80	190,5	152,4	23,8
1008	DN 100	228,6	157,2	23,8

Order Form: You may use the sample models as a reference for coding..

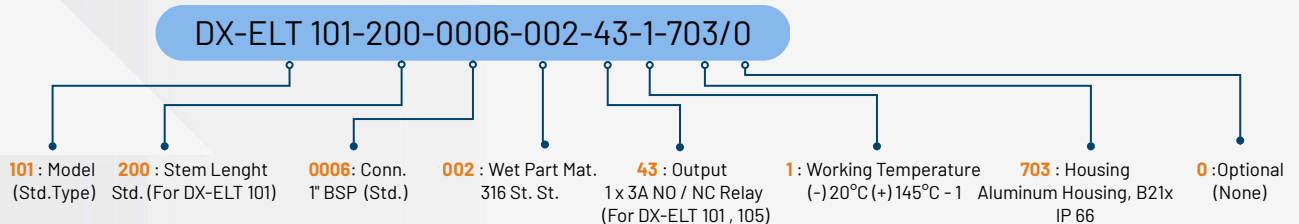
LEVEL

1	MODEL DX-ELT		
	Std. Type - 1	High Temperature Type- 2	
2	CERTIFICATE		
	None - 0	(EN10204-3-1) Material Certification - 1	
3	CONNECTION TYPE		
	Thread Type - 1	Long Fork Type - 4	
	Thread Fork Type - 2	Long Rode Type - 5	
		Special - x	

4	STEM LENGHT (mm) L		
	Std. (For DX-ELT102) - 000	200 - 200	Special - x
	Std. (For DX-ELT 101) - 200	500 - 500	
	125 - 125	1000 - 1000	
5	CONNECTION (The connection is welded with the sensor)		
	1" BSP (Std.) - 0006	DN 50 - PN 16 (Std.) - 0505	DN 50 - ANSI 150 - 1005
	1 1/2" BSP (Std.) Single Probe - 0008	DN 80 - PN 16 - 0507	Special - x
		DN 100 - PN 16 - 0508	
6	WET PART MATERIAL		
	316 Stainless Steel (Cr18Ni9Ti) - 002	Special - x	
7	OUTPUT		
	2 x 8A NO/NC Relay (for DX-ELT 102, 104) - 12	Special - x	
	1 x 3A NO/NC Relay (for DX-ELT 101, 105) - 43		
8	WORKINGTEMPERATURE		
	(-) 20°C (+) 145°C - 1	(-) 20 (+) 200°C (With Cooling Apparatus) - 2	Special - x
9	MUHAFAZA		
	Alüminyum Muhafaza, B21x IP 66 - 703	Special - x	
10	10 OPTIONAL		
	None / 0	Separable Housing - St.St. Flexi Spiral (It depends on the model) / S1	
	Shetter (For the outside of the tank) 304 St. St / K2	Separable Housing - Plastic Flexi Spiral (It depends on the model) / S2	
	Reduction 1" BSP - 2" BSP	Special - /x	

SAMPLE

Vibrating Type Level Switch, Model DX-ELT101, L=200 mm, 1 BSP Male Thread, Single Contact



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