



## E940 Submersible level transmitter

TRANSBAR® technology  
 Excellent long term stability  
 Welded construction - reinforced product  
 Conforms to European EMC Directive, CE marked  
 Product identification laser etched on case  
 Intrinsically safe versions (Y940) : LCIE 99-E6074X  
 certificate ; EEX ia IIC T6 or T5 approval  
 Marine version (Bureau Veritas, ...)

The submersible level transmitters E940/Y940 are engineered for a wide variety of industrial and municipal liquid level measurement applications requiring watertight protection.



protection cap (option)



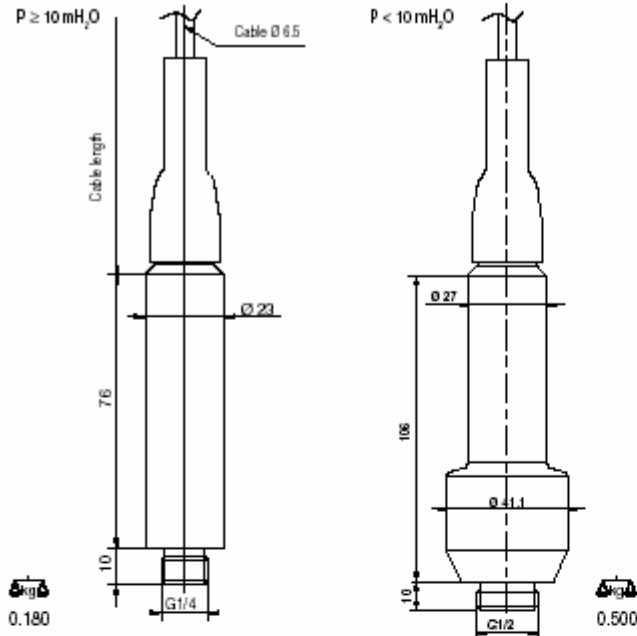
E940, low pressure version  
(P < 10 mH<sub>2</sub>O)

### Technical Data (20°C)

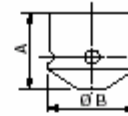
Measurement range	Gauge pressure : 0...2.5 to 0...160mH <sub>2</sub> O	Span thermal drift	Typically ±0.01%/°C - Max : ±0.015%/°C
Output signal	E942 - Y942 : 0...10 Vdc / E944 - Y944 : 1...5 Vdc E943 - Y943 : 4...20 mA / E946 - Y946 : 0...20 mA	Wetted parts	Ceramic + stainless steel 1.4404 (316 L) + NBR seal (standard) + cable (polyurethane) <i>Option</i> seal viton® and insulated cable in ETFE
Supply voltage	E942 : 14...40 Vdc Y942 : 14...28 Vdc E943 - E944 : 11...40 Vdc Y943 - Y944 : 11...28 Vdc E946 : 8...40 Vdc Y946 : 8...28 Vdc	Standard connections	vented watertight cable Electrical G 1/2 for Ø41 (P < 10 mH <sub>2</sub> O) Hydraulic G 1/4 for Ø23 (P ≥ 10 mH <sub>2</sub> O) <i>Option</i> protective cap
<i>Option</i>	High voltage: up to 48 Vdc Low voltage: 8...32 Vdc (E943, E944) For intrinsically safe version Y940, power supply must be: U <sub>supply</sub> ≤ 28 Vdc; I ≤ 120 mA; P ≤ 0.8 W	Protection rating (EN 60529)	IP68 (Depth = 160 m)
Insulation	> 100 MΩ at 250 Vdc. <i>Option</i> : 500 Vdc	Vibration resistance (EN 60068-2-6)	1.5 mm (10 - 55 Hz), 20 g (55 Hz - 2 kHz)
Maximum input current	E942 - Y942 / E944 - Y944 : 6 mA E946 - Y946 : < 25 mA	Shock resistance (EN 60028-2-32)	25 falls from 1 m on concrete ground
Load impedance (+ M / - M)	E942 - Y942 : ≥ 2.5 kΩ E944 - Y944 : ≥ 1 kΩ E943: R <sub>ca</sub> ≤ (U <sub>supply</sub> - 11)/0.02 E943: R <sub>ca</sub> ≤ (U <sub>supply</sub> - 8)/0.02 (low voltage option) E946: R <sub>ca</sub> ≤ (U <sub>supply</sub> - 6)/0.02	<b>Uncoded Options (have to be listed after the code)</b>	
CE-conformity	Standards EN50082-1 and -2 (immunity) Standards EN50081-1 and -2 (emissions : a factor of 100 below the permitted maximum) with screened cable, screen connected at both ends Pressure standards 97/23/CE	Protective cap	
Global error (linearity, hysteresis and repeatability) by reference to BFSL	Typ.: ±0.2% F.S. / Max.: ±0.3% F.S.	Lightning protection	
Operating temperature		Marine version	
Standard E940	- 25...+85°C	Supply voltage (high/low) <sup>(1)</sup>	
Standard Y940	- 25...+40°C (T6 approval) - 25...+70°C (T5 approval)	Compensated temperature range (from -10...+70°C)	
Storage temperature	- 40...+85°C	Zero thermal drift : ±0.015 % of range/°C max.	
Compensated temperature range (zero and sensitivity)	- 10...+55°C. <i>Option</i> : - 10...+70°C	Cell o'ring : Viton®	
Zero thermal drift	±0.025% FS/°C max (except P ≤ 10 mH <sub>2</sub> O: ±0.008% FS/°C)	Additional length or other material of cable	
<i>Option</i>	±0.015 % FS/°C max (except P ≤ 10 mH <sub>2</sub> O: ±0.025% FS/°C)	Other ranges and units	
		Cleat with built-in anchor (100 daN)	
		Viton® is registered trademark of DuPont Dow Elastomers	
		<sup>(1)</sup> see specifications for details	



## Dimensions (mm)



Protective cap (optional)



	A	B
P ≥ 10 mH <sub>2</sub> O	25	22
P < 10 mH <sub>2</sub> O	25	26.7

Cleat (optional)



Breaking load : 100 daN

## Electrical connections

	White	Blue	Screen	Red	Yellow
4-20 mA	+ supply	- supply	ground	—	—
1-5 V / 0-10 V / 0-20 mA	—	- supply / meas.	ground	+ supply	+ meas.

## Measuring Ranges (mH<sub>2</sub>O)

Pressure	0 + 2.5	0 + 4	0 + 6	0 + 10	0 + 16	0 + 25	0 + 40	0 + 60	0 + 100	0 + 160
Max. over pressure	10	10	10	30	30	40	80	120	200	320
Burst pressure	20	20	20	60	60	70	120	180	300	480

## Ordering Details - E940

	x94x	xxx	xxx												
<b>Model</b>	1'...3' digit														
Standard	E94														
Intrinsically safe	Y94														
<b>Output signal</b>	4' digit														
0...10 Vdc	2														
4...20 mA	3														
1...5 Vdc	4														
0...20 mA	6														
<b>Cable length</b>	5'...7' digit														
<b>Length</b>	2m	3m	4m	5m	6m	10m	15m	16m	20m	25m	40m	60m	100m	160m	others
<b>code</b>	002	003	004	005	006	010	015	016	020	025	040	060	100	160	xxx
<b>Measurement unit</b>	8' digit														
mH <sub>2</sub> O	J														
bar	B														
kg/cm <sup>2</sup>	F														
<b>Pressure range</b>	9'...10' digit														
See codes in tables	xx														

Code	Pressure ranges	
	mH <sub>2</sub> O	bar, kg/cm <sup>2</sup>
10	0 + 2.5	0 + 0.25
11	0 + 4	0 + 0.4
12	0 + 6	0 + 0.6
15	0 + 10	0 + 1
16	0 + 16	0 + 1.6
18	0 + 25	0 + 2.5
19	0 + 40	0 + 4
20	0 + 60	0 + 6
22	0 + 100	0 + 10
24	0 + 160	0 + 16