

ELE-801S LCD display commissioning manual

Version VR1.0 | English translation

1. Overview

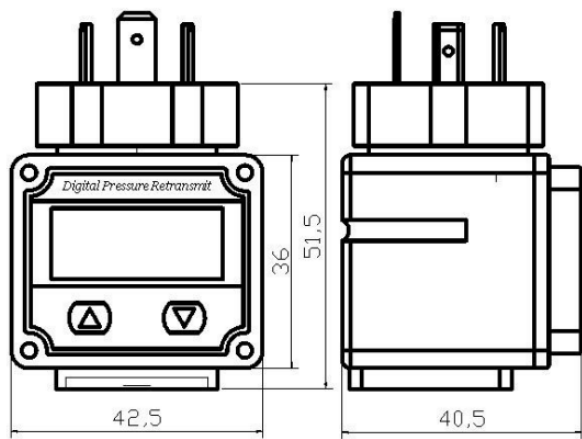
This four-digit LCD display operates passively in a two-wire 4–20mA loop. It supports primary-variable zeroing, small-signal suppression, filtering and 12 selectable unit indications for pressure, temperature and level applications.

Protection includes overcurrent, overvoltage, short circuit and reverse polarity. The source specifies that a shorted load or direct 24V supply does not damage the display. Enhanced interference resistance is intended for industrial electromagnetic environments.

2. Main parameters

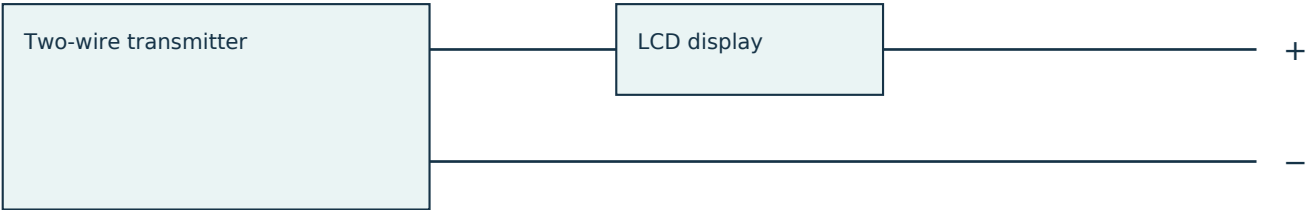
Parameter	Display specification
Operating mode	Passive 4–20mA
Operating voltage drop	3.0V reference at 20mA; the source comparison symbol is ambiguous
Display range	–1999 to 9999
Current resolution	1μA
Display-unit accuracy	0.1%
Temperature drift coefficient	<35ppm, as stated without a per-degree denominator
Operating temperature	–20°C to 70°C
Humidity / environment	<85%; dry, noncorrosive environment
Overall size	65×45×45mm, height × width × depth

3. Outline dimensions

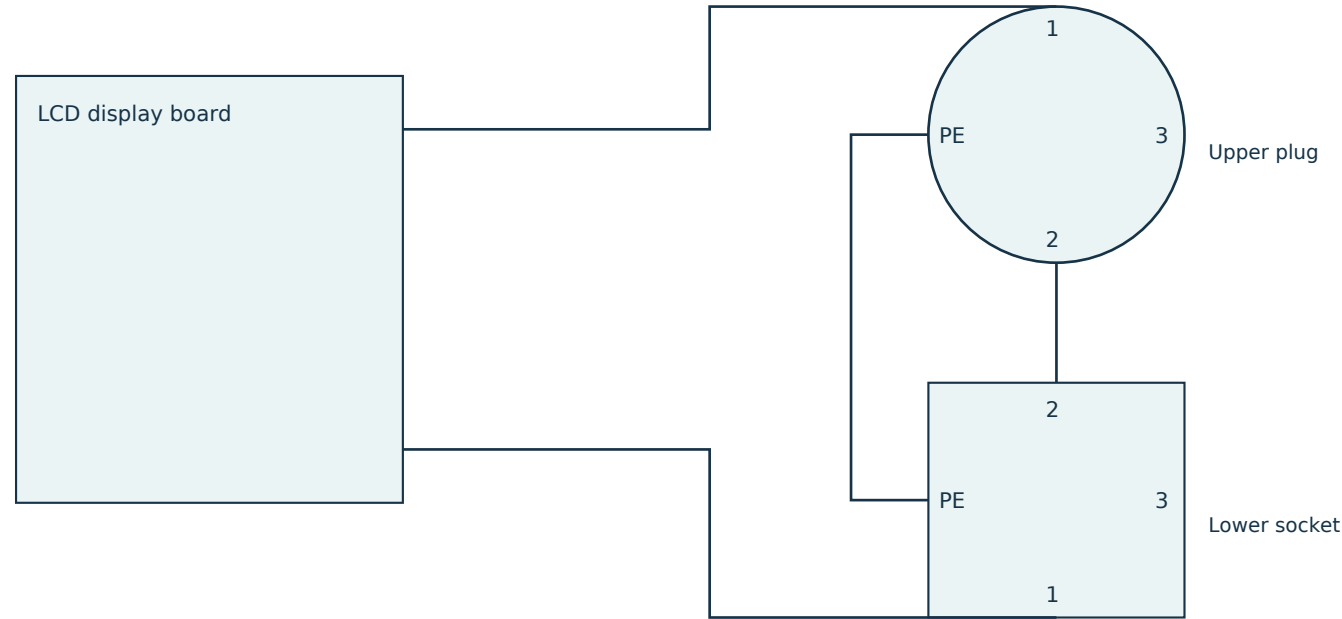


Dimensions in mm. The drawing gives a 42.5mm front width, 40.5mm depth, 51.5mm body height and 36mm display-face height. The overall-size entry includes the connector assembly. Display accuracy is not the accuracy of the complete pressure transmitter.

3. Wiring



The display is inserted in the positive leg of the two-wire transmitter loop.



Path	Connection
Pin 1	Upper plug → display board → lower socket
Pin 2	Direct connection between upper plug and lower socket
PE / earth contact	Direct connection between upper plug and lower socket
Pin 3	No circuit path is shown in the source drawing

4.1 Key functions

Key / action	Function
▲ held for 5 seconds in measurement mode	Enter primary-variable zeroing
▲ briefly in setting mode	Move the flashing digit
▼ in setting mode	Increase the parameter value by one
▲ + ▼ together in measurement mode	Enter settings
▲ + ▼ together in setting mode	Set or confirm a parameter change

Both keys provide accelerated operation for moving and incrementing digits. All parameter input and calibration-data acquisition use these two front-panel keys.

4.2 Menu access and navigation



0088 Factory: LInE → Unit → -dP- → dP-L → dP-H → Ad-L → Ad-H → ZErO → dSAL

0066 Advanced: Unit → -dP- → dS-L → dS-H → ZErO → dSAL

0016 User: dSAL → oFSt → FiLt → SPAn

All menus: End + ▲▼ saves and returns to measurement. Incorrect password: return.

If no key is pressed for 60 seconds in a user settings menu, the display returns to measurement.

Parameters are saved only by normal menu exit. Use End and press ▲ + ▼ together to save and exit.

4.3 Menu levels

Access level	Password	Purpose
Factory commissioning	0088	Basic display parameters, accuracy and calibration. Intended for the transmitter manufacturer; ordinary users should not change factory calibration.
Advanced user	0066	Display units, resolution and range settings
Ordinary user	0016	Application settings for field use

Lock — password entry

Press ▲ + ▼ together to open Lock. Press ▲ or ▼ to reach password entry, set the access password, and confirm. An incorrect password or 30 seconds without a key press returns the instrument to measurement.

4.3.2 Ordinary user menu

Code	Range / default	Function
dSAL	0 or 1	Overrange flashing alarm. 0 = disabled; 1 = enabled.
oFSt	Default 0	Offset the displayed value. Normally no adjustment is necessary.
FiLt	0–4; default 2	Filter constant. A larger setting suppresses interference more strongly but reduces response sensitivity. Setting 2 is the medium level suitable for most applications.
SPAn	Default 1.000	Sensor sensitivity correction factor. Correct the primary-variable zero first, then adjust sensitivity to preserve the linear relationship.

For dSAL, the source defines a flashing display above 125% of the calibrated upper limit or below 25% of the calibrated lower limit. It does not give a separate span-based formula for the lower threshold.

4.3.3 Advanced user menu

Code	Setting	Meaning
Unit	12 defined selections, codes 0–11	Select the displayed engineering-unit symbol
-dP-	0, 1, 2 or 3 decimal places	▼ increases decimal places; ▲ decreases decimal places. Prioritize a stable reading rather than the maximum number of digits.
dS-L	–1999 to 9999	Lower display-range limit
dS-H	–1999 to 9999	Upper display-range limit
ZErO	0.0–1.0	Zero/full-scale suppression coefficient. 0.0 disables suppression.
dSAL	0 or 1	Overrange flashing alarm; 0 disables, 1 enables
End	▲ + ▼ together	Save, confirm and exit settings

Unit selections

Code	Displayed unit	Code	Displayed unit
0	MPa	6	kg
1	KPa	7	mmHg
2	Pa	8	mm
3	bar	9	m
4	mbar	10	°C
5	Psi	11	No unit

The unit symbols KPa, Psi and kg reproduce the available display labels; the kg label is not expanded into an unstated pressure unit. The menu displays the selected unit as its prompt.

Zero/full-scale suppression example

With ZErO = 0.1, an input within $\pm 0.10\%$ of the transmission span around zero or full scale makes the display settle at the corresponding endpoint. This avoids fluctuating readings caused by interference near the endpoints.

Decimal-place examples

The source illustrates the four resolutions as 0, 0.1, 0.02 and 0.003, representing zero, one, two and three decimal places.

4.3.4 Factory commissioning menu

Factory settings determine display accuracy and calibration. Preserve the existing calibration unless performing authorized instrument commissioning.

Code	Setting / operation
LInE	Select two-point or three-point calibration
Unit	Same 12 unit selections, codes 0-11, as the advanced menu
-dP-	0-3 decimal places; ▼ increases and ▲ decreases the number of decimal places
dP-L	Lower display-range limit, -1999 to 9999
dP-H	Upper display-range limit, -1999 to 9999
Ad-L	Zero calibration acquisition point. The source warns that casual adjustment will impair accuracy.
Ad-H	Full-scale calibration acquisition point; use the same acquisition procedure as Ad-L
ZErO	0.0-1.0 zero/full-scale suppression; 0.0 disables it. The 0.1 setting suppresses fluctuations within $\pm 0.10\%$ of span around either endpoint.
dSAL	0 = overrange flashing alarm off; 1 = on. The source thresholds are above 125% of the upper calibrated limit or below 25% of the lower calibrated limit.
End	Press ▲ + ▼ together to save and exit

Calibration acquisition procedure

At Ad-L, press ▲ + ▼ together to show the previously acquired value. Press ▲ or ▼ once to start a new acquisition. When the acquired value stabilizes, press ▲ + ▼ together to confirm it. Ad-H uses the same procedure for full scale.

4.3.5 Exit

Select End and press ▲ + ▼ together to save, confirm and return to measurement mode. Use this normal exit to preserve changed settings.

Display and menu notes

The voltage-drop reference is 3.0V at 20mA. No maximum or minimum limit is specified for that reference value.

Use unit codes 0-11 as defined in the unit table and the access passwords listed for the required menu.

Advanced-menu limits are dS-L / dS-H; factory-commissioning limits are dP-L / dP-H.

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