WOOJIN INC

PS-LBI01Q/PS-LBI02Q

Nuclear Qualified Digital Bargraph Indicators

Application

PS Series is WOOJIN's second generation nuclear qualified digital bargraph indicator supporting wide range of input signals. PS Series can replace most panel and switchboard meters that are being used today. Nuclear Safety- related Class bargraph indicators consist of models PS-LBI01Q / PS-LBI02Q that fit easily into standard 6" edgewise and DIN size panel cutouts. These models are direct replacement for Dixson, Weschler, Sigma/International Instruments and other common size equivalents. WOOJIN's full color TFT-LCD bargraph indicators offer the best of analog and digital solid state instrumentation. The expended bar display and single moving point display gives you the 0.85% and 0.21% resolution with analog trend indication respectively and provides the operator with a quick view on the status of the measured signal or control setpoints. The digit display provides the highest accuracy readings of the signal variables.

Models PS-LBI01Q / PS-LBI02Q are designed to meet nuclear standards for environmental temperature and humidity extremes, seismic shock, EMI/RFI, HFE and system software V&V.

- Nuclear Safety-related Class

  The software has been verified and validated (V&V) to IEEE 7-4.3.2 2003. EMI/RFI testing has been performed to RG 1.180 2003.

  Also mild-environment qualification has been performed to IEEE 323 2003 and IEEE 344 2004.

Our Nuclear Quality Program has been audited by a member of KEPIC. WOOJIN's total generic qualification program eliminates industry concerns about dedicated qualification of commercial equipment.

Feature

- High resolution bar display, configurable for single moving point display or standard expanded bar
- Operating zone-mark indication
- Under / Over range indication
- Accurate square root & power factor extraction
- Pluggable screw anchored terminal connection

Options

- NEMA 12 type enclosure available

Specification

BAR DISPLAY	**Type** full color TFT-LCD **Size** 3.7" display **Resolution** 0.85% full scale for expanded bar 0.21% of full scale for moving point **Color** red/yellow/green tri-color **Pointer Mode** selectable standard expanded bar or single moving point **Display Mode** selectable normal or bipolar
DIGIT DISPLAY	**Type** full color TFT-LCD **Size** 0.3" for single type, 0.2" for dual type **Resolution** -99999~99999 for single type - 9999~ 9999 for dual type **Color** green
OPERATING ZONE-MARK INDICATION	Up to 5 zone-marks can be programmed. Each of programmed zone-marks are displayed on the gradations.
OVER/UNDER RANGE INDICATION	**Bar Display** When input is out of range, the all or bottom segment of bar will be illuminated. **Digit display** reading to ±10% over/under range.
RESPONSE TIME	≤ 250ms for DC signals
INPUT SENSITIVITIES	**Standard Input** (DIP switch and/or software configurable) **DC Amps** -20mA ~20mA **DC Volts** -10 ~10V
ACCURACY[1]	**DC Amps&Volts** 0.01% of full span ± 1 count[2]
CASE MATERIAL	Non-glare black PC or ABS case complying with UL94 V-0
POWER REQUIREMENT	**Line Voltage** 120VAC, 60Hz **Power Consumption** Typical 3.0VA for single type and 6.4VA for dual type. Depends upon LCD's brightness.

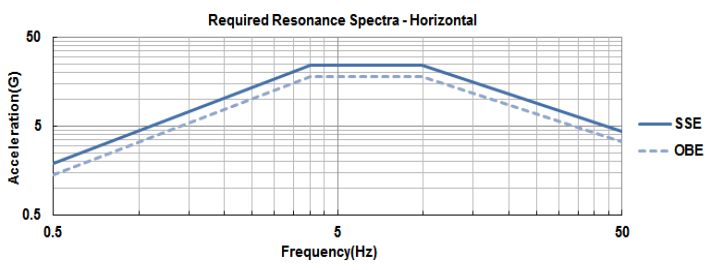
OPERATING CONDITIONS

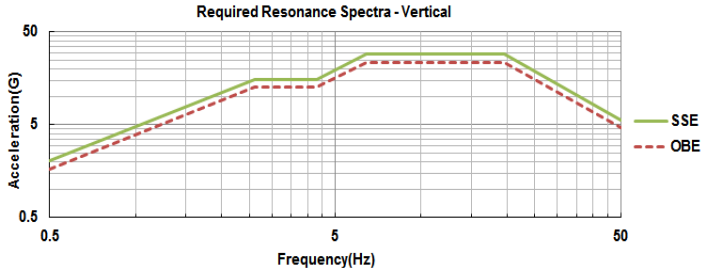
Condition	Normal Limits	Storage Limits	Normal Reference
Ambient Temperature	10~40℃	-40~85℃	23±2℃
Ambient Humidity	≤ 95%RH (Non-Condensing)	≤ 95%RH (Non-Condensing)	40~60%RH (Non-Condensing)

OPERATING INFLUENCES	**Ambient Temperature** Affects less than ±0.01% of span per 1℃ within normal limit conditions.
MOUNTING	Front panel mounting
WEIGHT	Typical 760g for single type and 820g for dual type.

1. Accuracy is calibrated accuracy at normal reference conditions
2. 1 count is defined as a ± unit value change of the right-most digit

Required Resonance Spectra



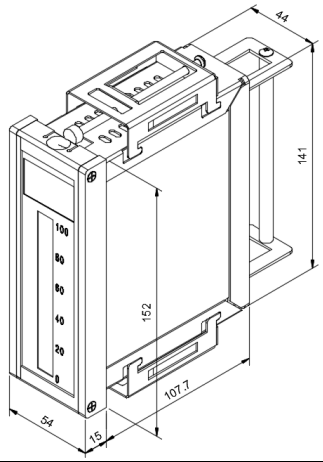


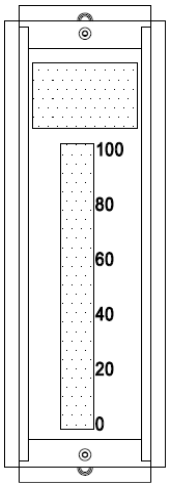
Damping Factor : Operating Basis Earthquake(OBE) 2%, Safe Shutdown Earthquake(SSE) 3%

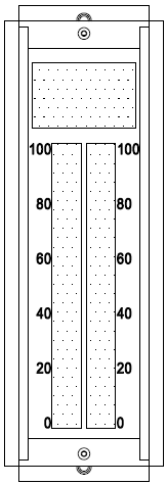
Dimensions

PS Series Digital Bargraph Indicator

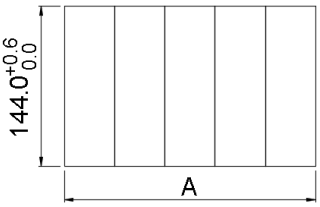
Dimensions given in millimeters







Panel Cutout Dimensions

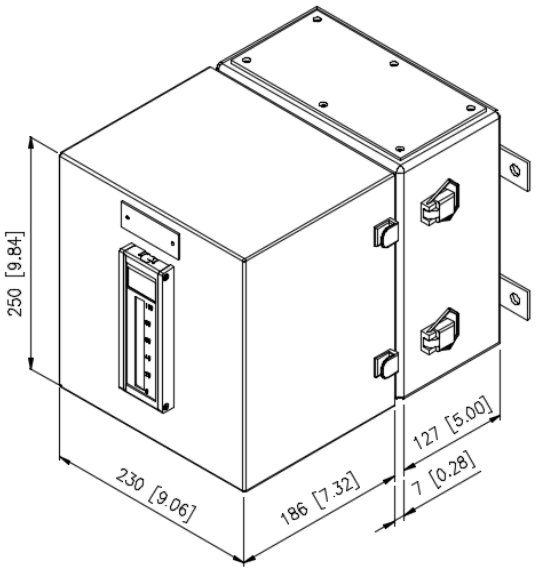


Dimension “A”

#UNIT	$A^{+0.6}_{-0.0}$mm
1	45.0
2	89.4
3	133.6
4	177.5
5	221.7

NEMA 12 Type Enclosure

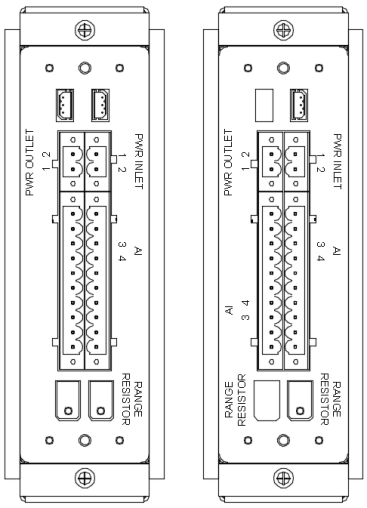
Dimensions given in millimeters



NEMA 12 Enclosure

Terminal Connection

PS Series Digital Bargraph Indicator



INPUT(AI)
VOLTAGE / CURRENT
(3) Hot side (+) (4) Return Side (-)

POWER
INNET
(1) Live (2) Neutral

OUTNET
(1) Live (2) Neutral

* Applicable wire range is 12~22AWG