

PS-hLBI01Q/PS-hLBI02Q

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 Non-safety-related Class bargraph indicators consist of models PS-hLBI01Q / PS-hLBI02Q that fit easily into standard 3.5" edgewise and DIN size panel cutouts. These models are direct replacement for Mors Technologies, Foxboro 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 1% and 0.25% 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-hLBI01Q / PS-hLBI02Q 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

Specification

BAR DISPLAY

Type full color TFT-LCD
Size 3.1" display
Resolution 1% full scale for bar
 0.25% 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 (or dual slope)

DIGIT DISPLAY

Type full color TFT-LCD
Size 0.2" for single type, 0.15" 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 $\pm 10\%$ over/under range.

RESPONSE TIME

$\leq 250\text{ms}$ for DC, thermocouple, RTD signals

INPUT SENSITIVITIES

Standard Input (DIP switch and/or software configurable)
DC Amps -20mA ~ 20mA
DC Volts -10V ~ 10V

ACCURACY¹

DC Amps & Volts 0.01% of full span ± 1 count²

CASE MATERIAL

Non-glare black PC or ABS case complying with UL94 V-0

POWER REQUIREMENT

Line Voltage 85~264VAC, 47~63Hz
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	0~50°C	-40~85°C	23 \pm 2°C
Ambient Humidity	$\leq 95\%$ RH (Non-Condensing)	$\leq 95\%$ RH (Non-Condensing)	40~60%RH (Non-Condensing)

OPERATING INFLUENCES

Ambient Temperature Affects less than $\pm 0.01\%$ of span per 1°C within normal limit conditions

MOUNTING

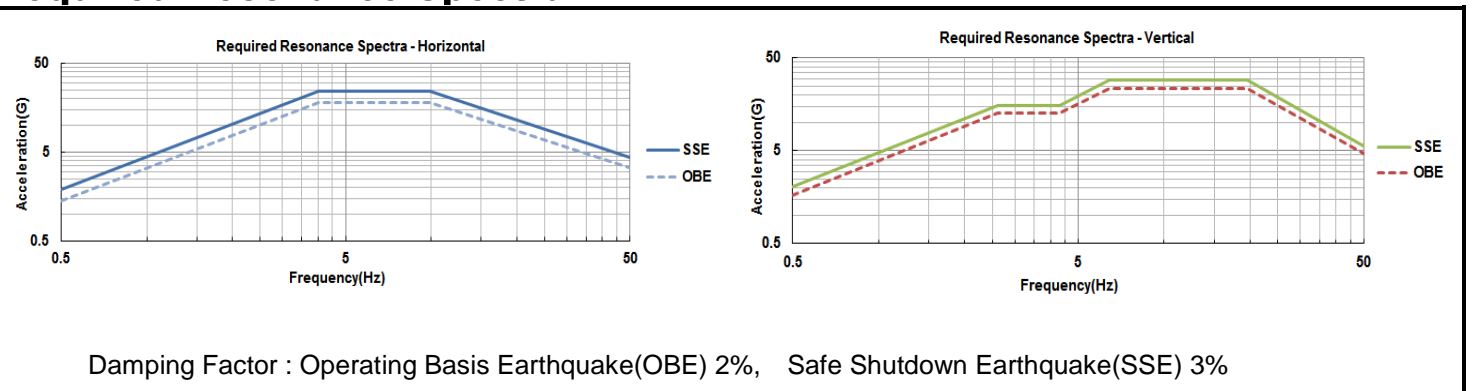
Front panel mounting

WEIGHT

Typical 450g for single type and 500g for dual type. Depends upon options.

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

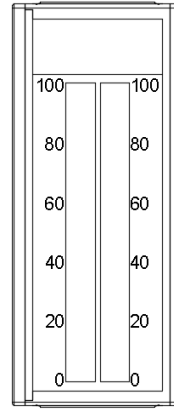
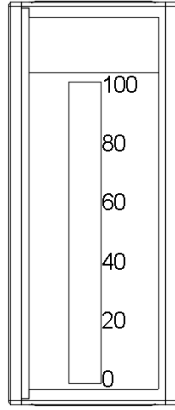
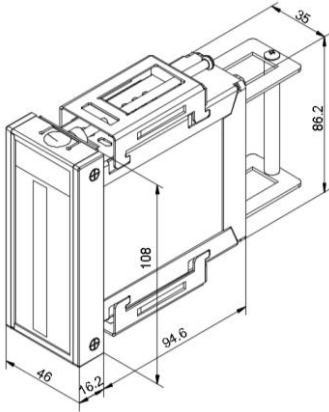
Required Resonance Spectra



Dimensions

PS Series Digital Bargraph Indicator

Dimensions given in millimeters



Panel Cutout Dimensions

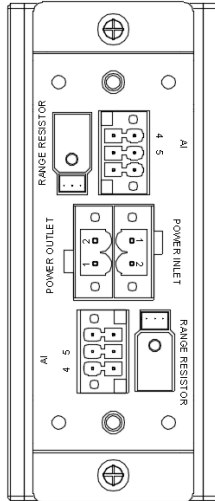
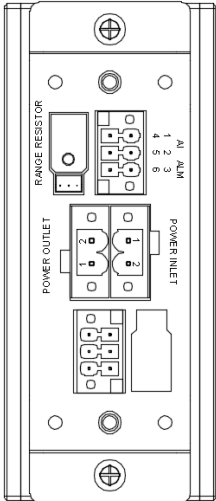


Dimension "A"

#UNIT	$A^{+0.6/-0.0}$ mm
1	35.9
2	71.4
3	106.5
4	141.6
5	176.7

Terminal Connection

PS Series Digital Bargraph Indicator



INPUT(AI)
VOLTAGE / CURRENT
(4) Hot side (+) (5) Return Side (-)

POWER
INNET
(1) Live (2) Neutral
OUTNET
(1) Live (2) Neutral

* Applicable wire range is 16-24AWG