HANYOUNG NUX

Non voltage digital scale meter

HLP1

INSTRUCTION MANUAL

Thank you for purchasing HANYOUNG product.
Please check whether the product is the exactly same as you ordered.
Before using the product, please read this instruction manual carefully.
Please keep this manual where you can view at any time

HEAD OFFICE
HANYOUNGNUX CO.,LTD
28, Gilpa-ro 71beon-gil, Nam-gu, Incheon, Korea
TEL : (82-32)876-4697 FAX : (82-32)876-4696
http://www.hynux.com

INDONESIA FACTORY
PT. HANYOUNG ELECTRONIC INDONESIA
JL.CEMPAKA BLOK F 16 NO.02 DELTA SILICON II
INDUSTRIAL PARK LIPPO CIKARANG CICAU,
CIKARANG PUSAT, BEKASI INDONESIA 17550
TEL : 62-21-8911-8120~4 FAX : 62-21-8911-8126

Safety information

Before using the product, please read the safety information thoroughly and use it properly.
Alerts declared in the manual are classified to Danger, Warning and Caution by their criticality

⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury
⚠ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury

⚠ DANGER

Do not touch or contact the input/output terminals because it may cause electric shock.

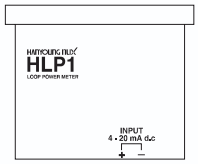
⚠ WARNING

- If the user use the product with methods other than specified by the manufacturer, there may be bodily injuries or property damages.
- If there is a possibility of an accident caused by errors or malfunctions of this product, install external protection circuit to prevent the accident.
- Since this product does not have the power switch or a fuse, please install those separately on the outside. (Fuse rating : 250V 0.5A)
- To prevent electric shock or equipment failure, please do not turn on the power until completing wiring.
- Never disassemble, modify, or repair the product. There is a possibility of a malfunction, an electric shock, or a risk of fire.
- Please turn off the power when mounting/dismounting of the product. This is a cause of an electric shock, a malfunction, or failure.
- To prevent damage or failure of this product, please supply the rated power voltage.
- Since this is not explosion-proof structure, please do not use in a place where combustible or explosive gas is around.
- Since there is a possibility of an electric shock, please use the product as mounted on a panel while the power is being supplied.

⚠ CAUTION

- The contents of the instruction manual are subjective to change without prior notice.
- Please make sure that the product is not damaged during shipping.
- Please use this product in a place where corrosive gas (such as harmful gas, ammonia, etc.) and flammable gas do not occur.
- Please use this product in a place where there is no direct vibration and a large physical impact to the product.
- Please use this product in a place where there is no water, oil, chemicals, steam, dust, salt, iron or others (Contamination class 1 or 2).
- Please do not wipe this product with organic solvents such as alcohol, benzene and others. (Please use mild detergent)
- Please avoid places where excessive amounts of inductive interference and electrostatic and magnetic noise occur.
- Please avoid places where heat accumulation occurs due to direct sunlight or radiant heat.
- Please use this product in a place where the elevation is below 2,000 m.
- Please make sure to inspect the product if exposed to water since there is a possibility of an electric leakage or a risk of fire.
- If there is a lot of noise from the power line, installing an insulated transformer or a noise filter is recommended. The noise filter should be grounded on the panel and the lead wire between the output of the noise filter and the power terminal of the instrument should be as short as possible.
- It is effective against noise if making the power lines of the product the twisted pair wiring.
- Please do not connect anything to the unused terminals.
- Please connect wires properly after making sure the polarity of terminal.
- Please install a switch or break near the operator to facilitate its operation.
- Write down on a label that the operation of circuit breaker or switch disconnects the power since the devise is installed.
- In order to use this product properly and safely, we recommend periodic maintenance.
- Some parts of this product have limited expected life span and aged deterioration.
- The warranty of this product (including accessories) is 1 year only when it is used for the purpose it was intended under normal condition.
- When the power is being supplied there should be a preparation time for the contact output. Please use a delay relay together when it is used as a signal on the outside of interlock circuit or others.

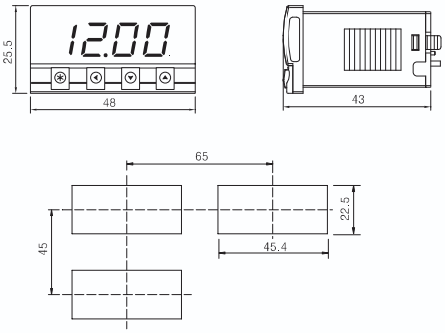
Connection diagram



Specification

Model	Information
Power supply voltage	Non-voltage type
Input signal	4 – 20 mA DC
Indication accuracy	±0.3 % of FS ±1 Digit
Sampling time	Selection done by the parameter (0.5, 1, 2, 3, 4, 5 sec)
Displaying characters	7 segments LED (Red)
Displayable digit	4 digits (–1999 ~ 9999)
Decimal point setting	User random selection
Setting method	Operation system about front side of switch
Ambient temperature	–5 ~ 50 ℃
Ambient humidity	20 ~ 90 % RH
Storage temperature	–25 ~ 70 ℃
Vibration resistance	10 – 55 Hz Peak amplitude for 2 hour each in X, Y and Z direction
Shock resistance	300 m/s², 3 times each in X, Y and Z 6 direction

Dimension and panel cutout



Parameter initial setting

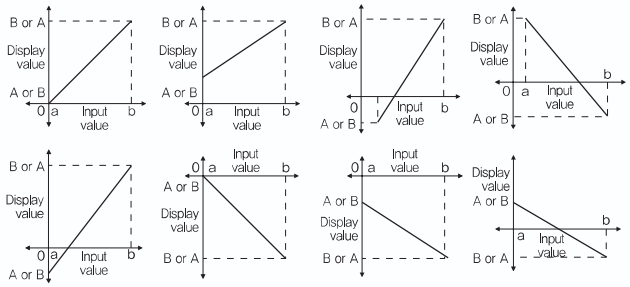
■ SETTING group

Indication	Explanation	Standard set value	Setting range	Reference
SEtH	SET HIGH SCALE	2000	–1999 ~ 9999	set the high scale value 20 mA
SEtL	SET LOW SCALE	0400		set the low scale value 4 mA
Sdot	SET DOT POSITION	00.00	00.00, 000.0, 0000, 0.000	position of a decimal point setting
StIm	SET DISPLAY TIME	0.5 s	0.5, 1, 2, 3, 4, 5 s	display indication period setting
Edi S	ERROR DISPLAY LIMITS	5 %	0, 1, 2, 3, 4, 5 %	Error indication range setting
AdJH	ADJUST HIGH SCALE	0	–199 ~ 199	High compensation of the displaying value
AdJL	ADJUST LOW SCALE	0		Low compensation of the displaying value
SPdt	SET PEAK DELAY TIME	0	0 ~ 30 s	set the delay time for detecting the max and min value
oSbY	OVER SCALE BLINKING	OFF	ON, OFF	flicker function setting
KLoC	KEY LOCK	OFF	ON, OFF	Parameter Lock function setting

Terms

■ PRESCALE (Refer to 1, 2 in parameter structure diagram)

- It has a function to display a measured upper value which is converted to random value. (SEtH = Displayed value A or B)
- It has a function to display a measured lower value which is converted to random value. (SEtL = Displayed value A or B) (Input range –1999~9999)



■ Setting decimal point function (Refer to 3 in parameter structure diagram)

- SET DOT (Sdot) : Set up a position of decimal point (default value 00.0)

■ Function of delaying the display cycle (Refer to 4 in parameter structure diagram)

- SET DISPLAY TIME (Sti n) : When you cannot read the exact value because of changing a displayed value rapidly in fluid change in input, its function is used for displayed value to be changed slowly by delaying an update frequency of display. (0.5 secod to 5 second)

■ Function of Displaying ERROR (Refer to 5 in parameter structure diagram)

- ERROR DISPLAY LIMITS (Edi S) : Setting the range of measured input's displaying error (0 ~ 5 %)
- Displaying Error code

· In case of displaying LOW(LoY) – Measured input's value is lower than the range of displaying error.
Ex) when setting up the range to 5 % (16 mA (4 – 20 mA Full span) X 5 % = 0.8 mA),
LOW mark is displayed since it is lower than 4 mA – 0.8 mA = 3.2 mA

· In case of displaying OVER(oVEr) – Measured input's value is higher than the range of displaying error.
Ex) when setting up the range to 5 % (16 mA (4 – 20 mA Full span) X 5 % = 0.8 mA),
OVER mark is displayed since it is higher than 20 mA + 0.8 mA = 20.8 mA

· All displaying error is automatically cleared when measured value is back to normal range.

· All standard of measured input is 4 – 20 mA but, the actual input is able to be measured from 3.2 mA to 20.8 mA so the input over the range of 4 – 20 mA is automatically calculated to be displayed.

※ Display range (0 % – 00.00 ㎃, 1 % – 00.16 ㎃, 2 % – 00.32 ㎃, 3 % – 00.48 ㎃, 4 % – 00.64 ㎃, 5 % – 00.80 ㎃)

■ Correction for error (Refer to 6, 7 in parameter structure diagram)

- ADJUST HIGH SCALE (AdJH) : It has a function to correct the deviation of the maximum displayed value (20 mA) regarding the measured input

· After correcting deviation about the measured input, a slope of the scale graph is automatically recalculated and applied.

· Input range –199 ~ 199

- ADJUST LOW SCALE (AdJL) : A function to correct the deviation of the minimum displayed value (4 mA) regarding the measured input

· After correcting deviation about the measured input, a slope of the scale graph is automatically recalculated and applied.

· Input range : –199 ~ 199

■ Delaying the detecting time of PEAK (Refer to 8 in parameter structure diagram)

- SET PEAK DELAY TIME(SPdt) : For maximum and minimum values of detection, set up maximum value and minimum value of delaying time for detection in order to protect against detecting the error value of overheating and overcurrent.

· Input range 0 second ~ 30 seconds

· Set up 0 second if you are not using the monitoring function.

■ OVER SCALE flashing (Refer to 9 in parameter structure diagram)

- Set up the function for flashing and operating when standard input is over 4 – 20 mA

· Standard for all input is 4 – 20 mA. It is a warning light that makes to flash and operate if input value is measured higher or lower than the standard.

· In ERROR DISPLAY LIMITS, it is flashing to the range you set up and then it operates.
(ON : set up flashing. OFF : Clear the flashing)

■ Locking setting (Refer to 10 in parameter structure diagram)

- KEY LOCK (tLoC) : Set up locking function of parameter setting

· ON (on) Set up locking function of parameter setting.

· OFF (oFF) Clear locking function of parameter setting.

· When you set up the locking function, you can identify the parameter's value but cannot set up

■ RUN Parameter

Sign	Explanation	Basic setting value	Setting range	Remarks
HHPt	HIGH PEAK VALUE	–	Not able to set up	Display the highest value of all input values
LLPt	LOW PEAK VALUE	–		Display the lowest value of all input values

Parameter structure diagram