Digital Panel Meter Model 3124

I-01583

Please take care that this instruction manual is certainly delivered to the person in charge of operating it. For safety and proper use of this product, please observe the following caution and also read the instruction manuals to follow before the initial operation.

MARNING

- To avoid an electrical shock, preserve followings.
- Turn the power off when wiring.
- Do not touch terminals when turning the power on.
- Locate away from the wet place.

▲ CAUTION

- Do not install the product in the following conditions.
- Where it is exposed to direct sunlight.
- Where ambient temperature or humidity is high.
- Where it is exposed to excessive noise or static electricity.
- Where there is constant vibration or shock.

• Check at Delivery

• When the product is delivered to you, please check that its specifications conform to your requirement and that there is no damage in transit. This product is carefully inspected before delivery from factory under our strict quality control program, but if you find any defect or inconvenience, please inform us of the model name, serial number etc. of the product.

• Cautions for Use

•No power on-off switch is provided on the model 3124 so it immediately starts to work when connected to the power source. The rated data of this instrument is, however, defined with the pre-heating for 15 minutes or more.

• When the product is installed in the cabinet, perform the appropriate heat radiation to keep less than 50 °C in it.

Standard Specifications

• Model Name $3124 - \Box - \Box - \Box$

[1] Measuring input

Model	Measuring	Input	Accuracy *	Overload	
3124-03	±1.9999V	Approx. $1M\Omega$	$\pm (0.05 \text{ of } rdg + 2 digits)$	DC±250V	
3124-04	±19.999V	Approx. 1MΩ	$\pm (0.05 \text{ of } rdg + 2digits)$	DC±250V	
3124-05	±199.99V	Approx.10MΩ	$\pm (0.05 \text{ of } rdg + 2digits)$	DC±500V	
3124-09	DC1~5 V	Approx. 1MΩ	$\pm (0.1 \text{ of } rdg + 5 digits)$	DC±250V	
3124-V1	DC0~1 V	Approx. 1MΩ	$\pm (0.05 \text{ of } rdg + 2 digits)$	DC±250V	
3124-V2	DC0~5 V	Approx. 1MΩ	$\pm (0.05 \text{ of } rdg + 2digits)$	DC±250V	
3124-V3	DC0~10V	Approx. 1MΩ	$\pm (0.05 \text{ of } rdg + 2digits)$	DC±250V	
3124-19	DC4~20mA	Approx. 13Ω	$\pm (0.1 \text{ of } rdg + 5 digits)$	DC±150mA	
3124-A1	DC0~ 1mA	Approx.200Ω	$\pm (0.1 \text{ of } rdg + 2 digits)$	DC± 50mA	

* Accuracy: Defined at 23°C±5°C, 45 to 75%RH.

Temperature coefficient: ± 100 ppm/°C for 3124-03, -04, -05, V1 to V3 ± 200 ppm/°C for 3124-09, -19, -A1 Within the 0 to 50°C temperature range.

[2] Display Color

No.	Description				
Blank	Red LED				
G	Green LED				

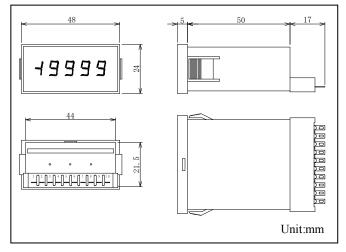
[3]Option

1	-			
	No.	Input		
Blank Nil				
	A01Display sampling 1 secondA02Fixed 10° digit to 0			
	A03	Display sampling 1 second,		
		Fixed 10 ⁰ digit to 0		

■General Specifications

General Specificat	10115						
Display	: 0~19999 red or green LED (character height 8mm) with zero-suppress function.						
Scaling Function	: Full scale display -19999~+19999 Offset display -19999~+19999						
Offset Fixing Function	: Function to fix a display reading of input less than offset value to the offset value.						
Hold Function	: Measured data is held (Not isolated from input).						
Decimal Point	: Programmable by the connector (Not isolated from input).						
Over-range indication	: Blinking with 130% display. When exceeded 19999, blinking with 0000.						
Resolution	: 1/20000						
Display Cycle	: 400ms						
Input Type	: Single ended, floating input.						
A/D Conversion	: Δ - Σ conversion system.						
Noise Rejection	Normal mode (NMR) - 50dB or more.						
Insulation Resistance	: Input terminals - Case : DC500V 100M Ω or more.						
	Power supply terminals - Case : DC500V 100M Ω or more.						
	Power supply terminals - Input terminals : DC500V 100M Ω or more.						
Withstanding Voltage	: Input terminals - Case : AC1500V each for 1 min.						
	Power supply terminals - Case : AC1500V each for 1 min.						
	Power supply terminals - Input terminals : AC500V each for 1min.						
Power Supply	: DC4.75~32V						
Power Consumption : Approx. 100mA at5V. Approx. 50mA at 12V. Approx. 35mA at 24VDC.							
Operating Temperature	: 0~50°C						
Storage Temperature	: $-20 \sim 70^{\circ}$ C						
Mounting Method	: Snap-in type from the panel front.						
Weight	Approx. 45g						

■ Dimensions



■Mounting

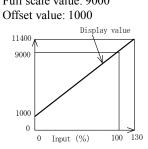
Remove the connector at the rear side of the case, then insert from the panel front.

Panel cut dimension is $45^{+0.5}_{0} \times 22.2^{+0.3}_{0}$ mm. Panel thickness should be 1 to 5 mm.

■Scaling

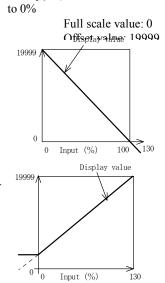
Full scale value and Offset value are programmable within the range from -19999 to +19999. Refer to "Parameter Setting."

Example.1) From elevation (over 0%) to suppression (belowE±000%)e.2) Full scale value: 9000 to 0% From 100%



■Offset fixing

Display can be fixed to the offset value when the input value is lower than the offset value. Refer to "Setting method".



Connector type: CR23A-10SA-4E

■Connector arrangement

Terminal	Hi	Lo	COM	HOLD	DP1	DP2	DP3	DP4	-	+
	1	2	3	4	5	6	7	8	9	10
Eunotion	+ -	Common	Hold	10 ¹ dig	10 ² dig	10 ³ dig	10 ⁴ dig	Power		
Function	Input	Common Hold	Tiola	Decimal point				DC 4.75~32V		

• Input terminals (Input Hi, Lo)

Pay attention to the polarity when wiring. Connect input of higher electric potential to Hi. Input and power line shall lay separately. Otherwise, display may be unstable.

• Hold (HOLD)

Display can be held by connecting the Hold terminal and the Common terminal.

Active "L" In≦-1mA, "L"=0~0.8V, "H"=3.5~5V

Hold terminal is not isolated to the input. Use a photo-coupler or switch to insulate. It is essential when using the input floating. When using plural numbers of the product, the hold terminal should be insulated at each instruments.

• Decimal point (10¹dig.~10⁴dig.)

Decimal point is programmable. Connect and short-circuit the desired decimal point terminal and the common terminal. Active "L", In≦-1mA, "L"=0~0.8V, "H"=3.5~5V

Those terminals are not isolated to the input. Use a photo-coupler or switch to insulate. It is essential when using the input floating.

• Common (COM)

For Hold and Decimal point terminals.

• Power supply (+,-)

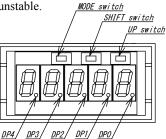
Use within the range from DC 4.75to 32V.

■Option (Specify when ordering)

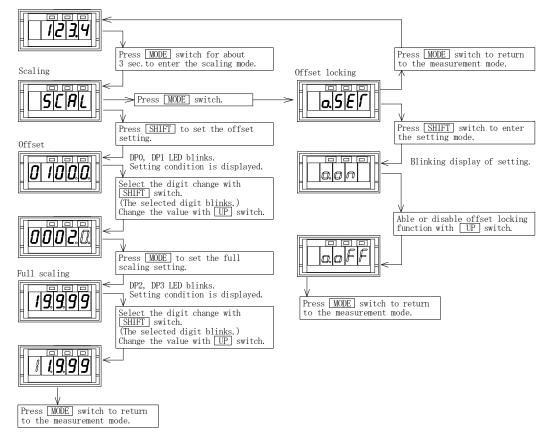
Display cycle can be set to 1 second.

 10^{0} dig-can be set to 0 if input value is unstable.

- Parameter Setting
- Component identification



• Setting method (Scaling, Offset locking)



■ Maintenance

Store the instrument within the specified storage temperature ($-20 \sim 70^{\circ}$ C).

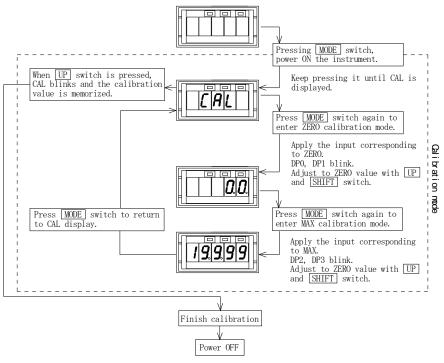
When the front panel or the case becomes dirty, wipe it with soft cloth.

For heavy dirt, wipe it lightly with the soft cloth wetted with the neutral cleaner thinned by water, and finish the cleaning with dry cloth. Do not use organic solvent like benzene or paint thinner as they may deform or discolor the case.

■ Calibration

In order to maintain long term accuracy, periodical calibration at an interval of about one year is recommended. Make a calibration of the instrument with the ZERO and MAX volumes inside the front mask. Also, make a calibration in the

ambient condition of $23^{\circ}C \pm 5^{\circ}C$, 75%RH or less.



UP switch to increase calibration value. Keep pressing to continuously increase. SHIFT switch to decrease calibration value. Keep pressing to continuously decrease.

■Warranty

The manufacturer warrants to the original retail customer its digital panel meter to be free of defects in material and workmanship for use under normal care and will repair or replace any meter at no charge to the customer during the one (1) year warranty period from the original factory shipment.

Contact Information

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