Digital Meter Relay

PSM-04D

- Small case in DIN size [48mm (W) x 24 mm (H) x 66mm (D)]
- Front panel operating digital scaling
- Hi-Lo comparison output (relay output)
- Analog output built in (4 to 20mA)
- RoHS compliant

Specification

■Measurement Input

Input Signal Source	2-wire type various linear sensors and converters
Input Method	Single end input (isolated from power supply)
Input Resistance	20Ω: I input range, 2-wire type various linear sensors and converters
Allowable Over Input	±110mA: I input range
Scaling Method	Digital scaling method by key switch input
Scaling Range	Zero scale setting range: ±9999 Full scale setting range: zero scale setting value ±10000
A-D Conversion Method	Double integral technique with zero correction
NMRR	40dB standard (2.5 times/second, 50Hz)
Measurement Accuracy	±0.1% or FS ±1 digit
	Ta = +23℃ ± 5℃, 35 to 85% RH, one year
Temperature Drift	±100ppm of FS/℃ Ta = 0℃ to +50℃
Warm-up Time	5 minutes
Sampling Rate	Selected and set from one of 10, 5, 2.5, 1 time/second

■Display

Number of Display Digits	±4 digits displayed (±9999 displayed)	
Displayed Range	For the portion of arbitrary 10000 digits within ±9999 display	
Indicator	Height of character 8mm, 7 segments red LED	
Display Rate	Selected and set from one of 10, 5, 2.5, 1, 0.5 time/second	
Polarity Display	"−" is displayed for minus only	
Overflow Display	Overflow of input	Display blinks at Input ≧ +110% FS Input ≦ −10% FS
	Overflow of display	Display blinks at Display value > +9999 Display value < −9999
Decimal Point Display	Can light up at arbitrary digit by key switch input	
Zero Suppress	"0" display of upper digits of decimal point display can be suppressed	
Last Digit [0] Fixed Display	Display with 0 power digit of 10 fixed to "0" is available	

■Comparison

Comparison Value Setting Method	Digital setting method by key switch
Comparison Value Setting Range	−9999 to +9999 digits
Comparison Value Setting Resolution	1 digit
Hysteresis Setting Range	1 to 9999 digits
Hysteresis Setting Resolution	1 digit
Comparison Method	Individual comparison method The setting value of CNT1 and 2 can be set individually. For comparison mode, "H" and "L" are available, and when "H" is set, upper comparison operation is set, and when "L" is set, lower comparison operation is set.For both of CNT1 and 2, hysteresis can be set individually.
Comparison Operation	CNT1="H" measurement value ≧ CNT1 setting value: relay and LED for CNT1 are turned ON CNT1="L" measurement value ≦ CNT1 setting value: relay and LED for CNT1 are turned ON CNT2="H" measurement value ≧ CNT2 setting value: relay and LED for CNT2 are turned ON CNT2="L" measurement value ≦ CNT2 setting value: relay and LED for CNT2 are turned ON
Comparison Output	Relay contact output Type of contact: 1 make contact (a contact) Contact capacity: DC 30V / 1A, AC 125V / 0.3A (resistance load) Lifetime of contact: 100,000 times or more (at 1,800 times/h opening and closing) Mechanical lifetime: 50,000,000 times or more

■Analog Output

Analog Output	Displayed value supported Zero scale setting value corresponds to analog zero output Full scale setting value corresponds to analog full output
Output Accuracy	±0.5% FS
Resolution	Approximately 10,000
Load Resistance	4 to 20mA range 300Ω or less

■Electric Supply Source

Voltage	DC 24V ± 15% (DC 20.4V to DC 27.6V)
Power Consumption	Approximately 2.5W (sensor output current = 25A, CNT1, 2 = ON, −88.88 display)

■Power Supply for Sensor

Output Voltage	DC 24V ± 10% (DC 21.6V to DC 26.4V) (Ta = 23℃ ± 5℃)
Output Current	25mA max.
Temperature Drift	250 ppm/℃ standard (Ta = 0 to +50℃)

■Environment

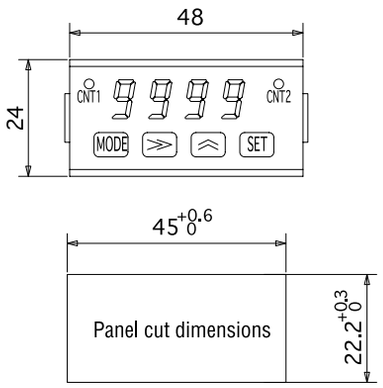
Operating Temperature	0 to +55℃
Operating Relative Humidity	35 to 85% RH (no dew condensation)
Storage	−20 to +70℃

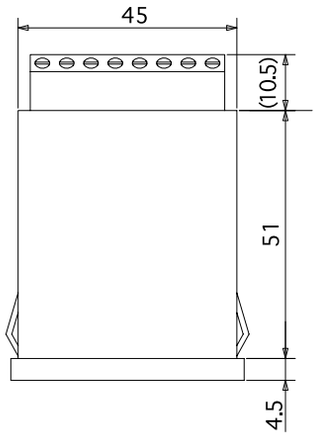
■Other

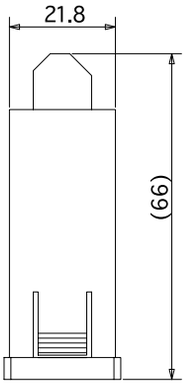
Terminal Block for I/O Connection	Terminal block for connecting strip wire SMKDS1,5 made by Phoenix Contact
Backup Memory	Each setting data is backed up by EEPROM Number of writings: approximately 1 million times, number of storage years: approximately 10 years
Noise Resistance (EMC Directive)	EN61326: planned to be adapted in 1997
Withstand Voltage	AC 500V, one minute, (power supply vs input, live part collectively vs case)
Insulation Resistance	100MΩ or more (initial value: measured at DC 500 mega, power supply vs input, live part collectively vs case)
Oscillation Resistance (Performance)	10 to 55 Hz, width of oscillation 1.5mm, 2 hours for X, Y and Z direction each
Impact Resistance (Performance)	294 m/s^2 (approximately 30G) 3 times for 6 directions of X, Y and Z each
External Dimensions	24H x 48W x 66D (mm)
Weight	Approximately 55g
Case	Made of plastic mold

PSM-04D

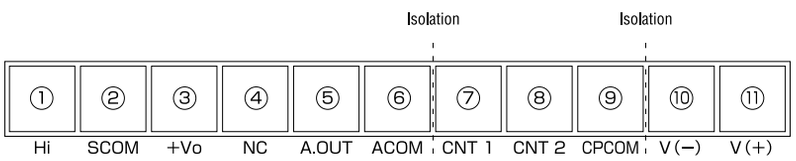
Dimensional Outline Drawings







Terminal Connection Method



Terminal No.	Signal Name	Description
1	Hi	Input terminal of measurement signal. Inputs the DC output signal from sensor.
2	SCOM	Common terminal of power supply for measurement signal input and sensor
3	+Vo	Output terminal of +24V for sensor. Supplies DC24V and 25mA max. to sensor.
4	NC	Nothing connected
5	A.OUT	Analog output (4 to 20mA)
6	ACOM	Common terminal of analog output.
7	CNT 1	Comparison output terminal. 2R: output at a contact of relay
8	CNT 2	Comparison output terminal. 2R: output at a contact of relay
9	CPCOM	Common terminal of comparison output.
10	V(−)	Connects "0V" of power supply.
11	V(+)	Connects "+24V" of power supply.

How to Order

PSM - 04D - Display Unit **1**

1 : psi
2 : kgf/cm²
3 : bar
4 : torr
5 : atm
6 : KPa
7 : MPa

※Specification is subject to change without notice.