

5 DIGITAL MICRO-PROCESS RPM / LINE-SPEED / FREQUENCY ISOLATED TRANSMITTER

ATM-R

FEATURES

- Accuracy: $\pm 0.03\%$ F.S.
- Measuring AC Frequency / DC Pulse / Magnetic; Input frequency: 0.001Hz~10KHz
- High brightness 0.4" LED display range: -19999~99999; decimal point selectable
- Line-Speed / RPM / Frequency selectable
- Line unit: M, Ft, Y/min selectable
- RPM pulse input programmable: 1~99999
- Surge test of AC 2000V / min between input / output / power
- High stability, non-flammable case (PC), high safety



ORDER INFORMATION: ATM - R - [Code 1] [Code 2] - [Code 3] - [Code 4]

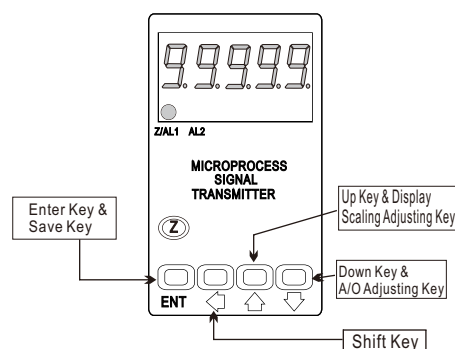
Code 1	Input Signal	Code 1	Input Signal	Code 2	Display Unit	Code 3	Aux. Power	Code 4	Analog Output
N5	NPN(5V)	VA	AC 2~60V	H	Hz	A	AC/DC 100~240V	1	4~20mA
N2	NPN(12V)	VB	AC 60~600V	R	RPM	D	AC/DC 22~60V	2	0~20mA
P5	PNP(5V)	VC	Pick-up 50mV~1.5V	M	M/min	O	Option	3	0~5V
P2	PNP(12V)	VD	Pick-up 500mV~15V	Y	Y/min			4	0~10V
CT	Contact	VE	DC 24Vp	F	F/min			L	LoopPower: 15~30 Vdc 4~20 mA
		O	Option					O	Option

**1: NPN(5V),PNP(5V) offers excitation power DC5V; NPN(12V),PNP(12V) offers excitation power DC12V for sensors using.
2: Please use PNP/NPN(5V/12V) or DC24Vp for DC pulse input.

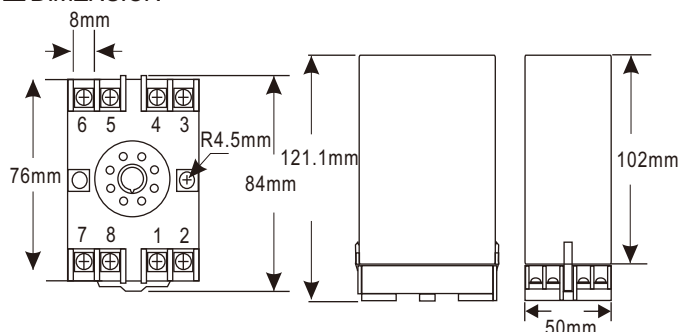
SPECIFICATION

- ◆ Accuracy: $\pm 0.03\%$ F.S.
- ◆ Display Screen: High brightness red LED; 10.16mm (0.4")
- ◆ Display Range: -19999~99999
- ◆ Zero Adjustment: ± 9999
- ◆ Span Adjustment: ± 9999
- ◆ Over Range Indication: doFL / ioFL
- ◆ Polarity Indication: Automatic with "-" indication
- ◆ Parameters Setting: Push buttons
- ◆ Back Up Memory: EEPROM
- ◆ Analog Output Resolution: 15 bit
- ◆ Output Response Time: <250 msec (0~90%)
- ◆ Output Capability: Voltage Output: <20mA
Current Output: <10V
- ◆ Output Ripple: $\leq \pm 0.1\%$ F.S.
- ◆ Isolation: Input / Output / Power / Case
- ◆ Temperature Coefficient: 100ppm / °C (0~60°C)
- ◆ Operating Temperature: 0~60°C
- ◆ Operating Humidity: 20~90% RH (non-condensing)
- ◆ Storage Temperature: -10~70°C
- ◆ Storage Humidity: 20~90% RH (non-condensing)
- ◆ Power Supply: AC/DC 100~240V; AC/DC 22~60V
- ◆ Surge Test: 2KVac / 1min
- ◆ Insulation Resistance: >100M Ω with 500Vdc
- ◆ Input Impedence: Voltage: >2V for 20K Ω / V; $\leq 2V$ for >200M Ω
Current: $\geq 0.2A$ at 100mV; <0.2A at 1V
- ◆ Installation: Socket / Plug in

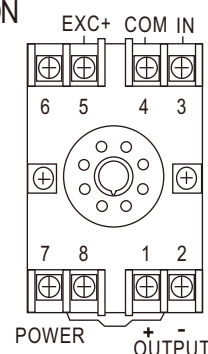
FRONT PANEL & KEY FUNCTIONS



DIMENSION

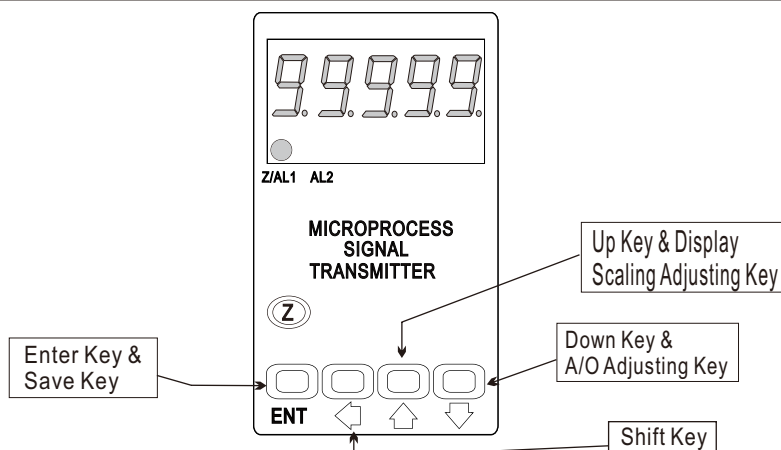


WIRING CONNECTION



* Please understand key indicators & functions at the first operation.

FRONT PANEL & KEY FUNCTIONS



Key Name	Symbol	Descriptions
Enter Key & Save Key	ENT	1. In the measuring status, press this key can enter to parameter pages. 2. In the parameter setting, press this key can save the value & go to next parameter.
Shift Key	←	1. In the parameter setting, press this key can move the cursor left.
Up Key & Display Scaling Adjusting Key	↑	1. In the measuring status, press this key for 3 sec can enter to display scaling adjustment. 2. In the parameter setting, press this key can increase the digits.
Down Key & A/O Adjusting Key	↓	1. In the measuring status, press this key for 3 sec can enter to analog output adjustment. 2. In the parameter setting, press this key can decrease the digits.

- **1. The following block charts are parameters codes, parameter codes & parameters will alternate flashing if the parameters can be modified.
- To modify the parameters, please press ← ↑ ↓, and press **ENT** to save the parameters after the modification.
 - Please don't forget the new pass code after modification.
 - In any pages, press ↑ & ↓, or don't press any keys for 2 minutes that will back to measuring status.
 - Scaling Formula: Frequency Display = (Scale x Input Frequency)/PPR
RPM Display = (Scale x Input Frequency x 60)/PPR
Line-Speed Display = [Scale x Input RPM x 3.1416 (π)]

GENERAL MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
		Scaling Adjustment	
		Present value for measurement.	
	Scale Coefficient Adjustment (SCALE)	Press ← ↑ ↓ to modify scale coefficient 1 (0.0001 ~9.9999). PS: 1. In Frequency & RPM types, this coefficient can be modified for display value. (Please refer to Scaling Formula) 2. In Line-Speed type, this coefficient means "diameter" of the roll, the unit will be changed by selecting display unit. EX: If the display unit is "Meter", the diameter is also showed "Meter".	10000
		Analog Output: "ZERO" & "SPAN" Adjustment	
		Present value for measurement.	
	A/O Zero Adjustment (AZero)	Press ← to select adjusting speed rate, press ↑ ↓ to modify the A/O zero. PS: To use this function to adjust the real A/O zero.	00000
	A/O Span Adjustment (ASpan)	Press ← to select adjusting speed rate, press ↑ ↓ to modify the A/O span. PS: To use this function to adjust the real A/O span.	00000

PROGRAMMING MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
Power ON ↓ 10000 Press ENT ↓ P.Cod Press ENT ↓ P.Code Correct NO YES	Measuring Status	Present value for measurement.	
	Pass Code (P.Cod)	Press ◀ ▶ to enter pass code.	00000
		Pass code is correct that will enter to parameter groups. Pass code is wrong that will back to measuring status.	
	Decimal Point Setting (dP)	Press ◀ ▶ to select decimal point (0, 1, 2, 3, 4) EX: if the value shows "0.00" that means the decimal point is 2 digits.	0
	Input Type Setting (tYPE)	Press ◀ ▶ to modify the input type (RPM/Line-Speed/Frequency).	Customers specify
	The following steps are only available for Line-Speed type.		
	Line-Speed Unit Setting (Unit)	Press ◀ ▶ to modify the unit of line-speed (Meter/Foot/Yard).	Customers specify
	PPR Setting (PPr)	Press ◀ ▶ to modify ppr (1~99999).	00001
	Sampling Time Base (tbASE)	Press ◀ ▶ to modify sampling time base (0.1~999.9 sec).	0000.1
	Display Average Setting (AvG)	Press ◀ ▶ to modify display average (1~99). PS: Please use this function for stable display value when input signal is unstable.	00005
	A/O Polarity Setting (PoLAr)	Press ◀ ▶ to select output for positive or negative pole. PS: Voltage output, NO: positive pole output (0~+10V) YES: positive & negative pole output (-10~+10V)	no
	A/O Low Scale Setting (AnLo)	Press ◀ ▶ to adjust A/O low scale to correspond to the display value. EX: A/O is 0~10V, the display is 10.0 to output 0V, this value must be set for 10.0.	00000
	A/O Hi Scale Setting (AnHi)	Press ◀ ▶ to adjust A/O hi scale to correspond to the display value. EX: A/O is 0~10V, the display is 90.0 to output 10V, this value must be set for 90.0.	99999
	Pass Code Setting (CodE)	Press ◀ ▶ to modify pass code (0~19999). PS: Please don't forget the new pass code after modification.	00000
	Key Lock Setting (LoCK)	Press ◀ ▶ to lock the keys, using key lock function only can view the parameters, but cannot modify any values.	no

Error Code of Self-Diagnosis

Display	Descriptions
oFL	Input signal is over input range (0~100KHz).
doFL	Input signal is over display range (99999).
E-00	EEPROM reading/writing suffers the interference (about 1 million times).

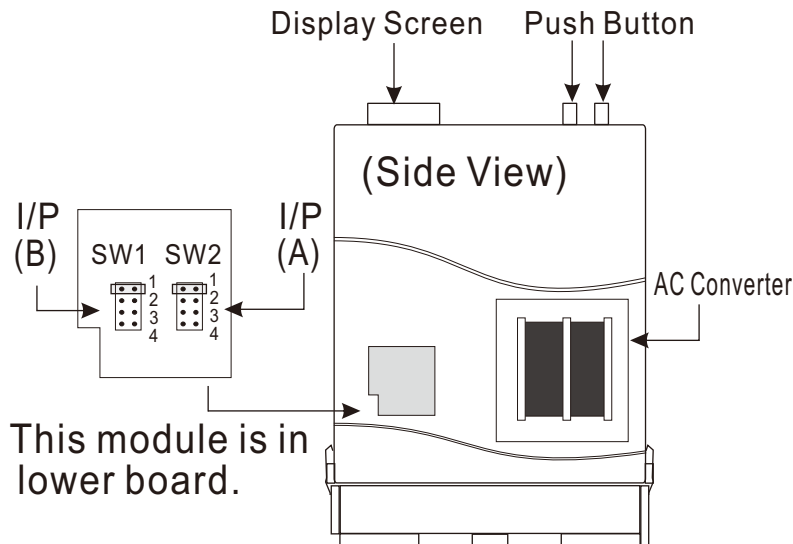
**Please check the wiring connection is correct first, if the problem still exist, please return the meter to the factory.

Frequency Input Signal Modification

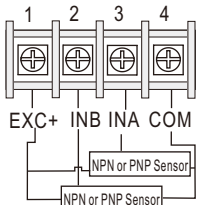
****To Select the pin to modify the input signal for different sensors.**

PS: In dual input type, excitation power must be the same.

SW1/SW2	JUMPER	DEFINITION
	1	Open: 12V; Close: 5V
	2	Open: 100KHz; Close: 100Hz
	3	Open: NPN; Close: PNP
	4	Open: PNP; Close: NPN



****Connection:**



NPN (5V): 0~400 Hz

JUMPER	SW1/SW2
1	
2	
3	
4	

NPN (5V): 0~10 KHz

JUMPER	SW1/SW2
1	
2	
3	
4	

NPN (12V): 0~400 Hz

JUMPER	SW1/SW2
1	
2	
3	
4	

NPN (12V): 0~10 KHz

JUMPER	SW1/SW2
1	
2	
3	
4	

PNP (5V): 0~400 Hz

JUMPER	SW1/SW2
1	
2	
3	
4	

PNP (5V): 0~10 KHz

JUMPER	SW1/SW2
1	
2	
3	
4	

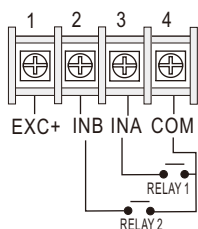
PNP (12V): 0~400 Hz

JUMPER	SW1/SW2
1	
2	
3	
4	

PNP (12V): 0~10 KHz

JUMPER	SW1/SW2
1	
2	
3	
4	

****Connection:**



Relay Contact: NPN 0~400 Hz

JUMPER	SW1/SW2
1	
2	
3	
4	

****For relay input type, please select NPN 0~ 400 Hz.**