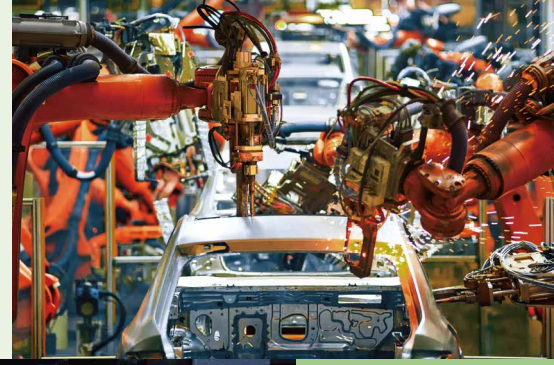


Application of industry

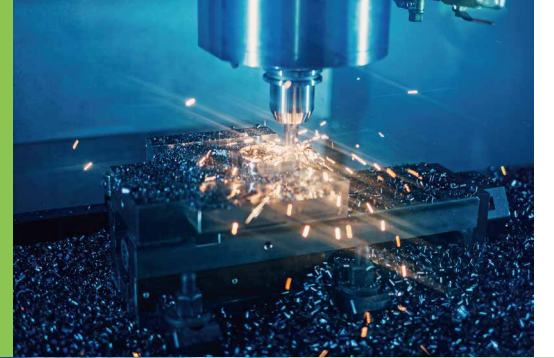
Automobile Automation



Wood and Metal Processing



Laser Cutting



Solar Process Equipment



Inkjet Printing



Pin Assignment

BiSS-C

Function	Signal	Connector (Male) D-sub 15 Pin	Connector (Male) D-sub VGA 26 Pin	Connector (Male) D-sub 9 Pin	Flying Lead
Power Supply	+4.5V~28V DC	7	4	4	Brown
		8	5	5	Green
	GND	2	13	8	Gray
		15	14	9	White
Output Signal	SIN+	5	1	-	Yellow / Brown
	SIN-	10	10	-	Yellow / White
	COS+	6	2	-	Green / Brown
	COS-	11	11	-	Green / White
	MA+	3	7	2	Blue
	MA-	4	17	3	Red
	SLO+	13	23	6	Violet
SLO-	14	24	7	Black	
Shield	Inner Shield	1	15	Case/Housing	Inner Shield
	Outer Shield	Case/Housing	Case/Housing		Outer Shield

H-code

Function	Signal	Connector (Male) D-sub 15 Pin	Connector (Female) SCR 10 Pin	Flying Lead	
Power Supply	+4.5V~28V DC	7	1	Brown	
		8		Green	
	GND	2		2	Gray
		15			White
Output Signal	PS+	3	3	Yellow	
	PS-	4	4	Pink	
Shield	Shielding	Case/Housing	Case/Housing	Blue	
				Red	
				Shielding	

Highly compatible with major electronic control systems in the world

Connected with automation control systems of major brands, e.g. HIWIN MIKROSYSTEM E series, Beckhoff, Bosch drive.

Protection IP68 rated

Waterproof, dustproof, and oil resistant



High position resolution and excellent repeatability

The minimum resolution of 1 μm and repeatability of ±1 μm

Easy to operate and install

LED state-assisted installation and full-stroke adaptation-free function

True absolute encoding system

Confirms the absolute position upon powering on



APM Series

Absolute Position Measurement System

HIWIN MIKROSYSTEM

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Features



- APM Features**
- 1 Protection IP68 rated
 - 2 Small volume
 - 3 Resolution up to 1 μm
 - 4 Repeatability up to $\pm 1 \mu\text{m}$
 - 5 LED status assisted installation
 - 6 Quick installation
 - 7 Wide-range input voltage
 - 8 Reverse voltage protection
 - 9 True absolute encoding technology

Specifications

System Data

Feature	Technical	Additional Information
Resolution	1 μm	
Repeatability	$\pm 1 \mu\text{m}$	unidirectional
Maximum travel speed	7 m/s	BiSS-C@7 m/s; H-code@6 m/s
Maximum scale length	16.3 m	
Pole pitch	2 mm	
Hysteresis	$\pm 2 \mu\text{m}$	
Gap	0.5 \pm 0.3 mm	
Accuracy	$\pm 20 \mu\text{m/m}$	20 $^{\circ}\text{C}$

Electrical Data

Feature	Technical	Additional Information
Power supply	4.5-28 V	DC voltage
Set-up time after switch-on	11 ms	Only readhead
Current consumption	< 200 mA	When voltage input 5 V
Voltage drops	25 mV/m	
Communication interface	BiSS-C/H-code	BiSS-C with analogy output
RoHS certified	Qualified	

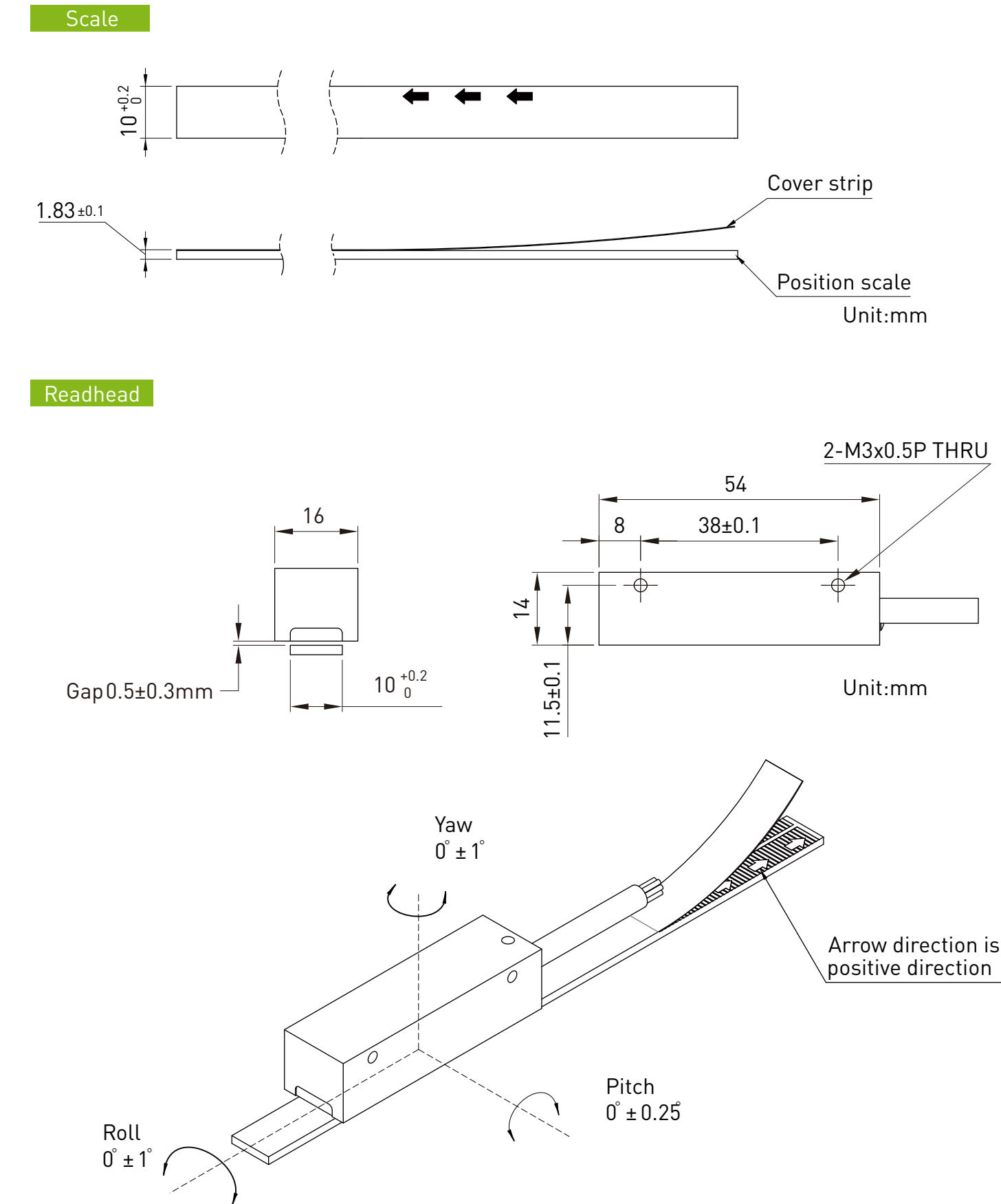
Environmental Data

Feature	Technical	Additional Information
Operation temperature	-20 $^{\circ}\text{C}$ - 60 $^{\circ}\text{C}$	
Storage temperature	-20 $^{\circ}\text{C}$ - 70 $^{\circ}\text{C}$	
Relative humidity	0 to 100%	Condensation admissible
Protection category	IP 68	IEC60529
Vibration resistance	145 m/s ² (50 Hz-2000 Hz)	IEC60068-2-6
Shock resistance	1000 m/s ² (6 ms)	IEC60068-2-27
Maximum external magnetic field	$\pm 5 \text{ mT}$	
EMC protection	EN61000-6-2 EN61000-6-4	

Mechanical Data

Feature	Technical	Additional Information
The mass of position scale	60 g	1 m
The width of position scale	10 mm	
The thickness of position scale	1.83 mm	With cover strip
The mass of readhead	20 g	

Dimension of APM



Reminder :
The output end of the absolute position measurement system is in the same direction as the arrow on the tape.

Ordering Code

APS 2 0 - 1 6 3 0 0

Absolute Position Scale

Length
100 mm : 100
.....
16300 mm Max. (length) : 16300

Accuracy
 $\pm 20 \mu\text{m/m}$: 20

APM - 1 0 - 0 3 - 0 B - T - 1 0

Absolute Position Measurement

Resolution
10 : 1 μm

Cable Length
P5 : 0.5 m
01 : 1 m
.....
16 : 16 m (Max. length)
Note:
BiSS-C communication protocol is necessary if cable length is longer than 16m. In addition, external power supply has to be used, also the communication clock frequency has to be adjusted.

Reserved Code
Standard : 10

Housing
T type : T

Output Signal
BiSS-C : B
H-code : H

Connector Option

0 : Flying lead
3 : D-sub 15 Pin
7 : D-sub 9 Pin
8 : SCR 10 Pin
9 : D-sub VGA 26 Pin

Note:
1. SCR 10 Pin only works with output signal H-code
2. D-sub VGA 26 Pin only works with output signal BiSS-C
3. D-sub 9 Pin works with output signal BiSS-C (without analog output)