

switching value

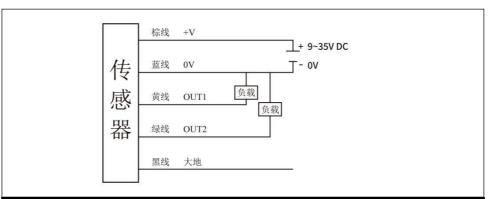


SDP-20 Series Laser Rangefinder

The SDP-20 Series is a direct Time of Flight (dToF) laser ranging sensor developed by Siman Sensing Technology Co., Ltd. Under harsh conditions such as strong ambient light interference or extremely low reflectivity of the target object, its excellent signal processing capability still ensures outstanding reliability.

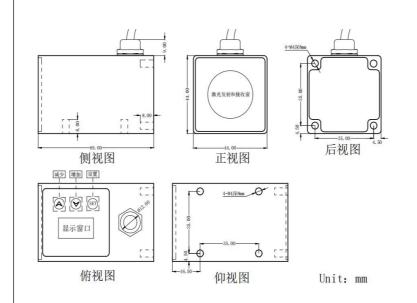
The SDP-20 Series sensor supports RS485 communication, 4~20mA output, and dual-channel I/O outputs. Equipped with an OLED display, the device shows the measured distance in real time and allows parameter configuration via buttons. This product is widely used in fields such as positioning, collision prevention, and obstacle avoidance of industrial equipment. For more product details, visit: www.siman.asia

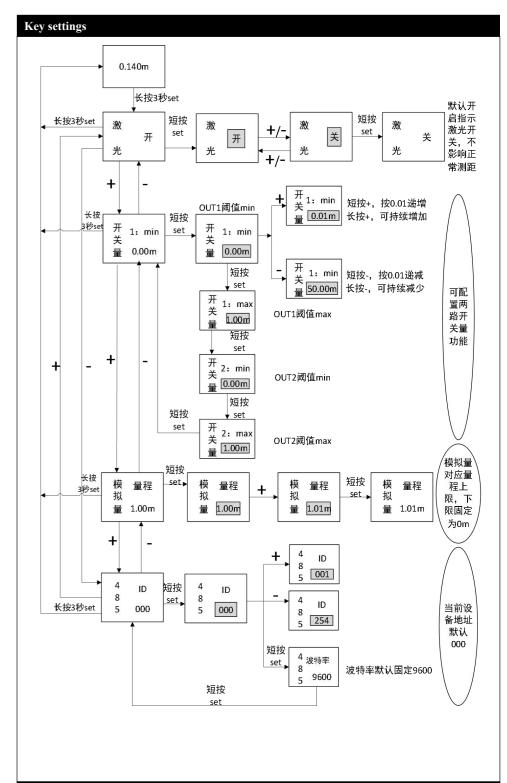
	Follow the equipment usage guidelines! This product is not a safety sensor and						
warn							
	cannot be used for personnel protection.						
	Main measurement laser (905nm): Class 1 laser product. Safe under						
	normal operating conditions.						
	Indicative laser (650nm): Class 2. Do not look directly at the beam or use						
	optical instruments to observe.						
	This product has no explosion-proof structure, and it is forbidden to use in						
	flammable and explosive environments.						
*	> Do not remove this product.						
	> Be sure to turn off the power before operating. Do not connect wires while						
	powered on!						
	Avoid use in dust/steam or corrosive gas environment;						
	2. Where corrosive gases are generated;						
	Do not use this product in water.						
	When used outdoors, pay attention to adding a waterproof cover.						
hookup							
485+ analog							
8							
	棕线 +V						
	+ 9~35V DC						
	<u> </u>						
	1 黄线 RS485A						
	成 绿线 RS485B 485 设备						
	ロロ 白线 模拟量輸出 □□□□						
	模拟输入						
	红线 模拟地 设备						



Specifications				
range	communication interface			
0.0520m	PNP			
	RS485+4~20mA			
RS485 / 4~20mA / PNP				
0.0520m@10% reflectivity				
±2mm				
100Hz				
905nm, Class 1				
650nm, Class 2				
aluminum				
-20~50°C				
9~35VDC				
典型 mA@12V DC (指示激光关闭)				
典型 mA@12V DC (指示激光开启)				
±20mm				
IP65				
145g				
44mm*44mm*69mm				
-40~85°C				
	0.0520m RS485 / 4~2 0.0520m@ ±2mm 100Hz 905nm, Clas 650nm, Clas aluminum -20~50°C 典型 mA@ ±20mm IP65 145g 44mm*44mm			

three views





contact us

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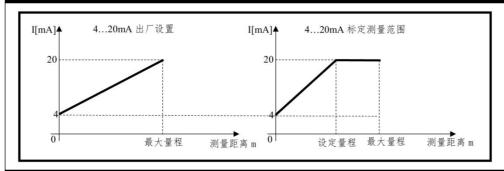
Communication Note: RS485											
Baud rate 9600bps (default), can be changed to 115200bps											
Data bit 8					positi				Cł	neck bit: Nor	ne
register declaration											
address content		number		state	;	explain	explain				
0000Н	error			1		only	100: No fault; 101: Out of range				:
0001H	runni	uning state 1			read-v	write	0: Stop measurement; 1: Measuring or starting measurement			ring or	
0002H		Measure distance value		read only		4-byte unsigned integer data, with the high bit first and the low bit last, in 1mm units.					
0003Н	From device address		1		read-	write	Valid range: 0-254 (0 is the default a 255 is the broadcast address)		ult address,		
0004Н		Communication baud rate			read-v	write	Valid range 9,600-115,200				
0005H	Dista	nce offset	2		read-	read-write Signed integ		eger, unit 1mm			
0006Н	Versi	on number	1		read only Current program ver		rsion numbe	r			
Protocol f											
Read regis	ter dat	a (Function	code 03	3H)		Comn	nunicatio	n fr	rame form	nat	
Address co	Address code 1 Function of byte byte		ode 1 Start addres		Number of registers n bytes		CRC-2Byte				
Response	format										
Address co	ode 1	Function c	ode 1 Da		Data range size: 1			Data Range-n*2		CRC-2Byte	
byte		byte			byte			bytes CRC-21		CRC-2Dyte	
Write sing	le regi	ster data (Fu	nction	code	e 06H)		Commu	nic	ation fran	ne format	
Address co	Address code 1 Function of byte byte		ode-1		Register add		dress-2		Write data-2 bytes		CRC-2Byte
Response	format										
Address code 1 Function countries byte byte		ode-1	le-1 Register ad		dress-2		Write d	ata-2 bytes	CRC-2Byte		
Write multiple register data (Function code 10H) —— Communication frame format											
Address Function code 1 byte code-1 byte		Start address-2 bytes		registers-2 b		Vrite ytes-1 yte	Write data-4 bytes	CRC-2Byte			
Response	Response format										
Address co	ode 1	Function of byte	ode-1	de-1 Register ad			dress-2	Write data-2		ata-2 bytes	CRC-2Byte
_	ksum:	2 bytes, with	the lo	wer	_		d the high	her	8 bits las	t.	<u> </u>

Example: The device is this product, and the host is the control receiver. The device address is 00H (default address).

function	direction	data	definition
£-4-1-	transmitted by radio	00 03 00 02 00 02 64 1A	Read measurement distance
fetch Distance value	return	00 03 04 00 00 03 E8 EA 4D	Normal. 03 E8H=1000mm.
		00 03 04 00 00 00 00 62 32	Invalid interval. Data 0
		00 03 04 00 00 FF FF EB 43	Exceeds the maximum range.
		00 03 04 00 00 FF FF EB 43	Maximum value
fetch	transmit by	00 03 00 03 00 01 75 DB	Read device address, 0~254
device	radio	FF 03 00 03 00 01 61 D4	Read ID using broadcast address

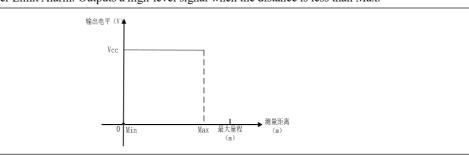
address			255		
	return	00 03 02 00 00 85 84	Default address is 00		
Set device address	transmit by	00 06 00 03 00 01 B9 DB	Set device 00 address to 01		
	radio	00 00 00 03 00 01 D7 DD	address		
	return	00 06 00 03 00 01 B9 DB	Set successfully		
fetch	transmit by	00 03 00 04 00 02 84 1B	Return 2580H= baud rate 9600.		
Baud rate	radio	00 03 00 01 00 02 01 1B	Note: 01 C2 00=115200		
Baud rate	return	00 03 04 00 00 25 80 F1 C3	11016. 01 62 00 113200		
set up	transmit by	00 10 00 04 00 02 04 00 01 C2	Set the baud rate to 115200		
Baud rate	radio	00 F6 00	Set the saud face to 113200		
Buud Iute	return	00 10 00 04 00 02 01 D8	Settings applied		
fetch	transmitted	00 03 00 00 00 01 85 DB			
error	by radio	00 03 00 00 00 01 03 DB			
condition	return	00 03 02 00 64 84 6F	normal		
Condition	Teturn	00 03 02 00 65 45 AF	Exceeds the range		
fetch	transmit by	00 03 00 01 00 01 D4 1B			
running	radio	00 00 00 01 00 01 01 12			
state	return	00 03 02 00 01 44 44	Measuring		
	1014111	00 03 02 00 00 85 84	Stop measurement in Settings		
set up	transmit by	00 06 00 01 00 00 D9 DB	Stop measuring		
running	radio	00 06 00 01 00 01 18 1B	Enable measurement		
state	return	00 06 00 01 00 00 D9 DB	Measurement stopped		
State	Teturn	00 06 00 01 00 01 18 1B	Measurement is on		
Read	transmit by	00 03 00 05 00 02 D5 DB			
distance	radio	00 03 00 03 00 02 D3 DB			
offset	return	00 03 04 00 00 27 10 F0 CF	Increase the offset by 1000mm		
	transmit by	00 10 00 05 00 02 04 00 00 27	Increase offset		
Set	radio	10 2D 50	2710H=1000.0mm		
distance	transmit by	00 10 00 05 00 02 04 FF FF D8	Reduce offset FF FF D8 F0=		
offset	radio	F0 6D 0C	-1000mm		
	return	00 10 00 05 00 02 50 18	Settings applied		

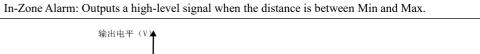
Analog output: 4~20mA corresponds to 0m-[range] m (settable), maximum load 250Ω

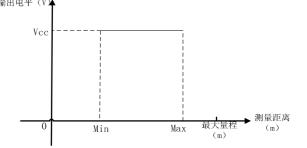


I/O Output (Optocoupler Output)

Upper Limit Alarm: Outputs a high-level signal when the distance is less than Max.







PNP output
Vcc-0.7V
< 0.5V
100mA constant
< 2ms