



SDE Series Laser Ranging Sensor

The SDE series, developed by Siman Sensing Technology Co., Ltd., utilizes the SDE time-of-flight algorithm to inspect various workpieces with minimal installation site limitations. Through TOF technology and customizable ICs, it achieves universal adaptability across diverse scenarios. The system delivers enhanced detection reliability and simplified operation. The SDP series sensors support dual-channel switch and analog outputs via RS485/NPN+PNP interfaces. Equipped with an OLED display for real-time distance measurement and parameter configuration via buttons, this product is widely applied in papermaking, rubber manufacturing, roll-to-roll processes, tire forming, resin/metal material circulation control, and automotive welding. For more product details, please visit: www.siman.asia

warn	Follow the equipment usage guidelines! This product is not a safety sensor and cannot be used for personnel protection.
	<div><div>➤ Main measurement laser (905nm): Class 1 laser product. Safe under normal operating conditions.</div><div>➤ Indicative laser (650nm): Class 2. Do not look directly at the beam or use optical instruments to observe.</div><div>➤ This product has no explosion-proof structure, and it is forbidden to use in flammable and explosive environments.</div><div>➤ Do not remove this product.</div><div>➤ Be sure to turn off the power before operating. Do not connect wires while powered on!<div><div>1. Avoid use in dust/steam or corrosive gas environment;</div><div>2. Where corrosive gases are generated;</div></div></div><div>➤ Do not use this product in water.</div><div>➤ When used outdoors, pay attention to adding a waterproof cover.</div></div>
hookup:	



NPN+PNP+4-20mA/0-10V		
pin	Definition / Wire color	customer interface
1	20/12-30V DC (brown)	External power is on
2	GND (Lan)	External power negative
3	NPN (black)	NPN
4	PNP (white)	PNP
5	4-20mA / 0-10V (gray)	4-20mA / 0-10V

RS485

pin	Define / Wire color	customer interface
1	12-30V DC (brown)	External power is on
2	GND (Lan)	External power negative
3	485A (White)	485A
4	485B (Black)	485B
5	NC (ash)	NC

product size:

Φ4.5, 5芯×红色/黑色/黄色/绿色/白色 1.0m²
电缆长度2m

发射光的中心
接收光的中心

protocol:

Communication mode: RS-485

Synchronization method: Asynchronous

Data length: 8 bits

Stop position: 1

Check parity: None

Communication protocol: Modbus-RTU

Supported storage areas: input registers and hold registers

Supported function codes:

0x03 (Read Hold Register)

0x04 (Read input register)

0x06 (writes to a single register)

0x10 (writes to multiple registers)

0x2B (MEI: 0x0E, Read Device ID code: 01/04, read device identifier)

Specifications:

#	model	SDE-20PNA	SDE-50PNA
		SDE-20D	SDE-50D
1	range	0.05m-20m (90% reflectivity) 0.05m-7m (10% reflectivity)	0.05m-50m (90% reflectivity) 0.05m-15m (10% reflectivity)
2	Distance measurement frequency	2KHz	
3	absolute accuracy	±10cm (within 10m), 1% (outside 10m)	
4	repeatability precision	±5cm	
5	Environmental light resistance	100KLux	
6	Measure laser wavelength	905nm	
7	Measure laser level	Class 1	
8	Measure laser field of view	4mrad	
9	Indicate laser	650nm (visible red light)	

	wavelength					
10	Indicate laser level	Class 2				
11	input voltage	4 ~ 20mA: 20 ~ 30VDC, other communication: 12 ~ 30VDC				
12	peak point current	100mA				
13	average current	46mA				
14	Average Power Consumption	1.5W				
15	communication mode	NPN+PNP+4 ~ 20mA NPN+PNP+0 ~ 10V RS485				
16	levels of protection	IP65				
17	Size (length x width x height)	52 x 44 x 31 mm				
18	weight	72g (wire excluded)				
19	working temperature	-25℃ to +55℃ (no freeze, red light off)				
20	Cable Specifications	0.2mm 5-core PVC cable, 2m length (customizable)				
21	Customize range	Supports customized output protocols				
RS485 MODBUS-RTU register list:						
Register Type	relative address	read-write	Byte count	data type	function	Available value range
incoming register	0X00	RO	2	16-bit unsigned integer count	Measure distance value	unit:mm 0&65535 indicates a value exceeding the measurement range
holding register	0x00	RW	2	16-bit unsigned integer count	response speed	Unit: 100us 5~0.5ms 15~1.5ms 100~10ms 250~25ms 1000~100ms 10000~1000ms
holding register	0x01	RW	2	16-bit unsigned integer count	Baud rate	Unit: 100 96~9600 192~19200 1152~115200 2560~256000 4608~460800 9216~921600
holding register	0x02	RW	2	16-bit unsigned integer count	Station address	1-247

holding register	0x03	RW	2	16-bit unsigned integer count	laser switch	1: Laser open 0: Laser off
holding register	0x04	RW	2	16-bit unsigned integer count	Stop digit	1:1 stop position 2:2 Stop

Order Model List:		
model	range	communication interface
SDE-20PNA	0.05...20m	NPN+PNP+4~20mA
SDE-20D		RS485
SDE-50PNA	0.05...50m	NPN+PNP+4~20mA
SDE-50D		RS485

contact us:

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