

### ZHC1931 register address table

register type	Register address (D)	Register address (H)	Number of registers	register properties	register type	register value range	Supported function codes		
<b>southbound interface register</b>									
coil 0x00	DO	00001	0x0000	1	DO1 switch output	read/write	0x0000/0xFF00 (0x05 function code) 0_bit/1_bit (0x01, 0x0F function code)	0x01 (read coil) 0x05 (write a single coil) 0x0F (write multiple coils)	
	reserve								
contact 0x01	DI	10001 10002	0x0000 0x0001	1 1	DI1 switch input DI2 switch input	read only read only	0_bit/1_bit	0x02 (read discrete value)	
	reserve								
input register 0x03	AI	30001	0x0000	1	AI1 input value	read only	unsigned short, unit (V/mA)	0x04 (read input register device)	
	reserve								
<b>Interface Configuration Register</b>									
holding register 0x04	DO settings		0x1000	1	DO active reporting switch	read/write	0xFFFF on / 0x0000 off	0x03 (read holding register device) 0x06 (write a single register)	
			0x1001	1	DO restart state setting	read/write	0x0001 keep   0x0002 not keep		
			0x1002	1	DO1 output hold time (ms)	read/write	0, 300-65535		
	reserve								
	DI settings		0x1100	0x1100	1	DI active reporting mode	read/write	0x0000 off/0x0001 DIY/0xFFFF default	0x03 0x06 0x10
			0x1101	0x1101	1	DI reporting interval	read/write	0-65535	
	reserve								
	AI settings		0x1200	0x1200	1	AI proactive reporting	read/write	0xFFFF on / 0x0000 off	0x03 0x06 0x10
			0x1201	0x1201	1	AI active reporting cycle	read/write	0-65535	
			0x1202-0x1204	0x1202-0x1204	3	AI1 upper and lower limit and threshold reporting	read/write	Register 1: Inside threshold 0x0001 / Outside threshold 0x0002 / close register 0x0000 Register 2: Lower Threshold, 4000-20000 Register 3: Upper Threshold, 4000-20000	
	reserve								
	Serial port settings		0x1400	0x1400	1	USART mode	read/write	Master mode 0x0001   Slave mode 0x0002	0x03 0x06 0x10
			0x1401-0x1403	0x1401-0x1403	3	USART parameters	read/write	First three bytes: baud rate Byte 4: Stop bits 0x01/0x02/0x03 1/1.5/2 Byte 5: Data bits 0x01/0x02 8/7 Byte 6: Check Bit 0x01/0x02/0x03 NONE/ODD/EVEN	
			0x1404-0x140D	0x1404-0x140D	10	Serial Heartbeat 1	read/write	Register 1: Indicates time, unit S, 0-65535 Register 2: Heartbeat Packet Length Register 3-10: Heartbeat Packet Contents	
			0x140E-0x1417	0x140E-0x1417	10	Serial Heartbeat 2	read/write		
			0x1418-0x1421	0x1418-0x1421	10	Serial Heartbeat 3	read/write		
		0x1422-0x142B	0x1422-0x142B	10	Serial Heartbeat 4	read/write			
	reserve								
	local logic		0x1800-0x1807	0x1800-0x1807	8	Condition Control 1	read/write	Register 1: 0x0000 close / 0x0001 forward follow / 0x0002 reverse follow / 0x0003 analog follow / 0x0004 greater than or equal to / 0x0005 less than or equal to Register 2: Input Register 0x0000-0xFFFF Register 3: 0001 Relay Output/0002 Analog Output Register 4: Output registers 0x0000-0xFFFF Register 5: 0x0001 Open/0x0002 Close/0x0003 Toggle Register 6: Compare Threshold Register 7: Output Threshold Register 8: Output Threshold	0x03 0x06 0x10
			0x1808-0x180F	0x1808-0x180F	8	Condition Control 2	read/write		
			0x1810-0x1817	0x1810-0x1817	8	Condition Control 3	read/write		
			0x1818-0x181F	0x1818-0x181F	8	Condition Control 4	read/write		
			0x1820-0x1827	0x1820-0x1827	8	Condition Control 5	read/write		
			0x1828-0x182F	0x1828-0x182F	8	Condition Control 6	read/write		
		0x1830-0x1837	0x1830-0x1837	8	Condition Control 7	read/write			
		0x1838-0x183F	0x1838-0x183F	8	Condition Control 8	read/write			
reserve									
networking logic		0x1900-0x1907	0x1900-0x1907	8	Condition Control 1	read/write	Register 1: Remote modbus device address Register 2: 0x0000 off / 0x0001 forward follow / 0x0002 reverse follow / 0x0003 modulo Analog follow/0x0004 greater than or equal to/0x0005 less than or equal to register 3: input register 0x0000-0xFFFF register 4: 0000 no output/0001 relay output/0002 analog output register 5: output register 0x0000-0xFFFF Register 6: 0000 no action / 0x0001 open / 0x0002 closed / 0x0003 rollover Register 7: Compare Threshold Register 8: Output Threshold	0x03 0x06 0x10	
		0x1908-0x190F	0x1908-0x190F	8	Condition Control 2	read/write			
		0x1910-0x1917	0x1910-0x1917	8	Condition Control 3	read/write			
		0x1918-0x191F	0x1918-0x191F	8	Condition Control 4	read/write			
		0x1920-0x1927	0x1920-0x1927	8	Condition Control 5	read/write			
		0x1928-0x192F	0x1928-0x192F	8	Condition Control 6	read/write			
		0x1930-0x1937	0x1930-0x1937	8	Condition Control 7	read/write			
		0x1938-0x193F	0x1938-0x193F	8	Condition Control 8	read/write			
reserve									
<b>device attribute register</b>									
holding register 0x04	system command		0x2000	1	Device MODBUS address	read/write	1-247, default 0x55	0x03 0x06 0x10	
			0x2001-0x2008	8	DEVID	read only	16 digit ID		
			0x2009-0x2012	10	password	read and write	String 0x00 terminator		
			0x2013	1	Firmware version	read only	0x0112 means version V1.1.2		
			0x2014	1	system command	just write	0x0001 Reboot/0x0002 Reset/0x0003 Upgrade-UART/0x0004 Upgrade-CLOUD		
			0x2015	1	Actively report data trends	read and write	The first byte represents Modbus TCP and the second byte represents Modbus RTU Bitwise representation: RS485 report/LTE report/RJ45 report/LORA report 0x0001 (enter the super serial port) 0x0002 (enter the serial port configuration) 0x0003 (open the web configuration set) 0x0000 (off)		
			0x2016	1	super serial port	read and write	0xFFFF (open) 0x0000 (close)		
			0x2017	1	networking mode	read and write	String 0x00 terminator, only alphanumeric combinations are allowed		
			0x2018-0x2021	10	Networking group serial number	read and write	String 0x00 terminator, only alphanumeric combinations are allowed		
			0x2022-0x202B	10	Networking - group password	read and write	String 0x00 terminator, only alphanumeric combinations are allowed		
	0x202C	1	Networking - Group Type	read and write	0x0001 (A) 0x0002 (B)				
reserve									
<b>ethernet register</b>									
basic information		0x4000	0x4000	1	How to get IP	read/write	0x0001 DHCP/0x0002 Static IP	0x03 0x06 0x10	
		0x4001-0x4002	0x4001-0x4002	2	ip address	read/write	192.168.1.100		
		0x4003-0x4004	0x4003-0x4004	2	subnet mask	read/write	255.255.255.255		
		0x4005-0x4006	0x4005-0x4006	2	gateway	read/write	192.168.1.1		
		0x4007-0x4008	0x4007-0x4008	2	DNS server	read/write	192.168.1.1		
		0x4009-0x400B	0x4009-0x400B	3	MAC address	read/write	MAC address		
		0x400C	0x400C	1	Enable as southbound interface	read/write	0x0000 (enable northbound)/0xFFFF (enable southbound)		
reserve									
SOCKET1		0x4200	0x4200	1	SOCKET enable	read/write	0xFFFF (open) 0x0000 (close)	0x03 0x06 0x10	
		0x4201	0x4201	1	server of communication	read/write	0x0001 TCP Client/0x0002 TCP Server/0x0003 HTTP/0x0004 ends with 0x00		
		0x4202-0x4222	0x4202-0x4222	33	Remote server IP/domain name	read/write	0-65535		
		0x4223	0x4223	1	remote server port	read/write	0-65535		
		0x4224-0x428A	0x4224-0x428A	103	Registration package type Registration package location Custom Registration Package Contents	read/write read/write read/write	Register 1: 0x0001 Cloud Forwarding (DEVID+PASSWORD)/0x0002 Custom Registration Register 2: 0x0001 connection send/0x0002 data carry Register 3: Length   Register 4-13: Register Package Contents		
		0x428B-0x4297	0x428B-0x4297	13	Heartbeat Packet Type Heartbeat packet time, unit S Heartbeat package content	read/write read/write read/write	Register 1: 0x0001 on/0x0002 off Register 2: 0-65535 Register 3: Length   Register 4-13: Heartbeat Packet Content		
reserve									
SOCKET2		0x4300	0x4300	1	SOCKET enable	read/write	0xFFFF (open) 0x0000 (close)	0x03 0x06 0x10	
		0x4301	0x4301	1	server of communication	read/write	0x0001 TCP Client/0x0002 TCP Server/0x0003 HTTP/0x0004 ends with 0x00		
		0x4302-0x4322	0x4302-0x4322	33	Remote server IP/domain name	read/write	0-65535		
		0x4323	0x4323	1	remote server port	read/write	0-65535		
	0x4324-0x438A	0x4324-0x438A	103	Registration package type Registration package location	read/write read/write	Register 1: 0x0001 Cloud Forwarding (DEVID+PASSWORD)/0x0002 Custom Registration Register 2: 0x0001 connection send/0x0002 data carry			

holding register 0x04				Custom Registration Package Contents	read/write	Register 3: Length   Register 4-13: Register Package Contents		
		0x438B-0x4397	13	Heartbeat Packet Type	read/write	Register 1: 0x0001 on/0x0002 off		
				Heartbeat packet time, unit S	read/write	Register 2: 0-65535		
				Heartbeat package content	read/write	Register 3: Length   Register 4-13: Heartbeat Packet Content		
	reserve							
	SOCKET3		0x4400	1	SOCKET enable	read/write	0xFFFF (open) 0x0000 (close)	0x03 0x06 0x10
			0x4401	1	<u>url of communication</u>	read/write	0x0001 TCP Client/0x0002 TCP Server/0x0003 HTTP/0x0004	
			0x4402-0x4422	33	Remote server IP/domain name	read/write	ends with 0x00	
			0x4423	1	remote server port	read/write	0-65535	
			0x4424-0x448A	103	<u>Registration package type</u>	read/write	Register 1: 0x0001 Cloud Forwarding (DEVID+PASSWORD)/0x0002 Custom Registration	
					Registration package location	read/write	Register 2: 0x0001 connection send/0x0002 data carry	
					Custom Registration Package Contents	read/write	Register 3: Length   Register 4-13: Register Package Contents	
			0x448B-0x4497	13	Heartbeat Packet Type	read/write	Register 1: 0x0001 on/0x0002 off	
				Heartbeat packet time, unit S	read/write	Register 2: 0-65535		
				Heartbeat package content	read/write	Register 3: Length   Register 4-13: Heartbeat Packet Content		
reserve								
SOCKET4		0x4500	1	SOCKET enable	read/write	0xFFFF (open) 0x0000 (close)	0x03 0x06 0x10	
		0x4501	1	<u>url of communication</u>	read/write	0x0001 TCP Client/0x0002 TCP Server/0x0003 HTTP/0x0004		
		0x4502-0x4522	33	Remote server IP/domain name	read/write	ends with 0x00		
		0x4523	1	remote server port	read/write	0-65535		
		0x4524-0x458A	103	<u>Registration package type</u>	read/write	Register 1: 0x0001 Cloud Forwarding (DEVID+PASSWORD)/0x0002 Custom Registration		
				Registration package location	read/write	Register 2: 0x0001 connection send/0x0002 data carry		
				Custom Registration Package Contents	read/write	Register 3: Length   Register 4-13: Register Package Contents		
		0x458B-0x4597	13	Heartbeat Packet Type	read/write	Register 1: 0x0001 on/0x0002 off		
			Heartbeat packet time, unit S	read/write	Register 2: 0-65535			
			Heartbeat package content	read/write	Register 3: Length   Register 4-13: Heartbeat Packet Content			
reserve								
MQTT		0x4900	1	Keep Alive	read/write	30-1200	0x03 0x06 0x10	
		0x4901	1	clean up session	read/write	0xFFFF clear/0x0000 keep, not supported for now		
		0x4902-0x491F	30	ClientID	read/write	ends with 0x00		
		0x4920-0x493D	30	USERNAME	read/write	ends with 0x00		
		0x493E-0x495B	30	PASSWORD	read/write	ends with 0x00		
		0x495C-0x498D	50	Subscribe to TOPIC1 (data downlink)	read/write	Default QOS0, follow-up support QOS1		
		0x498E-0x49BF	50	Subscribe to TOPIC2 (Data Downlink)	read/write	Default QOS0, follow-up support QOS1		
		0x49C0-0x49F1	50	Release TOPIC1 (data upstream, active upstream)	read/write	Default QOS0, follow-up support QOS1		
	0x49F2-0x4A23	50	Issue TOPIC2 (data upstream, command back)	read/write	Default QOS0, follow-up support QOS1			