



# Communication protocol

## DL SERIES

MODEL: DL

SERIAL#:

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### Wisman high voltage power supply

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# Power6 The communication protocol description

## 1. The communication protocol

This product complies with the Modbus protocol, Including ASCII transfer mode over serial links (RS232 and Rs485) and TCP/IP for the transmission, see "Modbus Protocol" and support the following function codes:

- ①. 03 (0x03) Read Holding Registers
- ②. 16 (0x10) Write Multiple Registers
- ③. 06 (0x06) Write Single Register
- ④. 05 (0x05) Write Single Coil
- ⑤. 22 (0x16) Mask Write Register
- ⑥. 23 (0x17) Read/Write Multiple Registers

## 2. Register Address

Add	Function	Type	Unit	Range	Remark
1000	Basic input status	R		0~65535	See basic input status bit description
1001	Extend input status	R		0~65535	See the Extended Input Status Bit Description
1002	Basic output status 1	R		0~65535	See basic output status bit 1 description
1003	Basic output status 2	R		0~65535	See basic output status bit 2 description
1011	kV feedback	R	LSB	0~54600	0~54600 corresponds to 0 to maximum output voltage (Unit V) .
1012	mA feedback	R	LSB	0~54600	0~54600 corresponds to 0 to maximum output current (Unit mA) .
1019	N15V feedback	R	LSB	0~54600	0~54600 corresponds to 0 to -15V .
1020	P24V feedback	R	LSB	0~54600	0~54600 corresponds to 0 to 24V.
1021	P15V feedback	R	LSB	0~54600	0~54600 corresponds to 0 to 15V.
1022	P3V3 feedback	R	LSB	0~54600	0~54600 corresponds to 0 to 3.3V.
1025	P5V feedback	R	LSB	0~54600	0~54600 corresponds to 0 to 5V.
1038	kV local program	R	LSB	0~54600	Local potentiometer setpoint, 0~54600 corresponds to 0 to maximum setpoint.
1039	mA local program	R	LSB	0~54600	
1043	kV remote program	R/W	LSB	0~54600	Host computer remotely program 0~54600 corresponds to 0 to maximum voltage program, Unit: V. 0~54600 corresponds to 0 to maximum current program, Unit: mA.
1044	mA remote program	R/W	LSB	0~54600	
1048	Request state	W	LSB	0~65535	See request status bit description
1051	Output power display	R/W	LSB	0~54600	Display: 0~54600 corresponds to 0 to maximum output Power, Unit: W.



### Basic input status (1000) bit description:

- Bit0: INV ANODE --input over-current signal input (0 normal 1 protection)
- Bit1: Not used
- Bit2: Not used
- Bit3: Not used
- Bit4: Not used
- Bit5: OT --temperature switch signal input (0 over temperature 1 normal)
- Bit6: INTERCLOSED --interlock signal input (0 lock 1 normal)
- Bit7: RESET--reset pulse signal input (1 reset)
- Bit8: HV-OFF -- Hv off pulse signal input (1 X-ray off)
- Bit9: HV-ON --Hv on open pulse signal input (1 X-ray on)
- Bit10: Not used
- Bit11: Not used
- Bit12: Not used
- Bit13: Not used
- Bit14: Not used
- Bit15: Not used

### Basic output status 1 (1002) bit description:

- Bit0: ARC--Arc Protection (0 Normal 1 Protection)
- Bit1: Not used
- Bit2: OVER CUR--Over current Protection (0 Normal 1 Protection)
- Bit3: Not used
- Bit4: OVER VOL--Over voltage protection (0 normal 1 protection)
- Bit5: OVER TEMP-- Overtemperature Protection (0 Normal 1 Protection)
- Bit6: Not used
- Bit7: Not used
- Bit8: V-MODE-- V-mode status indication (1 V-mode)
- Bit9: SHUTDOWN--shutdown protection (0 protection 1 normal)
- Bit10: PS\_FAULT--a larm protection (0 normal 1 protection)
- Bit11: INTERCLOSED --interlock indication (0 lock 1 normal)
- Bit12: HV\_OFF --HV OFF status indication (1 HV off)
- Bit13: Not used
- Bit14: HV\_ON --HV ON status indication (1 HV on)
- Bit15: Not used



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### Basic output status 2 (1003) bit description:

- Bit0: INV ANODE -- input over-current protection (0 normal 1 protection)
- Bit1: Not used
- Bit2: Not used
- Bit3: Not used
- Bit4: REMOTE Enable indication (1 enabled)
- Bit5: HV Enable indication (1 enable)
- Bit6: OVER POW -- over power protection (0 normal 1 protection)
- Bit7: Not used
- Bit8: Not used
- Bit9: I-MODE-- I-mode status indication (1 I-mode)
- Bit10: Not used
- Bit11: Not used
- Bit12: Not used
- Bit13: INRUSH (0 protection 1 start)
- Bit14: Local Enable indication (1 enabled)
- Bit15: Not used

### Request Status (1048) Description:

**(The command can only be written one by one, and can only be written but not read)**

- Bit0: Request Remote Mode (1 Enabled)
- Bit1: Request local mode (1 Enabled)
- Bit2: Request HV\_ON (1 Enabled)
- Bit3: Request HV\_OFF (1 Enabled)
- Bit4: Not used
- Bit5: Not used
- Bit6: Not used
- Bit7: Not used
- Bit8: Request Fault Reset (1 Enable)
- Bit9: Not used
- Bit10: Not used
- Bit11: Not used
- Bit12: Not used
- Bit13: Not used
- Bit14: Not used
- Bit15: Not used



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### 3. Coil Address

Add	Function	Type	Unit	Note
1096	Reques Remote	W	Bit	Request Remote mode
1097	Request Local	W	Bit	Request Local mode
1098	Request HV_ON	W	Bit	Request HV_ON
1099	Request HV_OFF	W	Bit	Request HV_OFF
1104	Request FAULT_RST	W	Bit	Request FAULT_Reset

### 4. System Configuration Register Address

Add	Function	Type	Unit	Range	Note
2005	Power address	R/W		0~65535	For serial communication
2012	Power network port IP address byte 1	R/W	LSB	0~255	For example: 192
2013	Power network port IP address byte 2	R/W	LSB	0~255	For example: 168
2014	Power network port IP address byte 3	R/W	LSB	0~255	For example: 1
2015	Power network port IP address byte 4	R/W	LSB	0~255	For example: 123
2016	Power network port subnet mask byte 1	R/W	LSB	0~255	For example: 255
2017	Power network port subnet mask byte 2	R/W	LSB	0~255	For example: 255
2018	Power network port subnet mask byte 3	R/W	LSB	0~255	For example: 255
2019	Power network port subnet mask byte 4	R/W	LSB	0~255	For example: 0
2020	Power network port gateway address byte 1	R/W	LSB	0~255	For example: 192
2021	Power network port gateway address byte 2	R/W	LSB	0~255	For example: 168
2022	Power network port gateway address byte 3	R/W	LSB	0~255	For example: 1
2023	Power network port gateway address byte 4	R/W	LSB	0~255	For example: 100
2024	Serial communication rate	R/W	10bps	0~65535	

Note: If you need to set the communication speed to 9600, you need to write in 960 to 2024 address, which is the required rate divided by 10, which is to be filled in rate.

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